Junos® OS

UTM Feature Guide for Security Devices

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About the Documentation

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- Using the Examples in This Manual on page xvii
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- Documentation Feedback on page xxi
- Requesting Technical Support on page xxi

Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at https://www.juniper.net/documentation/.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

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Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

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Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

   For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

   ```
   system {
     scripts {
       commit {
         file ex-script.xsl;
       }
     }
   }
   interfaces {
     fxp0 {
       disable;
       unit 0 {
         family inet {
           address 10.0.0.1/24;
         }
       }
     }
   }
   ```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

   ```
   [edit]
   user@host# load merge /var/tmp/ex-script.conf
   load complete
   ```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

   For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

   ```
   commit {
     file ex-script-snippet.xsl; }
   ```


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2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:

```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see CLI Explorer.

Documentation Conventions

Table 1 on page xix defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 2 on page xx defines the text and syntax conventions used in this guide.

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Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the **configure** command: user@host> **configure**
`Fixed-width text like this`	Represents output that appears on the terminal screen.	`user@host>` **show chassis alarms** `No alarms currently active`
Italic text like this	• Introduces or emphasizes important new terms. • Identifies guide names. • Identifies RFC and Internet draft titles.	• A policy *term* is a named structure that defines match conditions and actions. • *Junos OS CLI User Guide* • RFC 1997, *BGP Communities Attribute*
Italic text like this	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# **set system domain-name** *domain-name*
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	• To configure a stub area, include the **stub** statement at the **[edit protocols ospf area area-id]** hierarchy level. • The console port is labeled **CONSOLE**.
< > (angle brackets)	Encloses optional keywords or variables.	**stub <default-metric** *metric***>;**
| (pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	**broadcast | multicast** **(*string1* | *string2* | *string3*)**
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	**rsvp { # Required for dynamic MPLS only**
[ ] (square brackets)	Encloses a variable for which you can substitute one or more values.	**community name members [** ***community-ids*** **]**

Indention and braces ({ })	Identifies a level in the configuration hierarchy.	[edit]
		routing-options {
		  static {
		  route default {
		  nexthop *address*;
		  retain;
		  }
		  }
		}

; (semicolon)	Identifies a leaf statement at a configuration hierarchy level.	

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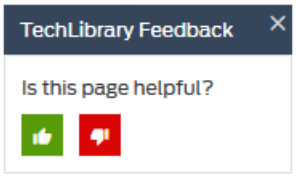
Table 2: Text and Syntax Conventions (continued)

Convention	Description	Examples
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	• In the Logical Interfaces box, select **All Interfaces**. • To cancel the configuration, click **Cancel**.
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select **Protocols>Ospf**.

Documentation Feedback

We encourage you to provide feedback so that we can improve our documentation. You can use either of the following methods:

- Online feedback system—Click TechLibrary Feedback, on the lower right of any page on the Juniper Networks TechLibrary site, and do one of the following:



  - Click the thumbs-up icon if the information on the page was helpful to you.
  - Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.

- E-mail—Send your comments to **techpubs-comments@juniper.net**. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf.
- Product warranties—For product warranty information, visit https://www.juniper.net/support/warranty/.

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- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: https://www.juniper.net/customers/support/
- Search for known bugs: https://prsearch.juniper.net/
- Find product documentation: https://www.juniper.net/documentation/
- Find solutions and answer questions using our Knowledge Base: https://kb.juniper.net/
- Download the latest versions of software and review release notes: https://www.juniper.net/customers/csc/software/
- Search technical bulletins for relevant hardware and software notifications: https://kb.juniper.net/InfoCenter/
- Join and participate in the Juniper Networks Community Forum: https://www.juniper.net/company/communities/
- Open a case online in the CSC Case Management tool: https://www.juniper.net/cm/

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: https://entitlementsearch.juniper.net/entitlementsearch/

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at https://www.juniper.net/cm/.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see https://www.juniper.net/support/requesting-support.html.

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CHAPTER 1

Overview

- UTM Overview on page 23
- Understanding Unified Policies [Unified Threat Management (UTM)] on page 29
- UTM Support for Chassis Cluster on page 31
- UTM Support for Explicit Proxy on page 34

UTM Overview

Unified Threat Management (UTM) provides multiple security features and services in a single device or service on the network, protecting users from security threats in a simplified way. UTM includes functions such as antivirus, antispam, content filtering, and web filtering. UTM secures the network from viruses, malware, or malicious attachments by scanning the incoming data using Deep Packet Inspection and prevents access to unwanted websites by installing Enhanced Web filtering. For more information, see the following topics:

- Unified Threat Management Overview on page 23
- Understanding WELF Logging for UTM Features on page 26
- Example: Configuring WELF Logging for UTM Features on page 26

Unified Threat Management Overview

Unified Threat Management (UTM) is a term used to describe the consolidation of several security features into one device, protecting against multiple threat types. The advantage of UTM is streamlined installation and management of these multiple security capabilities.

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The security features provided as part of the UTM solution are:

- Antispam Filtering— E-mail spam consists of unwanted e-mail messages, usually sent by commercial, malicious, or fraudulent entities. The antispam feature examines transmitted e-mail messages to identify e-mail spam. When the device detects an e-mail message deemed to be spam, it either drops the message or tags the message header or subject field with a preprogrammed string. The antispam feature uses a constantly updated spam block list (SBL). Sophos updates and maintains the IP-based SBL. The antispam feature is a separately licensed subscription service.
- Content Filtering— Content filtering blocks or permits certain types of traffic based on the MIME type, file extension, protocol command, and embedded object type. Content filtering does not require a separate license.
- Web Filtering— Web filtering lets you manage Internet usage by preventing access to inappropriate Web content. There are three types of Web filtering solutions. In the case of the integrated Web filtering solution, the decision-making for blocking or permitting Web access is done on the device after it identifies the category for a URL either from user-defined categories or from a category server (Websense provides the CPA Server). The integrated Web filtering feature is a separately licensed subscription service. The redirect Web filtering solution intercepts HTTP requests and forwards the server URL to an external URL filtering server provided by Websense to determine whether to block or permit the requested Web access. Redirect Web filtering does not require a separate license. With Juniper Local Web Filtering, the decision-making for blocking or permitting Web access is done on the device after it identifies the category for a URL from user-defined categories stored on the device. With Local filtering, there is no additional Juniper license or remote category server required.
- Full File-Based Antivirus— A virus is executable code that infects or attaches itself to other executable code to reproduce itself. Some malicious viruses erase files or lock up systems. Other viruses merely infect files and overwhelm the target host or network with bogus data. The full file-based antivirus feature provides file-based scanning on specific Application Layer traffic checking for viruses against a virus signature database. It collects the received data packets until it has reconstructed the original application content, such as an e-mail file attachment, and then scans this content. The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the Kaspersky Lab provides the internal scan engine. The full file-based antivirus scanning feature is a separately licensed subscription service.
- The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, Express Antivirus— Express antivirus scanning is offered as a less CPU intensive alternative to the full file-based antivirus feature. The express antivirus feature, like the full antivirus feature, scans specific Application Layer traffic for viruses against a virus signature database. However, unlike full antivirus, express antivirus does not reconstruct the original application content. Rather, it just sends (streams) the received data packets, as is, to the scan engine. With express antivirus, the virus scanning is executed by a hardware pattern matching engine. This improves performance while scanning is occurring, but

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the level of security provided is lessened. Juniper Networks provides the scan engine. The express antivirus scanning feature is a separately licensed subscription service.

- Sophos Antivirus— Sophos antivirus scanning is offered as a less CPU-intensive alternative to the full file-based antivirus feature. Sophos supports the same protocols as full antivirus and functions in much the same manner; however, it has a smaller memory footprint and is compatible with lower end devices that have less memory. Sophos antivirus is as an in-the-cloud antivirus solution. The virus pattern and malware database is located on external servers maintained by Sophos (Sophos Extensible List) servers, thus there is no need to download and maintain large pattern databases on the Juniper device. The Sophos antivirus scanner also uses a local internal cache to maintain query responses from the external list server to improve lookup performance.

NOTE: The sessions-per-client limit CLI command, which imposes a session throttle to prevent a malicious user from generating large amounts of traffic simultaneously, supports the antispam, content filtering, and antivirus UTM features. It does not support Web filtering.

NOTE: Starting with Junos OS Release 15.1X49-D60 and Junos OS Release 17.3R1, on SRX1500 Services Gateways and vSRX instances, UTM policies, profiles, MIME patterns, filename extensions, and protocol-command numbers are increased to 500; custom URL patterns and custom URL categories are increased to 1000.

NOTE: Starting with Junos OS Release 15.1X49-D70 and Junos OS Release 17.3R1, SRX4100 and SRX4200 devices support up to 500 UTM policies, profiles, MIME patterns, filename extensions, and protocol commands, and up to 1000 custom URL patterns and custom URL categories.

NOTE: This feature requires a license. To understand more about UTM Licensing, see, Understanding UTM Licensing. Please refer to the Juniper Licensing Guide for general information about License Management. Please refer to the product Data Sheets at SRX Series Services Gateways for details, or contact your Juniper Account Team or Juniper Partner.

Understanding UTM Custom Objects

Before you can configure most UTM features, you must first configure the custom objects for the feature in question. Custom objects are global parameters for UTM features. This means that configured custom objects can be applied to all UTM policies where applicable, rather than only to individual policies.

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The following UTM features make use of certain custom objects:

- Web Filtering (see "Example: Configuring Integrated Web Filtering" on page 250)
- Anti-Spam (see "Server-Based Antispam Filtering Configuration Overview" on page 178)
- Content Filtering (see "Content Filtering Configuration Overview" on page 198)

See Also

- Understanding UTM Support for Active/Backup Chassis Cluster on page 31

Understanding WELF Logging for UTM Features

UTM features support the WELF standard. The WELF Reference defines the WebTrends industry standard log file exchange format. Any system logging to this format is compatible with Firewall Suite 2.0 and later, Firewall Reporting Center 1.0 and later, and Security Reporting Center 2.0 and later.

A WELF log file is composed of records. Each record is a single line in the file. Records are always in chronological order. The earliest record is the first record in the file; the most recent record is the last record in the file. WELF places no restrictions on log filenames or log file rotation policies.

NOTE: Each WELF record is composed of fields. The record identifier field (id=) must be the first field in a record. All other fields can appear in any order.

The following is a sample WELF record:

```
id=firewall time="2000-2-4 12:01:01" fw=192.168.0.238 pri=6 rule=3 proto=http

       src=192.168.0.23 dst=6.1.0.36 rg=www.example.com/index.html op=GET
result=0
       rcvd=1426
```

The fields from the example WELF record include the following required elements (all other fields are optional):

- **id** (Record identifier)
- **time** (Date/time)
- **fw** (Firewall IP address or name)
- **pri** (Priority of the record)

Example: Configuring WELF Logging for UTM Features

This example shows how to configure WELF logging for UTM features.

- Requirements on page 27
- Overview on page 27

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- Configuration on page 27
- Verification on page 29

Requirements

Before you begin, review the fields used to create a WELF log file and record. See "Understanding WELF Logging for UTM Features" on page 26.

Overview

A WELF log file is composed of records. Each record is a single line in the file. Records are always in chronological order. The earliest record is the first record in the file; the most recent record is the last record in the file. WELF places no restrictions on log filenames or log file rotation policies. In this example, the severity level is emergency and the name of the security log stream is **utm-welf**.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security log source-address 1.2.3.4 stream utm-welf
set security log source-address 1.2.3.4 stream utm-welf format welf
set security log source-address 1.2.3.4 stream utm-welf format welf category
  content-security
set security log source-address 1.2.3.4 stream utm-welf format welf category
  content-security severity emergency
set security log source-address 1.2.3.4 stream utm-welf format welf category
  content-security severity emergency host 5.6.7.8
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure WELF logging for UTM features:

1. Set the security log source IP address.

```
[edit security log]
user@host# set source-address 1.2.3.4
```

NOTE: You must save the WELF logging messages to a dedicated WebTrends server.

2. Name the security log stream.

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```
[edit security log]
user@host# set source-address 1.2.3.4 stream utm-welf
```

3. Set the format for the log messages.

```
[edit security log]
user@host# set source-address 1.2.3.4 stream utm-welf format welf
```

4. Set the category of log messages that are sent.

```
[edit security log]
user@host# set source-address 1.2.3.4 stream utm-welf format welf category
  content-security
```

5. Set the severity level of log messages that are sent.

```
[edit security log]
user@host# set source-address 1.2.3.4 stream utm-welf format welf category
  content-security severity emergency
```

6. Enter the host address of the dedicated WebTrends server to which the log messages are to be sent.

```
[edit security log]
user@host# set source-address 1.2.3.4 stream utm-welf format welf category
  content-security severity emergency host 5.6.7.8
```

Results From configuration mode, confirm your configuration by entering the **show security log** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security log
stream utm-welf {
   severity emergency;
   format welf;
   category content-
security;
   host {
       5.6.7.8;
   }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

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Verification

Verifying the Security Log

Purpose Verify that the WELF log for UTM features is complete.

Action From operational mode, enter the **show security utm status** command to verify if the UTM service is running or not.

See Also
- Understanding UTM Support for Active/Backup Chassis Cluster on page 31
- *Understanding UTM Licensing*

Release History Table

Release	Description
15.1X49-D70	Starting with Junos OS Release 15.1X49-D70 and Junos OS Release 17.3R1, SRX4100 and SRX4200 devices support up to 500 UTM policies, profiles, MIME patterns, filename extensions, and protocol commands, and up to 1000 custom URL patterns and custom URL categories.
15.1X49-D60	Starting with Junos OS Release 15.1X49-D60 and Junos OS Release 17.3R1, on SRX1500 Services Gateways and vSRX instances, UTM policies, profiles, MIME patterns, filename extensions, and protocol-command numbers are increased to 500; custom URL patterns and custom URL categories are increased to 1000.
15.1X49-D10	The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation
- Web Filtering Overview on page 209
- Antispam Filtering Overview on page 175
- Express Antivirus Protection on page 41

Understanding Unified Policies [Unified Threat Management (UTM)]

Unified policies are now supported on SRX Series devices, allowing granular control and enforcement of dynamic Layer 7 applications within the traditional security policy.

Unified policies are security policies in which you can use dynamic applications as match conditions along with existing 5-tuple or 6-tuple matching conditions (with user firewall) to detect application changes over time. The use of unified policies enable you to enforce a set of rules for the transit traffic. It uses the match criteria, namely, source zone,

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destination zone, source addresses, destination addresses, and application names. This results in potential match policies.

The unified policy configuration handles all Application Firewall (AppFW) functionalities and simplifies the task of configuring firewall policy to permit or block application traffic from the network. As part of the unified policy, a new dynamic application policy match condition is added to SRX Series devices, allowing an administrator to more effectively control the behavior of Layer 7 applications.

To accommodate Layer 7 application-based policies in UTM, the **[edit security utm default-configuration]** command is introduced. If any parameter in a specific UTM feature profile configuration is not configured, then the corresponding parameter from the UTM default configuration is applied.

Additionally, during the initial policy lookup phase which occurs prior to a dynamic application being identified, if there are multiple policies present in the potential policy list which contains different UTM profiles, the SRX Series device applies the default UTM profile until a more explicit match has occurred.

Understanding Default UTM Policy

A new predefined default UTM policy is available with the factory default configuration to provide a default UTM configuration. This predefined global UTM policy inherits the configuration from the default UTM configuration profile.

If there is an existing UTM policy defined, it will continue to be used to evaluate traffic based on the existing security policy configuration.

When a policy lookup is performed, existing UTM policies are evaluated prior to global policies. The predefined UTM default policy is leveraged if multiple UTM policies exist in the potential policy list during the UTM session creation process.

The predefined UTM default policy parameters are included under **[edit security utm default-configuration]** hierarchy level. These parameters are available for Web filtering, content filtering, antivirus, and antispam profile. If no UTM feature profile is configured (Web filtering, content filtering, antivirus, and antispam), the parameters in the predefined global UTM configuration are applied.

The predefined UTM default policy is available in **[edit groups junos-defaults security utm]**. You can modify certain parameters for Web filtering, content filtering, antivirus, and antispam. You can also modify default UTM profile parameters for Web filtering, content filtering, antivirus, and antispam features profiles at **[edit security utm default-configuration]**.

Related Documentation

- *Understanding Unified Policy*
- *Global Policy Overview*

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UTM Support for Chassis Cluster

UTM is supported only for active/backup chassis cluster configuration with both RG0 and RG1 active on the same node. It is not supported for active/active chassis cluster configuration. For more information, see the following topics:

- Understanding UTM Support for Active/Backup Chassis Cluster on page 31

Understanding UTM Support for Active/Backup Chassis Cluster

A chassis cluster environment supports UTM with:

- Packet Forwarding Engine in active/backup chassis cluster configurations with the Packet Forwarding Engine and the Routing Engine being active in the same node On SRX Series devices.

NOTE: **UTM requires a license for each SRX Series device in the chassis cluster setup. For information about how to purchase a software license, contact your Juniper Networks sales representative at** https://www.juniper.net/in/en/contact-us/.

UTM is supported in the following chassis cluster mode:

- **Active/backup mode**—In this mode, all the redundancy groups are active in one cluster node. All the transit traffic is processed by this single node.

  The transit traffic includes:

  - Traffic forwarded between interfaces for redundancy groups 1 and up that are part of the same node
  - Traffic forwarded between RG0-controlled interfaces for redundancy groups 1 and up that are in the same node

  Active/active mode is *not* supported.

UTM is supported for the following chassis cluster failover types:

- **Manual failover**—Supports manual failover through the **set chassis cluster failover** command. Both RG0 and redundancy groups 1 and up can fail over using this command.
- **RG0 automatic failover**—This failover is supported through control link failure, monitoring objects (IP address, interface monitoring), or preempt/priority configuration.
- **Redundancy groups 1 and up automatic failover**—This failover is supported through monitoring objects (IP address, interface monitoring) or preempt/priority configuration. This failover leads to active link changes and can result in active/active mode, which is not supported.

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- **Failover through reboot**—A primary node can be changed to a secondary node by rebooting the node. All redundancy groups in the node that's is rebooted will no longer be primary nodes.
- **Failover through flowd restart**—Redundancy groups 1 and up will be changed to secondary nodes when the flowd restarts.

The following UTM features are supported in chassis cluster:

- Content filtering
- URL (Web) filtering
- Antispam filtering
- Express antivirus scanning
- Full file-based antivirus scanning
- Sophos antivirus scanning

All the UTM configurations are either maintained in the Routing Engine or pushed to the Packet Forwarding Engine from the Routing Engine. The configuration synchronization between the two nodes is taken care of by the chassis cluster infrastructure. This holds true for all the UTM modules too. You can configure UTM either from the primary or secondary node, and the same configuration will be reflected in the other node once you commit the first configuration.

There is a dependency on ACL support on control links. The time taken to spawn the processes depends on the device. There will be a small delay for the Unified Threat Management daemon (utmd) to come up operationally, even though utmd daemon is running in the secondary Routing Engine, because there can be a startup delay for all the dependant daemons.

Understanding Chassis Cluster Support for UTM Modules

- **Content filtering**—Content filtering blocks or permits certain types of traffic based on the MIME type, file extension, and protocol command. The content filter controls file transfers across the gateway by checking traffic against configured filter lists.

  In content filtering, the user configuration (mime-pattern/filename-extension/protocol-command/content-type) is pushed from the Routing Engine to the Packet Forwarding Engine real-time (PFE-RT). The filtering decision is entirely based on the user configuration and is done on the Packet Forwarding Engine real-time (PFE-RT) side. For the transit traffic, the configuration lookup (for the block/permit decision) and the entire UTM processing occurs in the Packet Forwarding Engine itself and does not go to the Routing Engine (that is, the complete UTM session resides in the Packet Forwarding Engine).
- **URL (Web) filtering**—Web filtering lookups takes place in the primary Routing Engine and both the Packet Forwarding Engines send the lookup request to the primary Routing Engine.

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Four kinds of Web filtering mechanisms supported on SRX100, SRX210, SRX220, SRX240, and SRX650 devices are described in Table 3 on page 33. Platform support depends on the Junos OS release in your installation.

Table 3: Web Filtering Mechanisms for Chassis Cluster Support

Web Filtering Type	Description
Redirect Web filtering	• Decision (allow/deny) is always made by an external Websense server • TCP connections are set up from the utmd daemon to the Websense server • Any request to the Websense server is sent using one of these TCP connections.
Integrated Web filtering	• The local URL Filtering cache maintained on the RT side is updated with the URL to category mappings received from the SurfControl content portal authority (SC-CPA) server for URL lookup requests sent to it. • RT side also maintains a list of categories received from the SC-CPA server. • You can configure actions for various categories received from the SC-CPA server. This configuration is maintained in RT side. • You can define your own categories that contain a list of URLs and IP addresses. A predefined profile (ns-profile) can be used too. This configuration is also maintained on the RT side. • URL lookups are made against the URL Filtering cache and the user-defined categories. • If the category for the URL is not found in the local URL Filtering cache, categorization requests are sent to the utmd daemon and subsequently forwarded to the external SC-CPA Server for response.
Enhanced Web Filtering	Enhanced Web Filtering is similar to integrated Web filtering. It maintains the URL Filtering cache, a list of categories from the server, and a list of user-defined categories. It performs the lookup and categorization similar to integrated Web filtering. It is similar in mechanism but differs in the server functionality to determine URL categories.
Juniper local URL filtering	You can configure URL whitelists or blacklists for the URL lookups. This configuration is maintained on the real-time side of the Packet Forwarding Engine.

- **Antispam filtering**—Antispam filtering pushes the user configuration (whitelist and blacklist) from the Routing Engine to the PFE-RT.
- The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, **Express antivirus scanning**—In express antivirus scanning, the antivirus detection functionality is performed by the Pattern Matching Engine (PME) in the Packet Forwarding Engine of the node where the UTM traffic is anchored. The signature database is downloaded by the primary Routing Engine and synchronized to the secondary Routing Engine to be loaded in its local PME. If configured, the primary Routing Engine does the periodic signature database updates and synchronizes them to the secondary Routing Engine.
- **Full file-based antivirus scanning**—The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, In full antivirus scanning, the Kaspersky Lab engine is responsible for scanning all the data it receives. The signature database is downloaded from external Kaspersky Lab servers and used by the scan engine in the Routing Engine. Full AV antivirus scanning is done in the Routing Engine of each node where the UTM traffic is anchored. The signature database files are downloaded by the primary Routing Engine and synchronized to the secondary Routing Engine. If configured, the primary Routing Engine

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performs the periodic signature database update and synchronizes it to the secondary Routing Engine.

Apart from the signature database lookup, full antivirus scanning uses the following configuration that is maintained in the RT side to determine if full antivirus scanning needs to be performed:

- Mime whitelist—A hit bypasses antivirus scanning
- Mime exception list—An exception to the whitelist
- URL whitelist—a hit bypasses antivirus scanning
- Filename extension—Only these extensions are sent for antivirus scanning

The packet processing in full antivirus scanning might occur within RT side based on the result of the user-configured lists. Otherwise, the UTM session spans across the RT and Routing Engine side if full virus scanning needs to be performed.

See Also

- *Chassis Cluster Overview*
- *Preparing Your Equipment for Chassis Cluster Formation*
- *Understanding Chassis Cluster Redundancy Groups*
- *Understanding Chassis Cluster Redundant Ethernet Interfaces*
- Unified Threat Management Overview on page 23

Release History Table

Release	Description
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Integrated Web Filtering on page 247
- Local Web Filtering on page 259
- Redirect Web Filtering on page 273

UTM Support for Explicit Proxy

UTM support the use of an explicit proxy for the cloud-based connectivity for Enhanced Web Filtering (EWF) and Sophos antivirus (SAV) on unified threat management (UTM).

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The explicit proxy hides the identity of the source device and establishes a connection with the destination device.

- Understanding Explicit Proxy on page 35
- Configuring the Explicit Proxy on Juniper Enhanced Server on page 36
- Verifying the Explicit Proxy Configuration on Juniper Enhanced Server on page 37
- Configuring the Predefined Category Upgrading and Base Filter Configuration Using Explicit Proxy on page 37
- Verifying the Predefined Category Upgrading and Base Filter Configuration on page 38
- Configuring the Sophos Antivirus Pattern Update on page 39
- Verifying the Sophos Antivirus Pattern Update on page 40

Understanding Explicit Proxy

An explicit proxy hides the identity of source device, communicates directly with the Websense Threatseeker Cloud (TSC) server and establishes a connection with the destination device. The explicit proxy configuration consists of port address and direct IP address or hostname.

To use the explicit proxy, create one or more proxy profiles and refer to those profiles:

- In EWF, the explicit proxy is configured by referring to the created **proxy-profile** in **security utm default-configuration web-filtering juniper-enhanced server** hierarchy. The connection is established with the TSC server.
- In EWF predefined category upgrading and base filter, the explicit proxy is configured by referring to the created **proxy-profile** in **security utm custom-objects category-package proxy-profile** hierarchy. You can download and dynamically load new EWF categories without any software upgrade. The **proxy-profile** category file is installed and used for transfer of the traffic.

  SRX device sends *CONNECT* request to the proxy server, the SRX device and TSC server communicates through the HTTP connection. Then the proxy server is expected to identify the configured IP addresses, whitelist and allow SRX device to send traffic to the TSC server in cloud via proxy. After proxy filtering, it will create connection to real TSC server.
- In Sophos Antivirus (SAV), the explicit proxy is configured by referring to the created **proxy-profile** in **security utm default-configuration anti-virus sophos-engine pattern-update** hierarchy. The *utmd* process connects to the proxy host instead of the SAV pattern update server on the cloud.

On EWF, if the proxy profile is configured in UTM Web filtering configuration, the TSC server connection is established with the proxy host instead of the UTM server on the cloud.

On SAV, if the proxy profile is configured, the *utmd* process connects to the proxy host instead of the SAV pattern update server on the cloud.

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NOTE: The proxy server authentication is not supported if the proxy-profile is configured.

Configuring the Explicit Proxy on Juniper Enhanced Server

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

Create a proxy profile with host and port information, and refer it in the Juniper enhanced server to establish a connection to the UTM cloud server.

The following configuration shows how to configure the explicit proxy on Juniper enhanced server.

1. Assigning host IP address for proxy profile.

```
[edit services proxy profile]
user@host# set proxy1 protocol http host 192.0.2.1
```

2. Assigning port address for proxy profile.

```
[edit services proxy profile]
user@host# set proxy1 protocol http port 3128
```

3. Assign the proxy profile to the Web filtering Juniper enhanced server.

```
[edit security utm default-configuration web-filtering juniper-enhanced server]
user@host# set proxy-profile proxy1
```

Results

From configuration mode, confirm your configuration by entering the **show security** and **show services** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security
  default-configuration {
    web-filtering {
      type juniper-enhanced;
      juniper-enhanced {
        server {
          proxy-profile proxy1;
        }
      }
    }
```


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```
    }
```

```
[edit]
user@host# show services
  proxy {
    profile proxy1 {
      protocol {
        http {
          host 192.0.2.1;
          port 3128;
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verifying the Explicit Proxy Configuration on Juniper Enhanced Server

Purpose Display the status of explicit server on Juniper enhanced server.

Action From operational mode, enter the **show security utm web-filtering status** command.

```
user@host> show security utm web-filtering status
UTM web-filtering status:
Server status: Juniper Enhanced using Websense server UP
```

Meaning This command provides information on server status of Enhanced Web Filtering (EWF) using Websense Threatseeker Cloud (TSC).

Configuring the Predefined Category Upgrading and Base Filter Configuration Using Explicit Proxy

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

Create a proxy profile with host and port information, and refer it in the predefined category upgrade and base filter to download and dynamically load new EWF categories without any software upgrade.

The following configuration shows how to configure the explicit proxy on predefined category upgrading and base filter.

1. Assigning host IP address for proxy profile.

```
[edit services proxy profile]
user@host# set proxy1 protocol http host 203.0.113.1
```

2. Assign port address for proxy profile.

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```
[edit services proxy profile]
user@host# set proxy1 protocol http port 3128
```

3. Assign the proxy profile to the category packages in the custom objects.

```
[edit security utm custom-objects]
user@host# set category-package proxy-profile proxy1
```

Results

From configuration mode, confirm your configuration by entering the **show security** and **show services** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security
  custom-objects {
    category-package {
      proxy-profile proxy1;
    }
  }
```

```
[edit]
user@host# show services
  proxy {
    profile proxy1 {
      protocol {
        http {
          host 203.0.113.1;
          port 3128;
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verifying the Predefined Category Upgrading and Base Filter Configuration

Purpose Display the Enhanced Web Filtering (EWF) predefined category package download, install, and update status.

Action From operational mode, enter the **show security utm web-filtering category status** CLI command to see the web filtering category status.

NOTE: Before you execute the **show security utm web-filtering category status** CLI command, you must execute the **request security utm web-filtering category download-install** CLI command to get the results.

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```
user@host> show security utm web-filtering category status
  UTM category status:
      Installed version:  1
      Download version:   0
      Update status:      Done
```

Meaning This command provides information on the number of installed and downloaded categories and the update status.

Configuring the Sophos Antivirus Pattern Update

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

Create a proxy profile with host and port information, and refer it in the Sophos Antivirus (SAV) pattern update. The *utmd* process connects to the proxy host instead of the SAV pattern update server on the cloud.

The following configuration shows how to configure the explicit proxy on SAV pattern update.

1. Assigning host IP address for proxy profile.

```
[edit services proxy profile ]
user@host# set proxy1 protocol http host 203.0.113.1
```

2. Assign port address for proxy profile.

```
[edit services proxy profile ]
user@host# set proxy1 protocol http port 3128
```

3. Assign the proxy profile to the Sophos antivirus pattern update.

```
[edit security utm default-configuration anti-virus sophos-engine pattern-update]
user@host# set proxy-profile proxy1
```

Results

From configuration mode, confirm your configuration by entering the **show security** and **show services** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security
  default-configuration {
    anti-virus {
      sophos-engine {
```

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```
        pattern-update {
          proxy-profile proxy1;
        }
      }
    }
  }
```

```
[edit]
user@host# show services
  proxy {
    profile proxy1 {
      protocol {
        http {
          host 203.0.113.1;
          port 3128;
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verifying the Sophos Antivirus Pattern Update

Purpose Display the Sophos Antivirus (SAV) update pattern status.

Action From operational mode, enter the **show security utm anti-virus status** CLI command to see the UTM antivirus status.

```
user@host> show security utm anti-virus status
   UTM anti-virus status:

      Anti-virus key expire date: 2018-08-02 00:00:00
      Update server: https://host2.example.com/SAV/
             Interval: 1000 minutes
             Pattern update status: next update in 979 minutes
             Pattern update via proxy server: 203.0.113.1:3128
             Last result: already have latest database
      Anti-virus signature version: 1.13 (1.02)
      Scan engine type: sophos-engine
      Scan engine information: last action result: No error
```

Meaning This command provides information on the the Sophos Antivirus (SAV) pattern update server, update status, antivirus signature version, antivirus engine type and antivirus engine information.

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CHAPTER 2

Antivirus Protection

- Express Antivirus Protection on page 41
- Express Antivirus Pattern Updates on page 63
- Full Antivirus Protection on page 66
- Full Antivirus Pattern Updates on page 89
- Sophos Antivirus Protection on page 97
- On-Device Antivirus Scan Engine on page 124
- Full Antivirus File Scanning on page 135
- Full Antivirus Scan Results and Fallback Options on page 147
- Full Antivirus Application Protocol Scanning on page 155

Express Antivirus Protection

Express antivirus scanning is offered as a less CPU intensive alternative to the full file-based antivirus feature. Express antivirus supports the same protocols as full antivirus and functions in much the same manner. For more information, see the following topics:

- Express Antivirus Protection Overview on page 41
- Express Antivirus Configuration Overview on page 44
- Example: Configuring Express Antivirus Custom Objects on page 44
- Configuring Express Antivirus Custom Objects (J-Web Procedure) on page 47
- Example: Configuring Express Antivirus Feature Profiles on page 49
- Configuring Express Antivirus Feature Profiles (J-Web Procedure) on page 55
- Example: Configuring Express Antivirus UTM Policies on page 58
- Configuring Express Antivirus UTM Policies (J-Web Procedure) on page 59
- Example: Attaching Express Antivirus UTM Policies to Security Policies on page 60
- Attaching Express Antivirus UTM Policies to Security Policies (J-Web Procedure) on page 61

Express Antivirus Protection Overview

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, Express antivirus scanning is

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offered as a less CPU intensive alternative to the full file-based antivirus feature. Express antivirus supports the same protocols as full antivirus and functions in much the same manner, however, it has a smaller memory footprint, compatible with the smaller system memory present on lower end devices.

This topic includes the following sections:

- Express Antivirus Packet-Based Scanning Versus File-Based Scanning on page 42
- Express Antivirus Expanded MIME Decoding Support on page 42
- Express Antivirus Scan Result Handling on page 42
- Express Antivirus Intelligent Prescreening on page 42
- Express Antivirus Limitations on page 42

Express Antivirus Packet-Based Scanning Versus File-Based Scanning

Express antivirus uses a different antivirus scan engine than the full file-based antivirus feature and a different back-end hardware engine to accelerate pattern matching for higher data throughput.

The packet-based scanning done by express antivirus provides virus scanning data buffers without waiting for entire file to be received by the firewall, whereas the file-based scanning done by full antivirus can only start virus scanning when entire file is received.

Express Antivirus Expanded MIME Decoding Support

Express antivirus offers MIME decoding support for HTTP, POP3, SMTP, and IMAP. MIME decoding support includes the following for each supported protocol:

- Multi-part and nested header decoding
- Base64 decoding, printed quote decoding, and encoded word decoding (in the subject field)

Express Antivirus Scan Result Handling

With express antivirus, the TCP traffic is closed gracefully when a virus is found and the data content is dropped.

NOTE: **Express antivirus supports the following fail mode options: default, engine-not-ready, out-of-resource, and too-many-requests. Fail mode handling of supported options with express antivirus is much the same as with full antivirus.**

Express Antivirus Intelligent Prescreening

Intelligent prescreening functionality is identical in both express antivirus and full antivirus.

Express Antivirus Limitations

Express antivirus has the following limitations when compared to full antivirus functionality:

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- Express antivirus provides limited support for the scanning of file archives and compressed file formats. Express antivirus can only support gzip, deflate and compressed compressing formats.
- Express antivirus provides limited support for decompression. Decompression is only supported with HTTP (supports only gzip, deflate, and compress for HTTP and only supports one layer of compression) and POP3 (supports only gzip for POP3 and only supports one layer of compression).
- Express antivirus does not support scanning by extension.
- Express antivirus scanning is interrupted when the scanning database is loading.
- Express antivirus may truncate a warning message if a virus has been detected and the replacement warning message that is sent is longer than the original content it is replacing.
- If you switch from express antivirus protection to full file-based antivirus protection, you must reboot the device in order for full file-based antivirus to begin working.

NOTE: Because express antivirus does only packet-based string matching, if you use the standard EICAR file to test express antivirus, you will see false positives. To avoid these false positives, Juniper Networks has disabled scanning on the standard EICAR file to create a modified EICAR file for testing express antivirus. You can download this modified EICAR file from the following links:

https://www.juniper.net/security/avtest/ss-eicar.txt

https://www.juniper.net/security/avtest/ss-eicar.com

https://www.juniper.net/security/avtest/ss-eicar.zip

NOTE: The modified EICAR file must be tested with express antivirus only. The Kaspersky antivirus and Sophos antivirus do not detect this file.

NOTE: The express antivirus feature provides better performance but lower security. Note that if you switch from full file-based antivirus protection to express antivirus protection, you must reboot the device in order for express antivirus to begin working.

See Also

- Understanding Express Antivirus Scanner Pattern Updates on page 63
- Example: Automatically Updating Express Antivirus Patterns on page 64
- Understanding the Full Antivirus Scan Engine on page 135

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Express Antivirus Configuration Overview

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, for each UTM feature, you should configure feature parameters in the following order:

1. Configure UTM custom objects for the UTM features. The following example enables the mime-pattern, url-pattern, and custom-url-category custom objects:

```
user@host# set security utm custom-objects mime-pattern
user@host# set security utm custom-objects url-pattern
user@host# set security utm custom-objects custom-url-category
```

2. Configure main feature parameters using feature profiles. The following examples enables the anti-virus feature profile:

```
user@host# set security utm feature-profile anti-virus juniper-exress-engine
```

3. Configure a UTM policy for each protocol and attach this policy to a profile. The following example creates the utmp3 UTM policy for the HTTP protocol:

```
user@host# set security utm utm-policy utmp3 anti-virus http-profile http1
```

4. Attach the UTM policy to a security policy. The following example attaches the utmp3 UTM policy to the p3 security policy:

```
user@host# set security policies from-zone trust to-zone untrust policy p3 then permit
    application-services utm-policy utmp3
```

Example: Configuring Express Antivirus Custom Objects

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure express antivirus custom objects.

- Requirements on page 44
- Overview on page 45
- Configuration on page 45
- Verification on page 47

Requirements

Before you begin:

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- Decide the type of express antivirus protection you require. See "Express Antivirus Protection Overview" on page 41.
- Understand the order in which express antivirus parameters are configured. See "Express Antivirus Configuration Overview" on page 44.

Overview

In this example, you define custom objects that are used to create express antivirus feature profiles. You perform the following tasks to define custom objects:

- Create two MIME lists called avmime2 and ex-avmime2, and add patterns to the list.
- Configure a URL pattern list called urllist2.

  When entering the URL pattern, note the following wildcard character support:

  - The *\.[]\?* wildcard characters are supported.
  - You must precede all wildcard URLs with http://.
  - You can use the asterisk * wildcard character only if it is at the beginning of the URL and is followed by a period.
  - You can use the question mark ? wildcard character only at the end of the URL.
  - The following wildcard syntax is supported: http://*.example.net, http://www.example.ne?, http://www.example.n??.
  - The following wildcard syntax is not supported: *.example.net , www.example.ne?, http://*example.net, http://* .
  - Configure a custom URL category list called custurl2, using the urllist2 URL pattern list.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects mime-pattern avmime2 value [video/quicktime
    image/x-portable-anymap x-world/x-vrml]
set security utm custom-objects mime-pattern ex-avmime2 value
    [video/quicktime-inappropriate]
set security utm custom-objects url-pattern urllist2 value [http://www.example.net
    1.2.3.4]
set security utm custom-objects custom-url-category custurl2 value urllist2
```

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure express antivirus filtering custom objects:

1. Create MIME lists, and add MIME patterns to the lists.

```
[edit security utm]
user@host# set custom-objects mime-pattern avmime2 value [video/quicktime
   image/x-portable-anymap x-world/x-vrml]
user@host# set custom-objects mime-pattern ex-avmime2 value
   [video/quicktime-inappropriate]
```

NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category list.

2. Configure a URL pattern list custom object.

```
[edit security utm]
user@host# set custom-objects url-pattern urllist2 value [http://www.example.net
   1.2.3.4]
```

3. Configure a custom URL category list.

```
[edit security utm]
user@host# set custom-objects custom-url-category custurl2 value urllist2
```

Results

From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm
custom-objects {
   mime-pattern {
      avmime2 {
         value [ video/quicktime image/x-portable-anymap x-world/x-vrml ];
      }
      ex-avmime2 {
         value video/quicktime-inappropriate;
      }
   }
   url-pattern {
      urllist2 {
         value [ http://www.example.net 1.2.3.4 ];
```


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```
    }
  }
  custom-url-category {
    custurl2 {
      value urllist2;
    }
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying Express Antivirus Custom Objects

Purpose Verify the express antivirus custom objects.

Action From operational mode, enter the **show configuration security utm** command.

Configuring Express Antivirus Custom Objects (J-Web Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure express antivirus protection using the J-Web configuration editor, you must first create your custom objects (MIME pattern list, URL pattern list, and custom URL category list).

Configure a MIME pattern list custom object as follows:

1. Select **Configure>Security>UTM Custom Objects**.
2. From the MIME Pattern List tab, click **Add** to create MIME pattern lists.
3. In the Add MIME Pattern pop-up window, next to **MIME Pattern Name**, enter a unique name.

   NOTE: Keep in mind that you are creating a MIME whitelist and a MIME exception list (if necessary). Both MIME lists appear in the MIME Whitelist and Exception MIME Whitelist fields when you configure antivirus. Therefore, the MIME list names you create should be as descriptive as possible.

4. Next to MIME Pattern Value, enter the MIME pattern.
5. Click **Add** to add your MIME pattern to the Values list box. Within this box, you can also select an entry and use the Delete button to delete it from the list. Continue to add MIME patterns in this manner.

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6. Optionally, create a new MIME list to act as an exception list. The exception list is generally a subset of the main MIME list.

7. Click **OK** to check your configuration and save the selected values as part of the MIME list, then click **Commit Options**>**Commit**.

8. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Configure a URL pattern list custom object as follows:

NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure a custom URL category list.

1. Select **Configure>Security>UTM>Custom Objects**.

2. From the URL Pattern List tab, click **Add** to create URL pattern lists.

3. Next to URL Pattern Name, enter a unique name. This name appears in the Custom URL Category List Custom Object page for selection.

4. Next to URL Pattern Value, enter the URL or IP address you want added to list for bypassing scanning.

   When entering the URL pattern, note the following wildcard character support:

   - The ***\.[]\?*** wildcard characters are supported.
   - You must precede all wildcard URLs with **http://**.
   - You can only use the asterisk * wildcard character if it is at the beginning of the URL and is followed by a period.
   - You can only use the question mark **?** wildcard character at the end of the URL.
   - The following wildcard syntax IS supported: **http://*.example.net**, **http://www.example.ne?**, **http://www.example.n??**.
   - The following wildcard syntax is NOT supported: ***.example.net** , **www.example.ne?**, **http://*example.net, http://***.

5. Click **Add** to add your URL pattern to the Values list box. The list can contain up to 8192 items. You can also select an entry and use the Delete button to delete it from the list. Continue to add URLs or IP addresses in this manner.

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6. Click **OK** to check your configuration and save the selected values as part of the URL pattern list, then click **Commit Options**>**Commit**.

7. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Configure a custom URL category list custom object using the URL pattern list that you created:

1. Select **Configure>Security>UTM>Custom Objects**.

2. From the URL Category List tab, click **Add** to create URL category lists.

3. Next to URL Category Name, enter a unique name. This name appears in the URL Whitelist list when you configure antivirus global options.

4. In the Available Values box, select a **URL Pattern List** name from the list for bypassing scanning and click the right arrow button to move it to the Selected Values box.

5. Click **OK** to check your configuration and save the selected values as part of the URL list, then click **Commit Options**>**Commit**.

6. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

See Also
- Understanding MIME Whitelists on page 167
- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168

Example: Configuring Express Antivirus Feature Profiles

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure an express antivirus feature profile.

- Requirements on page 49
- Overview on page 50
- Configuration on page 51
- Verification on page 54

Requirements

Before you begin:

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- Decide the type of express antivirus protection you require. See "Express Antivirus Protection Overview" on page 41.
- Understand the order in which express antivirus parameters are configured. See "Express Antivirus Configuration Overview" on page 44.
- MIME patterns must be defined for lists and exception lists. See "Example: Configuring MIME Whitelists to Bypass Antivirus Scanning" on page 168.
- Custom objects must be defined. See "Example: Configuring Express Antivirus Custom Objects" on page 44
- SMTP must be configured on the device. See "Understanding SMTP Antivirus Scanning" on page 158

Overview

In this example, you configure a feature profile called junexprof1 and specify custom objects to be used for filtering content.

- Select and configure the Juniper Express Engine as the engine type.
- Select 120 as the time interval for updating the pattern database. The default antivirus pattern-update interval is once a day.

NOTE: The command for changing the URL for the pattern database is:

```
[edit]
user@host# set security utm feature-profile anti-virus juniper-express-engine
   pattern-update url http://...
```

Under most circumstances, you should not need to change the default URL.

- Enable an e-mail notification with a custom message as pattern file was updated and a custom subject line as AV pattern file updated.
- Configure a list of fallback options as block.
- Configure the notification options for fallback blocking for virus detection. Configure a custom message for the fallback blocking action, and send a notification.
- Configure a notification for protocol-only virus detection, and send a notification as Antivirus Alert.
- Configure content size parameters as 20000.

NOTE: For SRX100, SRX110, SRX210, SRX220, and SRX240 devices, the maximum value for content size is 20,000. For SRX650 devices, the maximum value for content size is 40,000. Platform support depends on the Junos OS release in your installation.

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- Enable intelligent prescreening and set its timeout setting to 1800 seconds and trickling setting (applicable only to HTTP) to 600 seconds. This means that if the device receives a packet within a 600-second period during a file transfer or while performing an antivirus scan, it should not time out.

NOTE: Intelligent prescreening is intended only for use with non-encoded traffic. It is not applicable to mail protocols (SMTP, POP3, IMAP) or HTTP POST.

- Configure the antivirus scanner to use MIME bypass lists and exception lists. You can use your own custom object lists, or you can use the default list, called junos-default-bypass-mime, which ships with the device. The following example enables the avmime2 and ex-avmime2 lists.
- Configure the antivirus module to use URL bypass lists. If you are using a URL whitelist (valid only for HTTP traffic), this is a custom URL category that you previously configured as a custom object. For this example, you enable the custurl1 bypass list.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile anti-virus juniper-express-engine pattern-update interval
  120
set security utm feature-profile anti-virus juniper-express-engine pattern-update
  email-notify admin-email administrator@example.net custom-message “pattern file
  was updated” custom-message-subject “AV pattern file updated”
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options content-size block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options default block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options engine-not-ready block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options out-of-resources block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options timeout block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  fallback-options too-many-requests block
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  notification-options fallback-block custom-message “Dropped due to fallback condition”
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  notification-options virus-detection type protocol-only
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  notification-options virus-detection custom-message ***virus-found***
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  scan-options content-size-limit 20000
```

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```
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  scan-options intelligent-prescreening
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1
  scan-options timeout 1800
set security utm feature-profile anti-virus juniper-express-engine profile junexprof1 trickling
  timeout 600
set security utm feature-profile anti-virus mime-whitelist list avmime2
set security utm feature-profile anti-virus mime-whitelist list avmime2 exception
  ex-avmime2
set security utm feature-profile anti-virus url-whitelist custurl2
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure express antivirus feature profiles:

1. Select and configure the engine type.

```
[edit]
user@host# set security utm feature-profile anti-virus type juniper-express-engine
```

2. Select a time interval for updating the pattern database.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set pattern-update interval 120
```

3. Configure the device to notify a specified administrator when patterns are updated.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set pattern-update email-notify admin-email
  administrator@example.net custom-message “pattern file was updated”
  custom-message-subject “AV pattern file updated”
```

4. Create a profile for the Juniper Express Engine, and configure fallback options as block.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 fallback-options content-size block
user@host# set profile junexprof1 fallback-options default block
user@host# set profile junexprof1 fallback-options engine-not-ready block
user@host# set profile junexprof1 fallback-options out-of-resources block
user@host# set profile junexprof1 fallback-options timeout block
user@host# set profile junexprof1 fallback-options too-many-requests block
```

5. Configure a custom notification for the fallback blocking action, and send a notification.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
```


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```
user@host# set profile junexprof1 notification-options fallback-block
  custom-message “Dropped due to fallback condition”
```

6. Configure a notification for protocol-only virus detection, and send a notification.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 notification-options virus-detection type
  protocol-only
```

7. Configure a custom notification for virus detection.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
set profile junexprof1 notification-options virus-detection custom-message
  ***virus-found***
```

8. Configure content size parameter.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 scan-options content-size-limit 20000
```

9. Configure intelligent prescreening.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 scan-options intelligent-prescreening
```

10. Configure the timeout setting.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 scan-options timeout 1800
```

11. Configure trickling setting.

```
[edit security utm feature-profile anti-virus juniper-express-engine]
user@host# set profile junexprof1 trickling timeout 600
```

12. Configure the antivirus scanner to use MIME bypass lists and exception lists.

```
[edit security utm feature-profile anti-virus]
user@host# set mime-whitelist list avmime2
user@host# set mime-whitelist list avmime2 exception ex-avmime2
```

13. Configure the antivirus module to use URL bypass lists.

```
[edit security utm feature-profile anti-virus]
user@host# set url-whitelist custurl2
```

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Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile anti-virus** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm feature-profile anti-virus
mime-whitelist {
   list avmime2;
   exception ex-avmime2;
}
url-whitelist custurl2;
juniper-express-engine {
   pattern-update {
      email-notify {
         admin-email "administrator@example.net";
         custom-message "pattern file was updated";
         custom-message-subject "AV pattern file updated";
      }
      interval 120;
   }
   profile junexprof1 {
      fallback-options {
         default block;
         content-size block;
         engine-not-ready block;
         timeout block;
         out-of-resources block;
         too-many-requests block;
      }
      scan-options {
         intelligent-prescreening;
         content-size-limit 20000;
         timeout 1800;
      }
      trickling timeout 600;
      notification-options {
         virus-detection {
            type protocol-only;
            custom-message ***virus-found***;
         }
         fallback-block {
            custom-message “Dropped due to fallback condition”;
         }
      }
   }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying the Configuration of Express Antivirus Feature Profile

Purpose Verify the express antivirus feature profile.

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Action From operational mode, enter any of the following commands:

- **show configuration security utm**
- **show security utm anti-virus status**
- **show security utm anti-virus statistics**

See Also
- Understanding Full Antivirus Application Protocol Scanning on page 156
- Understanding Express Antivirus Scanner Pattern Updates on page 63

Configuring Express Antivirus Feature Profiles (J-Web Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you create your custom objects, configure the antivirus feature profile:

1. Select Configure>Security>UTM>Global options.
2. In the Anti-Virus tab, next to MIME whitelist, select the custom object you created from the list.
3. Next to Exception MIME whitelist, select the custom object you created from the list.
4. Next to URL Whitelist, select the custom object you created from the list.
5. In the Engine Type section, select the type of engine you are using. For express antivirus protection, you should select Juniper Express.
6. Next to Pattern update URL, enter the URL for the pattern database in the box. Note that the URL is http://update.juniper-updates.net/EAV/<device version> and you should not change it.
7. Next to Pattern update interval, enter the time interval for automatically updating the pattern database in the box. The default for express antivirus checking is once per day.
8. Select whether you want the pattern file to update automatically (Auto update) or not (No Auto update).
9. Click OK to save the selected values.
10. If the configuration item is saved successfully, you receive a confirmation and you must click OK again. If it is not saved successfully, you can click Details in the pop-up window that appears to discover why.

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11. Under Security, in the left pane, select Anti-Virus.

12. Click Add in the right window to create a profile for the antivirus Juniper Express Engine. To edit an existing item, select it and click **Edit**.

13. In the Main tab, next to Profile name, enter a unique name for this antivirus profile.

14. Select the Profile Type. In this case, select Juniper Express.

15. Next to Trickling timeout, enter timeout parameters.

NOTE: Trickling applies only to HTTP. HTTP trickling is a mechanism used to prevent the HTTP client or server from timing out during a file transfer or during antivirus scanning.

16. Next to Intelligent prescreening, select Yes or No.

NOTE: Intelligent prescreening is only intended for use with non-encoded traffic. It is not applicable for mail protocols (SMTP, POP3, IMAP, and HTTP POST).

17. Next to Content Size Limit, enter content size parameters. The content size check occurs before the scan request is sent. The content size refers to accumulated TCP payload size.

18. Next to Scan engine timeout, enter scanning timeout parameters.

19. Select the Fallback settings tab.

20. Next to Default (fallback option), select Log and permit or Block from the list. In most cases, Block is the default fallback option.

21. Next to Decompress Layer (fallback option), select Log and permit or Block from the list.

22. Next to Content Size (fallback option), select Log and permit or Block from the list.

23. Next to Engine Not Ready (fallback option), select Log and permit or Block from the list.

24. Next to Timeout (fallback option), select Log and permit or Block from the list.

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25. Next to Out of Resource (fallback option), select Log and permit or Block from the list.

26. Next to Too Many Requests (fallback option), select Log and permit or Block from the list.

27. Select the Notification options tab.

28. In the Fallback block section, next to Notification type, select Protocol Only or Message to select the type of notification that is sent when a fallback option of block is triggered.

29. Next to Notify mail sender, select Yes or No.

30. If you selected Yes, next to Custom Message, enter text for the message body of your custom message for this notification (if you are using a custom message).

31. Next to Custom message subject, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message).

32. In the Fallback non block section, next to Notify mail recipient, select Yes or No.

33. If you selected Yes, next to Custom Message, enter text for the message body of your custom message for this notification (if you are using a custom message).

34. Next to Custom message subject, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message).

35. Select the Notification options cont tab.

36. In the Virus detection section, next to Notification type, select Protocol Only or Message to select the type of notification that is sent when a fallback option of block is triggered.

37. Next to Notify mail sender, select Yes or No.

38. If you selected Yes, next to Custom Message, enter text for the message body of your custom message for this notification (if you are using a custom message).

39. Next to Custom message subject, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message). The limit is 255 characters.

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40. Click OK to check your configuration and save it as a candidate configuration, then click Commit Options>Commit.

41. If the configuration item is saved successfully, you receive a confirmation and you must click OK again. If it is not saved successfully, you can click Details in the pop-up that appears window to discover why.

NOTE: You create a separate antivirus profile for each antivirus protocol. These profiles may basically contain the same configuration information, but when you are creating your UTM policy for antivirus, the UTM policy configuration page provides separate antivirus profile selection fields for each supported protocol.

See Also

- Understanding HTTP Trickling on page 170

Example: Configuring Express Antivirus UTM Policies

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to create an express antivirus UTM policy to attach to your feature profile.

- Requirements on page 58
- Overview on page 58
- Configuration on page 58
- Verification on page 59

Requirements

Before you begin, create an antivirus feature profile. See "Example: Configuring Express Antivirus Feature Profiles" on page 49.

Overview

In this example, you configure an express antivirus UTM policy called utmp3 and attach the policy to the antivirus profile called junexprof1.

Configuration

Step-by-Step Procedure

To configure an express antivirus UTM policy:

1. Create a UTM policy for HTTP antivirus scanning and attach the policy to the profile.

```
[edit]
user@host# set security utm utm-policy utmp3 anti-virus http-profile junexprof1
```

2. If you are done configuring the device, commit the configuration.

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```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

Configuring Express Antivirus UTM Policies (J-Web Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you have created an antivirus feature profile, configure a UTM policy to which you can attach the feature profile:

1. Select **Configure>Security>Policy>UTM Policies**.
2. From the UTM policy configuration window, click **Add** to configure a UTM policy. The policy configuration pop-up window appears.
3. Select the **Main** tab.
4. In the **Policy name** box, enter a unique name.
5. In the **Session per client limit** box, enter a session per client limit from 0 to 20000 for this UTM policy.
6. In the Session per client over limit list, select the action that the device should take when the session per client limit for this UTM policy is exceeded. Options include **Log and permit** and **Block**.
7. Select the **Anti-Virus profiles** tab.
8. Select the appropriate profile you have configured from the list for the corresponding protocol listed.
9. Click **OK**.
10. If the policy is saved successfully, you receive a confirmation and you must click **OK** again. If the profile is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

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Example: Attaching Express Antivirus UTM Policies to Security Policies

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to attach an express antivirus UTM policy to a security policy.

- Requirements on page 60
- Overview on page 60
- Configuration on page 60
- Verification on page 61

Requirements

Before you begin, create a UTM policy. See "Example: Configuring Express Antivirus UTM Policies" on page 58.

Overview

In this example, you attach the express antivirus UTM policy called utmp3 to the security policy called p3.

Configuration

Step-by-Step Procedure

To attach an express antivirus UTM policy to a security policy:

1. Enable and configure the security policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy p3 match
   source-address any
user@host# set security policies from-zone trust to-zone untrust policy p3 match
   destination-address any
user@host# set security policies from-zone trust to-zone untrust policy p3 match
   application junos-http
```

2. Attach the UTM policy to the security policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy p3 then
   permit application-services utm-policy utmp3
```

3. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```


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Verification

To verify the configuration is working properly, enter **show security policies detail** from operational mode.

Attaching Express Antivirus UTM Policies to Security Policies (J-Web Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you create a UTM policy, create a security policy and attach the UTM policy to the security policy:

1. Select **Configure>Security>Policy>FW Policies**.
2. From the Security Policy window, click **Add** to configure a security policy with UTM. The policy configuration pop-up window appears.
3. In the Policy tab, enter a name in the **Policy Name** box.
4. Next to Default Policy Action, select one of the following: **Deny-All** or **Permit-All**.
5. Next to **From Zone**, select a zone from the list.
6. Next to **To Zone**, select a zone from the list.
7. Under Zone Direction, click **Add a Policy**.
8. Choose a **Source Address**.
9. Choose a **Destination Address**.
10. Choose an application by selecting **junos-*protocol*** (for all protocols that support antivirus scanning) in the Application Sets box and clicking the —> button to move it to the Matched box.
11. Next to Policy Action, select **Permit**.

NOTE: When you select Permit for Policy Action, several additional fields become available in the Applications Services tab, including UTM Policy.

12. Select the **Application Services** tab.
13. Next to **UTM Policy**, select the appropriate policy from the list. This action attaches your UTM policy to the security policy.

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14. Click **OK**.

15. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.

16. If the policy is saved successfully, you receive a confirmation and you must click **OK** again. If the profile is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

    You must activate your new policy to apply it.

Release History Table

Release	Description
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Full Antivirus Scan Results and Fallback Options on page 147
- HTTP Trickling to Prevent Timeouts on page 169
- Full Antivirus Protection on page 66

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Express Antivirus Pattern Updates

The express antivirus pattern database is updated over HTTP or HTTPS and can occur automatically or manually. For more information, see the following topics:

- Understanding Express Antivirus Scanner Pattern Updates on page 63
- Example: Automatically Updating Express Antivirus Patterns on page 64
- Example: Automatically Updating Express Antivirus Patterns (J-Web Procedure) on page 65
- Manually Updating, Reloading, and Deleting Express Antivirus Patterns (CLI Procedure) on page 65

Understanding Express Antivirus Scanner Pattern Updates

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, Express antivirus uses a different signature database than the full antivirus signature database. The express antivirus signature database is called Juniper Express antivirus database and it is compatible with the hardware engine. The express signature database targets only critical viruses and malware, including worms, Trojans, and spyware. This is a smaller sized database, providing less coverage than the full antivirus signature database.

The express antivirus pattern database is updated over HTTP or HTTPS and can occur automatically or manually. This is similar functionality to that found in full antivirus with some minor differences:

- With express antivirus, the signature database auto-update interval, is once a day.
- With express antivirus, there is no support for the downloading of multiple database types.
- With express antivirus, during database loading, all scan operations are interrupted. Scan operations for existing traffic flows are stopped and no new scan operations are initiated for newly established traffic flows. You can specify the desired action for this interruption period using the fall-back parameter for engine-busy-loading-database. The available actions are block or log-and-permit.
- By default, the URL for express antivirus is *http://update.juniper-updates.net/EAV/SRX-platform-name* where *SRX-platform-name* is the name of your device. If your device is an SRX210, then the URL for express antivirus would be http://update.juniper-updates.net/EAV/SRX210. The *SRX-platform-name* part of the URL is different and platform-specific. (Other than the platform name, you should not change this URL unless you are experiencing problems with it and have called for support. Platform support depends on the Junos OS release in your installation.)

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NOTE: Once your subscription expires, you have a 30 day grace period during which you can continue to update the antivirus pattern file. Once that grace period expires, the update server no longer permits antivirus pattern file updates.

The express Antivirus scanning feature is a separately licensed subscription service. When your antivirus license key expires, you can continue to use locally stored antivirus signatures. But in that case, if the local database is deleted, antivirus scanning is disabled.

See Also
- Understanding the Full Antivirus Scan Engine on page 135

Example: Automatically Updating Express Antivirus Patterns

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to update the pattern file automatically on a security device.

- Requirements on page 64
- Overview on page 64
- Configuration on page 64
- Verification on page 65

Requirements

Before you begin:

- Obtain a valid antivirus scanner license. See "Full Antivirus Protection Overview" on page 66.
- Get network connectivity and access to the pattern database server. See "Understanding Full Antivirus Pattern Updates" on page 90.
- Configure your DNS settings and port settings (port 80) correctly. See *DNS Overview*.

Overview

In this example, you configure the security device to update the pattern file automatically every 120 minutes. (The default antivirus pattern-update interval is once a day.)

Configuration

Step-by-Step Procedure

To configure the security device to update the pattern file automatically:

1. Set the interval.

```
[edit]
user@host# set security utm feature-profile anti-virus juniper-express-engine
   pattern-update interval 120
```


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2. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

Example: Automatically Updating Express Antivirus Patterns (J-Web Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, in this example, you configure the security device to update the pattern file automatically every 120 minutes. (The default antivirus pattern-update interval is once a day.)

To automatically update antivirus patterns:

1. Select **Configure>Security>UTM>Anti-Virus**.
2. Next to Interval, in the Juniper Express Engine section, enter **120** in the box.
3. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options>Commit**.

Manually Updating, Reloading, and Deleting Express Antivirus Patterns (CLI Procedure)

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to manually update antivirus patterns, enter the following CLI statement:

```
user@host> request security utm anti-virus juniper-express-engine pattern-update
```

To manually reload antivirus patterns, enter the following CLI statement:

```
user@host> request security utm anti-virus juniper-express-engine pattern-reload
```

To manually delete antivirus patterns, enter the following CLI statement:

```
user@host> request security utm anti-virus juniper-express-engine pattern-delete
```

See Also

- Understanding MIME Whitelists on page 167
- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168

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Release History Table

Release	Description
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Full Antivirus Pattern Updates on page 89
- HTTP Trickling to Prevent Timeouts on page 169

Full Antivirus Protection

The full file-based antivirus feature provides file-based scanning on specific Application Layer traffic checking for viruses against a virus signature database. It collects the received data packets until it has reconstructed the original application content, such as an e-mail file attachment, and then scans this content. For more information, see the following topics:

- Full Antivirus Protection Overview on page 66
- Full Antivirus Configuration Overview on page 67
- Example: Configuring Full Antivirus Custom Objects on page 69
- Configuring Full Antivirus Custom Objects (J-Web Procedure) on page 72
- Example: Configuring Full Antivirus Feature Profiles on page 75
- Configuring Full Antivirus Feature Profiles (J-Web Procedure) on page 81
- Example: Configuring Full Antivirus UTM Policies on page 85
- Configuring Full Antivirus UTM Policies (J-Web Procedure) on page 86
- Example: Attaching Full Antivirus UTM Policies to Security Policies on page 86
- Attaching Full Antivirus UTM Policies to Security Policies (J-Web Procedure) on page 87

Full Antivirus Protection Overview

A virus is executable code that infects or attaches itself to other executable code in order to reproduce itself. Some malicious viruses erase files or lock up systems, while other viruses merely infect files and can overwhelm the target host or network with bogus data. The full file-based antivirus feature provides file-based scanning on specific Application Layer traffic checking for viruses against a virus signature database. It collects the received data packets until it has reconstructed the original application content, such as an e-mail file attachment, and then scans this content.

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The full file-based antivirus scanning feature is a separately licensed subscription service. Kaspersky Lab provides the scan engine for full file-based antivirus. When your antivirus license key expires, you can continue to use locally stored antivirus signatures without any updates. But in that case, if the local database is deleted, antivirus scanning is disabled.

NOTE: **The express antivirus feature provides better performance but lower security. Note that if you switch from full file-based antivirus protection to express antivirus protection, you must reboot the device in order for express antivirus to begin working.**

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the Kaspersky scan engine is provided as a downloadable UTM module. To download the Kaspersky scan engine, your SRX Series device must have an active UTM license. When you install the KAV license, the system automatically downloads the Kaspersky module from the Juniper Networks server and runs it.

When you set the antivirus type to KAV, and if the SRX Series device had a preinstalled Kaspersky engine, then the downloaded module replaces the original module on the device. Regardless of the UTM license status, when the KAV license is deleted from the device, the Kaspersky engine and all files associated with KAV are removed from the system immediately.

Use the **set security utm feature-profile anti-virus type kaspersky-lab-engine** command to set the antivirus type to KAV. If Kaspersky engine is not available on the device, and if the Kaspersky engine cannot be downloaded from the predefined URL, then use the **set security utm feature-profile anti-virus kaspersky-lab-engine pattern-update url *url*** command to configure the downloading application URL.

See Also

- Understanding Full Antivirus Pattern Updates on page 90
- Understanding Full Antivirus Scan Level Settings on page 138
- Understanding the Full Antivirus Scan Engine on page 135

Full Antivirus Configuration Overview

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, when configuring antivirus protection, you must first create the antivirus custom objects you are using. Those custom objects may include the MIME pattern list, MIME exception list, and the filename extension list. Once you have created your custom objects, you can configure full antivirus protection, including intelligent prescreening, and content size limits.

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To configure full file-based antivirus protection:

1. Configure UTM custom objects for the UTM feature. The following example enables the mime-pattern, filename-extension, url-pattern, and custom-url-category custom-objects:

```
user@host# set security utm custom-objects mime-pattern
user@host# set security utm custom-objects filename-extension
user@host# set security utm custom-objects url-pattern
user@host# set security utm custom-objects custom-url-category
```

2. Configure the main feature parameters using feature profiles. The following example enables options using the anti virus feature profile:

```
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine
  pattern-update
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  fallback-options
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  notification-options
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  scan-options
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  trickling
user@host# set security utm feature-profile anti-virus mime-whitelist
user@host# set security utm feature-profile anti-virus url-whitelist
```

3. Configure a UTM policy for each protocol and attach this policy to a profile. The following example configure the utmp2 UTM policy for the HTTP protocol:

```
user@host# set security utm utm-policy utmp2 anti-virus http-profile http1
```

4. Attach the UTM policy to a security policy. The following example attaches the utmp2 UTM policy to the p2 security policy:

```
user@host# set security policies from-zone trust to-zone untrust policy p2 then permit
  application-services utm-policy utmp2
```

See Also

- Understanding Full Antivirus Content Size Limits on page 142
- Example: Configuring the Full Antivirus Pattern Update Server on page 91
- Understanding Full Antivirus Intelligent Prescreening on page 141

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Example: Configuring Full Antivirus Custom Objects

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure full antivirus custom objects.

- Requirements on page 69
- Overview on page 69
- Configuration on page 69
- Verification on page 71

Requirements

Before you begin:

- Decide the type of full antivirus protection you require. See "Full Antivirus Protection Overview" on page 66.
- Understand the order in which full antivirus parameters are configured. See "Full Antivirus Pattern Update Configuration Overview" on page 92.

Overview

In this example, you define custom objects that are used to create full antivirus feature profiles. You perform the following tasks to define custom objects:

1. Configure a filename extension list called extlist1 and add extensions such as .zip, .js, and .vbs to the list.
2. Create two MIME lists called avmime1 and ex-avmime1 and add patterns to the list.
3. Configure a URL pattern list called urllist1.
4. Configure a custom URL category list called custurl1 using the urllist1 URL pattern list.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects filename-extension extlist1 value [zip js vbs]
set security utm custom-objects mime-pattern avmime1 value [video/quicktime
   image/x-portable-anymap x-world/x-vrml]
set security utm custom-objects mime-pattern ex-avmime1 value
   [video/quicktime-inappropriate]
set security utm custom-objects url-pattern urllist1 value [http://www.url.com 5.6.7.8]
set security utm custom-objects custom-url-category custurl1 value urllist1
```

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure full antivirus filtering custom objects:

1. Configure the filename extension list and add extensions to it.

```
[edit security utm]
user@host# set custom-objects filename-extension extlist1 value [zip js vbs]
```

NOTE: The Kaspersky scan engine ships with a read-only default extension list that you can use.

2. Create MIME lists and add MIME patterns to the lists.

```
[edit security utm]
user@host# set custom-objects mime-pattern avmime1 value [video/quicktime
   image/x-portable-anymap x-world/x-vrml]
user@host# set custom-objects mime-pattern ex-avmime1 value
   [video/quicktime-inappropriate]
```

3. Configure a URL pattern list.

```
[edit security utm]
user@host# set custom-objects url-pattern urllist1 value [http://www.url.com
   5.6.7.8]
```

When entering the URL pattern, note the following wildcard character support:

- The *\.[]\?* wildcard characters are supported.
- You must precede all wildcard URLs with http://.
- You can only use the asterisk * wildcard character if it is at the beginning of the URL and is followed by a period.
- You can only use the question mark ? wildcard character at the end of the URL.
- The following wildcard syntax is supported: http://*.example.net, http://www.example.ne?, http://www.example.n??.
- The following wildcard syntax is not supported: *.example.net , www.example.ne?, http://*example.net, http://*.

NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category lists.

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4. Configure a custom URL category list.

```
[edit security utm]
user@host# set custom-objects custom-url-category custurl1 value urllist1
```

Results From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security utm
custom-objects {
  mime-pattern {
    avmime1 {
      value [ video/quicktime image/x-portable-anymap x-world/x-vrml ];
    }
    ex-avmime1 {
      value video/quicktime-inappropriate;
    }
  }
  filename-extension {
    extlist1 {
      value [ zip js vbs ];
    }
  }
  url-pattern {
    urllist1 {
      value [ http://www.url.com 5.6.7.8 ];
    }
  }
  custom-url-category {
    custurl1 {
      value urllist1;
    }
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying Full Antivirus Custom Objects

Purpose Verify the full antivirus custom objects.

Action From operational mode, enter the **show configuration security utm** command.

See Also

- Understanding MIME Whitelists on page 167
- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168

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Configuring Full Antivirus Custom Objects (J-Web Procedure)

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure antivirus protection, you must first create your custom objects (MIME Pattern List, Filename Extension List, URL Pattern List, and Custom URL Category List).

Configure a MIME pattern list custom object:

1. Select **Configure>Security>UTM>Custom Objects**.
2. From the MIME Pattern List tab, click the **Add** button to create MIME pattern lists.
3. In the Add MIME Pattern pop-up window, next to **MIME Pattern Name**, enter a unique name.

   NOTE: Keep in mind that you are creating a MIME whitelist and a MIME exception list (if necessary). Both MIME lists appear in the MIME Whitelist and Exception MIME Whitelist fields when you configure antivirus. Therefore, the MIME list names you create should be as descriptive as possible.
4. Next to **MIME Pattern Value**, enter the MIME pattern.
5. Click **Add** to add your MIME pattern to the Values list box. Within this box, you can also select an entry and use the Delete button to delete it from the list. Continue to add MIME patterns in this manner.
6. Optionally, create a new MIME list to act as an exception list. The exception list is generally a subset of the main MIME list.
7. Click **OK** to check your configuration and save the selected values as part of the MIME list, then click **Commit Options**>**Commit**.
8. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Configure a filename extension list custom object:

1. Select **Configure>Security>UTM>Custom Objects**.
2. From the Filename Extension List tab, click the **Add** button to create filename extension lists.

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3. Next to **File Extension Name**, enter a unique name. This name appears in the Scan Option By Extension list when you configure an antivirus profile.

4. In the **Available Values** box, select one or more default values (press Shift to select multiple concurrent items or press Ctrl to select multiple separate items) and click the right arrow button to move the value or values to the Selected Values box.

5. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.

6. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If the profile is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Configure a URL pattern list custom object:

NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure a custom URL category list.

1. Select **Configure>Security>UTM>Custom Objects**.

2. From the URL Pattern List tab, click the **Add** button to create URL pattern lists.

3. Next to URL Pattern Name, enter a unique name. This name appears in the Custom URL Category List Custom Object page for selection.

4. Next to **URL Pattern Value**, enter the URL or IP address you want added to the list for bypassing scanning.

   When entering the URL pattern, note the following wildcard character support:

   - The ***\.[]\?*** wildcard characters are supported.
   - You must precede all wildcard URLs with **http://**.
   - You can only use the asterisk ***** wildcard character if it is at the beginning of the URL and is followed by a period.
   - You can only use the question mark **?** wildcard character at the end of the URL.
   - The following wildcard syntax IS supported: **http://*.example.net**, **http://www.example.ne?**, **http://www.example.n??**.
   - The following wildcard syntax is NOT supported: ***example.net** , **www.example.ne?**, **http://*example.net, http://***.

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5. Click **Add** to add your URL pattern to the Values list box. The list can contain up to 8192 items. You can also select an entry and use the Delete button to delete it from the list. Continue to add URLs or IP addresses in this manner.

6. Click **OK** to check your configuration and save the selected values as part of the URL pattern list you have created, then click **Commit Options**>**Commit**.

7. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Configure a custom URL category list custom object:

NOTE: **Because you use URL Pattern Lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure a custom URL category list.**

1. Select **Configure>Security>UTM>Custom Objects**.

2. In the URL Category List tab, click **Add** to create URL category lists.

3. Next to **URL Category Name**, enter a unique name. This name appears in the URL Whitelist list when you configure antivirus global options.

4. In the **Available Values** box, select a URL Pattern List name from the list for bypassing scanning and click the right arrow button to move it to the Selected Values box.

5. Click **OK** to check your configuration and save the selected values as part of the URL list that you have created, then click **Commit Options**>**Commit**.

   Click **OK** to save the selected values as part of the custom URL list you have created.

6. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

See Also

- Understanding MIME Whitelists on page 167
- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168

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Example: Configuring Full Antivirus Feature Profiles

The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure a full antivirus feature profile.

- Requirements on page 75
- Overview on page 75
- Configuration on page 77
- Verification on page 81

Requirements

Before you begin:

- Decide the type of full antivirus protection you require. See "Full Antivirus Protection Overview" on page 66.
- Understand the order in which full antivirus parameters are configured. See "Full Antivirus Configuration Overview" on page 67.
- MIME patterns must be defined for lists and exception lists. See "Example: Configuring MIME Whitelists to Bypass Antivirus Scanning" on page 168.

Overview

In this example, you configure a feature profile called kasprof1 and specify custom objects to be used for filtering content:

- Select and configure the engine type as Kaspersky Lab Engine.
- Select 120 as the time interval for updating the pattern database. The default full file-based antivirus pattern-update interval is 60 minutes.

NOTE: The command for changing the URL for the pattern database is:

```
[edit]
user@host# edit security utm feature-profile anti-virus kaspersky-lab-engine
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set pattern-update url http://..
```

The default URL is http://update.juniper-updates.net/AV/<device-version>. You should not change this URL unless you are experiencing problems with it and have called for support.

- Enable an e-mail notification with a custom message as pattern file was updated and a custom subject line as AV pattern file updated.
- Configure a list of fallback options as block.

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- Configure the notification options for fallback blocking for virus detection. Configure a custom message for the fallback blocking action.
- Configure a notification for protocol-only virus detection.
- Configure scan options. For this example, configure the device to perform a TCP payload content size check before the scan request is sent.
- Configure the decompression layer limit. For this example configure the device to decompress three layers of nested compressed files before it executes the virus scan.
- Configure content size parameters as 20000.

NOTE: For SRX100, SRX110, SRX210, SRX220, and SRX240 devices the content size is 20000. For SRX650 devices the content size is 40,000. Platform support depends on the Junos OS release in your installation.

- Configure scan extension settings. The default list is junos-default-extension. For this example, you select extlist1, which you created as a custom object.
- Configure the scan mode setting to configure the device to use a custom extension list. Although you can choose to scan all files, for this example you select only files with the extensions that you specify.
- Enable intelligent prescreening and set its timeout setting to 1800 seconds and trickling setting (applicable only to HTTP) to 600 seconds. This means that if the device receives a packet within a 600-second period during a file transfer or while performing an antivirus scan, it should not time out.

NOTE: Intelligent prescreening is only intended for use with non-encoded traffic. It is not applicable for mail protocols (SMTP, POP3, IMAP) and HTTP POST.

The following example disables intelligent prescreening for the kasprof1 profile:

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options no-intelligent-prescreening
```

- Configure the antivirus scanner to use MIME bypass lists and exception lists. You can use your own custom object lists, or you can use the default list that ships with the device called junos-default-bypass-mime. For this example, you use the avmime1 and ex-avmime1 lists.
- Configure the antivirus module to use URL bypass lists. If you are using a URL whitelist (valid only for HTTP traffic), this is a custom URL category that you have previously configured as a custom object. For this example, you enable the custurl1 bypass list.

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Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile anti-virus type kaspersky-lab-engine
set security utm feature-profile anti-virus kaspersky-lab-engine pattern-update interval
  120
set security utm feature-profile anti-virus kaspersky-lab-engine pattern-update
  email-notify admin-email administrator@example.net custom-message
  patternfilewasupdated custom-message-subject AVpatternfileupdated
set security utm feature-profile anti-virus type kaspersky-lab-engine
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options content-size block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options corrupt-file block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options decompress-layer block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options default block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options engine-not-ready block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options out-of-resources block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options password-file block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options timeout block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  fallback-options too-many-requests block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  notification-options fallback-block custom-message “Dropped due to fallback settings”
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  notification-options virus-detection type protocol-only
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options content-size-limit 20000
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options decompress-layer-limit 3
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options intelligent-prescreening
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options scan-extension extlist1
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options scan-mode by-extension
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
  scan-options timeout 1800
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1 trickling
  timeout 600
set security utm feature-profile anti-virus mime-whitelist list avmime1
set security utm feature-profile anti-virus mime-whitelist list avmime1 exception
  ex-avmime1
```

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```
set security utm feature-profile anti-virus url-whitelist custurl1
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure full antivirus feature profiles:

1. Select and configure the engine type.

```
[edit]
user@host# set security utm feature-profile anti-virus type kaspersky-lab-engine
user@host#set security utm feature-profile anti-virus kaspersky-lab-engine
  pattern-update interval 120
```

2. Configure the device to notify a specified administrator when patterns are updated.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set pattern-update email-notify admin-email
  administrator@example.net custom-message patternfilewasupdated
  custom-message-subject AVpatternfileupdated
```

3. Create a profile for the Kaspersky Lab engine and configure fallback options as block.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 fallback-options content-size block
user@host# set profile kasprof1 fallback-options corrupt-file block
user@host# set profile kasprof1 fallback-options decompress-layer block
user@host# set profile kasprof1 fallback-options default block
user@host# set profile kasprof1 fallback-options engine-not-ready block
user@host# set profile kasprof1 fallback-options out-of-resources block
user@host# set profile kasprof1 fallback-options password-file block
user@host# set profile kasprof1 fallback-options timeout block
user@host# set profile kasprof1 fallback-options too-many-requests block
```

4. Configure a custom notification for the fallback blocking action and send a notification.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 notification-options fallback-block custom-message
  “Dropped due to fallback settings”
```

5. Configure a notification for protocol-only virus detection.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 notification-options virus-detection type
  protocol-only
```


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6. Configure content size parameter.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options content-size-limit 20000
```

7. Configure the decompression layer limit.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options decompress-layer-limit 3
```

8. Configure intelligent prescreening.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options intelligent-prescreening
```

9. Configure scan extension setting.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options scan-extension extlist1
```

10. Configure the scan mode setting.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options scan-mode by-extension
```

11. Configure the timeout setting.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 scan-options timeout 1800
```

12. Configure trickling setting.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 trickling timeout 600
```

13. Configure the antivirus scanner to use MIME bypass lists and exception lists.

```
[edit security utm feature-profile anti-virus]
user@host# set mime-whitelist list avmime1
user@host# set mime-whitelist list avmime1 exception ex-avmime1
```

14. Configure the antivirus module to use URL bypass lists.

```
[edit security utm feature-profile anti-virus]
user@host# set url-whitelist custurl1
```

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Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile anti-virus** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm feature-profile anti-virus
mime-whitelist {
   list avmime1;
   exception ex-avmime1;
}
url-whitelist custurl1;
kaspersky-lab-engine {
   pattern-update {
      email-notify {
         admin-email "administrator@example.net";
         custom-message patternfilewasupdated;
         custom-message-subject AVpatternfileupdated;
      }
      interval 120;
   }
   profile kasprof1 {
      fallback-options {
         default block;
         corrupt-file block;
         password-file block;
         decompress-layer block;
         content-size block;
         engine-not-ready block;
         timeout block;
         out-of-resources block;
         too-many-requests block;
      }
      scan-options {
         intelligent-prescreening;
         scan-mode by-extension;
         scan-extension extlist1;
         content-size-limit 20000;
         timeout 1800;
         decompress-layer-limit 3;
      }
      trickling timeout 600;
      notification-options {
         virus-detection {
            type protocol-only;
            custom-message ***virus-found***;
         }
         fallback-block {
            custom-message “Dropped due to fallback settings”;
         }
      }
   }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

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Verification

Verifying the Configuration of Full Antivirus Feature Profile

Purpose Verify the full antivirus feature profile.

Action From operational mode, enter the **show configuration security utm** command.

See Also
- Understanding HTTP Trickling on page 170
- Understanding Protocol-Only Virus-Detected Notifications on page 171
- Understanding Full Antivirus Decompression Layer Limits on page 143

Configuring Full Antivirus Feature Profiles (J-Web Procedure)

The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you have created your custom object, configure an antivirus feature profile:

1. Select **Configure>Security>UTM>Global options**.
2. In the Anti-Virus tab, next to **MIME whitelist**, select the custom object you created from the list.
3. Next to **Exception MIME whitelist**, select the custom object you created from the list.
4. Next to **URL Whitelist**, select the custom object you created from the list.
5. In the **Engine Type** section, select the type of engine you are using. For full antivirus protection, you should select **Kaspersky Lab**.
6. In the Kaspersky Lab Engine Option section, in the **Pattern update URL** box, enter the URL for the pattern database.

   NOTE: The URL is http://update.juniper-updates.net/AV/<device version> and you should not change it.

7. Next to **Pattern update interval**, enter the time interval, in seconds, for automatically updating the pattern database in the box. The default interval is 60.
8. Select whether you want the pattern file to update automatically (**Auto update**) or not (**No Auto update**).

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9. Click **OK** to save the selected values.

10. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in a pop-up window that appears to discover why.

11. Under Security, in the left pane, select **Anti-Virus**.

12. In the right window, click **Add** to create a profile for the antivirus Kaspersky Lab Engine. (To edit an existing item, select it and click the **Edit** button.)

13. Next to **Profile name**, enter a unique name for this antivirus profile.

14. Select the **Profile Type**. In this case, select **Kaspersky**.

15. Next to **Trickling timeout**, enter timeout parameters.

NOTE: Trickling applies only to HTTP. HTTP trickling is a mechanism used to prevent the HTTP client or server from timing out during a file transfer or during antivirus scanning.

16. Next to Intelligent prescreening, select **Yes** or **No**.

NOTE: Intelligent prescreening is only intended for use with non-encoded traffic. It is not applicable for mail protocols (SMTP, POP3, IMAP, and HTTP POST).

17. In the Scan Options section, next to Intelligent prescreening, select **Yes** if you are using it.

NOTE: Intelligent prescreening is only intended for use with non-encoded traffic. It is not applicable for mail protocols (SMTP, POP3, IMAP, and HTTP POST).

18. Next to **Content Size Limit**, enter content size parameters. The content size check occurs before the scan request is sent. The content size refers to accumulated TCP payload size.

19. Next to **Scan engine timeout**, enter scanning timeout parameters.

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20. Next to **Decompress Layer Limit**, enter decompression layer limit parameters.

21. In the Scan mode section, select either **Scan all files**, if you are scanning all content, or **Scan files with specified extension**, if you are scanning by file extensions.

NOTE: If you select Scan files with specified extension, you must select a filename extension list custom object from the Scan engine filename extention list that appears.

22. Select the **Fallback settings** tab.

23. Next to Default (fallback option), select **Log and permit** or **Block** from the list. In most cases, Block is the default fallback option.

24. Next to Corrupt File (fallback option), select **Log and permit** or **Block** from the list.

25. Next to Password File (fallback option), select **Log and permit** or **Block** from the list.

26. Next to Decompress Layer (fallback option), select **Log and permit** or **Block** from the list.

27. Next to Content Size (fallback option), select **Log and permit** or **Block** from the list.

28. Next to Engine Not Ready (fallback option), select **Log and permit** or **Block** from the list.

29. Next to Timeout (fallback option), select **Log and permit** or **Block** from the list.

30. Next to Out Of Resources (fallback option), select **Log and permit** or **Block** from the list.

31. Next to Too Many Request (fallback option), select **Log and permit** or **Block** from the list.

32. Select the **Notification options** tab.

33. In the Fallback block section, next to Notification type, select **Protocol Only** or **Message** to select the type of notification that is sent when a fallback option of block is triggered.

34. Next to Notify mail sender, select **Yes** or **No**.

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35. If you selected Yes, next to **Custom Message**, enter text for the message body of your custom message for this notification (if you are using a custom message).

36. Next to **Custom message subject**, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message).

37. In the Fallback non block section, next to Notify mail recipient, select **Yes** or **No**.

38. If you selected Yes, next to **Custom Message**, enter text for the message body of your custom message for this notification (if you are using a custom message).

39. Next to **Custom message subject**, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message).

40. Select the **Notification options cont** tab.

41. In the Virus detection section, next to Notification type, select **Protocol Only** or **Message** to select the type of notification that is sent when a fallback option of block is triggered.

42. Next to Notify mail sender, select **Yes** or **No**.

43. If you selected Yes, next to **Custom Message**, enter text for the message body of your custom message for this notification (if you are using a custom message).

44. Next to **Custom message subject**, enter text to appear in the subject line of your custom message for this notification (if you are using a custom message). The limit is 255 characters.

45. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.

46. If the configuration item is saved successfully, you receive a confirmation and you must click **OK** again. If it is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

NOTE: You create a separate antivirus profile for each antivirus protocol. These profiles may basically contain the same configuration information, but when you are creating your UTM policy for an antivirus profile, the UTM policy configuration page provides separate antivirus profile selection fields for each supported protocol.

See Also

- Understanding Protocol-Only Virus-Detected Notifications on page 171

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- Understanding HTTP Trickling on page 170
- Configuring HTTP Trickling to Prevent Timeouts During Antivirus Scanning (CLI Procedure) on page 170

Example: Configuring Full Antivirus UTM Policies

The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to create a UTM policy to attach to a feature profile.

- Requirements on page 85
- Overview on page 85
- Configuration on page 85
- Verification on page 85

Requirements

Before you begin, create an antivirus feature profile. See "Example: Configuring Full Antivirus Feature Profiles" on page 75.

Overview

In this example, you configure a full antivirus UTM policy called utmp2 and attach the policy to an HTTP profile called kasprofile1 HTTP.

Configuration

Step-by-Step Procedure

To configure a full antivirus UTM policy:

1. Create a UTM policy for HTTP antivirus scanning and attach the policy to the profile.

```
[edit]
user@host# set security utm utm-policy utmp2 anti-virus http-profile kasprofile1
```

2. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

See Also

- Understanding Antivirus Scanning Fallback Options on page 151

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Configuring Full Antivirus UTM Policies (J-Web Procedure)

The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you have created an antivirus feature profile, configure a UTM policy to which you can attach the feature profile:

1. Select **Configure>Security>Policy>UTM Policies**.
2. From the UTM policy configuration window, click **Add** to configure a UTM policy. This action takes you to the policy configuration pop-up window.
3. Select the **Main** tab in pop-up window.
4. In the **Policy name** box, enter a unique name for the UTM policy.
5. In the **Session per client limit** box, enter a session per client limit from 0 to 20000 for this UTM policy.
6. In the **Session per client over limit** list, select the action that the device should take when the session per client limit for this UTM policy is exceeded. Options include **Log and permit** and **Block**.
7. Select the **Anti-Virus profiles** tab in the pop-up window.
8. Select the appropriate profile you have configured from the list for the corresponding protocol listed.
9. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.
10. If the policy is saved successfully, you receive a confirmation and you must click **OK** again. If the profile is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

Example: Attaching Full Antivirus UTM Policies to Security Policies

The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to attach a UTM policy to a security policy.

- Requirements on page 87
- Overview on page 87
- Configuration on page 87
- Verification on page 87

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Requirements

Before you begin, create a UTM policy. See "Example: Configuring Full Antivirus UTM Policies" on page 85.

Overview

In this example, you attach the UTM policy called utmp2 to the security policy called p2.

Configuration

Step-by-Step Procedure

To attach a full antivirus UTM policy to a security policy:

1. Enable and configure the security policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy p2 match
   source-address any
user@host# set security policies from-zone trust to-zone untrust policy p2 match
   destination-address any
user@host# set security policies from-zone trust to-zone untrust policy p2 match
   application junos-http
```

2. Attach the UTM policy to the security policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy p2 then
   permit application-services utm-policy utmp2
```

3. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security policies** command.

Attaching Full Antivirus UTM Policies to Security Policies (J-Web Procedure)

The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, after you create a UTM policy, create a security policy and attach the UTM policy to the security policy:

1. Select **Configure>Security>Policy>FW Policies**.

2. From the Security Policy window, click **Add** to configure a security policy with UTM. This action takes you to the policy configuration pop-up window.

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3. In the Policy tab, enter a name in the **Policy Name** box.

4. Next to **From Zone**, select a zone from the list.

5. Next to **To Zone**, select a zone from the list.

6. Choose a **Source Address**.

7. Choose a **Destination Address**.

8. Choose an application by selecting **junos-*protocol*** (for all protocols that support antivirus scanning) in the Application Sets box and clicking the —> button to move it to the Matched box.

9. Next to Policy Action, select **Permit**.

NOTE: When you select Permit for Policy Action, several additional fields become available in the Applications Services tab, including UTM Policy.

10. Select the **Application Services** tab in the pop-up window.

11. Next to **UTM Policy**, select the appropriate policy from the list. This action attaches your UTM policy to the security policy.

12. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.

13. If the policy is saved successfully, you receive a confirmation and you must click **OK** again. If the profile is not saved successfully, you can click **Details** in the pop-up window that appears to discover why.

    You must activate your new policy to apply it.

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Release History Table

Release	Description
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus feature profile is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus UTM policies is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Full Antivirus Application Protocol Scanning on page 155
- Antispam Filtering Overview on page 175
- Full Antivirus File Scanning on page 135

Full Antivirus Pattern Updates

The full file-based antivirus protection signature database is called the Juniper Full antivirus database, it detects all destructive malicious code, including viruses (polymorphic and other advanced virus types), worms, Trojans, and malware. For more information, see the following topics:

- Understanding Full Antivirus Pattern Updates on page 90
- Example: Configuring the Full Antivirus Pattern Update Server on page 91
- Full Antivirus Pattern Update Configuration Overview on page 92
- Example: Automatically Updating Full Antivirus Patterns on page 93

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- Example: Automatically Updating Full Antivirus Patterns (J-Web Procedure) on page 94
- Manually Updating, Reloading, and Deleting Full Antivirus Patterns (CLI Procedure) on page 94

Understanding Full Antivirus Pattern Updates

The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the full file-based antivirus protection signature database is called the Juniper Full antivirus database (downloaded by the pattern-update command). This database is different from the database used by express antivirus. It detects all destructive malicious code, including viruses (polymorphic and other advanced virus types), worms, Trojans, and malware.

Updates to the pattern file are added as new viruses are discovered. When Kaspersky Lab updates the signatures in its pattern database, the security device downloads these updates so that the antivirus scanner is using the latest, most up-to-date signatures when scanning traffic. The security device can perform these updates automatically (the default), or you can perform pattern update downloads manually.

The database pattern server is accessible through HTTP or HTTPS. By default, the antivirus module checks for database updates automatically every 60 minutes. You can change this interval and you can trigger updates manually, as well. The number of files that are downloaded during an update and the duration of the download process can vary.

A local copy of the pattern database is saved in persistent data storage (that is, the flash disk). If the device is rebooted, the local copy remains available for the antivirus scan engine to use during the antivirus scan engine initialization time, without the need for network access to the pattern database server.

NOTE: If the auto-update fails, the updater automatically retries to update three more times. If the database download continues to fail, the updater stops trying and waits for the next periodic update before trying again.

NOTE: Once your subscription expires, you have a 30 day grace period during which you can continue to update the antivirus pattern file. Once that grace period expires, the update server no longer permits antivirus pattern file updates.

See Also

- Full Antivirus Protection Overview on page 66

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Example: Configuring the Full Antivirus Pattern Update Server

The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure the pattern-update server on the security device.

- Requirements on page 91
- Overview on page 91
- Configuration on page 91
- Verification on page 92

Requirements

Before you begin:

- Obtain a valid antivirus scanner license. See "Full Antivirus Protection Overview" on page 66.
- Get network connectivity and access to the pattern database server. See "Understanding Full Antivirus Pattern Updates" on page 90.
- Configure your DNS settings and port settings (port 80) correctly. See *DNS Overview*.

Overview

To configure the pattern-update server on the security device, enter the URL address of the pattern-update server.

By default, the Juniper-Kaspersky URL for full antivirus protection is http://update.juniper-updates.net/AV/*device-name*, where *device-name* is the name of your device.

Configuration

Step-by-Step Procedure

To configure the pattern-update server on a security device:

1. Specify the URL of the pattern-update server.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine
   pattern-update url http://update.juniper-updates.net/AV/device-name
```

NOTE: Other than the platform name, you should not change this URL unless you are experiencing problems with it and have called for support.

2. If you are done configuring the device, commit the configuration.

```
[edit]
```

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```
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

Full Antivirus Pattern Update Configuration Overview

The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, Before you begin, there are several prerequisites that must be met in order to perform a successful pattern database update:

- You must have a valid antivirus scanner license.
- You must have network connectivity and access to the pattern database server.
- Your DNS settings and port settings (port 80) must be correct.

To update the patterns for the antivirus signature database:

1. On the security device, specify the URL address of the pattern-update server.

2. (Optional) Specify how often the device should automatically check for pattern-server updates.

After the security device downloads the server-initialization file, the device checks that the pattern file is valid. The device then parses the file to obtain information about it, including the file version, size, and location of the pattern file server.

If the pattern file on the security device is out-of-date (or nonexistent because this is the first time you are loading it), and, if the antivirus pattern-update service subscription is still valid, the device automatically retrieves an updated pattern file from the pattern file server.

The following is an example of the CLI for configuring the database update feature:

```
utm {
   feature-profile {
      anti-virus {
         type
            kaspersky-lab-engine {
               pattern-update
                  url url
               interval minutes
            }
         }
      }
   }
```


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Example: Automatically Updating Full Antivirus Patterns

The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to update the pattern file automatically on a security device.

- Requirements on page 93
- Overview on page 93
- Configuration on page 93
- Verification on page 93

Requirements

Before you begin:

- Obtain a valid antivirus scanner license. See "Full Antivirus Protection Overview" on page 66.
- Get network connectivity and access to the pattern database server. See "Understanding Full Antivirus Pattern Updates" on page 90.
- Configure your DNS settings and port settings (port 80) correctly. See *DNS Overview*.

Overview

In this example, you configure the security device to update the pattern file automatically every 120 minutes. (The default antivirus pattern-update interval is 60 minutes.)

Configuration

Step-by-Step Procedure

To configure the security device to update the pattern file automatically:

1. Set the interval.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine
   pattern-update interval 120
```

2. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

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Example: Automatically Updating Full Antivirus Patterns (J-Web Procedure)

The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, in this example, you configure the security device to update the pattern file automatically every 120 minutes. (The default antivirus pattern-update interval is 60 minutes.)

To automatically update antivirus patterns:

1. Select **Configure>UTM>Anti-Virus**.
2. Next to Interval, in the Kaspersky Lab Engine section, enter **120** in the box.
3. Click **OK** to check your configuration and save it as a candidate configuration, then click **Commit Options**>**Commit**.

Manually Updating, Reloading, and Deleting Full Antivirus Patterns (CLI Procedure)

The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to manually update antivirus patterns, enter the following CLI command:

```
user@host> request security utm anti-virus kaspersky-lab-engine pattern-update
```

To manually reload antivirus patterns, enter the following CLI command:

```
user@host> request security utm anti-virus kaspersky-lab-engine pattern-reload
```

To manually delete antivirus patterns, enter the following CLI command:

```
user@host> request security utm anti-virus kaspersky-lab-engine pattern-delete
```

You can update the Kaspersky antivirus signature database offline without using a direct Internet connection. This is required in some security installations and for sites that access the Internet through a proxy server.

To update the Kaspersky antivirus signature database offline, you must configure a local webserver.

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To configure a webserver, use the following CLI statement.

user@host# set security utm feature-profile anti-virus kaspersky-lab-engine pattern-update url <*http_server*>

user@host# commit

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To update the Kaspersky antivirus signature database, perform the following tasks:

1. Based on your hardware platform, enter the following URLs in your computer browser.

2. Copy all the files to a directory on your local webserver. You might want to use a download manager for your browser to get all the files more quickly.

3. Download the Kaspersky Lab engine from http://update.juniper-updates.net/KAV_engine/.
   - For JSR, the URL is http://update.juniper-updates.net/KAV_engine/i386/.
   - For SRX210, SRX220, SRX240, SRX550, and SRX650 devices, the URL is http://update.juniper-updates.net/KAV_engine/octeon32/.

4. Copy all the files to the same directory on your local server.

NOTE: **The Kaspersky Lab engine is automatically loadable. For updating the Kaspersky antivirus signature database offline, both pattern update files and Kaspersky Lab engine files must be placed in the same folder on the local webserver.**

5. Set the directory as a sharepoint that can be accessed through HTTP from the SRX Series device.

6. Run the update command in the CLI.

   user@host>request security utm anti-virus kaspersky-lab-engine pattern-update

Release History Table

Release	Description
15.1X49-D10	The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The full antivirus Pattern Updates is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

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Related Documentation

- Full Antivirus File Scanning on page 135
- Virus-Detected Notifications on page 171

Sophos Antivirus Protection

The Sophos antivirus scanner uses a local internal cache to maintain query responses from the external list server to improve lookup performance. The Sophos antivirus scanning is offered as a less CPU-intensive alternative to the full file-based antivirus feature. For more information, see the following topics:

- Sophos Antivirus Protection Overview on page 97
- Sophos Antivirus Features on page 98
- Understanding Sophos Antivirus Data File Update on page 99
- Comparison of Sophos Antivirus to Kaspersky Antivirus on page 100
- Sophos Antivirus Configuration Overview on page 101
- Example: Configuring Sophos Antivirus Custom Objects on page 101
- Example: Configuring Sophos Antivirus Feature Profile on page 105
- Example: Configuring Sophos Antivirus UTM Policies on page 112
- Example: Configuring Sophos Antivirus Firewall Security Policies on page 114
- Example: Configuring Sophos Antivirus Scanner with SSL Forward Proxy on page 116
- Managing Sophos Antivirus Data Files on page 123

Sophos Antivirus Protection Overview

The full file-based antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, sophos antivirus scanning is offered as a less CPU-intensive alternative to the full file-based antivirus feature. Sophos supports the same protocols as full antivirus and functions in much the same manner; however, it has a smaller memory footprint and is compatible with lower end devices that have less memory.

Sophos antivirus is as an in-the-cloud antivirus solution. The virus pattern and malware database is located on external servers maintained by Sophos (Sophos Extensible List) servers, thus there is no need to download and maintain large pattern databases on the Juniper device. The Sophos antivirus scanner also uses a local internal cache to maintain query responses from the external list server to improve lookup performance.

Because a significant amount of traffic processed by Juniper Unified Threat Management (UTM) is HTTP based, Uniform Resource Identifier (URI) checking is used to effectively prevent malicious content from reaching the endpoint client or server. The following checks are performed for HTTP traffic: URI lookup, true file type detection, and file checksum lookup. The following application layer protocols are supported: HTTP, FTP, SMTP, POP3 and IMAP.

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NOTE: Starting with Junos OS Release 12.3X48-D35 and Junos OS Release 17.3R1, the UTM Sophos antivirus (SAV) single session throughput is increased for optimizing tcp-proxy forwarding.

NOTE: Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, HTTPS, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.

See Also

- *Understanding TCP Proxy*
- *Enabling TCP Proxy Session to Increase the Network Transmit Speed*
- Understanding Full Antivirus Scan Mode Support on page 136

Sophos Antivirus Features

Sophos antivirus has the following main features:

- **Sophos antivirus expanded MIME decoding support**—Sophos antivirus offers decoding support for HTTP, POP3, SMTP, and IMAP. MIME decoding support includes the following for each supported protocol:
  - Multipart and nested header decoding
  - Base64 decoding, printed quote decoding, and encoded word decoding in the subject field
- **Sophos antivirus supports HTTPS traffic**—Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Sophos antivirus over SSL forward proxy supports HTTPS traffic. Sophos antivirus over SSL forward proxy does so by intercepting HTTPS traffic passing through the SRX Series device. The security channel from the SRX Series device is divided as one SSL channel between the client and the SRX Series device and another SSL channel between the SRX Series device and the HTTPS server. SSL forward proxy acts as the terminal for both channels and forwards the cleartext traffic to UTM. UTM extracts the URL and the file checksum information from cleartext traffic. The Sophos antivirus scanner determines whether to block or permit the requests.

  SSL forward proxy does not support client authentication. If client authentication is required by the server, UTM bypasses the traffic. UTM bypasses the HTTPS traffic under the following conditions:
  - If SSL proxy does not parse the first handshake packet from the client, SSL forward proxy bypasses the traffic.
  - If the SSL proxy handshake with the client and server is incomplete because of compatibility issues, connection drops.

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- If the system resource is low, SSL forward proxy cannot handle the new connection and Sophos antivirus bypasses the traffic.
- If HTTPS traffic hits the whitelist of SSL forward proxy, SSL forward proxy and Sophos antivirus bypass the traffic.

- **Sophos antivirus scan result handling**—With Sophos antivirus, the TCP, traffic is closed gracefully when a virus is found and the data content is dropped.

  The following fail mode options are supported: content-size, default, engine-not-ready, out-of-resource, timeout, and too-many-requests. You can set the following actions: block, log-and-permit, and permit. Fail mode handling of supported options with Sophos is much the same as with full antivirus.

- **Sophos Uniform Resource Identifier checking**—Sophos provides Uniform Resource Identifier (URI) checking, which is similar to antispam realtime blackhole list (RBL) lookups. URI checking is a way of analyzing URI content in HTTP traffic against the Sophos database to identify malware or malicious content. Because malware is predominantly static, a checksum mechanism is used to identify malware to improve performance. Files that are capable of using a checksum include .exe, .zip, .rar, .swf, .pdf, and .ole2 (doc and xls).

NOTE: If you have a Juniper Networks device protecting an internal network that has no HTTP traffic, or has webservers that are not accessible to the outside world, you might want to turn off URI checking. If the webservers are not accessible to the outside world, it is unlikely that they contain URI information that is in the Sophos URI database. URI checking is on by default.

NOTE: Starting from Junos OS Release 18.4R1 onwards, the URI checking is off by default.

See Also
- Understanding Full Antivirus Content Size Limits on page 142
- Understanding Full Antivirus Scanning Timeouts on page 144

Understanding Sophos Antivirus Data File Update

Sophos antivirus uses a small set of data files that need to be updated periodically. These data files only contain information on guiding scanning logic and do not contain the full pattern database. The main pattern database, which includes protection against critical viruses, URI checks, malware, worms, Trojans, and spyware, is located on remote Sophos Extensible List servers maintained by Sophos.

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The Sophos data files are updated over HTTP or HTTPS and can be updated manually or scheduled to update automatically. With Sophos antivirus:

- The signature database auto-update interval is once a day by default. This interval can be changed.
- There is no interruption in virus scanning capability during the data file update. If the update fails, the existing data files will continue to be used.
- By default, the URL for Sophos antivirus data file update is http://update.juniper-updates.net/SAV/.

NOTE: The Sophos antivirus scanning feature is a separately licensed subscription service. When your antivirus license key expires, functionality will no longer work because the pattern lookup database is located on remote Sophos servers. You have a 30-day grace period in which to update your license.

See Also

- *Licenses Required for UTM Features*
- Understanding Antivirus Scanning Fallback Options on page 151

Comparison of Sophos Antivirus to Kaspersky Antivirus

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1x49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, Sophos Antivirus is much like Juniper Express Antivirus and also has similarities to the Full Antivirus feature:

- Unlike the Juniper Express and Full Antivirus solutions, the antivirus and malware database for Sophos is stored on a group of remote Sophos Extensible List servers. Queries are performed using the DNS protocol. Sophos maintains these servers, so there is no need to download and maintain large pattern databases on the Juniper device. Because the database is remote, and there is a quicker response to new virus outbreaks. The Antivirus database has no size limitation, but there is a limitation with the scan file size.

NOTE: Sophos antivirus uses a set of data files that need to be updated on a regular basis. These are not typical virus pattern files; they are a set of small files that help guide virus scanning logic. You can manually download the data files or set up automatic download.

- Sophos does not provide the same prescreening detection as Kaspersky Antivirus. Sophos does provide a similar solution that is part of the Sophos engine and cannot be turned on and off.
- The Sophos antivirus scanning feature is a separately licensed subscription service. Also, the pattern lookup database is located on remote servers maintained by Sophos,

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so when your antivirus license key expires, functionality will no longer work. You have a 30-day grace period in which to update your license.

See Also
- Understanding Full Antivirus Intelligent Prescreening on page 141
- Example: Configuring Full Antivirus Intelligent Prescreening on page 141

Sophos Antivirus Configuration Overview

Sophos antivirus is part of the Unified Threat Management (UTM) feature set, so you first configure UTM options (custom objects), configure the Sophos Feature, then create a UTM policy and a security policy. The security policy controls all traffic that is forwarded by the device, and the UTM policy specifies which parameters to use to scan traffic. The UTM policy is also used to bind a set of protocols to one or more UTM feature profiles, including Sophos antivirus in this case.

You must complete the following tasks to configure Sophos antivirus:

1. Configure UTM custom objects and MIME lists. See "Example: Configuring Sophos Antivirus Custom Objects" on page 101,
2. Configure the Sophos antivirus feature profile. See "Example: Configuring Sophos Antivirus Feature Profile" on page 105.
3. Configure a UTM policy. See "Example: Configuring Sophos Antivirus UTM Policies" on page 112
4. Configure a security policy. See "Example: Configuring Sophos Antivirus Firewall Security Policies" on page 114.

Example: Configuring Sophos Antivirus Custom Objects

This example shows you how to create UTM global custom objects to be used with Sophos antivirus.

- Requirements on page 101
- Overview on page 101
- Configuration on page 102
- Verification on page 105

Requirements

Before you begin, read about UTM custom objects. See "UTM Overview" on page 23.

Overview

Configure MIME lists. This includes creating a MIME whitelist and a MIME exception list for antivirus scanning. In this example, you bypass scanning of QuickTime videos, unless if they contain the MIME type quicktime-inappropriate.

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WARNING: When you configure the MIME whitelist feature, be aware that, because header information in HTTP traffic can be spoofed, you cannot always trust HTTP headers to be legitimate. When a Web browser is determining the appropriate action for a given file type, it detects the file type without checking the MIME header contents. However, the MIME whitelist feature does refer to the MIME encoding in the HTTP header. For these reasons, it is possible in certain cases for a malicious website to provide an invalid HTTP header. For example, a network administrator might inadvertently add a malicious website to a MIME whitelist, and, because the site is in the whitelist, it will not be blocked by Sophos even though Sophos has identified the site as malicious in its database. Internal hosts would then be able to reach this site and could become infected.

Configuration

GUI Step-by-Step Procedure

To configure a MIME list:

1. Click the **Configure** tab from the taskbar, and then select **Security>UTM>Custom Objects**.
2. Click the **MIME Pattern List** tab and then click **Add**.
3. In the MIME Pattern Name box, type **avmime2**.
4. In the MIME Pattern Value box, type **video/quicktime**, and click **Add**.
5. In the MIME Pattern Value box, type **image/x-portable-anympa**, and click **Add**.
6. In the MIME Pattern Value box, type **x-world/x-vrml**, and click **Add**.

To configure a MIME exception list:

1. Click the **Configure** tab from the taskbar, and then select **Security>UTM>Custom Objects**.
2. Click the **MIME Pattern List** tab and then select **Add**.
3. In the MIME Pattern Name box, type **exception-avmime2**.
4. In the MIME Pattern Value box, type **video/quicktime-inappropriate** and click **Add**.

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Configure a URL pattern list (whitelist) of URLs or addresses that will be bypassed by antivirus scanning. After you create the URL pattern list, you will create a custom URL category list and add the pattern list to it.

NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category lists.

To configure a URL pattern whitelist:

1. Click the **Configure** tab from the taskbar, and then select **Security>UTM>Custom Objects**.
2. Click the **URL Pattern List** tab, and then click **Add**.
3. In the URL Pattern Name box, enter **urlist2**.
4. In the URL Pattern Value box, enter **http://example.net**. (You can also us the IP address of the server instead of the URL.)

Save your configuration:

1. Click **OK** to check your configuration and save it as a candidate configuration.
2. If you are done configuring the device, click **Actions>Commit**.

NOTE: URL pattern wildcard support—The wildcard rule is as follows: *\.[]\?* and you must precede all wildcard URLs with http://. You can use "*" only if it is at the beginning of the URL and is followed by a ".". You can only use "?" at the end of the URL.

The following wildcard syntax is supported: http://*.example.net, http://www.example.ne?, http://www.example.n??. The following wildcard syntax is not supported: *.example.net , www.example.ne?, http://*example.net, http://*.

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Step-by-Step Procedure

To configure antivirus protection using the CLI, you must create your custom objects in the following order:

1. Create the MIME whitelist.

```
[edit security utm]
user@host# set custom-objects mime-pattern avmime2 value [video/quicktime
   image/x-portable-anymap x-world/x-vrml]
```

   Create the MIME exception list.

```
[edit security utm]
user@host# set custom-objects mime-pattern exception-avmime2 value
   [video/quicktime-inappropriate]
```

2. Configure a URL pattern list (whitelist) of URLs or addresses that you want to bypass. After you create the URL pattern list, you create a custom URL category list and add the pattern list to it. Configure a URL pattern list custom object by creating the list name and adding values to it as follows.

   NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category lists.

```
[edit security utm]
user@host# set custom-objects url-pattern urllist2 value [http://www. example.net
   192.168.1.5]
```

   NOTE: URL pattern wildcard support—The wildcard rule is as follows: *\.[]\?* and you must precede all wildcard URLs with http://. You can only use "*" if it is at the beginning of the URL and is followed by a ".". You can only use "?" at the end of the URL.

   The following wildcard syntax is supported: http://*.example.net, http://www.example.ne?, http://www.example.n??. The following wildcard syntax is not supported: *example.net , www.example.ne?, http://*example.net, http://*.

3. Configure a custom URL category list custom object by using the URL pattern list urllist2 that you created earlier:

```
[edit security utm]
user@host# set custom-objects custom-url-category custurl2 value urllist2
```


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Verification

To verify the configuration, enter the **show security utm custom-objects** command.

See Also

- Understanding URL Whitelists on page 168
- Configuring URL Whitelists to Bypass Antivirus Scanning (CLI Procedure) on page 169

Example: Configuring Sophos Antivirus Feature Profile

This example shows you how to configure a Sophos antivirus profile that defines the parameters that will be used for virus scanning.

- Requirements on page 105
- Overview on page 105
- Configuration on page 105
- Verification on page 111

Requirements

Before you begin:

- Install a Sophos antivirus license. See Installation and Upgrade Guide.
- Configure custom objects for UTM. See "Example: Configuring Sophos Antivirus Custom Objects" on page 101.

Overview

The following configuration defines Sophos as the antivirus engine and sets parameters, such as the data file update interval, notification options for administrators, fallback options, and file size limits.

Configuration

GUI Step-by-Step Procedure

NOTE: The following example shows you how to create a custom Sophos profile. If you want to use the Juniper Networks preconfigured profile, use the profile named junos-sophos-av-defaults in your UTM policy. See "Example: Configuring Sophos Antivirus UTM Policies" on page 112.

1. Select and configure the engine type. Because you are configuring Sophos antivirus, you configure sophos-engine:
   a. Click the **Configure** tab from the taskbar, and then select **Security>UTM>Anti-Virus**.
   b. Click the **Global Options** tab and then click **Sophos**.

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c. Click **OK** and commit your changes.

2. Return to the antivirus Global Options screen as you did in step 1, and set the following parameters:

   a. In the MIME whitelist list, select **exception-avmime2**.

   b. In the URL whitelist list, select **custurl2**.

   c. In the Pattern update interval (sec) box, type **2880**.

   d. In the box, type the e-mail address that will receive SophosAdmin e-mail data file update notifications. For example - admin@ example.net.

   e. In the Custom message subject box, type **Sophos Data File Updated**.

   f. Click **OK** to check your configuration and save it as a candidate configuration.

3. Configure a profile for the sophos-engine and set parameters.

   a. Click the **Configure** tab from the taskbar and then select **Security>UTM>Anti-Virus**. Click **Add**.

   b. In the Add profile box, click the **Main** tab.

   c. In the Profile name box, type **sophos-prof1**.

   d. In the Trickling timeout box, type **180**.

WARNING: When enabling the trickling option, it is important to understand that trickling might send part of the file to the client during the antivirus scan. It is possible that some of the content could be received by the client and the client might become infected before the file is fully scanned.

   e. URI checking is on by default. To turn it off, clear **yes** in the URI check box.

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f. In the Content size Limit box, type **20000**.

g. In the Scan engine timeout box, type **1800**.

4. Configure fallback settings by clicking the **Fallback settings** tab. In this example, all fallback options are set to log and permit. Click **Log and permit** for the following items: Default action, Content size, Engine not ready, Timeout, Out of resource, Too many requests.

5. Configure notification options by clicking the **Notification options** tab. You can configure notifications for both fallback blocking and fallback nonblocking actions and for virus detection.

   To configure notifications for Fallback settings:

   a. For Notification type, click **Protocol**.

   b. For Notify mail sender, click **yes**.

   c. In the Custom message box, type **Fallback block action occurred**.

   d. In the Custom message subject box, type ***Antivirus fallback Alert***.

6. To configure notification options for virus detection, click the **Notification options cont...** tab.

   a. For the Notification type option button, select **Protocol**.

   b. For the Notify mail sender option button, select **yes**.

   c. In the Custom message box, type **Virus has been detected**.

   d. In the Custom message subject box, type ***Virus detected***.

7. Click **OK** to check your configuration and save it as a candidate configuration.

8. If you are done configuring the device, click **Actions>Commit**.

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Step-by-Step Procedure To configure the Sophos antivirus feature profile using the CLI:

NOTE: The following example shows you how to create a custom Sophos profile. If you want to use the Juniper Networks preconfigured profile, use the profile named junos-sophos-av-defaults in your UTM policy. See "Example: Configuring Sophos Antivirus UTM Policies" on page 112.

1. Select and configure the engine type. Because you are configuring Sophos antivirus, you configure sophos-engine.

```
[edit]
user@host# set security utm default-configuration anti-virus type sophos-engine
```

2. Commit the configuration.

3. Select a time interval for updating the data files. The default antivirus pattern-update interval is 1440 minutes (every 24 hours). You can choose to leave this default, or you can change it. You can also force a manual update, if needed. To change the default from every 24 hours to every 48 hours:

```
[edit security utm default-configuration anti-virus]
user@host# set sophos-engine pattern-update interval 2880
```

4. Configure the network device with the proxy server details, to download the pattern update from a remote server:

```
[edit security utm default-configuration anti-virus]
user@host# set sophos-engine pattern-update proxy
```

5. In most circumstances, you will not need to change the URL to update the pattern database. If you do need to change this option, use the following command:

```
[edit security utm default-configuration anti-virus]
user@host# set sophos-engine pattern-update url
   http://www.example.net/test-download
```

6. You can configure the device to notify a specified administrator when data files are updated. This is an e-mail notification with a custom message and a custom subject line.

```
[edit security utm default-configuration anti-virus]
user@host# set sophos-engine pattern-update email-notify admin-email
   admin@example.net custom-message "Sophos antivirus data file was updated"
   custom-message-subject "AV data file updated"
```


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7. Configure a list of fallback options as block, log and permit, or permit. The default setting is log-and-permit. You can use the default settings, or you can change them.

   Configure the content size action. In this example, if the content size is exceeded, the action taken is block.

   First create the profile named sophos-prof1.

   ```
   [edit security utm feature-profile anti-virus]
   user@host# set profile sophos-prof1
   ```

   Configure the content size fallback-option to block.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options content-size block
   ```

   Configure the default fallback option to log-and-permit.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options default log-and-permit
   ```

   Configure log-and-permit if the antivirus engine is not ready.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options engine-not-ready log-and-permit
   ```

   Configure log-and-permit if the device is out of resources.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options out-of-resources log-and-permit
   ```

   Configure log-and-permit if a virus scan timeout occurs.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options timeout log-and-permit
   ```

   Configure log-and-permit if there are too many requests for the virus engine to handle.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set fallback-options too-many-requests log-and-permit
   ```

8. Configure notification options. You can configure notifications for fallback blocking, fallback nonblocking actions, and virus detection.

   In this step, configure a custom message for the fallback blocking action and send a notification for protocol-only actions to the administrator and the sender.

   ```
   [edit security utm feature-profile anti-virus profile sophos-prof1]
   user@host# set notification-options fallback-block custom-message ***Fallback
     block action occurred*** custom-message-subject Antivirus Fallback Alert
     notify-mail-sender type protocol-only allow email administrator-email
     admin@example.net
   ```

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9. Configure a notification for protocol-only virus detection, and send a notification.

```
[edit security utm feature-profile anti-virus profile sophos-prof1]
user@host#set notification-options virus-detection type protocol-only
   notify-mail-sender custom-message-subject ***Virus detected***
   custom-message Virus has been detected
```

10. Configure content size parameters.

NOTE: When you configure the content-size value, keep in mind that in certain cases, content size is available in the protocol headers, so the max-content-size fallback is applied before a scan request is sent. However, in many cases, content size is not provided in the protocol headers. In these cases, the TCP payload is sent to the antivirus scanner and accumulates until the end of the payload. If the accumulated payload exceeds the maximum content size value, then max-content-size fallback is applied. The default fallback action is log and permit, so you may want to change this option to block, in which case such a packet is dropped and a block message is sent to the client.

In this example, if the content size exceeds 20 MB, the packet is dropped.

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options content-size-limit 20000
```

11. URI checking is on by default. To turn off URI checking:

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options no-uri-check
```

12. Configure the timeout setting for the scanning operation to 1800 seconds.

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options timeout 1800
```

13. The Sophos Extensible List servers contain the virus and malware database for scanning operations. Set the response timeout for these servers to 3 seconds (the default is 2 seconds).

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options sxl-timeout 3
```

14. Configure the Sophos Extensible List server retry option to 2 retries (the default is 1).

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```
[edit security utm default-configuration anti-virus]
user@host# set scan-options sxl-retry 2
```

15. Configure the trickling setting to 180 seconds. If you use trickling, you can also set timeout parameters. Trickling applies only to HTTP. HTTP trickling is a mechanism used to prevent the HTTP client or server from timing out during a file transfer or during antivirus scanning.

WARNING: When you enable the trickling option, keep in mind that trickling might send part of a file to the client during its antivirus scan. It is therefore possible that some of the content could be received by the client before the file has been fully scanned.

```
[edit security utm default-configuration anti-virus]
user@host# set trickling timeout 180
```

16. Configure the antivirus module to use MIME bypass lists and exception lists. You can use your own custom object lists, or you can use the default list that ships with the device called junos-default-bypass-mime. In this example, you use the lists that you set up earlier.

```
[edit security utm default-configuration anti-virus]
user@host# set mime-whitelist list avmime2
[edit security utm feature-profile anti-virus]
user@host# set mime-whitelist list exception-avmime2
```

17. Configure the antivirus module to use URL bypass lists. If you are using a URL whitelist, this is a custom URL category you have previously configured as a custom object. URL whitelists are valid only for HTTP traffic. In this example you use the lists that you set up earlier.

```
[edit security utm default-configuration anti-virus]
user@host# set url-whitelist custurl2
```

Verification

Obtaining Information About the Current Antivirus Status

Action From operational mode, enter the **show security utm anti-virus status** command to view the antivirus status.

```
user@host>show security utm anti-virus status
```

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Meaning

- Antivirus key expire date—The license key expiration date.
- Update server—URL for the data file update server.
  - Interval—The time period, in minutes, when the device will update the data file from the update server.
  - Pattern update status—When the data file will be updated next, displayed in minutes.
  - Last result—Result of the last update. If you already have the latest version, this will display **already have latest database**.
- Antivirus signature version—Version of the current data file.
- Scan engine type—The antivirus engine type that is currently running.
- Scan engine information—Result of the last action that occurred with the current scan engine.

See Also

- Understanding Protocol-Only Virus-Detected Notifications on page 171
- Example: Configuring Antivirus Scanning Fallback Options on page 152
- Understanding URL Whitelists on page 168

Example: Configuring Sophos Antivirus UTM Policies

This example shows how to create a UTM policy for Sophos antivirus.

- Requirements on page 112
- Overview on page 112
- Configuration on page 113
- Verification on page 113

Requirements

Before you create the UTM policy, create custom objects and the Sophos feature profile.

1. Configure UTM custom objects and MIME lists. See "Example: Configuring Sophos Antivirus Custom Objects" on page 101.
2. Configure the Sophos antivirus feature profile. See "Example: Configuring Sophos Antivirus Feature Profile" on page 105.

Overview

After you have created an antivirus feature profile, you configure a UTM policy for an antivirus scanning protocol and attach this policy to a feature profile. In this example, HTTP will be scanned for viruses, as indicated by the **http-profile** statement. You can scan other protocols as well by creating different profiles or adding other protocols to the profile, such as: imap-profile, pop3-profile, and smtp-profile.

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Configuration

GUI Step-by-Step Procedure

To configure a UTM policy for Sophos antivirus:

1. Click the **Configure** tab from the taskbar, and then select **Security>Policy>UTM Policies**. Then click **Add**.
2. Click the **Main** tab. In the Policy name box, type **utmp3**.
3. Click the **Anti-Virus profiles** tab. In the HTTP profile list, select **sophos-prof1**.
4. Click **OK** to check your configuration and save it as a candidate configuration.
5. If you are done configuring the device, select **Actions>Commit**.

Step-by-Step Procedure

To configure a UTM policy for Sophos antivirus:

1. Go to the edit security utm hierarchy.

```
[edit]
user@host# edit security utm
```

2. Create the UTM policy utmp3 and attach it to the http-profile sophos-prof1.

```
[edit security utm]
user@host# set utm-policy utmp3 anti-virus http-profile sophos-prof1
```

NOTE: You can use the default Sophos feature profile settings by replacing sophos-prof1 in the above statement with junos-sophos-av-defaults.

Verification

To verify the configuration, enter the **show security utm utm-policy utmp3** command.

See Also

- Understanding Full Antivirus Application Protocol Scanning on page 156
- Understanding HTTP Scanning on page 157
- Understanding Protocol-Only Virus-Detected Notifications on page 171

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Example: Configuring Sophos Antivirus Firewall Security Policies

This example shows how to create a security policy for Sophos antivirus.

- Requirements on page 114
- Overview on page 114
- Configuration on page 114
- Verification on page 116

Requirements

Before you create the security policy, create custom objects, the Sophos feature profile, and the UTM policy.

1. Configure UTM custom objects and MIME lists. See "Example: Configuring Sophos Antivirus Custom Objects" on page 101.

2. Configure the Sophos antivirus feature profile. See "Example: Configuring Sophos Antivirus Feature Profile" on page 105.

3. Configure a UTM policy. See "Example: Configuring Sophos Antivirus UTM Policies" on page 112.

Overview

Create a firewall security policy that will cause traffic from the untrust zone to the trust zone to be scanned by Sophos antivirus using the feature profile settings defined in "Example: Configuring Sophos Antivirus Feature Profile" on page 105. Because the match application configuration is set to any, all application types will be scanned.

Configuration

GUI Step-by-Step Procedure

To configure a security policy for Sophos antivirus:

1. Configure the untrust to trust policy to match any source address or destination address, and select the applications to be scanned to **any**.

   a. Click the **Configure** tab from the taskbar, and then select **Security>Policy>FW Policies**. Then select **Add**.

   b. In the Policy Name box, type **p3**.

   c. In the Policy Action box, select **permit**.

   d. In the From Zone list, select **untrust**.

   e. In the To Zone list, select **trust**.

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f. In the Source Address and Destination Address boxes, make sure that Matched is set to **any**.

g. In the Applications boxes, select **any** from the Application/Sets list, and move it to the Matched list.

2. Attach the UTM policy named utmp3 to the firewall security policy. This will cause matched traffic to be scanned by the Sophos antivirus feature.

   a. From the Edit Policy box, click the **Application Services** tab.

   b. In the UTM Policy list, select **utmp3**.

3. Click **OK** to check your configuration and save it as a candidate configuration.

4. If you are done configuring the device, select **Actions>Commit**.

Step-by-Step Procedure

To configure a security policy for Sophos antivirus:

1. Configure the untrust to trust policy to match any source-address.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match
   source-address any
```

2. Configure the untrust to trust policy to match any destination-address.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match
   destination-address any
```

3. Configure the untrust to trust policy to match any application type.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match application
   any
```

4. Attach the UTM policy named utmp3 to the firewall security policy. This will cause matched traffic to be scanned by the Sophos antivirus feature.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 then permit
   application-services utm-policy utmp3
```

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Verification

To verify the configuration, enter the **show security policies** command.

See Also

- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168

Example: Configuring Sophos Antivirus Scanner with SSL Forward Proxy

This example shows how to configure Sophos antivirus over SSL forward proxy to support HTTPS traffic passing through SRX Series devices.

NOTE: Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Sophos antivirus over SSL forward proxy supports HTTPS traffic.

- Requirements on page 116
- Overview on page 116
- Configuration on page 116
- Verification on page 119

Requirements

Before you begin, understand Sophos antivirus features. See "Sophos Antivirus Features" on page 98.

Overview

In this example, you configure Sophos antivirus over SSL forward proxy to support HTTPS traffic. You load the PKI certificate, generate a self-signed CA certificate, configure a trusted CA list, configure an SSL proxy profile using the root certificate, and enable SSL forward proxy. To configure UTM over SSL forward proxy, first match the source/destination/application, set up the SSL proxy service, and perform scanning to determine whether to block or permit the requests.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **edit** hierarchy level, and then enter **commit** from configuration mode.

```
request security pki generate-key-pair certificate-id ssl-inspect-ca size 2048 type rsa
request security pki local-certificate generate-self-signed certificate-id ssl-inspect-ca
    domain-name www.example.net subject
    "CN=www.example.net,OU=IT,O=example,L=Sunnyvale,ST=CA,C=US" email
    security-admin@example.net
set security pki ca-profile trusted-ca-example ca-identity trusted-ca-example
request security pki ca-certificate load ca-profile trusted-ca-example filename
    trusted-ca-example.crt
```


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```
set services ssl proxy profile ssl-inspect-profile root-ca ssl-inspect-ca
set services ssl proxy profile ssl-inspect-profile trusted-ca trusted-ca-example
set security policies from-zone untrust to-zone trust policy 1 then permit
  application-services ssl-proxy profile-name ssl-inspect-profile
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure Sophos Antivirus over SSL forward proxy:

1. Generate a self-signed CA certificate on the device.

```
user@host> request security pki generate-key-pair certificate-id ssl-inspect-ca size
  2048 type rsa
user@host> request security pki local-certificate generate-self-signed certificate-id
  ssl-inspect-ca domain-name www.example.net subject
  "CN=www.example.net,OU=IT,O=example,L=Sunnyvale,ST=CA,C=US" email
  security-admin@example.net
```

2. Configure a trusted CA list.

```
[edit]
user@host# set security pki ca-profile trusted-ca-example ca-identity
  trusted-ca-example
```

```
user@host> request security pki ca-certificate load ca-profile trusted-ca-example
  filename trusted-ca-example.crt
```

3. Configure an SSL proxy profile using a root certificate.

```
[edit]
user@host# set services ssl proxy profile ssl-inspect-profile root-ca ssl-inspect-ca
user@host# set services ssl proxy profile ssl-inspect-profile trusted-ca
  trusted-ca-example
```

4. Enable SSL forward proxy.

```
[edit]
user@host# set security policies from-zone untrust to-zone trust policy 1 then permit
  application-services ssl-proxy profile-name ssl-inspect-profile
```

Results

From configuration mode, confirm your configuration by entering the **show security utm**, **show services**, and **show security policies** commands. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

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```
[edit]
user@host# show security utm
  traceoptions {
    flag all;
  }
  application-proxy {
    traceoptions {
      flag sophos-anti-virus;
    }
  }
  default-configuration {
    anti-virus {
      type sophos-engine;
      scan-options {
        uri-check;
        sxl-timeout 4;
      }
      traceoptions {
        flag all;
      }
        profile profile1 {
          fallback-options {
            default log-and-permit;
            content-size log-and-permit;
            engine-not-ready log-and-permit;
            timeout log-and-permit;
            out-of-resources log-and-permit;
            too-many-requests log-and-permit;
          }
          notification-options {
            virus-detection {
              type message;
            }
            fallback-block {
              type message;
            }
          }
        }
      }
    }
  }
  utm-policy policy1 {
    anti-virus {
      http-profile profile1;
    }
  }
[edit]
user@host# show services
  ssl {
    traceoptions {
      file ssl_trace size 1g;
      flag all;
    }
    proxy {
      profile ssl-p {
```


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```
            root-ca haojue;
            actions {
              ignore-server-auth-failure;
            }
          }
        }
      }
[edit]
user@host# show security policies
  from-zone trust to-zone untrust {
    policy trust_2_untrust {
      match {
        source-address any;
        destination-address any;
        application [ junos-http junos-https ];
      }
      then {
        permit {
          application-services {
            ssl-proxy {
              profile-name ssl-p;
            }
            utm-policy policy1;
          }
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

To confirm that the configuration is working properly, perform these tasks:

- Verifying the Security PKI Local Certificate on page 119
- Verifying UTM Antivirus Statistics on page 120
- Verifying UTM Antivirus Statistics Details on page 120
- Verifying UTM Antivirus Status on page 122

Verifying the Security PKI Local Certificate

Purpose Verify the security PKI local certificate.

Action From configurationl mode, enter the **show security pki local-certificate** command.

```
user@host#  show security pki local-certificate
```

```
Certificate identifier: SELF-SIGNED
  Issued to: abc, Issued by: CN = abc
  Validity:
    Not before: 02-20-2015 00:49 UTC
    Not after: 02-19-2020 00:49 UTC
```

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```
  Public key algorithm: rsaEncryption(2048 bits)

Certificate identifier: ssl-inspect-ca
  Issued to: www.example.net, Issued by: CN = www.example.net, OU = IT, O =
example, L = Sunnyvale, ST = CA, C = US
  Validity:
    Not before: 01-28-2016 22:28 UTC
    Not after: 01-26-2021 22:28 UTC
  Public key algorithm: rsaEncryption(2048 bits)
```

Meaning The sample output confirms that the PKI local ceritificate ssl-inspect-ca is configured.

Verifying UTM Antivirus Statistics

Purpose Verify UTM antivirus statistics.

Action From operational mode, enter the **show security utm anti-virus statistics** command.

```
user@host> show security utm anti-virus statistics
```

```
UTM Anti Virus statistics:

 Intelligent-prescreening passed:      0
 MIME-whitelist passed:                0
 URL-whitelist passed:                 0
 Session abort:                        0
 Scan Request:

  Total           Clean         Threat-found    Fallback
      0               0                0               0

 Fallback:
                              Log-and-Permit    Block             Permit
 Engine not ready:                 0                0                 0
 Out of resources:                 0                0                 0
 Timeout:                          0                0                 0
 Maximum content size:             0                0                 0
 Too many requests:                0                0                 0
 Decompress error:                 0                0                 0
 Others:                           0                0                 0
```

Meaning The sample output shows the list of UTM antivirus statistics.

Verifying UTM Antivirus Statistics Details

Purpose Verify UTM antivirus statistics details.

Action From operational mode, enter the **show security utm anti-virus statistics detail** command.

```
user@host> show security utm anti-virus statistics detail
```


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```
HTTP
        MIME-whitelist passed:              0
        URL-whitelist passed:               0

        URI request:
         Total   Clean     Threat-found      Need-further-inspection  Abort
           10          1             1                    8                0

     File request:
         Total       Clean     Threat-found      Fallback      Abort
               8           6             1               1           0

        Fall back:                  log-and-permit      block      permit
            Engine not ready:             0               0          0
            Out of resources:             0               0          0
            Timeout:                      0               0          0
            Maxmium content size:         1               0          0
            Too many requests:            0               0          0
            Others                        0               0          0

    FTP
        Scan request:
         Total       Clean     Threat-found      Fallback      Abort
               10          8             1               1           0

        Fall back:                  log-and-permit      block      permit
            Engine not ready:             0               0          0
            Out of resources:             0               0          0
            Timeout:                      0               0          0
            Maxmium content size:         1               0          0
            Too many requests:            0               0          0
            Others                        0               0          0

    SMTP
        Scan request:
         Total       Clean     Threat-found      Fallback      Abort
               10          8             1               1           0

        Fall back:                  log-and-permit      block      permit
            Engine not ready:             0               0          0
            Out of resources:             0               0          0
            Timeout:                      0               0          0
            Maxmium content size:         1               0          0
            Too many requests:            0               0          0
            Others                        0               0          0

    POP3
        Scan request:
         Total       Clean     Threat-found      Fallback      Abort
               10          8             1               1           0

        Fall back:                  log-and-permit      block      permit
            Engine not ready:             0               0          0
            Out of resources:             0               0          0
            Timeout:                      0               0          0
            Maxmium content size:         1               0          0
            Too many requests:            0               0          0
            Others                        0               0          0

    IMAP
```

```
       Scan request:
        Total       Clean     Threat-found      Fallback      Abort
              10          8             1               1          0

       Fall back:                  log-and-permit      block      permit
           Engine not ready:             0               0          0
           Out of resources:             0               0          0
           Timeout:                      0               0          0
           Maxmium content size:         1               0          0
           Too many requests:            0               0          0
           Others                        0               0          0
```

Meaning The sample output shows the list of antivirus statistics details.

Verifying UTM Antivirus Status

Purpose Verify UTM antivirus status.

Action From operational mode, enter the **show security utm anti-virus status** command to view the antivirus status.

```
user@host> show security utm anti-virus status

Anti-virus Key Expiry Date: 07/01/2010 00:00:00
       Update server: http://update.juniper-updates.net//
          Interval: 1440 minutes
          Auto update status: next update in 1440 minutes
          Last result: No error
       Anti-virus data file info:
          Version:
       Scan engine information:
          Last action result: No error(0x00000000)
          Engine type: sophos-engine
```

Meaning

- Antivirus key expire date—The license key expiration date.
- Update server—URL for the data file update server.
  - Interval—The time period, in minutes, when the device updates the data file from the update server.
  - Auto update status—Displays the next automatic update of the data file in minutes.
  - Last result—Result of the last database update.
- Antivirus signature version—Version of the current antivirus signature data file.
- Scan engine type—The antivirus scan engine type that is currently running.
- Scan engine information—Result of the last action that occurred with the current scan engine.

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See Also
- *SSL Proxy Overview*

Managing Sophos Antivirus Data Files

Before you begin:

- Install a Sophos antivirus license. See the *Installation and Upgrade Guide*.
- Configure Sophos as the antivirus feature for the device. See "Example: Configuring Sophos Antivirus Feature Profile" on page 105. To set the antivirus engine type, you run the **set security utm feature-profile anti-virus type sophos-engine** statement.

In this example, you configure the security device to update the data files automatically every 4320 minutes (every 3 days). The default data file update interval is 1440 minutes (every 24 hours).

To automatically update Sophos data files:

```
[edit security utm feature-profile anti-virus]
user@host# set sophos-engine pattern-update interval 4320
```

NOTE: The following commands are performed from CLI operational mode.

To manually update data files:

```
user@host> request security utm anti-virus sophos-engine pattern-update
```

To manually reload data files:

```
user@host> request security utm anti-virus sophos-engine pattern-reload
```

To manually delete data files:

```
user@host> request security utm anti-virus sophos-engine pattern-delete
```

To check the status of antivirus, which also shows the data files version:

```
user@host> show security utm anti-virus status
```

To check the status of the proxy server:

```
user@host> show security utm anti-virus status
```

See Also
- *Understanding UTM Licensing*

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Release History Table

Release	Description
15.1X49-D100	Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, HTTPS, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.
15.1X49-D10	The full file-based antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1x49-D10 and Junos OS Release 17.3R1 onwards.
12.3X48-D35	Starting with Junos OS Release 12.3X48-D35 and Junos OS Release 17.3R1, the UTM Sophos antivirus (SAV) single session throughput is increased for optimizing tcp-proxy forwarding.
12.3X48-D25	Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Sophos antivirus over SSL forward proxy supports HTTPS traffic.
12.3X48-D25	Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Sophos antivirus over SSL forward proxy supports HTTPS traffic.

Related Documentation

- Virus-Detected Notifications on page 171
- Full Antivirus Protection on page 66
- *Licenses Required for UTM Features*
- *Enabling TCP Proxy Session to Increase the Network Transmit Speed*

On-Device Antivirus Scan Engine

The on-device antivirus scan engine, scans the data by accessing the virus pattern database. It provides a full file-based anitvirus scanning function that is available through a separately licensed subscription service. When your antivirus license key expires, you can continue to use the locally stored antivirus signatures without any updates. If you delete the local database, then antivirus scanning is also disabled.

- SRX Series On-Device Antivirus Scan Engine Overview on page 124
- Example: Configuring On-Device Antivirus Feature Profile on page 126

SRX Series On-Device Antivirus Scan Engine Overview

The antivirus module in the unified threat management (UTM) solution consists of a virus pattern database, an application proxy, a scan manager, and a configurable scan engine. The antivirus module on the SRX Series device scans specific application layer traffic to protect the user from virus attacks and to prevent viruses from spreading.

Starting in Junos OS Release 18.4R1, SRX Series devices support an on-device antivirus scanning engine. The scan engine, Avira, scans the data by accessing the virus pattern

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database. It provides a full file-based anitvirus scanning function that is available through a separately licensed subscription service. When your antivirus license key expires, you can continue to use the locally stored antivirus signatures without any updates. If you delete the local database, then antivirus scanning is also disabled.

You can download and install the antivirus scan engine on your SRX Series device either manually (using a flash memory device and the **request security utm anti-virus avira-engine** command) or by using the Internet to connect to a Juniper Networks-hosted URL or a user-hosted URL.

The virus pattern database is located at https://update.juniper-updates.net/avira. By default, the pattern updates are downloaded through the SRX Series devices.

Use the **set security utm default-configuration anti-virus type avira-engine** command to enable the antivirus scan engine. If the antivirus scan engine is not available on the device and cannot be downloaded from the predefined URL (https://update.juniper-updates.net/avira), then use the local user URL to locate the database files: **set security utm default-configuration anti-virus avira-engine pattern-update url *url***. This command downloads the pattern and engine files from the user-hosted URL. After configuring Avira as the antivirus type, reboot the device for the new scan engine to take effect.

NOTE: The antivirus engine on the SRX Series device does not scan the application traffic and follows fallback logic under the following circumstances:

- The scan engine is not ready.
- There are too many scanning request.
- The file size is larger than a configured limit.
- The compress level is too deep for compressed or archive files.
- The memory file system is full.

Benefits

- Minimizes processing delays because the pattern database is locally stored and the scan engine is on-device.
- Secures your data and provides up-to-date antivirus software that protects your system from viruses, trojans, rootkits, and other types of malicious code. With this new scan engine, you can scan the application traffic locally without connecting to the Internet server to query whether the application traffic has virus.

See Also

- Full Antivirus Scan Results and Fallback Options.
- scan-options (Security Antivirus Avira Engine) on page 451.

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Example: Configuring On-Device Antivirus Feature Profile

This example shows you how to configure a Avira antivirus profile that defines the parameters that will be used for virus scanning.

- Requirements on page 126
- Overview on page 126
- Configuration on page 127
- Verification on page 134

Requirements

Before you begin:

- Verify that you have a Avira antivirus license. For more information on how to verify licenses on your device, see Understanding Licenses for SRX Series Devices.

Overview

In this example, you configure a custom Avira profile. Configure MIME lists. This includes creating a MIME whitelist and a MIME exception list for antivirus scanning.
The following configuration defines Avira as the antivirus engine and sets parameters, such as the data file update interval, notification options for administrators, fallback options, and file size limits.

- Select the anti-virus type. In this case, select avira-engine. Select a time interval for updating the data files
- Configure the network device with the proxy server details
- Enable an e-mail notification with a custom message as pattern file was updated and a custom subject line as AV pattern file updated.
- Configure the notification options for fallback blocking for virus detection. Configure a custom message with a custom subject line.
- Configure a list of fallback options as block, log and permit, or permit.
- Configure notification options for fallback blocking, fallback nonblocking actions, and virus detection.
- Configure content size parameters as 20000. The content size check occurs before the scan request is sent. The content size refers to accumulated TCP payload size.
- Trickling applies only to HTTP. HTTP trickling is a mechanism used to prevent the HTTP client or server from timing out during a file transfer or during antivirus scanning.
- Configure the antivirus module to use URL bypass lists. You can configure URL whitelists or blacklists for the URL lookups. A blacklist or a whitelist action type is a user-defined category in which all the URLs or IP addresses are always blocked or permitted and

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optionally logged. If the URL is in the user-configured blacklist, the device blocks the URL. If the URL is in the user-configured whitelist, the device permits the URL.

- Configure a UTM policy and apply the feature profile to the UTM policy, and finally attach the UTM policies to the security policies to which you can attach the feature profile.

Configuration

This example shows how to create a custom Avira profile, feature profiles and security policies.

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm default-configuration anti-virus type avira-engine
set security utm default-configuration anti-virus avira-engine pattern-update url
  <http://www.example.net/>
set security utm default-configuration anti-virus avira-engine pattern-update interval
  2880
set security utm default-configuration anti-virus avira-engine pattern-update proxy-profile
  proxy-profile <proxy-profile>
set security utm default-configuration anti-virus avira-engine pattern-update email-notify
  admin-email admin@email.net custom-message “Avira antivirus data file was updated”
  custom-message-subject “AV data file updated”
set chassis onbox-av-load-flavor heavy
set security utm feature-profile anti-virus profile avira-prof1
set security utm feature-profile anti-virus profile avira-prof1 fallback-options content-size
  block
set security utm feature-profile anti-virus profile avira-prof1 fallback-options default
  log-and-permit
set security utm feature-profile anti-virus profile avira-prof1 fallback-options
  engine-not-ready log-and-permit
set security utm feature-profile anti-virus profile avira-prof1 fallback-options
  out-of-resources log-and-permit
set security utm feature-profile anti-virus profile avira-prof1 fallback-options timeout
  log-and-permit
set security utm feature-profile anti-virus profile avira-prof1 fallback-options
  too-many-requests log-and-permit
set security utm feature-profile anti-virus profile avira-prof1 notification-options
  notification-options fallback-block custom-message “Fallback block action occurred”
  custom-message-subject “Antivirus Fallback Alert” notify-mail-sender type
  protocol-only allow email administrator-email admin@email.net
set security utm feature-profile anti-virus profile avira-prof1 fallback-options
  too-many-requests log-and-permit
set security utm default-configuration anti-virus scan-options content-size-limit 20000
set security utm default-configuration anti-virus scan-options timeout 1800
set security utm default-configuration anti-virus trickling timeout 180
set security utm feature-profile anti-virus profile avira-prof1 mime-whitelist list avmime2
set security utm feature-profile anti-virus profile avira-prof1 mime-whitelist list
  exception-avmime2
set security utm feature-profile anti-virus profile avira-prof1 url-whitelist custurl2
```

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```
set security utm-policy utmp3 anti-virus http-profile avira-prof1
```

Step-by-Step Procedure

To configure the on-device antivirus feature profile using the CLI:

NOTE: The following example shows you how to download the Avira scan engine if it is not available on the device and how to create a custom Avira profile. If you want to use the Juniper Networks preconfigured profile, use the profile named junos-av-defaults in your UTM policy.

1. Select and configure the engine type. Because you are configuring Avira antivirus, you configure avira-engine.

NOTE: After configuring the antivirus type to Avira, reboot the system for the new Avira scan engine to take effect.

```
[edit]
user@host# set security utm default-configuration anti-virus type avira-engine
```

2. (Optional) Configure the downloading Avira scan engine URL. In most circumstances, you will not need to change the URL to update the pattern database. If you do need to change this option for customer hosted url , use the following command:

```
[edit security utm default-configuration anti-virus]
user@host# set avira-engine pattern-update url <http://www.example.net/>
```

3. Select a time interval for updating the data files. The default antivirus pattern-update interval is 1440 minutes (every 24 hours). You can choose to leave this default, or you can change it. You can also force a manual update, if needed. To change the default from every 24 hours to every 48 hours:

```
[edit security utm default-configuration anti-virus]
user@host# set avira-engine pattern-update interval 2880
```

4. (Optional) Configure the network device with the proxy server details, to download the pattern update from a remote server:

```
[edit security utm default-configuration anti-virus]
user@host# set avira-engine pattern-update proxy-profile <proxy-profile>
```

5. You can configure the device to notify a specified administrator when data files are updated. This is an e-mail notification with a custom message and a custom subject line.

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```
[edit security utm default-configuration anti-virus]
user@host# set avira-engine pattern-update email-notify admin-email
   admin@email.net custom-message “Avira antivirus data file was updated”
   custom-message-subject “AV data file updated”
```

6. (Optional) You can configure on-box Antivirus (AV) to 'heavy' mode. The box enters 'light' mode If the below CLI command is deleted, and on-box AV is enabled.

```
[edit]
user@host# set chassis onbox-av-load-flavor heavy
```

NOTE: If on-box AV is enabled, or the CLI **set chassis onbox-av-load-flavor *heavy*** command is added or removed, then the system requests a reboot on SRX device.

7. Configure a list of fallback options as block, log and permit, or permit. The default setting is log-and-permit. You can use the default settings, or you can change them.

   Configure the content size action. In this example, if the content size is exceeded, the action taken is block.

   First create the profile named prof1.

```
[edit security utm feature-profile anti-virus]
user@host# set profile avira-prof1
```

   Configure the content size fallback-option to block.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options content-size block
```

   Configure the default fallback option to log-and-permit.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options default log-and-permit
```

   Configure log-and-permit if the antivirus engine is not ready.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options engine-not-ready log-and-permit
```

   Configure log-and-permit if the device is out of resources.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options out-of-resources log-and-permit
```

   Configure log-and-permit if a virus scan timeout occurs.

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```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options timeout log-and-permit
```

Configure log-and-permit if there are too many requests for the virus engine to handle.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set fallback-options too-many-requests log-and-permit
```

8. Configure notification options. You can configure notifications for fallback blocking, fallback nonblocking actions, and virus detection.

   In this step, configure a custom message for the fallback blocking action and send a notification for protocol-only actions to the administrator and the sender.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set notification-options fallback-block custom-message “Fallback
   block action occurred” custom-message-subject “Antivirus Fallback Alert”
   notify-mail-sender type protocol-only allow email administrator-email
   admin@example.net
```

9. Configure content size parameters.

   NOTE: When you configure the content-size value, keep in mind that in certain cases, content size is available in the protocol headers, so the max-content-size fallback is applied before a scan request is sent. However, in many cases, content size is not provided in the protocol headers. In these cases, the TCP payload is sent to the antivirus scanner and accumulates until the end of the payload. If the accumulated payload exceeds the maximum content size value, then max-content-size fallback is applied. The default fallback action is log and permit, so you may want to change this option to block, in which case such a packet is dropped and a block message is sent to the client.

   In this example, if the content size exceeds 20 MB, the packet is dropped.

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options content-size-limit 20000
```

10. Configure the timeout setting for the scanning operation to 1800 seconds.

```
[edit security utm default-configuration anti-virus]
user@host# set scan-options timeout 1800
```

11. Configure the trickling setting to 180 seconds. If you use trickling, you can also set timeout parameters. Trickling applies only to HTTP. HTTP trickling is a mechanism

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used to prevent the HTTP client or server from timing out during a file transfer or during antivirus scanning.

WARNING: When you enable the trickling option, keep in mind that trickling might send part of a file to the client during its antivirus scan. It is therefore possible that some of the content could be received by the client before the file has been fully scanned.

```
[edit security utm default-configuration anti-virus]
user@host# set trickling timeout 180
```

12. Configure the antivirus module to use MIME bypass lists and exception lists. You can use your own custom object lists, or you can use the default list that ships with the device called junos-default-bypass-mime.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set mime-whitelist list avmime2
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set mime-whitelist list exception-avmime2
```

13. Configure the antivirus module to use URL bypass lists. If you are using a URL whitelist, this is a custom URL category you have previously configured as a custom object. URL whitelists are valid only for HTTP traffic. In this example you use the lists that you set up earlier.

```
[edit security utm feature-profile anti-virus profile avira-prof1]
user@host# set url-whitelist custurl2
```

14. Configure a UTM policy for Avira antivirus by creating the UTM policy utmp3 and attaching it to the http-profile avira-prof1.

```
[edit security utm]
user@host# set utm-policy utmp3 anti-virus http-profile avira-prof1
```

NOTE: You can use the default Avira feature profile settings by replacing avira-prof1 in the above statement with junos-av-defaults.

Example: Configuring Firewall Security Policies

CLI Quick Configuration

Create a firewall security policy that will cause traffic from the untrust zone to the trust zone to be scanned by antivirus scan engine.

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```
set security policies from-zone untrust to-zone trust policy p3 match source-address any
set security policies from-zone untrust to-zone trust policy p3 match destination-address
  any
set security policies from-zone untrust to-zone trust policy p3 match application any
set security policies from-zone untrust to-zone trust policy p3 then permit
  application-services utm-policy utmp3
```

Step-by-Step Procedure

To configure a security policy for antivirus scan engine:

1. Configure the untrust to trust policy to match any source-address.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match
  source-address any
```

2. Configure the untrust to trust policy to match any destination-address.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match
  destination-address any
```

3. Configure the untrust to trust policy to match any application type.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 match application
  any
```

4. Configure the untrust to trust policy to match any source-address.

```
[edit security]
user@host# set policies from-zone untrust to-zone trust policy p3 then permit
  application-services utm-policy utmp3
```

Results

From configuration mode, confirm your configuration by entering the **show security utm**, **show services**, and **show security policies** commands. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm
  default-configuration {
    anti-virus {
      type avira-engine;
      scan-options {
        content-size-limit 20000;
        timeout 1800;
```


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```
        }
        trickling timeout 180;
        avira-engine {
          pattern-update {
            email-notify {
              admin-email "admin@email.net";
              custom-message "Avira antivirus data file updated";
              custom-message-subject "Av data file updated";
            }
            url http://www.example.net;
            proxy-profile proxy-profile;
            interval 2880;
          }
        }
      }
    }
    feature-profile {
      anti-virus {
        profile avira-prof1 {
          fallback-options {
            default log-and-permit;
            content-size block;
            engine-not-ready log-and-permit;
            timeout log-and-permit;
            out-of-resources log-and-permit;
            too-many-requests log-and-permit;
          }
          mime-whitelist {
            list avmime2;
          }
          url-whitelist custurl2;
        }
        profile notification-options {
          notification-options {
            fallback-block {
              type protocol-only;
              notify-mail-sender;
              custom-message "fallback block action occured";
              custom-message-subject "Antivirus fallback alert";
            }
          }
        }
      }
    }
    utm-policy utmp3 {
      anti-virus {
        http-profile avira-prof1;
      }
    }
[edit]
user@host# show security policies
    from-zone untrust to-zone trust {
      policy p3 {
        match {
          source-address any;
```

```
        destination-address any;
        application any;
      }
      then {
        permit {
          application-services {
            utm-policy utmp3;
          }
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Obtaining Information About the Current Antivirus Status

Action From operational mode, enter the **show security utm anti-virus status** command to view the antivirus status.

```
user@host>show security utm anti-virus status
```

Sample Output

```
UTM anti-virus status:
 Update server: https://update.example-juniper.net/avira
          Interval: 360 minutes
          Pattern update status: next update in 236 minutes
          Last result: Downloading certs failed
   Scan engine type: avira-engine
   Scan engine information: 8.3.52.102
   Anti-virus signature version: 8.15.11.42
   Onbox AV load flavor: running heavy, configure heavy
```

Meaning

- Antivirus key expire date—The license key expiration date.
- Update server—URL for the data file update server.
  - Interval—The time period, in minutes, when the device will update the data file from the update server.
  - Pattern update status—When the data file will be updated next, displayed in minutes.
  - Last result—Result of the last update.
- Antivirus signature version—Version of the current data file.
- Scan engine type—The antivirus engine type that is currently running.
- Scan engine information—Version of the scan engine.

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See Also
- Example: Configuring Antivirus Scanning Fallback Options on page 152
- Understanding URL Whitelists on page 168

Full Antivirus File Scanning

The full file-based antivirus module is the software subsystem on the gateway device that scans specific Application Layer traffic to protect users from virus attacks and to prevent viruses from spreading. The antivirus module allows you to configure scanning options on a global level, on a UTM profile level, or on a firewall policy level. For more information, see the following topics:

- Understanding the Full Antivirus Scan Engine on page 135
- Understanding Full Antivirus Scan Mode Support on page 136
- Configuring Full Antivirus File Extension Scanning (CLI Procedure) on page 137
- Example: Configuring Full Antivirus File Extension Scanning on page 137
- Understanding Full Antivirus Scan Level Settings on page 138
- Example: Configuring Full Antivirus Scan Settings at Different Levels on page 139
- Understanding Full Antivirus Intelligent Prescreening on page 141
- Example: Configuring Full Antivirus Intelligent Prescreening on page 141
- Understanding Full Antivirus Content Size Limits on page 142
- Configuring Full Antivirus Content Size Limits (CLI Procedure) on page 143
- Understanding Full Antivirus Decompression Layer Limits on page 143
- Configuring Full Antivirus Decompression Layer Limits (CLI Procedure) on page 144
- Understanding Full Antivirus Scanning Timeouts on page 144
- Configuring Full Antivirus Scanning Timeouts (CLI Procedure) on page 144
- Understanding Full Antivirus Scan Session Throttling on page 144
- Configuring Full Antivirus Scan Session Throttling (CLI Procedure) on page 145

Understanding the Full Antivirus Scan Engine

The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the full file-based antivirus module is the software subsystem on the gateway device that scans specific Application Layer traffic to protect users from virus attacks and to prevent viruses from spreading. The antivirus software subsystem consists of a virus signature database, an application proxy, the scan manager, and the scan engine.

Kaspersky Lab provides the scan engine and it works in the following manner:

1. A client establishes a TCP connection with a server and then starts a transaction.

2. If the application protocol in question is marked for antivirus scanning, the traffic is forwarded to an application proxy for parsing.

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3. When the scan request is sent, the scan engine scans the data by querying a virus pattern database.

4. The scan manager monitors antivirus scanning sessions, checking the properties of the data content against the existing antivirus settings.

5. After scanning has occurred, the result is then handled by the scan manager.

The Kaspersky Lab scan engine supports regular file scanning and script file scanning. With regular file scanning, the input object is a regular file. The engine matches the input content with all possible signatures. With script file scanning, the input object is a script file. It can be JavaScript, VBScript, mIRC script, bat scripts (DOS bat files), and other text scripts. The engine matches the input content only with signatures for script files. Script scanning is only applicable for HTML content over the HTTP protocol. There are two criteria for this scan type. First, the content-type field of this HTML document must be text or HTML. Second, there is no content encoding in the HTTP header. If those two criteria are met, an HTML parser is used to parse the HTML document for scripts.

See Also
- Understanding Full Antivirus Scan Result Handling on page 147
- Monitoring Antivirus Scan Engine Status on page 148

Understanding Full Antivirus Scan Mode Support

The Kaspersky Lab scan engine is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the Kaspersky Lab scan engine supports two modes of scanning:

- scan-all—This option tells the scan engine to scan all the data it receives.
- scan-by-extension—This option bases all scanning decisions on the file extensions found in the traffic in question.

When scanning content, you can use a file extension list to define a set of file extensions that are used in file extension scan mode (scan-by-extension). The antivirus module can then scan files with extensions on the scan-extension list. If an extension is not defined in an extension list, the file with that extension is not scanned in scan-by-extension mode. If there is no extension present, the file in question is scanned.

When using a file extension list to scan content, please note the following requirements:

- File extension entries are case-insensitive.
- The maximum length of the file extension list name is 29 bytes.
- The maximum length of each file extension entry is 15 bytes.
- The maximum entry number in a file extension list is 255.

See Also
- Monitoring Antivirus Scan Results on page 149

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Configuring Full Antivirus File Extension Scanning (CLI Procedure)

The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure file-extension scanning, use the following CLI configuration statements:

```
security utm {
  custom-objects {
    filename-extension { ; set of list
      name extension-list-name; #mandatory
        value windows-extension-string;
      }
    }
  }
```

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  scan-options {
    scan-extension ext-list
    }
  }
```

Example: Configuring Full Antivirus File Extension Scanning

The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure full antivirus file extension scanning.

- Requirements on page 137
- Overview on page 137
- Configuration on page 138
- Verification on page 138

Requirements

Before you begin, decide the mode of scanning you require. See "Understanding Full Antivirus Scan Mode Support" on page 136.

Overview

In this example, you perform the following tasks:

1. Create a file called extlist1 for the kasprof1 profile, and add extensions such as .zip, .js, and .vbs to the extlist1.
2. Configure the scan mode setting. You can choose to scan all files or to scan only the files that have the extensions that you specify. This example uses the scan by-extension option to configure the device to use the extlist1 file.

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Configuration

Step-by-Step Procedure

To configure full antivirus file extension scanning:

1. Create a extension for the list and add extensions to the filename extension list.

```
[edit]
user@host# set security utm custom-objects filename-extension extlist1 value [zip
  js vbs]
```

2. Configure scan extension settings.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  kasprof1 scan-options scan-extension extlist1
```

3. Configure the scan mode setting.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
  kasprof1 scan-options scan-mode by-extension
```

4. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

See Also

- Understanding Full Antivirus Scan Mode Support on page 136

Understanding Full Antivirus Scan Level Settings

The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the antivirus module allows you to configure scanning options on a global level, on a UTM profile level, or on a firewall policy level. Each configuration level has the following implications:

- Global antivirus settings—Settings are applied to all antivirus sessions. Global settings are general overall configurations for the antivirus module or settings that are not specific for profiles.
- Profile-based settings—Antivirus settings are different for different protocols within the same policy.

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- Policy-based settings—Antivirus settings are different for different policies. Policy-based antivirus settings are applied to all scan-specified traffic defined in a firewall policy.

The majority of antivirus settings are configured within an antivirus profile, bound to specified protocols, and used by designated policies. These UTM policies are then applied to the traffic according to firewall policies. If a firewall policy with an antivirus setting matches the properties of a traffic flow, the antivirus setting is applied to the traffic session. Therefore, you can apply different antivirus settings for different protocols and for different traffic sessions.

See Also

- Understanding Full Antivirus Application Protocol Scanning on page 156

Example: Configuring Full Antivirus Scan Settings at Different Levels

The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure full antivirus scan settings at different levels.

- Requirements on page 139
- Overview on page 139
- Configuration on page 139
- Verification on page 141

Requirements

Before you begin, decide the type of scanning option you require. See "Understanding Full Antivirus Scan Level Settings" on page 138.

Overview

In this example, you define antivirus scanning options on any of the following levels:

- Global level
- UTM profile level using the kasprof1 UTM profile
- Firewall policy level using the p1 UTM policy

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile anti-virus kaspersky-lab-engine pattern-update interval
    20
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options default block
set utm-policy p1 anti-virus http-profile av-profile
```

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure antivirus scanning options at different levels:

1. Configure scanning options at the global level.

```
[edit security utm]
user@host# set feature-profile anti-virus kaspersky-lab-engine pattern-update
   interval 20
```

2. Configure scanning options at the UTM profile level.

```
[edit security utm]
user@host# set feature-profile anti-virus kaspersky-lab-engine profile kasprof1
   fallback-options default block
```

3. Configure scanning options at the UTM policy level.

```
[edit security utm]
user@host# set utm-policy p1 anti-virus http-profile av-profile
```

Results

From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

For brevity, this **show** command output includes only the configuration that is relevant to this example. Any other configuration on the system has been replaced with ellipses (...).

```
[edit]
user@host# show security utm
...
   utm-policy p1 {
   anti-virus {
      http-profile av-profile
         ftp {
            upload-profile av-profile
            download-profile av-profile
         }
      }
   }
...
```

If you are done configuring the device, enter **commit** from configuration mode.

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Verification

Verifying Scan Settings at Different Levels

Purpose Verify the scan settings at different levels.

Action From operational mode, enter the **show configuration security utm** command.

See Also
- Understanding FTP Antivirus Scanning on page 158

Understanding Full Antivirus Intelligent Prescreening

The Intelligent prescreening is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, by default, intelligent prescreening is enabled to improve antivirus scanning performance. The antivirus module generally begins to scan data after the gateway device has received all the packets of a file. Intelligent prescreening tells the antivirus module to begin scanning a file much earlier. In this case, the scan engine uses the first packet or the first several packets to determine if a file could possibly contain malicious code. The scan engine does a quick check on these first packets and if it finds that it is unlikely that the file is infected, it then decides that it is safe to bypass the normal scanning procedure.

NOTE: Intelligent prescreening is only intended for use with non-encoded traffic. It is not applicable for MIME encoded traffic, mail protocols (SMTP, POP3, IMAP) and HTTP POST.

Example: Configuring Full Antivirus Intelligent Prescreening

The Intelligent prescreening is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure full antivirus intelligent prescreening. By default, intelligent prescreening is enabled to improve antivirus scanning performance.

- Requirements on page 141
- Overview on page 142
- Configuration on page 142
- Verification on page 142

Requirements

Before you begin, understand how intelligent prescreening enables the improvement of antivirus scanning performance. See "Understanding Full Antivirus Intelligent Prescreening" on page 141.

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Overview

In this example, you perform the following tasks:

- Enable intelligent prescreening for the kasprof1 profile.
- Disable intelligent prescreening for the kasprof1 profile.

Configuration

Step-by-Step Procedure

To enable or disable full antivirus intelligent prescreening:

1. Enable intelligent prescreening for the kasprof1 profile.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
   kasprof1 scan-options intelligent-prescreening
```

2. Disable intelligent prescreening for the kasprof1 profile.

```
[edit]
user@host# set security utm feature-profile anti-virus kaspersky-lab-engine profile
   kasprof1 scan-options no-intelligent-prescreening
```

NOTE: Intelligent prescreening is intended only for use with non-encoded traffic. It is not applicable to mail protocols (SMTP, POP3, IMAP) or HTTP POST.

3. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

Understanding Full Antivirus Content Size Limits

The Content Size Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, due to resource constraints, there is a default, device-dependent limit on maximum content size for the database. The content size value is configurable. There is also a lower and upper limit for maximum content size. (This range is device dependent and is not configurable.)

The content size check occurs before the scan request is sent. The exact timing of this is protocol dependent. If the protocol header contains an accurate content length field,

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the content size check takes place when the content length field is extracted during header parsing. The content size usually refers to file size. If there is no content length field, the size is checked while the antivirus module is receiving packets. The content size, in this case, refers to accumulated TCP payload size.

NOTE: This setting can be used in all protocols.

Configuring Full Antivirus Content Size Limits (CLI Procedure)

The Content Size Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure content size limits, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
   scan-options {
      content-size-limit KB;
   }
}
```

Understanding Full Antivirus Decompression Layer Limits

The Decompression Layer Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the decompression layer limit specifies how many layers of nested compressed files and files with internal extractable objects, such as archive files (tar), MS Word and PowerPoint files, the internal antivirus scanner can decompress before it executes the virus scan. For example, if a message contains a compressed .zip file that contains another compressed .zip file, there are two compression layers. Decompressing both files requires a decompress layer setting of 2.

It is worth noting that during the transfer of data, some protocols use content encoding. The antivirus scan engine must decode this layer, which is considered a decompression level, before it scans for viruses.

There are three kinds of compressed data:

- compressed file (zip, rar, gzip)
- encoded data (MIME)
- packaged data (OLE, .CAP, .MSI, .TAR, .EML)

A decompression layer could be a layer of a zipped file or an embedded object in packaged data. The antivirus engine scans each layer before unpacking the next layer, until it either reaches the user-configured decompress limit, reaches the device decompress layer limit, finds a virus or other malware, or decompresses the data completely, whichever comes first.

As the virus signature database becomes larger and the scan algorithms become more sophisticated, the scan engine has the ability to look deeper into the data for embedded malware. As a result, it can uncover more layers of compressed data. The Juniper Networks

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device's level of security is limited by decompress limit, which is based on the memory allocated to the security service. If a virus is not found within the decompress limit, the user has an option to either pass or drop the data.

NOTE: This setting can be used in all protocols.

Configuring Full Antivirus Decompression Layer Limits (CLI Procedure)

The Decompression Layer Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure decompression layer limits, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  scan-options {
    decompress-layer-limit number
  }
}
```

Understanding Full Antivirus Scanning Timeouts

The Scanning timeout parameter is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, the scanning timeout value includes the time frame from when the scan request is generated to when the scan result is returned by the scan engine. The time range can be 1 to 1800 seconds. By default, it is 180 seconds.

NOTE: This timeout parameter is used by all supported protocols. Each protocol can have a different timeout value.

Configuring Full Antivirus Scanning Timeouts (CLI Procedure)

The Scanning timeout parameter is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure scanning timeouts, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  scan-options {
    timeout-value seconds {
    }
  }
}
```

Understanding Full Antivirus Scan Session Throttling

The Scan session Throttling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, in an attempt to consume all available resources and hinder the ability of the scan engine to scan other traffic, a malicious user might generate a large amount of traffic all at once. To prevent such activity from succeeding, a session throttle is imposed for antivirus resources, thereby

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restricting the amount of traffic a single source can consume at one time. The limit is an integer with 100 as the default setting. This integer refers to the maximum allowed sessions from a single source. You may change this default limit, but understand that if this limit is set high, that is comparable to no limit.

Over-limit is a fallback setting for the connection-per-client limit. The default behavior of over-limit is to block sessions. This is a per-policy setting. You can specify different settings for different UTM policies.

Configuring Full Antivirus Scan Session Throttling (CLI Procedure)

The Scan session Throttling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure scan session throttling, use the following CLI configuration statements:

```
security utm utm-policy name
   traffic-options {
      sessions-per-client {
      limit number;
         over-limit { log-and-permit | block}
      }
   }
```

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Release History Table

Release	Description
15.1X49-D10	The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Lab scan engine is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky Lab scan is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Intelligent prescreening is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Intelligent prescreening is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Content Size Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Content Size Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Decompression Layer Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Decompression Layer Limit is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Scanning timeout parameter is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Scanning timeout parameter is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Scan session Throttling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Scan session Throttling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related

- Full Antivirus Application Protocol Scanning on page 155

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Documentation

- Virus-Detected Notifications on page 171
- Full Antivirus Protection on page 66

Full Antivirus Scan Results and Fallback Options

Fallback options tell the system how to handle the errors returned by either the scan engine or the scan manager. Different antivirus scan results are handled in different manners. For example, if a scan result is clean, the traffic is forwarded to the receiver. If the scan result is infected, the traffic is dropped. If the scan results in an error, the result handling depends on the cause of the failure and the configuration (fallback settings). For more information, see the following topics:

- Understanding Full Antivirus Scan Result Handling on page 147
- Monitoring Antivirus Scan Engine Status on page 148
- Monitoring Antivirus Session Status on page 148
- Monitoring Antivirus Scan Results on page 149
- Understanding Antivirus Scanning Fallback Options on page 151
- Example: Configuring Antivirus Scanning Fallback Options on page 152

Understanding Full Antivirus Scan Result Handling

The Full Antivirus Scan Result Handling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, different antivirus scan results are handled in different manners. For example, if a scan result is clean, the traffic is forwarded to the receiver. If the scan result is infected, the traffic is dropped. If the scan results in an error, the result handling depends on the cause of the failure and the configuration (fallback settings).

The following is a list of actions based on scan results:

- Scan Result = Pass

  The scan result handling action is to pass the message. In this case, no virus is detected and no error code is returned. Or, an error code is returned, but the fallback option for this error code is set to log-and-permit.

- Scan Result = Block

  The scan result handling action is to block the message. In this case, either a virus is detected or an error code is returned and the fallback option for this error code is BLOCK.

See Also

- Understanding Full Antivirus Scan Level Settings on page 138

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Monitoring Antivirus Scan Engine Status

Purpose The Monitoring Antivirus Scan Engine Status is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, using the CLI, you can view the following scan engine status items:

Antivirus license key status

- View license expiration dates.

Scan engine status and settings

- View last action result.
- View default file extension list.

Antivirus pattern update server settings

- View update URL (HTTP or HTTPS-based).
- View update interval.

Antivirus pattern database status

- View auto update status.
- View last result of database loading.
- If the download completes, view database version timestamp virus record number.
- If the download fails, view failure reason.

Action In the CLI, enter the **user@host> show security utm anti-virus status** command.

Example status result:

```
AV Key Expire Date: 03/01/2010 00:00:00
Update Server: http://update.juniper-updates.net/AV/device-name
interval: 60 minutes
auto update status: next update in 12 minutes
last result: new database loaded
AV signature version: 12/21/2008 00:35 GMT, virus records: 154018
Scan Engine Info: last action result: No error(0x00000000)
```

See Also
- Understanding the Full Antivirus Scan Engine on page 135

Monitoring Antivirus Session Status

Purpose The Monitoring Antivirus Session Status is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, using the CLI, you can view the following session status items:

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Antivirus session status displays a snapshot of current antivirus sessions. It includes

- Maximum supported antivirus session numbers.
- Total allocated antivirus session numbers.
- Total freed antivirus session numbers.
- Current active antivirus session numbers.

Action In the CLI, enter the **user@host> show security utm session status** command.

Monitoring Antivirus Scan Results

Purpose The Monitoring Antivirus Scan Results are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, view statistics for antivirus requests, scan results, and fallback counters.

Scan requests provide

- The total number of scan request forwarded to the engine.
- The number of scan request being pre-windowed.
- The number of scan requests using scan-all mode.
- The number of scan requests using scan-by-extension mode.

Scan code counters provide

- Number of clean files.
- Number of infected files.
- Number of password protected files.
- Number of decompress layers.
- Number of corrupt files.
- When the engine is out of resources.
- When there is an internal error.

Fallback applied status provides either a log-and-permit or block result when the following has occurred

- Scan engine not ready.
- Maximum content size reached.
- Too many requests.
- Password protected file found.
- Decompress layer too large.
- Corrupt file found.

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- Timeout occurred.
- Out of resources.
- Other.

Action To view antivirus scan results using the CLI editor, enter the **user@host> show security utm anti-virus statistics status** command.

To view antivirus scan results using J-Web:

1. Select **Monitor>Security>UTM>Anti-Virus**.

   The following information becomes viewable in the right pane.

   Antivirus license key status

   - View license expiration dates.

   Antivirus pattern update server settings

   - View update URL (HTTP or HTTPS-based).
   - View update interval.

   Antivirus pattern database status

   - View auto update status.
   - View last result of database loading.
   - If the download completes, view database version timestamp virus record number.
   - If the download fails, view failure reason.

   Antivirus statistics provide

   - The number of scan request being pre-windowed.
   - The total number of scan request forwarded to the engine.
   - The number of scan requests using scan-all mode.
   - The number of scan requests using scan-by-extension mode.

   Scan code counters provide

   - Number of clean files.
   - Number of infected files.
   - Number of password protected files.
   - Number of decompress layers.
   - Number of corrupt files.
   - When the engine is out of resources.
   - When there is an internal error.

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Fallback applied status provides either a log-and-permit or block result when the following has occurred

- Scan engine not ready.
- Password protected file found.
- Decompress layer too large.
- Corrupt file found.
- Out of resources.
- Timeout occurred.
- Maximum content size reached.
- Too many requests.
- Other.

2. You can click the **Clear Anti-Virus Statistics** button to clear all current viewable statistics and begin collecting new statistics.

Understanding Antivirus Scanning Fallback Options

Fallback options notify the system how to handle the errors returned by either the scan engine or the scan manager. The following is a list of possible errors:

- Scan engine is not ready (engine-not-ready)

  The scan engine is initializing itself, for example, loading the signature database. During this phase, the scan engine is not ready to scan a file. A file could either pass or be blocked according to this setting.

- Corrupt file (corrupt-file)

  Corrupt file is the error returned by the scan engine when engine detects a corrupted file.

- Decompression layer (decompress-layer)

  Decompress layer error is the error returned by the scan engine when the scanned file has too many compression layers.

- Password protected file (password-file)

  Password protected file is the error returned by the scan engine when the scanned file is protected by a password.

- Max content size (content-size)

  If the content size exceeds a set limit, the content is passed or blocked depending on the max-content-size fallback option.

- Too many requests (too-many-requests)

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If the total number of messages received concurrently exceeds the device limits, the content is passed or blocked depending on the too-many-request fallback option. (The allowed request limit is not configurable.)

- Timeout

  Scanning a complex file could consume resources and time. If the time taken for the scan exceeds the timeout setting in the antivirus profile, the processing is aborted and the content is passed or blocked without completing the virus checking. The decision is made based on the timeout fallback option.

- Out of resources (out-of-resources)

  Virus scanning requires a great deal of memory and CPU resources. Due to resource constraints, memory allocation requests can be denied by the system. This failure could be returned by either scan engine (as a scan-code) or scan manager. When out-of-resources occurs, scanning is aborted.

- Default

  All the errors other than those in the above list fall into this category. This could include either unhandled system exceptions (internal errors) or other unknown errors.

The default fallback action for all the error types is log-and-permit.

The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Example: Configuring Antivirus Scanning Fallback Options

The Antivirus Scanning Fallback options are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure antivirus scanning fallback options.

- Requirements on page 152
- Overview on page 152
- Configuration on page 153
- Verification on page 154

Requirements

Before you begin, understand the possible error types and the default fallback actions for those error types. See "Understanding Antivirus Scanning Fallback Options" on page 151.

Overview

In this example, you configure a feature profile called kasprof, and set the fallback scanning options for default, content-size, corrupt-file, decompress-layer, engine-not-ready, out-of-resources, password-file, timeout, too-many-requests, as block.

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NOTE: The command for changing the URL for the pattern database is:

```
[edit]
user@host# edit security utm feature-profile anti-virus kaspersky-lab-engine
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set pattern-update url
    http://update.juniper-updates.net/AV/<device-name>
```

The default URL is http://update.juniper-updates.net/AV/<device-version>. You should not change this URL unless you are experiencing problems with it and have called for support.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile anti-virus type kaspersky-lab-engine
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options content-size block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options corrupt-file block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options decompress-layer block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options default block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options engine-not-ready block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options out-of-resources block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options password-file block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options timeout block
set security utm feature-profile anti-virus kaspersky-lab-engine profile kasprof1
    fallback-options too-many-requests block
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure scanning fallback options:

1. Select and configure the engine type.

```
[edit]
user@host# set security utm feature-profile anti-virus type kaspersky-lab-engine
```

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2. Create a profile for the Kaspersky Lab engine and configure a list of fallback options as block or log-and-permit.

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
user@host# set profile kasprof1 fallback-options content-size block
user@host# set profile kasprof1 fallback-options corrupt-file block
user@host# set profile kasprof1 fallback-options decompress-layer block
user@host# set profile kasprof1 fallback-options default block
user@host# set profile kasprof1 fallback-options engine-not-ready block
user@host# set profile kasprof1 fallback-options out-of-resources block
user@host# set profile kasprof1 fallback-options password-file block
user@host# set profile kasprof1 fallback-options timeout block
user@host# set profile kasprof1 fallback-options too-many-requests block
```

Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile anti-virus** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host#show security utm feature-profile anti-virus
kaspersky-lab-engine {
   profile kasprof1 {
      fallback-options {
         default block;
         corrupt-file block;
         password-file block;
         decompress-layer block;
         content-size block;
         engine-not-ready block;
         timeout block;
         out-of-resources block;
         too-many-requests block;
      }
   }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying the Antivirus Scanning Fallback Options

Purpose Verify the antivirus scanning fallback options.

Action From operational mode, enter the **show configuration security utm** command.

See Also

- Understanding Full Antivirus Scan Level Settings on page 138

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Release History Table

Release	Description
15.1X49-D10	The Full Antivirus Scan Result Handling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Monitoring Antivirus Scan Engine Status is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Monitoring Antivirus Session Status is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Monitoring Antivirus Scan Results are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Kaspersky and Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Antivirus Scanning Fallback options are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Virus-Detected Notifications on page 171
- Full Antivirus Application Protocol Scanning on page 155
- Full Antivirus Protection on page 66

Full Antivirus Application Protocol Scanning

Full Antivirus uses a scanning engine and virus signature databases to protect against virus-infected files, worms, trojans, spyware, and other malware over POP3, HTTP, SMTP, IMAP, and FTP protocols. For more information, see the following topics:

- Understanding Full Antivirus Application Protocol Scanning on page 156
- Understanding HTTP Scanning on page 157
- Enabling HTTP Scanning (CLI Procedure) on page 157
- Understanding FTP Antivirus Scanning on page 158
- Enabling FTP Antivirus Scanning (CLI Procedure) on page 158
- Understanding SMTP Antivirus Scanning on page 158
- Enabling SMTP Antivirus Scanning (CLI Procedure) on page 160
- Understanding POP3 Antivirus Scanning on page 160
- Enabling POP3 Antivirus Scanning (CLI Procedure) on page 162
- Understanding IMAP Antivirus Scanning on page 162
- Enabling IMAP Antivirus Scanning (CLI Procedure) on page 164

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Understanding Full Antivirus Application Protocol Scanning

The Full Antivirus Application Protocol Scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, you can turn antivirus scanning on and off on a per protocol basis. If scanning for a protocol is disabled in an antivirus profile, there is no application intelligence for this protocol. Therefore, in most cases, traffic using this protocol is not scanned. But if the protocol in question is based on another protocol for which scanning is enabled in an antivirus profile, then the traffic is scanned as that enabled protocol.

The internal antivirus scan engine supports scanning for specific Application Layer transactions allowing you to select the content (HTTP, FTP, SMTP, POP3, or IMAP traffic) to scan. For each content type that you are scanning, you have different configuration options.

Profile-based settings, including enable/disable, scan-mode, and scan result handling settings, may not be applicable to all supported protocols. The following table lists profile-based settings and their protocol support.

Table 4: Supported Profile-based Settings By Protocol

Profile Setting	Protocol Support
Enable or disable scanning on per protocol basis	All protocols support this feature
"Understanding Full Antivirus Scan Mode Support" on page 136, including file extension scanning	All protocols support this feature
"Understanding Full Antivirus Content Size Limits" on page 142	All protocols support this feature
"Understanding Full Antivirus Decompression Layer Limits" on page 143	All protocols support this feature
"Understanding Full Antivirus Scanning Timeouts" on page 144	All protocols support this feature
"Understanding HTTP Trickling" on page 170	HTTP only
"Understanding Antivirus Scanning Fallback Options" on page 151	All protocols support this feature
Protocol specific messages	All protocols support this feature
"Understanding E-Mail Virus-Detected Notifications" on page 171	SMTP, POP3, and IMAP only
"Understanding Custom Message Virus-Detected Notifications" on page 172	All protocols support this feature

See Also
- Understanding Full Antivirus Scan Result Handling on page 147

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Understanding HTTP Scanning

The HTTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, if antivirus scanning is enabled for Hypertext Transfer Protocol (HTTP) traffic in a content security profile, TCP traffic to defined HTTP service ports (generally port 80) is monitored. For HTTP traffic, the security device scans both HTTP responses and requests (get, post, and put commands).

NOTE: For HTTP antivirus scanning, both HTTP 1.0 and 1.1 are supported. If the protocol version is HTTP 0.x , the antivirus scanner attempts to scan the traffic. Unknown protocols are bypassed. For example, some application protocols use HTTP as the transport but do not comply with HTTP 1.0 or 1.1. These are considered unknown protocols and are not scanned.

This is a general description of how HTTP traffic is intercepted, scanned, and acted upon by the antivirus scanner:

1. An HTTP client sends an HTTP request to a webserver or a webserver responds to an HTTP request.
2. The security device intercepts the request and passes the data to the antivirus scanner, which scans it for viruses.
3. After completing the scan, the device follows one of two courses:
   - If there is no virus, the device forwards the request to the webserver.
   - If there is a virus, the device drops the request and sends an HTTP message reporting the infection to the client.

With script-only scanning, the input object is a script file. It can be JavaScript, VBScript, mIRC script, bat scripts (DOS bat files) and other text scripts. The engine matches the input content only with signatures for script files. Script scanning is applicable only for HTML content over the HTTP protocol. There are two criteria for this scan-type. First, the content-type field of this HTML document must be text or HTML. Second, there is no content encoding in the HTTP header. If those two criteria are met, an HTML parser is used to parse the HTML document.

See Also
- Understanding Protocol-Only Virus-Detected Notifications on page 171

Enabling HTTP Scanning (CLI Procedure)

The HTTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to enable antivirus scanning for HTTP traffic, enter the following CLI configuration statement:

```
user@host# set security utm utm-policy policy-name anti-virus http
```

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Understanding FTP Antivirus Scanning

The FTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, if antivirus scanning is enabled for File Transfer Protocol (FTP) traffic in a content security profile, the security device monitors the control channel and, when it detects one of the FTP commands for transferring data, it scans the data sent over the data channel.

This is a general description of how FTP traffic is intercepted, scanned, and acted upon by the antivirus scanner:

1. A local FTP client opens an FTP control channel to an FTP server and requests the transfer of some data.

2. The FTP client and server negotiate a data channel over which the server sends the requested data. The security device intercepts the data and passes it to the antivirus scan engine, which scans it for viruses.

3. After completing the scan, the device follows one of two courses:
   - If there is no virus, the device forwards the data to the client.
   - If there is a virus, the device replaces the data with a drop message in the data channel and sends a message reporting the infection in the control channel.

Enabling FTP Antivirus Scanning (CLI Procedure)

The FTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, to enable antivirus scanning for File Transfer Protocol (FTP) traffic, enter the following CLI configuration statement:

```
user@host# security utm utm-policy policy-name anti-virus ftp
```

NOTE: In order to scan FTP traffic, the FTP ALG must be enabled.

See Also
- *FTP ALG Overview*

Understanding SMTP Antivirus Scanning

Starting from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1, only Sophos Antivirus supports the SMTP antivirus scanning. If SMTP (Simple Mail Transfer Protocol) antivirus scanning is enabled in a content security profile, the security device redirects traffic from local SMTP clients to the antivirus scanner before sending it to the local mail server.

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NOTE: Chunking is an alternative to the data command. It provides a mechanism to transmit a large message in small chunks. It is not supported. Messages using chunking are bypassed and are not scanned.

This is a general description of how SMTP traffic is intercepted, scanned, and acted upon by the antivirus scanner:

1. An SMTP client sends an e-mail message to a local mail server or a remote mail server forwards an e-mail message via SMTP to the local mail server.

2. The security device intercepts the e-mail message and passes the data to the antivirus scanner, which scans it for viruses.

3. After completing the scan, the device follows one of two courses:
   - If there is no virus, the device forwards the message to the local server.
   - If there is a virus, the device sends a replacement message to the client.

This topic includes the following sections:

- Understanding SMTP Antivirus Mail Message Replacement on page 159
- Understanding SMTP Antivirus Sender Notification on page 159
- Understanding SMTP Antivirus Subject Tagging on page 160

Understanding SMTP Antivirus Mail Message Replacement

If the antivirus scanner finds a virus in an e-mail message, the original message is dropped, the message body is truncated, and the content is replaced by a message that may appear as follows:

```
nContent-Type: text/plain
Your mail <src_ip> : <src_port> — <dst_port>: <dst_port> contains contaminated file
   <filename> with virus <virusname>, so it is dropped.
```

If a scan error is returned and the fail mode is set to drop, the original message is dropped and the entire message body is truncated. The content is replaced by a message that may appear as follows:

```
nContent-Type: text/plain
Your mail <src_ip> : <src_port> — <dst_port>: <dst_port> is dropped for <reason>.
```

Understanding SMTP Antivirus Sender Notification

If **notify-sender-on-virus** is set and the message is dropped due to a detected virus, an e-mail is sent to the mail sender. The content of the notification may appear as follows:

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
```

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```
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> <ENVID> contaminated file <filename>
   with virus <virusname>.
e-mail Header is:
<header of scanned e-mail>
```

If **notify-sender-on-error-drop** is set and the message is dropped due to a scan error, an e-mail is sent to the mail sender of the scanned message. The content of the e-mail may appear as follows:

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> <ENVID> <reason>.
e-mail Header is:
<header of scanned e-mail>
```

NOTE: For information on the ENVID parameter, refer to RFC 3461.

Understanding SMTP Antivirus Subject Tagging

If a scan error is returned and the fail mode is set to **pass**, the antivirus module passes the message through to the server. If **notify-recipient-on-error-pass** is set, the following string is appended to the end of the subject field:

```
(No virus check: <reason>)
```

See Also

- Understanding E-Mail Virus-Detected Notifications on page 171

Enabling SMTP Antivirus Scanning (CLI Procedure)

The SMTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to enable antivirus scanning for SMTP traffic, enter the following CLI configuration statement:

```
user@host# set security utm utm-policy policy-name anti-virus smtp-profile
```

Understanding POP3 Antivirus Scanning

The POP3 antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, if Post Office Protocol 3 (POP3) antivirus scanning is enabled in a content security profile, the security device redirects traffic from a local mail server to antivirus scanner before sending it to the local POP3 client.

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This is a general description of how POP3 traffic is intercepted, scanned, and acted upon by the antivirus scanner.

1. The POP3 client downloads an e-mail message from the local mail server.
2. The security device intercepts the e-mail message and passes the data to the antivirus scanner, which scans it for viruses.
3. After completing the scan, the security device follows one of two courses:
   - If there is no virus, the device forwards the message to the client.
   - If there is a virus, the device sends a message reporting the infection to the client.

NOTE: See "Understanding Protocol-Only Virus-Detected Notifications" on page 171 for information on protocol-only notifications for IMAP.

This topic includes the following sections:

- Understanding POP3 Antivirus Mail Message Replacement on page 161
- Understanding POP3 Antivirus Sender Notification on page 161
- Understanding POP3 Antivirus Subject Tagging on page 162

Understanding POP3 Antivirus Mail Message Replacement

If the antivirus scanner finds a virus in an e-mail message, the original message is dropped, the message body is truncated, and the content is replaced by a message that may appear as follows:

```
nContent-Type: text/plain
Your mail <src_ip> : <src_port> — <dst_port>: <dst_port> contains contaminated file
   <filename> with virus <virusname>, so it is dropped.
```

Understanding POP3 Antivirus Sender Notification

If **notify-sender-on-virus** is set and the message is dropped due to a detected virus, an e-mail is sent to the mail sender.

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> contaminated file <filename> with virus
   <virusname>.
e-mail Header is:
<header of scanned e-mail>
```

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If **notify-sender-on-error-drop** is set and the message is dropped due to a scan error, an e-mail is sent to the mail sender of the scanned message. The content of the e-mail may appear as follows:

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> <reason>.
e-mail Header is:
<header of scanned e-mail>
```

Understanding POP3 Antivirus Subject Tagging

If a scan error is returned and the fail mode is set to **pass**, the antivirus module passes the message through to the server. If **notify-recipient-on-error-pass** is set, the following string is appended to the end of subject field:

```
(No virus check: <reason>)
```

See Also

- Understanding Protocol-Only Virus-Detected Notifications on page 171

Enabling POP3 Antivirus Scanning (CLI Procedure)

The POP3 antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to enable antivirus scanning for POP3 traffic, enter the following CLI configuration statement:

```
user@host# set security utm utm-policy policy-name anti-virus pop3-profile
```

Understanding IMAP Antivirus Scanning

The IMAP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, if IMAP (Internet Message Access Protocol) antivirus scanning is enabled in a content security profile, the security device redirects traffic from a local mail server to the internal antivirus scanner before sending it to the local IMAP client.

This is a general description of how IMAP traffic is intercepted, scanned, and acted upon by the antivirus scanner.

1. The IMAP client downloads an e-mail message from the local mail server.

2. The security device intercepts the e-mail message and passes the data to the antivirus scanner, which scans it for viruses.

3. After completing the scan, the security device follows one of two courses:

   - If there is no virus, the device forwards the message to the client.

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- If there is a virus, the device sends a message reporting the infection to the client.

NOTE: See "Understanding Protocol-Only Virus-Detected Notifications" on page 171 for information on protocol-only notifications for IMAP.

This topic includes the following sections:

- Understanding IMAP Antivirus Mail Message Replacement on page 163
- Understanding IMAP Antivirus Sender Notification on page 163
- Understanding IMAP Antivirus Subject Tagging on page 164
- Understanding IMAP Antivirus Scanning Limitations on page 164

Understanding IMAP Antivirus Mail Message Replacement

If the antivirus scanner finds a virus in an e-mail message, the original message is dropped, the message body is truncated, and the content is replaced by a message that may appear as follows:

```
nContent-Type: text/plain
Your mail <src_ip> : <src_port> — <dst_port>: <dst_port> contains contaminated file
   <filename> with virus <virusname>, so it is dropped.
```

Understanding IMAP Antivirus Sender Notification

If **notify-sender-on-virus** is set and the message is dropped due to a detected virus, an e-mail is sent to the mail sender.

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> contaminated file <filename> with virus
   <virusname>.
e-mail Header is:
<header of scanned e-mail>
```

If **notify-sender-on-error-drop** is set and the message is dropped due to a scan error, an e-mail is sent to the mail sender of the scanned message. The content of the e-mail may appear as follows:

```
From: <admin>@<gateway_ip>
To: <sender_e-mail>
Subject: Mail Delivery Failure
This message is created automatically by mail delivery software. A message that you sent
   could not be delivered to one or more of its recipients for the reason:
<src_ip> : <src_port> — <dst_port>: <dst_port> <reason>.
e-mail Header is:
<header of scanned e-mail>
```

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Understanding IMAP Antivirus Subject Tagging

If a scan error is returned and the fail mode is set to **pass**, the antivirus module passes the message through to the server. If **notify-recipient-on-error-pass** is set, the following string is appended to the end of subject field:

```
(No virus check: <reason>)
```

Understanding IMAP Antivirus Scanning Limitations

Mail Fragments — It is possible to chop one e-mail into multiple parts and to send each part through a different response. This is called mail fragmenting and most popular mail clients support it in order to send and receive large e-mails. Scanning of mail fragments is not supported by the antivirus scanner and in such cases, the message body is not scanned.

Partial Content — Some mail clients treat e-mail of different sizes differently. For example, small e-mails (less than 10 KB) are downloaded as a whole. Large e-mails (for example, less than 1 MB) are chopped into 10 KB pieces upon request from the IMAP server. Scanning of any partial content requests is not supported by the antivirus scanner.

IMAP Uploads — Only antivirus scanning of IMAP downloads is supported. IMAP upload traffic is not scanned.

Enabling IMAP Antivirus Scanning (CLI Procedure)

The IMAP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to enable antivirus scanning for IMAP traffic, enter the following CLI configuration statement:

```
user@host# security utm utm-policy policy-name anti-virus imap-profile
```


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Release History Table

Release	Description
15.1X49-D10	The Full Antivirus Application Protocol Scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The HTTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The HTTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The FTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 onwards.
15.1X49-D10	The FTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 onwards.
15.1X49-D10	Starting from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1, only Sophos Antivirus supports the SMTP antivirus scanning.
15.1X49-D10	The SMTP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The POP3 antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The POP3 antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The IMAP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The IMAP antivirus scanning is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Virus-Detected Notifications on page 171
- HTTP Trickling to Prevent Timeouts on page 169
- Full Antivirus Protection Overview on page 66

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CHAPTER 3

Whitelists

- Whitelists on page 167
- HTTP Trickling to Prevent Timeouts on page 169
- Virus-Detected Notifications on page 171

Whitelists

A URL whitelist defines all the URLs listed for a specific category to always bypass the scanning process. The whitelist include hostnames that you want to exempt from undergoing SSL proxy processing. For more information, see the following topics:

- Understanding MIME Whitelists on page 167
- Example: Configuring MIME Whitelists to Bypass Antivirus Scanning on page 168
- Understanding URL Whitelists on page 168
- Configuring URL Whitelists to Bypass Antivirus Scanning (CLI Procedure) on page 169

Understanding MIME Whitelists

The gateway device uses MIME (Multipurpose Internet Mail Extension) types to decide which traffic may bypass antivirus scanning. The MIME whitelist defines a list of MIME types and can contain one or many MIME entries.

A MIME entry is case-insensitive. An empty MIME is an invalid entry and should never appear in the MIME list. If the MIME entry ends with a / character, prefix matching takes place. Otherwise, exact matching occurs.

There are two types of MIME lists used to configure MIME type antivirus scan bypassing:

- mime-whitelist list—This is the comprehensive list for those MIME types that can bypass antivirus scanning.
- exception list—The exception list is a list for excluding some MIME types from the mime-whitelist list. This list is a subset of MIME types found in the mime-whitelist.

  For example, if the mime-whitelist includes the entry,**video/** and the exception list includes the entry **video/x-shockwave-flash**, by using these two lists, you can bypass objects with “video/” MIME type but not bypass “video/x-shockwave-flash” MIME type.

  You should note that there are limits for mime-whitelist entries as follows:

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- The maximum number of MIME items in a MIME list is 50.
- The maximum length of each MIME entry is restricted to 40 bytes.
- The maximum length of a MIME list name string is restricted to 40 bytes.

Example: Configuring MIME Whitelists to Bypass Antivirus Scanning

This example shows how to configure MIME whitelists to bypass antivirus scanning.

- Requirements on page 168
- Overview on page 168
- Configuration on page 168
- Verification on page 168

Requirements

Before you begin, decide the type of MIME lists used to configure MIME type antivirus scan bypassing. See "Understanding MIME Whitelists" on page 167.

Overview

In this example, you create MIME lists called avmime2 and ex-avmime2 and add patterns to them.

Configuration

Step-by-Step Procedure

To configure MIME whitelists to bypass antivirus scanning:

1. Create MIME lists and add patterns to the lists.

```
[edit]
user@host# set security utm custom-objects mime-pattern avmime2 value
   [video/quicktime image/x-portable-anymap x-world/x-vrml]
user@host# set security utm custom-objects mime-pattern ex-avmime2 value
   [video/quicktime-inappropriate]
```

2. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

Understanding URL Whitelists

A URL whitelist defines all the URLs listed for a specific category to always bypass the scanning process. The whitelist includes hostnames that you want to exempt from undergoing SSL proxy processing. There are also legal requirements to exempt financial

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and banking sites; such exemptions are achieved by configuring URL categories corresponding to those hostnames under the URL whitelists. If any URLs do not require scanning, corresponding categories can be added to this whitelisting.

Starting with Junos OS Release 15.1X49-D80 and Junos OS Release 17.3R1, the whitelisting feature is extended to include URL categories supported by UTM in the whitelist configuration of SSL forward proxy. For more information, see *Application Security Feature Guide for Security Devices*.

Starting with Junos OS Release 17.4R1, the whitelisting feature is extended to support custom URL categories supported by UTM in the whitelist configuration of SSL forward proxy.

Configuring URL Whitelists to Bypass Antivirus Scanning (CLI Procedure)

To configure URL whitelists, use the following CLI configuration statements:

```
security utm custom-objects {
  custom-url-category { ; set of list
    name url-category-name; #mandatory
    value url-pattern-name;
  }
}
```

Release History Table

Release	Description
17.4R1	Starting with Junos OS Release 17.4R1, the whitelisting feature is extended to support custom URL categories supported by UTM in the whitelist configuration of SSL forward proxy.
15.1X49-D80	Starting with Junos OS Release 15.1X49-D80 and Junos OS Release 17.3R1, the whitelisting feature is extended to include URL categories supported by UTM in the whitelist configuration of SSL forward proxy. For more information, see *Application Security Feature Guide for Security Devices*.

Related Documentation

- Full Antivirus File Scanning on page 135
- Full Antivirus Scan Results and Fallback Options on page 147

HTTP Trickling to Prevent Timeouts

HTTP trickling is a mechanism used to prevent the HTTP client or server from timing-out during a file transfer or during antivirus scanning. For more information, see the following topics:

- Understanding HTTP Trickling on page 170
- Configuring HTTP Trickling to Prevent Timeouts During Antivirus Scanning (CLI Procedure) on page 170

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Understanding HTTP Trickling

The HTTP Trickling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, HTTP trickling is a mechanism used to prevent the HTTP client or server from timing-out during a file transfer or during antivirus scanning. On some slow link transferring, a large file could timeout if too much time is taken for the antivirus scanner to scan a complex file.

HTTP trickling is the forwarding of specified amounts of unscanned HTTP traffic to the requesting HTTP client to prevent the browser window from timing out while the scan manager examines downloaded HTTP files. (The security device forwards small amounts of data in advance of transferring an entire scanned file.)

HTTP Trickling is time-based and there is only one parameter, the time-out interval, to configure for this feature. By default, trickling is disabled.

NOTE: The timeout based trickling is packet driven. This means, if no packet is received within a certain time frame, HTTP trickling is discontinued. This setting is only supported for HTTP connections.

Configuring HTTP Trickling to Prevent Timeouts During Antivirus Scanning (CLI Procedure)

The HTTP Trickling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure HTTP trickling, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine {
   profile name {
      trickling timeout seconds;
   }
}
```

Release History Table

Release	Description
15.1X49-D10	The HTTP Trickling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The HTTP Trickling is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Full Antivirus Application Protocol Scanning on page 155
- Full Antivirus File Scanning on page 135

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Virus-Detected Notifications

Virus-Detected notification is used to notify the sender or the recipient about the detected viruses or the scanning errors. For more information, see the following topics:

- Understanding Protocol-Only Virus-Detected Notifications on page 171
- Configuring Protocol-Only Virus-Detected Notifications (CLI Procedure) on page 171
- Understanding E-Mail Virus-Detected Notifications on page 171
- Configuring E-Mail Virus-Detected Notifications (CLI Procedure) on page 172
- Understanding Custom Message Virus-Detected Notifications on page 172
- Configuring Custom Message Virus-Detected Notifications (CLI Procedure) on page 172

Understanding Protocol-Only Virus-Detected Notifications

The Protocol-Only Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, when content is blocked because a virus is found or a scan error occurs, the client generally still receives a successful response code but with modified content (file replacement) containing a warning message. But with protocol-only notifications, a protocol-specific error code may be returned to the client. This way, the client determines that a virus was detected rather than interpreting that a file transfer succeeded.

Configuring Protocol-Only Virus-Detected Notifications (CLI Procedure)

The Protocol-Only Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure protocol-only virus-detected notifications, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  notification-options {
    virus-detection {
      type { protocol-only | message }
    }
    fallback-block {
      type { protocol-only | message }
        }
      }
    }
  }
```

Understanding E-Mail Virus-Detected Notifications

The E-Mail Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, for mail protocols (SMTP, POP3, IMAP), e-mail notification is used to notify the sender or the recipient about the detected viruses or the scanning errors. There are three settings for e-mail notifications:

- virus-detection/notify-mail-sender — This setting is used when a virus is detected. If it is enabled, an e-mail is sent to the sender upon virus detection.

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- fallback-block/notify-mail-sender — This setting is used when other scan codes or scanning errors are returned and the message is dropped. If it is enabled, an e-mail is sent to the sender when an error code is returned.
- fallback-non-block/notify-mail-recipient — This setting is used when other scan codes or scanning errors are returned and the message is passed. If it is enabled, the e-mail sent to the recipient is tagged when an error code is returned.

Configuring E-Mail Virus-Detected Notifications (CLI Procedure)

The E-Mail Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure the system to send e-mail notifications when viruses are detected, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  notification-options {
    virus-detection {
      notify-mail-sender
      }
  fallback-block {
    notify-mail-sender
    }
  fallback-non-block {
  notify-mail-recipient
  }
  }
}
}
```

Understanding Custom Message Virus-Detected Notifications

The Custom Message Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file. When using custom messages, you can provide a customized message in the message content you can define customized subject tags.

NOTE: Custom-message in fallback-nonblock is used only by mail protocols.

Configuring Custom Message Virus-Detected Notifications (CLI Procedure)

The Custom Message Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, to configure the system to send custom messages when viruses are detected, use the following CLI configuration statements:

```
security utm feature-profile anti-virus kaspersky-lab-engine profile name {
  notification-options {
    virus-detection {
      custom-message msg
```


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```
        custom-message-subject subject-msg
      }
    fallback-block {
      custom-message msg
      custom-message-subject subject-msg
    }
    fallback-non-block {
      custom-message msg
      custom-message-subject subject-msg
      }
      }
    }
}
```

Release History Table

Release	Description
15.1X49-D10	The Protocol-Only Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Protocol-Only Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The E-Mail Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The E-Mail Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Custom Message Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Custom Message Virus-Detected Notifications are not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation

- Full Antivirus Application Protocol Scanning on page 155
- Full Antivirus Scan Results and Fallback Options on page 147

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CHAPTER 4

Antispam Filtering

- Antispam Filtering Overview on page 175
- Server-Based Antispam Filtering on page 176
- Local-List Antispam Filtering on page 185

Antispam Filtering Overview

Antispam filtering allows you to tag or block unwanted e-mail traffic by scanning inbound and outbound SMTP e-mail traffic. Antispam filtering allows you to use both a third-party server-based spam block list (SBL) and to optionally create your own local whitelists and blacklists for filtering against e-mail messages. For more information, see the following topics:

- Antispam Filtering Overview on page 175

Antispam Filtering Overview

Spam consists of unwanted e-mail messages, usually sent by commercial, malicious, or fraudulent entities. The antispam feature examines transmitted e-mail messages to identify spam. When the device detects a message deemed to be spam, it blocks the e-mail message or tags the e-mail message header or subject with a preprogrammed string.

Antispam filtering allows you to use both a third-party server-based spam block list (SBL) and to optionally create your own local whitelists (benign) and blacklists (malicious) for filtering against e-mail messages. The antispam feature is not meant to replace your antispam server, but to complement it.

NOTE: Starting in Junos OS Release 18.2R1, the antispam filtering supports IPv6 traffic.

Handling Spam Messages

Blocking Detected Spam

The device can block and drop detected spam at either the connection level or the e-mail level:

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- Blocking spam at the connection level

  When the SMTP sender is identified as a spam sender based on its IP address, the SMTP connection is rejected and dropped. An error message with a proper error code from the firewall is sent out on behalf of the SMTP server. An example of such an error message is:

  ```
  554 Transaction failed due to anti spam setting
  ```

- Blocking spam at the e-mail level

  When a particular e-mail sender is identified as spam sender based on its sender address, the e-mail is rejected and dropped. An error message with a proper error code from the firewall is sent back to the sender on behalf of the server. An example of such an error message is:

  ```
  550 Requested action not taken: mailbox unavailable
  ```

Tagging Detected Spam

The device can allow and tag the e-mail if the message sender is detected as a spammer. This tagging can occur at the connection level so that all the e-mails for the connection in question are tagged. Otherwise, you can tag only an individual e-mail. Two tagging methods are supported:

- Tag the subject: A user-defined string is added at the beginning of the subject of the e-mail.
- Tag the header: A user-defined string is added to the e-mail header.

See Also

- Understanding Server-Based Antispam Filtering on page 177
- Understanding Local List Antispam Filtering on page 185

Related Documentation

- Full Antivirus Application Protocol Scanning on page 155
- Virus-Detected Notifications on page 171

Server-Based Antispam Filtering

Server-based spam filtering supports only IP-based spam block list blacklist lookup.Server-based antispam filtering requires Internet connectivity with the spam block list (SBL) server. For more information, see the following topics:

- Understanding Server-Based Antispam Filtering on page 177
- Server-Based Antispam Filtering Configuration Overview on page 178
- Example: Configuring Server-Based Antispam Filtering on page 179

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Understanding Server-Based Antispam Filtering

Server-based antispam filtering requires Internet connectivity with the spam block list (SBL) server. Domain Name Service (DNS) is required to access the SBL server. The firewall performs SBL lookups through the DNS protocol. The lookups are against the IP address of the sender (or relaying agent) of the e-mail, adding the name of the SBL server as the authoritative domain. The DNS server then forwards each request to the SBL server, which returns a DNS response to the device. The device then interprets the DNS response to determine if the e-mail sender is a spammer.

IP addresses that are included in the block lists are generally considered to be invalid addresses for mail servers or easily compromised addresses. Criteria for listing an IP address as a spammer on the SBL can include:

- Running an SMTP open relay service
- Running open proxy servers (of various kinds)
- Being a zombie host possibly compromised by a virus, worm, Trojan, or spyware
- Using a dynamic IP range
- Being a confirmed spam source with a known IP address

By default, the device first checks incoming e-mail against local whitelists and blacklists. If there are no local lists, or if the sender is not found on local lists, the device proceeds to query the SBL server over the Internet. When both server-based spam filtering and local list spam filtering are enabled, checks are done in the following order:

1. The local whitelist is checked. If there is a match, no further checking is done. If there is no match...
2. The local blacklist is checked. If there is a match, no further checking is done. If there is no match...
3. The SBL server list is checked.

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NOTE:

- SBL server matching stops when the antispam license key is expired.
- Server-based spam filtering supports only IP-based spam block list blacklist lookup. Sophos updates and maintains the IP-based spam block list. Server-based antispam filtering is a separately licensed subscription service. When your antispam license key expires, you can continue to use locally defined blacklists and whitelists.

  When you delete or deactivate a feature profile created for server based antispam filtering for SBL server, the default SBL server configuration is applied automatically. When a default SBL server configuration is applied, the default SBL server lookup is enabled. If you want to disable the default SBL server lookup, that is, you want to configure the **no-sbl-default-server** option as a default value, then you must use the **set security utm default-configuration anti-spam sbl no-sbl-default-server** command.

See Also

- Antispam Filtering Overview on page 175
- Understanding Local List Antispam Filtering on page 185

Server-Based Antispam Filtering Configuration Overview

For each UTM feature, configure feature parameters in the following order:

1. Configure UTM custom objects for the feature:

```
user@host# set security utm custom-objects
```

2. Configure the main feature parameters, using feature profiles.

```
user@host# set security utm feature-profile anti-spam
```

3. Configure a UTM policy for each protocol, and attach this policy to a profile.

```
user@host# set security utm utm-policy utmp1 anti-spam smtp-profile smtp1
```

NOTE: Antispam filtering is only supported for the SMTP protocol.

4. Attach the UTM policy to a security policy.

```
user@host# set security policies from-zone trust to-zone untrust policy p1 then permit
  application-services utm-policy utmp1
```


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Example: Configuring Server-Based Antispam Filtering

This example shows how to configure server-based antispam filtering.

- Requirements on page 179
- Overview on page 179
- Configuration on page 179
- Verification on page 184

Requirements

Before you begin, review how to configure the feature parameters for each UTM feature. See "Server-Based Antispam Filtering Configuration Overview" on page 178.

Overview

Server-based antispam filtering requires Internet connectivity with the spam block list (SBL) server. Domain Name Service (DNS) is required to access the SBL server.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile anti-spam sbl profile sblprofile1 sbl-default-server
set security utm feature-profile anti-spam sbl profile sblprofile1 sbl-default-server
    spam-action block
set security utm feature-profile anti-spam sbl profile sblprofile1 sbl-default-server
    custom-tag-string ***spam***
set security utm utm-policy spampolicy1 anti-spam smtp-profile sblprofile1
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy1 match
    source-address any
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy1 match
    destination-address any
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy1 match
    application junos-smtp
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy1 then permit
    application-services utm-policy spampolicy1
```

GUI Step-by-Step Procedure

To configure server-based antispam filtering:

1. Configure a profile and enable/disable the SBL server lookup. Select **Configure>Security>UTM>Anti-Spam**.

   a. In the Anti-Spam profiles configuration window, click **Add** to configure a profile for the SBL server, or click **Edit** to modify an existing item.

   b. In the Profile name box, enter a unique name for the antispam profile that you are creating.

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c. If you are using the default server, select **Yes** next to Default SBL server. If you are not using the default server, select **No**.

NOTE: The SBL server is predefined on the device. The device comes preconfigured with the name and address of the SBL server. If you do not select Yes, you are disabling server-based spam filtering. You should disable it only if you are using only local lists or if you do not have a license for server-based spam filtering.

d. In the Custom tag string box, enter a custom string for identifying a message as spam. By default, the devices uses ***SPAM***.

e. From the antispam action list, select the action that the device should take when it detects spam. Options include Tag subject, Block email, and Tag header.

2. Configure a UTM policy for SMTP to which you attach the antispam profile.

   a. Select **Configure>Security>Policy>UTM Policies**.

   b. In the UTM policy configuration window, click **Add**.

   c. In the policy configuration window, select the **Main** tab.

   d. In the Policy name box, type a unique name for the UTM policy.

   e. In the Session per client limit box, type a session per client limit. Valid values range from 0 to 2000.

   f. From the Session per client over limit list, select the action that the device should take when the session per client limit for this UTM policy is exceeded. Options include Log and permit and Block.

   g. Select the **Anti-Spam profiles** tab in the pop-up window.

   h. From the SMTP profile list, select an antispam profile to attach to this UTM policy.

3. Attach the UTM policy to a security policy.

   a. Select **Configure>Security>Policy>FW Policies**.

   b. In the Security Policy window, click **Add** to configure a security policy with UTM or click **Edit** to modify an existing policy.

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c. In the Policy tab, type a name in the **Policy Name** box.

d. Next to From Zone, select a zone from the list.

e. Next to To Zone, select a zone from the list.

f. Choose a source address.

g. Choose a destination address.

h. Choose an application by selecting **junos-smtp** (for antispam) in the Application Sets box and move it to the Matched box.

i. Next to Policy Action, select one of the following: **Permit**, **Deny**, or **Reject**.

NOTE: When you select Permit for Policy Action, several additional fields become available in the Applications Services tab, including UTM Policy.

j. Select the **Application Services** tab.

k. Next to UTM Policy, select the appropriate policy from the list. This attaches your UTM policy to the security policy.

l. Click **OK** to check your configuration and save it as a candidate configuration.

m. If the policy is saved successfully, you receive a confirmation, and you must click **OK** again. If the profile is not saved successfully, click **Details** in the pop-up window to discover why.

NOTE:

- You must activate your new policy to apply it.
- In SRX Series devices the confirmation window that notifies you that the policy is saved successfully disappears automatically.

n. If you are done configuring the device, click **Commit Options>Commit**.

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure server-based antispam filtering:

1. Create a profile.

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile sblprofile1
```

2. Enable or disable the default SBL server lookup.

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile sblprofile1
  sbl-default-server
```

NOTE: If you are using server-based antispam filtering, you should type **sbl-default-server** to enable the default SBL server. (The SBL server is predefined on the device. The device comes preconfigured with the name and address of the SBL server.) You should disable server-based antispam filtering using the **no-sbl-default-server** option only if you are using only local lists or if you do not have a license for server-based spam filtering.

3. Configure the action to be taken by the device when spam is detected (block, tag-header, or tag-subject).

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile sblprofile1sbl-default-server
  spam-action block
```

4. Configure a custom string for identifying a message as spam.

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile sblprofile1
  sbl-default-server custom-tag-string ***spam***
```

5. Attach the spam feature profile to the UTM policy.

```
[edit security]
user@host# set utm utm-policy spampolicy1 anti-spam smtp-profile sblprofile1
```

6. Configure a security policy for UTM to which to attach the UTM policy.

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```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy
   utmsecuritypolicy1 match source-address any
user@host# set security policies from-zone trust to-zone untrust policy
   utmsecuritypolicy1 match destination-address any
user@host# set security policies from-zone trust to-zone untrust policy
   utmsecuritypolicy1 match application junos-smtp
user@host# set security policies from-zone trust to-zone untrust policy
   utmsecuritypolicy1 then permit application-services utm-policy spampolicy1
```

NOTE: The device comes preconfigured with a default antispam policy. The policy is called junos-as-defaults. It contains the following configuration parameters:

```
anti-spam {
   sbl {
   profile junos-as-defaults {
      sbl-default-server;
      spam-action block;
   custom-tag-string "***SPAM***";
      }
   }
}
```

Results From configuration mode, confirm your configuration by entering the **show security utm** and **show security policies** commands. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm
feature-profile {
   anti-spam {
      sbl {
         profile sblprofile1 {
            sbl-default-server;
            spam-action block;
            custom-tag-string ***spam***;
         }
      }
   }
utm-policy spampolicy1 {
   anti-spam {
      smtp-profile sblprofile1;
   }
}
```

```
[edit]
user@host# show security policies
```

```
from-zone trust to-zone untrust {
  policy utmsecuritypolicy1 {
    match {
      source-address any;
      destination-address any;
      application junos-smtp;
    }
    then {
      permit {
        application-services {
          utm-policy spampolicy1;
        }
      }
    }
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying Antispam Statistics

Purpose Verify the antispam statistics.

Action From operational mode, enter the **show security utm anti-spam status** and **show security utm anti-spam statistics** commands.

The following information appears:

```
SBL Whitelist Server:
SBL Blacklist Server:
msgsecurity.example.net
DNS Server:
Primary : 1.2.3.4, Src Interface: ge-0/0/0
Secondary: 2.3.4.5, Src Interface: ge-0/0/1
Ternary : 0.0.0.0, Src Interface: fe-0/0/2
```

```
Total connections: #
Denied connections: #
Total greetings: #
Denied greetings: #
Total e-mail scanned: #
White list hit: #
Black list hit: #
Spam total: #
Spam tagged: #
Spam dropped: #
DNS errors: #
Timeout errors: #
Return errors: #
Invalid parameter errors: #
```


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Statistics start time:
Statistics for the last 10 days.

See Also

- Understanding Local List Antispam Filtering on page 185
- spam-action on page 463

Related Documentation

- Whitelists on page 167
- Content Filtering on page 195

Local-List Antispam Filtering

Antispam filtering allows you to use both a third-party server-based spam block list (SBL) and to optionally create your own local whitelists (benign) and blacklists (malicious) for filtering against e-mail messages. The antispam feature is not meant to replace your antispam server, but to complement it. For more information, see the following topics:

- Understanding Local List Antispam Filtering on page 185
- Local List Antispam Filtering Configuration Overview on page 186
- Example: Configuring Local List Antispam Filtering on page 187

Understanding Local List Antispam Filtering

When creating your own local whitelist and blacklist for antispam filtering, you can filter against domain names, e-mail addresses, and/or IP addresses. Pattern matching works a bit differently depending upon the type of matching in question. For example, pattern matching for domain names uses a longest suffix match algorithm. If the sender e-mail address has a domain name of aaa.bbb.ccc, the device tries to match "aaa.bbb.ccc" in the list. If no match is found, it tries to match "bbb.ccc", and then "ccc". IP address matching, however, does not allow for partial matches.

Antispam filtering uses local lists for matching in the following manner:

1. Sender IP: The sender IP is checked against the local whitelist, then the local blacklist, and then the SBL IP-based server (if enabled).

2. Sender Domain: The domain name is checked against the local whitelist and then against the local blacklist.

3. Sender E-mail Address: The sender e-mail address is checked against the local whitelist and then against the local blacklist.

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By default, the device first checks incoming e-mail against the local whitelist and blacklist. If the sender is not found on either list, the device proceeds to query the SBL server over the Internet. When both server-based antispam filtering and local list antispam filtering are enabled, checks are done in the following order:

1. The local whitelist is checked. If there is a match, no further checking is done. If there is no match...
2. The local blacklist is checked. If there is a match, no further checking is done. If there is no match...
3. The SBL server list is checked.

NOTE: **Local blacklist and whitelist matching continues after the antispam license key is expired.**

See Also

- Antispam Filtering Overview on page 175
- Understanding Server-Based Antispam Filtering on page 177
- Server-Based Antispam Filtering Configuration Overview on page 178

Local List Antispam Filtering Configuration Overview

For each UTM feature, configure feature parameters in the following order:

1. Configure UTM custom objects for the feature:

```
user@host# set security utm custom-objects url-pattern url-pattern-name
```

2. Configure the main feature parameters, using feature profiles.

```
user@host# set security utm feature-profile anti-spam as-profile-name
```

3. Configure a UTM policy for each protocol, and attach this policy to a profile.

```
user@host# set security utm utm-policy utmp1 anti-spam smtp-profile smtp1
```

4. Attach the UTM policy to a security policy.

```
user@host# set security policies from-zone trust to-zone untrust policy p1 then permit
  application-services utm-policy utmp1
```


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Example: Configuring Local List Antispam Filtering

This example shows how to configure local list antispam filtering.

- Requirements on page 187
- Overview on page 187
- Configuration on page 187
- Verification on page 193

Requirements

Before you begin, review how to configure the feature parameters for each UTM feature. See "Local List Antispam Filtering Configuration Overview" on page 186.

Overview

Antispam filtering uses local lists for matching. When creating your own local whitelist and blacklist for antispam filtering, you can filter against domain names, e-mail addresses, and/or IP addresses.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects url-pattern as-black value [150.61.8.134]
set security utm custom-objects url-pattern as-white value [150.1.2.3]
set security utm feature-profile anti-spam address-whitelist as-white
set security utm feature-profile anti-spam sbl profile localprofile1
set security utm feature-profile anti-spam sbl profile localprofile1 spam-action block
set security utm feature-profile anti-spam sbl profile localprofile1 custom-tag-string
    ***spam***
set security utm utm-policy spampolicy2 anti-spam smtp-profile localprofile1
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy2 match
    source-address any
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy2 match
    destination-address any
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy2 match
    application junos-smtp
set security policies from-zone trust to-zone untrust policy utmsecuritypolicy2 then permit
    application-services utm-policy spampolicy2
```

GUI Step-by-Step Procedure

To configure local list antispam filtering:

1. Create local whitelist and blacklist custom objects by configuring a URL pattern list.
   a. Select **Configure>Security>UTM>Custom Objects**.
   b. In the UTM custom objects configuration window, select the **URL Pattern List** tab.

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c. Click **Add** to create URL pattern lists.

d. Next to URL Pattern Name, type a unique name.

NOTE: If you are creating a whitelist, it is helpful to indicate this in the list name. The same applies to a blacklist. The name you enter here becomes available in the Address Whitelist and Address Blacklist fields when you are configuring your antispam profiles.

e. Next to URL Pattern Value, type the URL pattern for whitelist or blacklist antispam filtering.

2. Configure antispam filtering to use the whitelist and blacklist custom objects.

a. Select **Configure>Security>UTM>Global options**.

b. In the right pane, select the **Anti-Spam** tab.

c. Under Anti-Spam, select an Address Whitelist and/or an Address Blacklist from the list for local lists for spam filtering. (These lists are configured as custom objects.)

d. Click **OK**.

e. If the configuration item is saved successfully, you receive a confirmation, and you must click **OK** again. If it is not saved successfully, click **Details** in the pop-up window to discover why.

f. In the left pane under Security, select the **Anti-Spam** tab.

g. Click **Add** to configure an anti-spam profile. The profile configuration pop-up window appears.

h. In the Profile name box, enter a unique name.

i. If you are using the default server, select **Yes** beside Default SBL server. If you are not using the default server, select **No**.

NOTE: If you select No, you are disabling server-based spam filtering. You disable it only if you are using local lists or if you do not have a license for server-based spam filtering.

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j. In the Custom tag string box, type a custom string for identifying a message as spam. By default, the device uses ***SPAM***.

k. In the Actions list, select the action that the device should take when it detects spam. Options include Tag subject, Block email, and Tag header.

3. Configure a UTM policy for SMTP to which you attach the antispam profile.

   a. Select **Configure>Security>Policy>UTM Policies**.

   b. In the UTM policy configuration window, click **Add** to configure a UTM policy. The policy configuration pop-up window appears.

   c. Select the **Main** tab.

   d. In the Policy name box, type a unique name.

   e. In the Session per client limit box, type a session per client limit. Valid values range from 0 through 2000.

   f. From the Session per client over limit list, select the action that the device should take when the session per client limit for this UTM policy is exceeded. Options include Log and permit and Block.

   g. Select the **Anti-Spam profiles** tab.

   h. From the SMTP profile list, select the antispam profile that you are attaching to this UTM policy.

4. Attach the UTM policy to a security policy.

   a. Select **Configure>Security>Policy>FW Policies**.

   b. In the Security Policy window, click **Add** to configure a security policy with UTM. The policy configuration pop-up window appears.

   c. In the Policy tab, type a name in the Policy Name box.

   d. Next to From Zone, select a zone from the list.

   e. Next to To Zone, select a zone from the list.

   f. Choose a source address.

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g. Choose a destination address.

h. Choose an application by selecting **junos-smtp** (for antispam) in the Application Sets box and move it to the Matched box.

i. Next to Policy Action, select one of the following: **Permit**, **Deny**, or **Reject**.

NOTE: When you select Permit for policy action, several additional fields become available in the Applications Services tab, including UTM Policy.

j. Select the **Application Services** tab.

k. Next to UTM Policy, select the appropriate policy from the list. This attaches your UTM policy to the security policy.

l. Click **OK** to check your configuration and save it as a candidate configuration.

m. If the policy is saved successfully, you receive a confirmation, and you must click **OK** again. If the profile is not saved successfully, click **Details** in the pop-up window to discover why.

NOTE: You must activate your new policy to apply it.

n. If you are done configuring the device, click **Commit Options>Commit**.

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure local list antispam filtering:

1. Configure the local list spam blocking by first creating your global local spam lists.

```
[edit security]
user@host# set utm custom-objects url-pattern as-black value [150.61.8.134]
user@host# set utm custom-objects url-pattern as-white value [150.1.2.3]
```

2. Configure the local list antispam feature profile by first attaching your custom-object blacklist or whitelist or both.

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```
[edit security]
user@host# set utm feature-profile anti-spam address-whitelist as-white
```

NOTE: When both the whitelist and the blacklist are in use, the whitelist is checked first. If there is no match, then the blacklist is checked.

3. Configure a profile for your local list spam blocking.

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile localprofile1
```

NOTE: Although you are not using the SBL for local list spam blocking, you configure your profile from within that command similar to the server-based spam blocking procedure.

4. Configure the action to be taken by the device when spam is detected (block, tag-header, tag-subject).

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile localprofile1 spam-action
  block
```

5. Configure a custom string for identifying a message as spam.

```
[edit security]
user@host# set utm feature-profile anti-spam sbl profile localprofile1
  custom-tag-string ***spam***
```

6. Attach the spam feature profile to the UTM policy.

```
[edit security]
user@host# set utm utm-policy spampolicy2 anti-spam smtp-profile localprofile1
```

7. Configure a security policy for UTM, and attach the UTM policy to the security policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy
  utmsecuritypolicy2 match source-address any
user@host# set security policies from-zone trust to-zone untrust policy
  utmsecuritypolicy2 match destination-address any
user@host# set security policies from-zone trust to-zone untrust policy
  utmsecuritypolicy2 match application junos-smtp
```

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```
user@host# set security policies from-zone trust to-zone untrust policy
  utmsecuritypolicy2 then permit application-services utm-policy spampolicy2
```

Results From configuration mode, confirm your configuration by entering the **show security utm** and **show security policies** commands. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security utm
custom-objects {
  anti-spam {
    url-pattern patternwhite;
    address-whitelist as-white;
    sbl {
      profile localprofile1 {
        spam-action block;
        custom-tag-string ***spam***;
      }
    }
  }
utm-policy spampolicy2 {
  anti-spam {
    smtp-profile localprofile1;
  }
}
```

```
[edit]
user@host# show security policies
from-zone trust to-zone untrust {
  policy utmsecuritypolicy2 {
    match {
      source-address any;
      destination-address any;
      application junos-smtp;
    }
    then {
      permit {
        application-services {
          utm-policy spampolicy2;
        }
      }
    }
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

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Verification

Verifying Antispam Statistics

Purpose Verify the antispam statistics.

Action From operational mode, enter the **show security utm anti-spam status** and **show security utm anti-spam statistics** commands.

The following information appears:

```
SBL Whitelist Server:
SBL Blacklist Server:
msgsecurity.example.net
DNS Server:
Primary : 1.2.3.4, Src Interface: ge-0/0/0
Secondary: 2.3.4.5, Src Interface: ge-0/0/1
Ternary : 0.0.0.0, Src Interface: fe-0/0/2
```

```
Total connections: #
Denied connections: #
Total greetings: #
Denied greetings: #
Total e-mail scanned: #
White list hit: #
Black list hit: #
Spam total: #
Spam tagged: #
Spam dropped: #
DNS errors: #
Timeout errors: #
Return errors: #
Invalid parameter errors: #
Statistics start time:
Statistics for the last 10 days.
```

See Also

- spam-action on page 463
- Antispam Filtering Overview on page 175

Related Documentation

- Whitelists on page 167

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CHAPTER 5

Content Filtering

- Content Filtering on page 195

Content Filtering

Content Filtering provides basic data loss prevention functionality. Content filtering filters traffic is based on MIME type, file extension, and protocol commands. You can also use the content filter module to block ActiveX, Java Applets, and other types of content. Content filtering does not require a separate license. For more information, see the following topics:

- Content Filtering Overview on page 195
- Understanding Content Filtering Protocol Support on page 196
- Specifying Content Filtering Protocols (CLI Procedure) on page 198
- Content Filtering Configuration Overview on page 198
- Example: Configuring Content Filtering Custom Objects on page 199
- Example: Configuring Content Filtering UTM Policies on page 202
- Example: Attaching Content Filtering UTM Policies to Security Policies on page 203
- Monitoring Content Filtering Configurations on page 206

Content Filtering Overview

Content filtering blocks or permits certain types of traffic based on the MIME type, file extension, and protocol command. The content filter controls file transfers across the gateway by checking traffic against configured filter lists.

The content filter module evaluates traffic before all other UTM modules, except Web Filtering. Therefore, if traffic meets criteria configured in the content-filter, the content-filter acts first upon this traffic.

You can configure the following types of content filters:

- MIME Pattern Filter — MIME patterns are used to identify the type of traffic in HTTP and MAIL protocols. There are two lists of MIME patterns that are used by the content filter to determine the action to be taken. The block MIME list contains a list of MIME type traffic that is to be blocked by the content filter. The MIME exception list contains MIME patterns that are not to be blocked by the content filter and are generally subsets

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of items on the block list. Note that the exception list has a higher priority than the block list. If you have MIME entries that appear on both lists, those MIME types are not blocked by the content filter because the exception list takes priority. Therefore, when adding items to the exception list, it is to your advantage to be specific.

- Block Extension List — Because the name of a file is available during file transfers, using file extensions is a highly practical way to block or allow file transfers. The content filter list contains a list of file extensions to be blocked. All protocols support the use of the block extension list.
- Protocol Command Block and Permit Lists — Different protocols use different commands to communicate between servers and clients. By blocking or allowing certain commands, traffic can be controlled on the protocol command level.

  The block and permit command lists are intended to be used in combination, with the permit list acting as an exception list to the block list.

NOTE: **If a protocol command appears on the both the permit list and the block list, that command is permitted.**

Because not all harmful files or components can be controlled by the MIME type or by the file extension, you can also use the content filter module to block ActiveX, Java Applets, and other types of content. The following types of content blocking are supported only for HTTP:

- Block ActiveX
- Block Java applets
- Block cookies
- Block EXE files
- Block ZIP files

NOTE: **Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.**

See Also
- Understanding MIME Whitelists on page 167

Understanding Content Filtering Protocol Support

Each supported protocol may implement available content filters differently. Not all filtering capabilities are supported for each protocol.

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This topic contains the following sections:

- HTTP Support on page 197
- FTP Support on page 197
- E-Mail Support on page 197

HTTP Support

The HTTP protocol supports all content filtering features. With HTTP, the content filter remains in the gateway, checking every request and response between the HTTP client and server.

If an HTTP request is dropped due to content filtering, the client receives a response such as:

```
<custom drop message/user-configured drop
  message>.<src_port><dst_ip>:<dst_port>Download request was dropped due to
  <reason>
```

Therefore, a message may appear as follows:

```
Juniper Networks Firewall Content Filtering blocked request. 5.5.5.1:80->4.4.4.1:55247
  Download request was dropped due to file extension block list
```

FTP Support

The FTP protocol does not support all content filtering features. It supports only the following: Block Extension List and Protocol Command Block List.

When content filtering blocks an FTP request, the following response is sent through the control channel:

```
550 <src_ip>:<src_port>-<dst_ip>:<dst_port><custom drop message/user-configured
  drop message> for Content Filtering file extension block list.>
```

Therefore, a message may appear as follows:

```
550 5.5.5.1:21->4.4.4.1:45237 Requested action not taken and the request is dropped for
  Content Filtering file extension block list
```

E-Mail Support

E-mail protocols (SMTP, IMAP, POP3) have limited content filtering support for the following features: Block Extension List, Protocol Command Block List, and MIME Pattern Filtering. Support is limited for e-mail protocols for the following reasons:

- The content filter scans only one level of an e-mail header. Therefore recursive e-mail headers and encrypted attachments are not scanned.
- If an entire e-mail is MIME encoded, the content filter can only scan for the MIME type.
- If any part of an e-mail is blocked due to content filtering, the original e-mail is dropped and replaced by a text file with an explanation for why the e-mail was blocked.

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NOTE: Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.

See Also

- Unified Threat Management Overview on page 23
- Understanding HTTP Scanning on page 157

Specifying Content Filtering Protocols (CLI Procedure)

To configure content filtering protocols, use the following CLI configuration statements:

```
content-filtering {
  profile name {
    permit-command cmd-list
      block-command cmd-list
    block-extension file-ext-list
      block-mime {
        list mime-list
        exception ex-mime-list
      }
  block-content-type {
    activex
      java-applet
      exe
      zip
    http-cookie
  }
  notification-options {
    type { message }
      notify-mail-sender
    custom-message msg
  }
}
traceoptions {
  flag {
    all
      basic
      detail
    }
  }
}
```

Content Filtering Configuration Overview

A content security filter blocks or allows certain type of traffic base on the mime type, file extension, protocol commands and embedded object type. The content filter controls file transfers across the gateway by checking traffic against configured filter lists. The content filtering module evaluates traffic before all other UTM modules, if traffic meets the criteria configured in the content filter, the content filter acts first upon this traffic.

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The following procedure lists the recommended order in which you should configure content filters:

1. Configure UTM custom objects for the feature. See "Example: Configuring Content Filtering Custom Objects" on page 199.

2. Configure the main feature parameters using feature profiles. See *Example: Configuring Content Filtering Feature Profiles* .

3. Configure a UTM policy for each protocol and attach this policy to a profile. See "Example: Configuring Content Filtering UTM Policies" on page 202.

4. Attach the UTM policy to a security policy. See "Example: Attaching Content Filtering UTM Policies to Security Policies" on page 203.

Example: Configuring Content Filtering Custom Objects

This example shows how to configure content filtering custom objects.

- Requirements on page 199
- Overview on page 199
- Configuration on page 200
- Verification on page 202

Requirements

Before you begin:

1. Decide on the type of content filter you require. See "Content Filtering Overview" on page 195.

2. Understand the order in which content filtering parameters are configured. See "Content Filtering Configuration Overview" on page 198.

Overview

In this example, you define custom objects that are used to create content filtering profiles. You perform the following tasks to define custom objects:

1. Create two protocol command lists called ftpprotocom1 and ftpprotocom2, and add user, pass, port, and type commands to it.

2. Create a filename extension list called extlist2, and add the .zip, .js, and .vbs extensions to it.

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3. Define block-mime list call cfmime1 and add patterns to the list.

Configuration

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects protocol-command ftpprotocom1 value [user pass port
   type]
set security utm custom-objects protocol-command ftpprotocom2 value [user pass port
   type]
set security utm custom-objects filename-extension extlist2 value [zip js vbs]
set security utm custom-objects mime-pattern cfmime1 value [video/quicktime
   image/x-portable-anymap x-world/x-vrml]
set security utm custom-objects mime-pattern ex-cfmime1 value
   [video/quicktime-inappropriate]
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure content filtering custom objects:

1. Create two protocol command lists.

```
[edit security utm]
user@host# set custom-objects protocol-command ftpprotocom1
[edit security utm]
user@host# set custom-objects protocol-command ftpprotocom2
```

2. Add protocol commands to the list.

```
[edit security utm]
user@host# set custom-objects protocol-command ftpprotocom1 value [user pass
   port type]
[edit security utm]
user@host# set custom-objects protocol-command ftpprotocom2 value [user pass
   port type]
```

3. Create a filename extension list.

```
[edit security utm]
user@host# set custom-objects filename-extension extlist2
```

4. Add extensions to the list.

```
[edit security utm]
```


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```
user@host# set custom-objects filename-extension extlist2 value [zip js vbs]
```

5. Create antivirus scanning lists.

```
[edit security utm]
user@host# set custom-objects mime-pattern cfmime1
user@host# set custom-objects mime-pattern ex-cfmime1
```

6. Add patterns to the lists.

```
[edit security utm]
user@host# set custom-objects mime-pattern cfmime1 value [video/quicktime
  image/x-portable-anymap x-world/x-vrml]
user@host# set custom-objects mime-pattern ex-cfmime1 value
  [video/quicktime-inappropriate]
```

Results From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost#show security utm
    custom-objects {
      mime-pattern {
        cfmime1 {
          value [ video/quicktime image/x-portable-anymap x-world/x-vrml ];
        }
        ex-cfmime1 {
          value video/quicktime-inappropriate;
        }
      }
      filename-extension {
        extlist2 {
          value [ zip js vbs ];
        }
      }
      protocol-command {
        ftpprotocom1 {
          value [ user pass port type ];
        }
        }
        protocol-command {
        ftpprotocom2 {
          value [ user pass port type ];
        }
      }
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

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Verification

Verifying Content Filtering Custom Objects

Purpose Verify the content filtering custom objects.

Action From operational mode, enter the **show configuration security utm** command.

See Also
- Understanding MIME Whitelists on page 167

Example: Configuring Content Filtering UTM Policies

This example describes how to create a content filtering UTM policy to attach to your feature profile.

- Requirements on page 202
- Overview on page 202
- Configuration on page 203
- Verification on page 203

Requirements

Before you begin:

1. Decide on the type of content filter you require. See "Content Filtering Overview" on page 195.
2. Configure UTM custom objects for each feature and define the content-filtering profile. See "Content Filtering Configuration Overview" on page 198.

Overview

You configure UTM policies to selectively enforce various UTM solutions on network traffic passing through a UTM-enabled device. Through feature profiles you associate custom objects to these policies and specify blocking or permitting certain types of traffic.

In this example, you configure a UTM policy called utmp4, and then assign the preconfigured feature profile confilter1 to this policy.

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Configuration

Step-by-Step Procedure

To configure a content filtering UTM policy:

You can configure different protocol applications in the UTM policy. The example only shows HTTP and not other protocols. Earlier you configured custom objects for FTP (ftpprotocom1 and ftpprotocom2). Next you should add a content filter policy for FTP, for example:

set security utm utm-policy utmp4 content-filtering ftp upload-profile confilter1

set security utm utm-policy utmp4 content-filtering ftp download-profile confilter1

1. Create a UTM policy.

```
[edit security utm]
user@host# set utm-policy utmp4
```

2. Attach the UTM policy to the profile.

```
[edit security utm]
user@host# set utm-policy utmp4 content-filtering http-profile contentfilter1
```

3. If you are done configuring the device, commit the configuration.

```
[edit]
user@host# commit
```

Verification

To verify the configuration is working properly, enter the **show security utm** command.

See Also

- Unified Threat Management Overview on page 23

Example: Attaching Content Filtering UTM Policies to Security Policies

This example shows how to create a security policy and attach the UTM policy to the security policy.

- Requirements on page 204
- Overview on page 204
- Configuration on page 204
- Verification on page 205

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Requirements

Before you begin:

1. Configure UTM custom objects, define the content filtering profile, and create a UTM policy. See "Content Filtering Configuration Overview" on page 198.

2. Enable and configure a security policy. See *Example: Configuring a Security Policy to Permit or Deny All Traffic*.

Overview

By attaching content filtering UTM policies to security policies, you can filter traffic transiting from one security zone to another.

In this example, you create a security policy called p4 and specify that traffic from any source address to any destination address with an HTTP application matches the criteria. You then assign a UTM policy called utmp4 to the security policy p4. This UTM policy applies to any traffic that matches the criteria specified in the security policy p4.

Configuration

CLI Quick Configuration

To quickly attach a content filtering UTM policy to a security policy, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
[edit]
set security policies from-zone trust to-zone untrust policy p4 match source-address any
set security policies from-zone trust to-zone untrust policy p4 match destination-address
    any
set security policies from-zone trust to-zone untrust policy p4 match application
    junos-htttp
set security from-zone trust to-zone untrust policy p4 then permit application-services
    utm-policy utmp4
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To attach a UTM policy to a security policy:

1. Create a security policy.

   ```
   [edit]
   user@host# edit security policies from-zone trust to-zone untrust policy p4
   ```

2. Specify the match conditions for the policy.

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```
[edit security policies from-zone trust to-zone untrust policy p4]
user@host# set match source-address any
user@host# set match destination-address any
user@host# set match application junos-http
```

3. Attach the UTM policy to the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p4]
user@host# set then permit application-services utm-policy utmp4
```

Results From configuration mode, confirm your configuration by entering the **show security policies** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security policies
    from-zone trust to-zone untrust {
      policy p4 {
        match {
          source-address any;
          destination-address any;
          application junos-http;
        }
        then {
          permit {
            application-services {
              utm-policy utmp4;
            }
          }
        }
      }
    }
      default-policy {
        permit-all;
      }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Verifying Attaching Content Filtering UTM Policies to Security Policies

Purpose Verify the attachment of the content filtering UTM policy to the security policy.

Action From operational mode, enter the **show security policy** command.

See Also

- Unified Threat Management Overview on page 23

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Monitoring Content Filtering Configurations

Purpose View content filtering statistics.

Action To view content filtering statistics in the CLI, enter the **user@host > show security utm content-filtering statistics** command.

The content filtering **show statistics** command displays the following information:

```
Base on command list: # Blocked
Base on mime list: # Blocked
Base on extension list: # Blocked
ActiveX plugin: # Blocked
Java applet: # Blocked
EXE files: # Blocked
ZIP files: # Blocked
HTTP cookie: # Blocked
```

To view content filtering statistics using J-Web:

1. Select **Clear Content filtering statisticsMonitor>Security>UTM>Content FilteringMonitor>Security>UTM>Content Filtering**.

   The following statistics become viewable in the right pane.

   ```
   Base on command list: # Passed # Blocked
   Base on mime list: # Passed # Blocked
   Base on extension list: # Passed # Blocked
   ActiveX plugin: # Passed # Blocked
   Java applet: # Passed # Blocked
   EXE files: # Passed # Blocked
   ZIP files: # Passed # Blocked
   HTTP cookie: # Passed # Blocked
   ```

2. You can click **Clear Content filtering statistics** to clear all current viewable statistics and begin collecting new statistics.

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Release History Table

Release	Description
15.1X49-D100	Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.
15.1X49-D100	Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.

Related Documentation

- Enhanced Web Filtering on page 212
- Full Antivirus Protection on page 66
- Full Antivirus Application Protocol Scanning on page 155

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CHAPTER 6

Web Filtering

- Web Filtering Overview on page 209
- Enhanced Web Filtering on page 212
- Integrated Web Filtering on page 247
- Local Web Filtering on page 259
- Redirect Web Filtering on page 273
- Monitoring Web Filtering Configurations on page 285

Web Filtering Overview

The Web filtering lets you to manage Internet usage by preventing access to inappropriate Web content. There are four types of Web filtering solutions:

- Integrated Web filtering—The integrated Web filtering solution intercepts every HTTP request in a TCP connection. In this case, the decision making is done on the device after it identifies the category for a URL either from user-defined categories or from a category server (SurfControl Content Portal Authority provided by Websense). The Integrated Web filtering is not supported from Junos OS Release 15.1X49-D10 onwards.

  NOTE: The integrated Web filtering feature is a separately licensed subscription service. When the license key for Web filtering has expired, no URLs are sent to the category server for checking, only local user-defined categories are checked.

  NOTE: Integrated Web filtering solution is supported only on SRX210, SRX220, SRX240, SRX550, and SRX650 devices.

- Redirect Web filtering—The redirect Web filtering solution intercepts HTTP requests and sends them to an external URL filtering server, provided by Websense, to determine whether to block the requests.

  NOTE: Redirect Web filtering does not require a license.

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- Local Web filtering—The local Web filtering solution intercepts every HTTP request in a TCP connection. In this case, the decision making is done on the device after it looks up a URL to determine if it is in the whitelist or blacklist based on its user-defined category.

  NOTE: Local Web filtering does not require a license or a remote category server.

- Enhanced Web filtering—The enhanced Web filtering solution intercepts the HTTP and the HTTPS requests and sends the HTTP URL or the HTTPS source IP to the Websense ThreatSeeker Cloud (TSC). The TSC categorizes the URL into one of the 151 or more categories that are predefined and also provides site reputation information. The TSC further returns the URL category and the site reputation information to the device. The device determines if it can permit or block the request based on the information provided by the TSC.

  NOTE: Websense redirect do not support IPv6 traffic.

You can bind either Web filtering profiles or antivirus profiles, or both, to a firewall policy. When both are bound to a firewall policy, Web filtering is applied first, then antivirus is applied. If a URL is blocked by Web filtering, the TCP connection is closed and no antivirus scanning is necessary. If a URL is permitted, the content of the transaction is then passed to the antivirus scanning process.

NOTE: Web filtering is applied by TCP port number.

Web filtering supports HTTPS protocol. Web filtering solution uses the IP address of the HTTPS packet to make blacklist, whitelist, permit, or block decisions.

During a block decision, the Web filtering solution does not generate a block page because the clear text is not available for a HTTPS session. However, the solution terminates the session and sends resets to the client and the server for the blocked HTTPS sessions.

Web filtering configuration for HTTP is also applicable for the HTTPS sessions.

NOTE: The sessions-per-client limit CLI command, which imposes a session throttle to prevent a malicious user from generating large amounts of traffic simultaneously, does not support Web filtering.

NOTE: Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, HTTPS, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.

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Server Name Indication (SNI) Support

SNI is an extension of SSL/TLS protocol to indicate what server name the client is contacting over an HTTPS connection. SNI inserts the actual hostname of the destination server in "Client Hello" message in clear text format before the SSL handshake is complete. Web filtering includes SNI information in the query. In this implementation, the SNI includes only the server name, and not the full URL of the server. Support of SNI enhances the Web filtering feature as using only destination IP address in the query might lead to inaccurate results, because multiple HTTP servers might share the same host IP address.

With SNI support, Web filtering analyzes the first packet of the HTTPS traffic as a "Client Hello" message and extracts the server name from the SNI extension, and uses server name along with the destination IP address to maintain/run the query. If this packet has no SNI extension or if an error is encountered during parsing, Web filtering reverts to using only destination IP address.

In Web Filtering (EWF), if HTTPS session with SSL forward proxy is enabled, then the Server Name Indication (SNI) is obtained before Web filtering and used for pre-check query, site-reputation and category in response. If the cache is enabled, then these responses populates the cache without any action. EWF extracts the full path and checks if there is a cache. If the full path in the cache is not matched, then the EWF sends a query.

NOTE: **The SNI functionality is enabled by default for all types of Web filtering, and therefore, no additional configuration using the CLI is required.**

Release History Table

Release	Description
15.1X49-D100	Starting with Junos OS Release 15.1X49-D100, IPv6 pass-through traffic for HTTP, HTTPS, FTP, SMTP, POP3, IMAP protocols is supported for Sophos antivirus, Web filtering and Content filtering security features of UTM.
15.1X49-D10	The Integrated Web filtering is not supported from Junos OS Release 15.1X49-D10 onwards.

Related Documentation

- Understanding Integrated Web Filtering on page 247
- Understanding Redirect Web Filtering on page 273
- Understanding the Enhanced Web Filtering Process on page 214
- Understanding Local Web Filtering on page 260
- Monitoring Web Filtering Configurations on page 285

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Enhanced Web Filtering

Web Filtering provides URL filtering capability by using either a local Websense server or Internet-based SurfControl server. For more information, see the following topics:

- Enhanced Web Filtering Overview on page 212
- Understanding the Enhanced Web Filtering Process on page 214
- Predefined Category Upgrading and Base Filter Configuration Overview on page 221
- Example: Configuring Enhanced Web Filtering on page 222
- Understanding the Quarantine Action for Enhanced Web Filtering on page 236
- Example: Configuring Site Reputation Action for Enhanced Web Filtering on page 238

Enhanced Web Filtering Overview

Enhanced Web Filtering (EWF) with Websense is an integrated URL filtering solution. When you enable the solution on the device, it intercepts the HTTP and the HTTPS requests and sends the HTTP URL or the HTTPS source IP to the Websense ThreatSeeker Cloud (TSC). The TSC categorizes the URL into one of the 95 or more categories that are predefined and also provides site reputation information. The TSC further returns the URL category and the site reputation information to the device. The device determines if it can permit or block the request based on the information provided by the TSC.

The Surf-Contol feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Starting in Junos OS Release 15.1X49-D40 and Junos OS Release 17.3R1, EWF supports HTTPS traffic by intercepting HTTPS traffic passing through the SRX Series device. The security channel from the SRX Series device is divided as one SSL channel between the client and the SRX Series device and another SSL channel between the SRX Series device and the HTTPS server. SSL forward proxy acts as the terminal for both channels and forwards the cleartext traffic to the UTM. UTM extracts the URL from the HTTP request message.

You can consider the EWF solution as the next-generation URL filtering solution, building upon the existing SurfControl solution.

Enhanced Web Filtering supports the following HTTP methods:

- GET
- POST
- OPTIONS
- HEAD
- PUT
- DELETE

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- TRACE
- CONNECT

User Messages and Redirect URLs for Enhanced Web Filtering (EWF) on SRX Series Devices

Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** command that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category. The **custom-message** option has the following mandatory attributes:

- **Name**: Name of the custom message; maximum length is 59 bytes.
- **Type**: Type of custom message: **user-message** or **redirect-url**.
- **Content**: Content of the custom message; maximum length is 1024 bytes.

You configure a user message or redirect URL as a custom object and assign the custom object to an EWF category.

- User messages indicate that website access has been blocked by an organization's access policy. To configure a user message, include the **type user-message content *message-text*** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.
- Redirect URLs redirect a blocked or quarantined URL to a user-defined URL. To configure a redirect URL, include the **type redirect-url content redirect-url** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

The **custom-message** option provides the following benefits:

- You can configure a separate custom message or redirect URL for each EWF category.
- The **custom-message** option allows you to fine-tune messages to support your polices to know which URL is blocked or quarantined.

NOTE: Only one custom-message configuration option is applied for each category. The custom-message configuration is supported only on Enhanced Web Filtering (EWF). Therefore, only the Juniper EWF engine type is supported.

Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.

See Also

- Understanding Integrated Web Filtering on page 247
- Understanding Local Web Filtering on page 260
- Understanding Redirect Web Filtering on page 273

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Understanding the Enhanced Web Filtering Process

Web filtering enables you to manage Internet access, preventing access to inappropriate Web content. The Enhanced Web Filtering (EWF) feature intercepts, scans, and acts upon HTTP or HTTPS traffic in the following way:

1. The device creates TCP socket connections to the Websense ThreatSeeker Cloud (TSC).
2. The device intercepts an HTTP or an HTTPS connection and extracts each URL (in the HTTP request) or IP (in the HTTPS request). For an HTTPS connection, EWF is supported through SSL forward proxy.

   NOTE: Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Enhanced Web Filtering (EWF) over SSL forward proxy supports HTTPS traffic.

3. The device looks for the URL in the user-configured blacklist or whitelist.

   NOTE: A blacklist or a whitelist action type is a user-defined category in which all the URLs or IP addresses are always blocked or permitted and optionally logged.

   - If the URL is in the user-configured blacklist, the device blocks the URL.
   - If the URL is in the user-configured whitelist, the device permits the URL.
4. The device checks the user-defined categories and blocks or permits the URL based on the user-specified action for the category.
5. The device looks for the URL in the URL filtering cache.
   - If the URL is not available in the URL filtering cache, the device sends the URL in HTTP format to the TSC with a request for categorization. The device uses one of the connections made available to the TSC to send the request.
   - The TSC responds to the device with the categorization and a reputation score.
6. The device performs the following actions based on the identified category:
   - If the URL is permitted, the device forwards the HTTP request to the HTTP server.
   - If the URL is blocked, the device sends a deny page to the HTTP client and also sends a reset message to the HTTP server to close the connection
   - If the URL is quarantined, the device sends a redirect response to the HTTP client and the URL is redirected to the HTTP server.
   - If the category is configured and the category action is available, the device permits or blocks the URL based on the category action.

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- If the category is not configured, the device permits or blocks the URL based on the global reputation action.
- If the global reputation is not configured, the device permits or blocks the URL based on the default action configured in the Web filtering profile.

Functional Requirements for Enhanced Web Filtering

The following items are required to use Enhanced Web Filtering (EWF):

- **License key**—The EWF solution builds upon the SurfControl integrated feature on the device. Two different valid license keys are required for the SurfControl integrated solution and for EWF. You need to install a new license to upgrade to the EWF solution.

  NOTE: You can ignore the warning message "requires 'wf_key_websense_ewf' license" because it is generated by routine EWF license validation check.

  A grace period of 30 days, consistent with other UTM features, is provided for the EWF feature after the license key expires.

  NOTE: The device will continue to support the SurfControl integrated solution after the upgrade.

  When the grace period for the EWF feature has passed (or if the feature has not been installed), Web filtering is disabled, all HTTP requests bypass Web filtering, and any connections to the TSC are disabled. When you install a valid license, the connections to the server are established again.

- The **debug** command provides the following information to each TCP connection available on the device:
  - Number of processed requests
  - Number of pending requests
  - Number of errors (dropped or timed-out requests)
- **TCP connection between a Web client and a webserver**—An application identification (APPID) module is used to identify an HTTP connection. The EWF solution identifies an HTTP connection after the device receives the first SYN packet. If an HTTP request has to be blocked, EWF sends a block message from the device to the Web client. EWF further sends a TCP FIN request to the client and a TCP reset (RST) to the server to disable the connection. The device sends all the messages through the flow session. The messages follow the entire service chain.
- **HTTP request interception**—EWF intercepts the first HTTP request on the device and performs URL filtering on all methods defined in HTTP 1.0 and HTTP 1.1. The device holds the original request while waiting for a response from the TSC. If the first packet

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in the HTTP URL is fragmented or if the device cannot extract the URL for some reason, then the destination IP address is used for the categorization.

NOTE: For HTTP 1.1 persistent connections, the subsequent requests on that session are ignored by the EWF module.

If the device holds the original request for a long time, then the client will retransmit the request. The URL filtering code will detect the retransmitted packets. If the original HTTP request has already been forwarded, then EWF forwards the retransmitted packet to the server. However, if EWF is in the middle of first-packet processing or makes the calculation to block the session, then the solution drops the retransmitted packet. A counter tracks the number of retransmitted packets received by the device.

If the TSC does not respond in time to the categorization request from the device, then the original client request is blocked or permitted according to the timeout fallback setting.

- **HTTPS request interception**—Starting with Junos OS 15.1X49-D40 and Junos OS Release 17.3R1, EWF intercepts HTTPS traffic passing through the SRX Series device. The security channel from the SRX Series device is divided as one SSL channel between the client and the SRX Series device and another SSL channel between the SRX Series device and the HTTPS server. SSL forward proxy acts as the terminal for both channels and forwards the cleartext traffic to the UTM. UTM extracts the URL from the HTTP request message.
- **Blocking message**—The blocking message sent to the Web client is user-configurable and is of the following types:
  - The Juniper Networks blocking message is the default message defined in the device that can be modified by the user. The default blocking message contains the reason why the request is blocked and the category name (if it is blocked because of a category).
  - Syslog message.

  For example, if you have set the action for Enhanced_Search_Engines_and_Portals to block, and you try to access www.example.com, the blocking message is of the following form: **Juniper Web Filtering:Juniper Web Filtering has been set to block this site. CATEGORY: Enhanced_Search_Engines_and_Portals REASON: BY_PRE_DEFINED** . However, the corresponding syslog message on the device under test (DUT) is: **WEBFILTER_URL_BLOCKED: WebFilter: ACTION="URL Blocked" 56.56.56.2(59418)->74.125.224.48(80) CATEGORY="Enhanced_Search_Engines_and_Portals" REASON="by predefined category" PROFILE="web-ewf" URL=www.example.com OBJ=/** .
- **Monitoring the Websense server**—The URL filtering module uses two methods to determine if the TSC is active: socket connections and heartbeat. EWF maintains persistent TCP sockets to the TSC. The server responds with a TCP ACK if it is enabled. EWF sends an application layer NOOP keepalive to the TSC. If the device does not receive responses to three consecutive NOOP keepalives in a specific period, it determines the socket to be inactive. The EWF module attempts to open a new

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connection to the TSC. If all sockets are inactive, the TSC is considered to be inactive. Therefore an error occurs. The error is displayed and logged. Subsequent requests and pending requests are either blocked or passed according to the server connectivity fallback setting until new connections to the TSC are opened again.

- **HTTP protocol communication with the TSC**—EWF uses the HTTP 1.1 protocol to communicate with the TSC. This ensures a persistent connection and transmission of multiple HTTP requests through the same connection. A single HTTP request or response is used for client or server communication. The TSC can handle queued requests; for optimal performance, an asynchronous request or response mechanism is used. The requests are sent over TCP, so TCP retransmission is used to ensure request or response delivery. TCP also ensures that valid in-order, non-retransmitted HTTP stream data is sent to the HTTP client on the device.
- **Responses**—The responses adhere to the basic HTTP conventions. Successful responses include a 20x response code (typically 200). An error response includes a 4xx or 5xx code. Error responses in the 4xx series indicate issues in the custom code. Error responses in the 5xx series indicate issues with the service.

  Error codes and meanings are as follows:

  - 400–Bad request
  - 403–Forbidden
  - 404–Not found
  - 408–Request canceled or null response
  - 500–Internal server error

  Errors in the 400 series indicate issues with the request. Errors in the 500 series indicate issues with the TSC service. Websense is notified of these errors automatically and responds accordingly.

  You can configure the default fallback setting to determine whether to pass or block the request:
  set security utm feature-profile web-filtering juniper-enhanced profile juniper-enhanced fallback-settings default ?

  The response also contains the site categorization and site reputation information.
- **Categories**—A category list is available on the device. This list consists of categories, each containing a category code, a name, and a parent ID. Categories can also be user-defined. Each category consists of a list of URLs or IP addresses. Categories are not updated dynamically and are tied to the Junos OS release because they have to be compiled into the Junos OS image. Any update in categories needs to be synchronized with the Junos OS release cycle.

  Starting with Junos OS Release 17.4R1, you can download and dynamically load new EWF categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories.

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NOTE: On SRX Series devices, if the category file transfer fails between the primary and secondary devices, then the file transfer results in an upgrading error and an error log is generated.

During new category file installation, if the category filename is changed, then the new category file overwrites the old category file in the internal system and all related output information is replaced with the new category name.

Starting with Junos OS Release 17.4R1, predefined base filters, defined in a category file, are supported for individual EWF categories. Each EWF category has a default action in a base filter, which is attached to the user profile to act as a backup filter. If the categories are not configured in the user profile, then the base filter takes the action.

A base filter is an object that contains a category-action pair for all categories defined in the category file. A base filter is a structured object, and is defined with the help of a filter name and an array of category-action pairs.

The following is an example of a base filter with an array of category-action pairs. For the Enhanced_Adult_Material category, the action is block; for the Enhanced_Blog_Posting category, the action is permit; and so on.

```
{
"predefined-filter": [
        {
            "filter-name": "ewf-default-filter",
            "cat-action-table": [
                {"name":"Enhanced_Adult_Material","action":"block"},

{"name":"Enhanced_Blog_Posting","action":"permit"},
                {"name":"Enhanced_Blog_Commenting","action":"permit"}
            ]
        }
    ]
}
```

EWF supports up to 16 base filters. Junos OS Release 17.4R1 also supports online upgradation of base filters.

NOTE: If the user profile has the same name as the base filter, then the Web filter uses the wrong profile.

- **Caching**—Successfully categorized responses are cached on the device. Uncategorized URLs are not cached. The size of the cache can be configured by the user.
- **Safe search (HTTP support only, not HTTPS)**—A safe-search solution is used to ensure that the embedded objects, such as images on the URLs received from the search engines, are safe and that no undesirable content is returned to the client.

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A URL is provided to the TSC to provide categorization information. If it is a search URL, the TSC also returns a safe-search string. For instance, the safe-search string is **safe=active**. This safe-search string is appended to the URL, and a redirect response for redirecting the client's query with safe search is turned on. This ensures that no unsafe content is returned to the client. If the TSC indicates that it needs to be safe-searched, then you can perform the safe-search redirect.

For example, the client makes a request to the URL *http://images.example.com/images?hl=en&source=imghp&biw=1183&bih=626&q=adult+movies&gbv=2&aq=f&aqi=&aql=&oq=&gs_rfai= No category action is defined for this URL*. TSC returns safe-search string **safe=active**. The EWF code on the DUT generates a HTTP 302 response, with the redirect URL: *http://images.example.com/images?hl=en&source=imghp&biw=1183&bih=626&q=adult+movies&gbv=2&aq=f&aqi=&aql=&oq=&gs_rfai=&safe=active* . This response is returned to the client. The client now sends out a safe redirect request to this URL.

NOTE: Safe-search redirect supports HTTP only. You cannot extract the URL for HTTPS. Therefore it is not possible to generate a redirect response for HTTPS search URLs. Safe-search redirects can be disabled by using the CLI option **no-safe-search**.

- **Site reputation**—The TSC provides site reputation information. Based on these reputations, you can choose a block or a permit action. If the URL is not handled by a whitelist or a blacklist and does not fall in a user or predefined category, then the reputation can be used to perform a URL filtering decision.

  Starting with Junos OS Release 17.4R1, the reputation base scores are configurable. Users can apply global reputation values, provided by the Websense ThreatSeeker Cloud (TSC). For the non-category URLs, the global reputation value is used to perform filtering,

  The reputation scores are as follows:

  - 100-90–Site is considered very safe.
  - 80-89–Site is considered moderately safe.
  - 70-79–Site is considered fairly safe.
  - 60-69–Site is considered suspicious.
  - 0-59–Site is considered harmful.

  The device maintains a log for URLs that are blocked or permitted based on site reputation scores.

- **Profiles**—A URL filtering profile is defined as a list of categories, with each profile having an action type (permit, log-and-permit, block, quarantine) associated with it. A predefined profile, *junos-wf-enhanced-default*, is provided to users if they choose not to define their own profile.

  You can also define an action based on site reputations in a profile to specify the action when the incoming URL does not belong to any of the categories defined in the profile.

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If you do not configure the site reputation handling information, then you can define a default action. All URLs that do not have a defined category or defined reputation action in their profile will be blocked, permitted, logged-and-permitted, or quarantined depending on the block or permit handling for the default action explicitly defined in the profile. If you do not specify a default action, then the URLs will be permitted. For search engine requests, if there is no explicit user-defined configuration, and the URL request is without the safe-search option, then EWF generates a redirect response and sends it to the client. The client will generate a new search request with the safe-search option enabled.

NOTE:

A URL filtering profile can contain the following items:

- Multiple user-defined and predefined categories, each with a permit or block action
- Multiple site reputation handling categories, each with a permit or block action
- One default action with a permit or block action

The order of search is blacklist, whitelist, user-defined category, predefined category, safe-search, site reputation, and default action.

User Messages and Redirect URLs for Enhanced Web Filtering (EWF) on SRX Series Devices

Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category. The **custom-message** option has the following mandatory attributes:

- **Name**: Name of the custom message; maximum length is 59 ASCII characters.
- **Type**: Type of custom message: **user-message** or **redirect-url**.
- **Content**: Content of the custom message; maximum length is 1024 ASCII characters.

You configure a user message or redirect URL as a custom object and assign the custom object to an EWF category.

- User messages indicate that website access has been blocked by an organization's access policy. To configure a user message, include the **type user-message content *message-text*** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.
- Redirect URLs redirect a blocked or quarantined URL to a user-defined URL. To configure a redirect URL, include the **type redirect-url content redirect-url** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

The **custom-message** option provides the following benefits:

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- You can configure a separate custom message or redirect URL for each EWF category.
- The **custom-message** option allows you to fine-tune messages to support your polices to know which URL is blocked or quarantined.

NOTE: Only one custom-message configuration option is applied for each category. The custom-message configuration is supported only on Enhanced Web Filtering (EWF). Therefore, only the Juniper EWF engine type is supported.

Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.

See Also
- Web Filtering Overview on page 209

Predefined Category Upgrading and Base Filter Configuration Overview

You can download and dynamically load new Enhanced Web Filtering (EWF) categories without any software upgrade. The predefined base filters defined in a category file are supported for individual EWF categories.

To configure a predefined category upgrade without any software upgrade:

1. Configure UTM custom objects for the UTM features. Set the interval, set the start time, and enter the URL of category package download:

```
user@host# set security utm custom-objects
user@host# set security utm custom-objects category-package
user@host# set security utm custom-objects category-package automatic
user@host# set security utm custom-objects category-package automatic interval
  60
user@host# set security utm custom-objects category-package automatic interval
  60 enable
user@host# set security utm custom-objects category-package automatic interval
  60 enable start-time 2017-09-05.08.08.08
user@host# set security utm custom-objects category-package automatic
  route-instance VRF
user@host# set security utm custom-objects category-package automatic
  route-instance VRF url https://update.juniper-updates.net/EWF
```

2. Configure the predefined base filters. Each EWF category has a default action in a base filter, which is attached to the user profile to act as a backup filter. If the categories are not configured in the user profile, then the base filter takes the action. You can also upgrade the base filters online.

```
user@host# set security utm feature profile web-filtering juniper-enhanced
  juniper-enhanced-profile
user@host# set security utm feature profile web-filtering juniper-enhanced
  juniper-enhanced-profile base-filter [base-filter]
```

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```
user@host# set security utm feature profile web-filtering juniper-enhanced
  juniper-enhanced-profile base-filter [base-filter] category <category-action >
user@host# set security utm feature profile web-filtering juniper-enhanced
  juniper-enhanced-profile base-filter [base-filter] category category-action default
  <default-action>
user@host# set security utm feature profile web-filtering juniper-enhanced
  juniper-enhanced-profile base-filter [base-filter] category category-action default
  <default-action>site-reputation-action <reputation-action>
```

show security utm custom-objects

```
category-package{
automatic{
 interval 60;
 enable;
 start-time "2017-09-05.08.08.08";
 }
route-instance VRF;
url https://update.juniper-updates.net/EWF;
}
```

show security utm feature-profile web-filtering juniper-enhanced

```
server {
    host rp.cloud.threatseeker.com;
}
sockets 8;
profile ewf_p1 {
+ base-filter gov-filter;
default log-and-permit;
    timeout 15;
}
+reputation {
 reputation-very-safe 90;
 reputation-moderately-safe 80;
 reputation-fairly-safe 70;
 reputation-suspicious 60;
}
```

See Also

- show security utm web-filtering category status on page 577
- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- show security utm web-filtering category base-filter on page 572

Example: Configuring Enhanced Web Filtering

This example shows how to configure Enhanced Web filtering (EWF) for managing website access. This feature is supported on all SRX Series devices. The EWF solution intercepts HTTP and the HTTPS requests and sends the HTTP URL or the HTTPS source IP to the Websense ThreatSeeker Cloud (TSC). The TSC categorizes the URL into one of the 151 or more predefined categories and also provides site reputation information.

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The TSC further returns the URL category and the site reputation information to the device. The SRX Series device determines whether it can permit or block the request based on the information provided by the TSC.

- Requirements on page 223
- Overview on page 223
- Configuration on page 225
- Verification on page 234

Requirements

This example uses the following hardware and software components:

- SRX5600 device
- Junos OS Release 12.1X46-D10 or later

Before you begin, you should be familiar with Web filtering and Enhanced Web filtering (EWF). See "Web Filtering Overview" on page 209 and "Understanding the Enhanced Web Filtering Process" on page 214.

Overview

Web filtering is used to monitor and control how users access the website over HTTP and HTTPS. In this example, you configure a URL pattern list (whitelist) of URLs or addresses that you want to bypass. After you create the URL pattern list, define the custom objects. After defining the custom objects, you apply them to feature profiles to define the activity on each profile, apply the feature profile to the UTM policy, and finally attach the Web filtering UTM policies to the security policies. Table 5 on page 223 shows information about EWF configuration type, steps, and parameters used in this example.

Table 5: Enhanced Web filtering (EWF) Configuration Type, Steps, and Parameters

Configuration Type	Configuration Steps	Configuration Parameters
URL pattern and custom objects	Configure a URL pattern list (whitelist) of URLs or addresses that you want to bypass. Create a custom object called urllist3 that contains the pattern http://www.example.net 1.2.3.4	• [http://www.example.net 1.2.3.4] • value urllist3 • http://www.untrusted.com • http://www.trusted.com
	Add the urllist3 custom object to the custom URL category custurl3.	• urllistblack • urllistwhite

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Table 5: Enhanced Web filtering (EWF) Configuration Type, Steps, and Parameters (continued)

Configuration Type	Configuration Steps	Configuration Parameters
Feature profiles	Configure the Web filtering feature profile:	
	• Set the URL blacklist filtering category to custblacklist, set the whitelist filtering category to custwhitelist, and set the type of Web filtering engine to juniper-enhanced. Then you set the cache size and cache timeout parameters.	• custwhitelist • custblacklist • type juniper-enhanced • cache size 500 • cache timeout 1800
	• Name the EWF server and enter the port number for communicating with it. (Default port is 80.) Then you create an EWF profile name.	• rp.cloud.threatseeker.com • port 80 • http-profile my_ewfprofile01
	• Select a category from the included whitelist and blacklist categories or select a custom URL category list you created for filtering against.	• http-reassemble • http-persist • Action: log-and-permit • site-reputation-action: ◦ very-safe permit

	• Enter a custom message to be sent when HTTP requests are blocked. Finally, enter a timeout value in seconds.	• ewf_my_profile-default block
		• custom-block-message "***access denied ***"
		• fallback-settings:
		  ◦ server-connectivity block
		  ◦ timeout block
		  ◦ too-many-requests block
		• quarantine-custom-message “**The requested webpage is blocked by your organization's access policy**”.
		• quarantine-message type custom-redirect-url
		• quarantine-message url besgas.spglab.example.net
		• ewf_my_profile-default:
		  ◦ timeout 10
		  ◦ no-safe-search

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Configuration

This example shows how to configure custom URL patterns, custom objects, feature profiles, and security policies.

- Configuring Enhanced Web Filtering Custom Objects and URL Patterns on page 225
- Configuring Enhanced Web Filtering Feature Profiles on page 227
- Attaching Web Filtering UTM Policies to Security Policies on page 232

Configuring Enhanced Web Filtering Custom Objects and URL Patterns

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects url-pattern urllist3 value http://www.example.net
set security utm custom-objects url-pattern urllist3 value 1.2.3.4
set security utm custom-objects url-pattern urllistblack value http://www.untrusted.com
set security utm custom-objects url-pattern urllistblack value 13.13.13.13
set security utm custom-objects url-pattern urllistwhite value http://www.trusted.com
set security utm custom-objects url-pattern urllistwhite value 11.11.11.11
set security utm custom-objects custom-url-category custurl3 value urllist3
set security utm custom-objects custom-url-category custblacklist value urllistblack
set security utm custom-objects custom-url-category custwhiltelist value urllistwhite
```

Starting with Junos OS Release 15.1X49-D110, the "* " in a wildcard syntax, required to create URL pattern for Web filtering profile, matches all subdomains. For example, *.example.net matches:

- http://a.example.net
- http://example.net
- a.b.example.net

WARNING: A custom category does not take precedence over a predefined category when it has the same name as one of the predefined categories. Do not use the same name for a custom category that you have used for a predefined category.

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure custom objects and URL patterns in Enhanced Web Filtering:

1. Configure a URL pattern list (whitelist) of URLs or addresses that you want to bypass. After you create the URL pattern list, you create a custom URL category list and add the pattern list to it. Configure a URL pattern list custom object by creating the list name and adding values to it as follows:

   NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category lists.

   ```
   [edit security utm]
   user@host# set custom-objects url-pattern urllist3 value [http://www. example.net
     1.2.3.4]
   ```

   NOTE: The guideline to use a URL pattern wildcard is as follows: Use *\.[]\?* and precede all wildcard URLs with http://. You can use "*" only if it is at the beginning of the URL and is followed by ".". You can use "?" only at the end of the URL.

   The following wildcard syntaxes are supported: http://*.example.net, http://www.example.ne?, http://www.example.n??. The following wildcard syntaxes are not supported: *.example.???, http://*example.net, http://?.

2. Create a custom object called urllist3 that contains the pattern http://www.example.net and then add the urllist3 custom object to the custom URL category custurl3.

   ```
   [edit security utm]
   user@host# set custom-objects custom-url-category custurl3 value urllist3
   ```

3. Create a list of untrusted and trusted sites.

   ```
   [edit security utm]
   user@host# set custom-objects url-pattern urllistblack value
     [http://www.untrusted.com 13.13.13.13]
   user@host# set custom-objects url-pattern urllistwhite value
     [http://www.trusted.com 11.11.11.11]
   ```


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4. Configure the custom URL category list custom object by using the URL pattern list of untrusted and trusted sites.

```
[edit security utm]
user@host# set custom-objects custom-url-category custblacklist value urllistblack
user@host# set custom-objects custom-url-category custwhitelist value urllistwhite
```

Results From configuration mode, confirm your configuration by entering the **show security utm custom-objects** command. If the output does not display the intended configuration, repeat the instructions in this example to correct.

```
[edit]
userhost#show security utm custom-objects
  url-pattern {
    urllist3 {
      value [ 1.2.3.4 http://www.example.net ];
    }
    urllistblack {
      value [ 13.13.13.13 http://www.untrusted.com ];
    }
    urllistwhite {
      value [ 11.11.11.11 http://www.trusted.com ];
    }
  }
    custom-url-category {
      custurl3 {
        value urllist3;
      }
      custblacklist {
        value urllistblack;
      }
      custwhiltelist {
        value urllistwhite;
      }
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring Enhanced Web Filtering Feature Profiles

CLI Quick Configuration To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

NOTE: Starting in Junos OS Release 12.3X48-D25, new CLI options are available. The **http-reassemble** and **http-persist** options are added in the **show security utm feature-profile web-filtering** command.

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```
[edit security utm]
set security utm feature-profile web-filtering url-whitelist custwhitelist value
set security utm feature-profile web-filtering url-blacklist custblacklist value
set security utm feature-profile web-filtering type juniper-enhanced
set security utm feature-profile web-filtering juniper-enhanced cache size 500
set security utm feature-profile web-filtering juniper-enhanced cache timeout 1800
set security utm feature-profile web-filtering juniper-enhanced server host
  rp.cloud.threatseeker.com
set security utm feature-profile web-filtering juniper-enhanced server port 80
set security utm feature-profile web-filtering http-reassemble
set security utm feature-profile web-filtering http-persist
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  category Enhanced_Hacking action log-and-permit
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  category Enhanced_Government action quarantine
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  site-reputation-action very-safe permit
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  custom-block-message "***access denied ***"
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  block-message type custom-redirect-url
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  block-message url http://10.10.121.18
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  default block
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  fallback-settings server-connectivity block
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  fallback-settings timeout block
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  fallback-settings too-many-requests block
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  timeout 10
set security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile
  no-safe-search
set security utm utm-policy mypolicy web-filtering http-profile ewf_my_profile
set security policies from-zone utm_clients to-zone mgmt policy 1 then permit
  application-services utm-policy mypolicy
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  quarantine-custom-message “**The requested webpage is blocked by your
  organization's access policy**”.
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  quarantine-message type custom-redirect-url
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  quarantine-message url besgas.spglab.example.net
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure the EWF feature profiles:

1. Configure the Web filtering URL blacklist, URL whitelist, and the Web filtering engine.

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```
[edit security utm feature-profile web-filtering]
user@host# set url-blacklist custblacklist
user@host# set url-whitelist custwhitelist
user@host# set type juniper-enhanced
```

2. Set the cache size and cache timeout parameters for the configured EWF engine.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced cache size 500
user@host# set juniper-enhanced cache timeout 1800
```

3. Set the server name or IP address and the port number for communicating with the server. The default host value in the system is rp.cloud.threatseeker.com.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced server host rp.cloud.threatseeker.com
user@host# set juniper-enhanced server port 80
```

4. Set the **http-reassemble** statement to reassemble the requested packet and the **http-persist** statement to check every HTTP request packet in the same session. If the **http-reassemble** statement is not configured for cleartext HTTP traffic, then EWF does not reassemble the fragmented HTTP request to avoid incomplete parsing in the packet-based inspection. If the **http-persist** statement is not configured for cleartext HTTP traffic, then EWF does not check every HTTP request packet in the same session.

```
[edit security utm feature-profile web-filtering]
user@host# set http-reassemble
user@host# set http-persist
```

5. Create a profile name, and select a category from the included whitelist and blacklist categories.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile category Enhanced_Hacking
   action log-and-permit
user@host# set security utm feature-profile web-filtering juniper-enhanced profile
   ewf_my_profile category Enhanced_Government action quarantine
```

6. Specify the action to be taken depending on the site reputation returned for the URL if there is no category match found.

```
[edit security utm feature-profile web-filtering]
user@host#set juniper-enhanced profile ewf_my_profile site-reputation-action
   very-safe permit
```

7. Enter a custom message to be sent when HTTP requests are blocked.

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```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile custom-block-message
  "***access denied ***"
```

8. Define a redirect URL server so that instead of the device sending a block page with plain text HTML, the device will send an HTTP 302 redirect to this redirect server with some special variables embedded in the HTTP redirect location field. These special variables can be parsed by the redirect server and serve a special block page to the client with rich images and formatting.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile block-message type
  custom-redirect-url http://10.10.1.1
user@host# set juniper-enhanced profile ewf_my_profile block-message url
  http://10.10.121.18
```

NOTE: If you configure the **security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile block-message** statement, then the default block message configuration takes precedence over the **security utm feature-profile web-filtering juniper-enhanced profile ewf_my_profile custom-block-message** configuration.

9. Specify a default action (permit, log and permit, block, or quarantine) for the profile, when no other explicitly configured action (blacklist, whitelist, custom category, predefined category actions, or site reputation actions) is matched .

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile default block
```

10. Configure the fallback settings (block or log and permit) for this profile.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile fallback-settings default
  block
user@host# set juniper-enhanced profile ewf_my_profile fallback-settings
  server-connectivity block
user@host# set juniper-enhanced profile ewf_my_profile fallback-settings timeout
  block
user@host# set juniper-enhanced profile ewf_my_profile fallback-settings
  too-many-requests block
```

11. Enter a timeout value in seconds. When this limit is reached, fallback settings are applied. This example sets the timeout value to 10. You can also disable the safe-search functionality. By default, search requests have safe-search strings attached to them, and a redirect response is sent to ensure that all search requests are safe or strict.

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```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf_my_profile timeout 10
user@host# set juniper-enhanced profile ewf_my_profile no-safe-search
```

NOTE: The timeout value range for SRX210, SRX220, SRX240, SRX300, SRX320, SRX345, SRX550, SRX1500, SRX4100, and SRX4200 is 0 through 1800 seconds and the default value is 15 seconds. The timeout value range for SRX3400 and SRX3600 is 1 through 120 seconds and the default value is 3 seconds.

12. Configure a UTM policy (mypolicy) for the Web-filtering HTTP protocol, associating ewf_my_profile to the UTM policy, and attach this policy to a security profile to implement it.

```
[edit security utm]
user@host# set utm-policy mypolicy web-filtering http-profile ewf_my_profile
user@host# set security policies from-zone utm_clients to-zone mgmt policy 1 then
   permit application-services utm-policy mypolicy
```

Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile** command. If the output does not display the intended configuration, repeat the instructions in this example to correct.

```
[edit]
user@host# show security utm
feature-profile{
web-filtering {
   url-whitelist custwhitelist{
   url-blacklist custblacklist;
   http-reassemble;
   http-persist;
   type juniper-enhanced;
   juniper-enhanced {
      cache {
         timeout 1800;
         size 500;
      }
      server {
         host rp.cloud.threatseeker.com;
         port 80;
      }
      profile ewf_my_profile {
         category {
            Enhanced_Hacking {
               action log-and-permit;
               }
               Enhanced_Government {
```

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```
            action quarantine;
          }
        }
        site-reputation-action {
          very-safe permit;
          moderately-safe log-and-permit;
          fairly-safe log-and-permit;
          harmful block;
          suspicious block;
        }
        default block;
        custom-block-message "***access denied ***";
        fallback-settings {
          default block;
          server-connectivity block;
          timeout block;
          too-many-requests block;
        }
        timeout 10;
        no-safe-search;
      }
      utm-policy mypolicy {
        web-filtering {
      http-profile ewf_my_profile;
    }
    }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Attaching Web Filtering UTM Policies to Security Policies

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security policies from-zone trust to-zone untrust policy sec_policy match
  source-address any
set security policies from-zone trust to-zone untrust policy sec_policy match
  destination-address any
set security policies from-zone trust to-zone untrust policy sec_policy match application
  any
set security policies from-zone trust to-zone untrust policy sec_policy then permit
  application-services utm-policy mypolicy
```


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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To attach a UTM policy to a security policy:

1. Create the security policy sec_policy.

```
[edit]
user@host# set security policies from-zone trust to-zone untrust policy sec_policy
```

2. Specify the match conditions for sec-policy.

```
[edit security policies from-zone trust to-zone untrust policy sec_policy]
user@host# set match source-address any
user@host# set match destination-address any
user@host# set match application any
```

3. Attach the UTM policy mypolicy to the security policy sec_policy.

```
[edit security policies from-zone trust to-zone untrust policy sec_policy]
user@host#  set then permit application-services utm-policy mypolicy
```

Results

From configuration mode, confirm your configuration by entering the **show security policies** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
user@host# show security policies
    from-zone trust to-zone untrust {
        sec_policy {
            match {
                source-address any;
                destination-address any;
                application any;
            }
            then {
                permit {
                    application-services {
                        utm-policy mypolicy;
                    }
                }
            }
        }
    }
        default-policy {
            permit-all;
        }
```

After you are done configuring the device, enter **commit** from configuration mode.

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Verification

To confirm that the configuration is working properly, perform these tasks:

- Verifying the Status of the Web Filtering Server on page 234
- Verifying that Web Filtering Statistics Have Increased on page 234
- Verifying That the Web Filtering UTM Policy Is Attached to the Security Policy on page 235

Verifying the Status of the Web Filtering Server

Purpose Verify the Web filtering server status.

Action From the top of the configuration in operational mode, enter the **show security utm web-filtering status** command.

```
user@host> show security utm web-filtering status
UTM web-filtering status:
   Server status: Juniper Enhanced using Websense server UP
```

Meaning The command output shows that the Web filtering server connection is up.

Verifying that Web Filtering Statistics Have Increased

Purpose Verify the increase in Web filtering statistics. The initial counter value is 0; if there is an HTTP request URL hit, then there is a increase in the Web filtering statistics.

Action From the top of the configuration in operational mode, enter the **show security utm web-filtering statistics** command.

```
user@host> show security utm web-filtering statistics
UTM web-filtering statistics:
   Total requests:                    0
   white list hit:                    0
   Black list hit:                    0
   Queries to server:                 0
   Server reply permit:               0
   Server reply block:                0
   Server reply quarantine:           0
   Server reply quarantine block:     0
   Server reply quarantine permit:    0
   Custom category permit:            0
   Custom category block:             0
   Custom category quarantine:        0
   Custom category qurantine block:   0
   Custom category quarantine permit: 0
   Site reputation permit:            0
   Site reputation block:             0
   Site reputation quarantine:        0
   Site reputation quarantine block:  0
   Site reputation quarantine permit: 0
```


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```
    Site reputation by Category         0
    Site reputation by Global           0
    Cache hit permit:                   0
    Cache hit block:                    0
    Cache hit quarantine:               0
    Cache hit quarantine block:         0
    Cache hit quarantine permit:        0
    Safe-search redirect:               0
   SNI pre-check queries to server:    1
    SNI pre-check server responses:     1
    Web-filtering sessions in total:    128000
    Web-filtering sessions in use:      0
    Fallback:                       log-and-permit           block
          Default                                0               0
          Timeout                                0               0
     Connectivity                                0               0
Too-many-requests                                0               0
```

Meaning The output displays Web filtering statistics for connections including whitelist and blacklist hits and custom category hits. If there is an HTTP request URL hit, then there is a increase in the Web filtering statistics from an earlier value.

Verifying That the Web Filtering UTM Policy Is Attached to the Security Policy

Purpose Verify that the Web filtering UTM policy mypolicy is attached to the security policy sec_policy.

Action From operational mode, enter the **show security policy** command.

```
user@host> show security policies global policy-name mypolicy detail
```

```
node0:
-
   Global policies:
Policy: mypolicy, State: enabled, Index: 5, Scope Policy: 0, Sequence number: 1
From zones: zone1, zone2
To zones: zone3, zone4
Source addresses: any
Destination addresses: any
Applications: any
Action: permit
Unified Threat Management: enabled
```

Meaning The output displays a summary of all security policies configured on the device. If a particular policy is specified, it displays information specific to that policy. If UTM is enabled, then mypolicy is attached to sec_policy.

See Also

- Web Filtering Overview on page 209

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- Monitoring Web Filtering Configurations on page 285

Understanding the Quarantine Action for Enhanced Web Filtering

UTM Enhanced Web Filtering supports block, log-and-permit, and permit actions for HTTP/HTTPS requests. In addition to this, UTM Enhanced Web Filtering now supports the quarantine action which allows or denies access to the blocked site based on the user's response to the message.

The following sequence explains how the HTTP or HTTPs request is intercepted, redirected, and acted upon by the quarantine action:

- The HTTP client requests URL access.
- The device intercepts the HTTP request and sends the extracted URL to the Websense Thread Seeker Cloud (TSC).
- The TSC returns the URL category and the site reputation information to the device.
- If the action configured for the category is quarantine, the device logs the quarantine action and sends a redirect response to HTTP client.
- The URL is sent to the HTTP server for redirecting.
- The device shows a warning message stating that the access to the URL is blocked according to the organization's security policies and prompts the user to respond.
- If the user response is "No," the session is terminated. If the user response is "Yes," the user is allowed access to the site and such access is logged and reported to the administrator.

NOTE: On all SRX Series devices, the quarantine action is supported only for UTM Enhanced Web Filtering or Juniper enhanced type of Web filtering.

Quarantine Message

The quarantine message sent to the HTTP client is user-configurable and is of the following types:

- Default message

  The default quarantine message is displayed when a user attempts to access a quarantined website and it contains the following information:

  - URL name
  - Quarantine reason
  - Category (if available)
  - Site-reputation (if available)

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For example, if you have set the action for Enhanced_Search_Engines_and_Portals to quarantine, and you try to access www.search.example.com, the quarantine message is as follows:

*****The requested webpage is blocked by your organization's access policy***.**

- Syslog message.

  The syslog message will be logged by the system when the user access the web page that has already been quarantined and marked as block or permit.

  The corresponding syslog message on the device under test is:

  Jan 25 15:10:40 rodian utmd[3871]: WEBFILTER_URL_BLOCKED: WebFilter: ACTION="URL Blocked" 99.99.99.4(60525)->74.125.224.114(80) CATEGORY="Enhanced_Search_Engines_and_Portals" REASON="by predefined category(quarantine)" PROFILE="ewf-test-profile" URL=www.search.example.com OBJ=/

  Starting in Junos OS 12.1X47-D40 and Junos OS Release 17.3R1, the structured log fields have changed. The structured log field changes in the UTM Web filter logs WEBFILTER_URL_BLOCKED, WEBFILTER_URL_REDIRECTED, and WEBFILTER_URL_PERMITTED are as follows:

  - **name -> category**
  - **error-message -> reason**
  - **profile-name -> profile**
  - **object-name -> url**
  - **pathname -> obj**

User Messages and Redirect URLs for Enhanced Web Filtering (EWF) on SRX Series devices

Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category. The **custom-message** option has the following mandatory attributes:

- **Name**: Name of the custom message; maximum length is 59 ASCII characters.
- **Type**: Type of custom message: **user-message** or **redirect-url**.
- **Content**: Content of the custom message; maximum length is 1024 ASCII characters.

You configure a user message or redirect URL as a custom object and assign the custom object to an EWF category.

- User messages indicate that website access has been blocked by an organization's access policy. To configure a user message, include the **type user-message content *message-text*** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

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- Redirect URLs redirect a blocked or quarantined URL to a user-defined URL. To configure a redirect URL, include the **type redirect-url content redirect-url** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

The **custom-message** option provides the following benefits:

- You can configure a separate custom message or redirect URL for each EWF category.
- The **custom-message** option enables you to fine-tune messages to support your polices to know which URL is blocked or quarantined.

NOTE: **Only one custom-message configuration option is applied for each category. The custom-message configuration is supported only on Enhanced Web Filtering (EWF). Therefore, only the Juniper EWF engine type is supported.**

Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.

See Also
- Understanding Integrated Web Filtering on page 247
- Understanding Local Web Filtering on page 260
- Understanding Redirect Web Filtering on page 273

Example: Configuring Site Reputation Action for Enhanced Web Filtering

This example shows how to configure the site reputation action for both categorized and uncategorized URLs.

- Requirements on page 238
- Overview on page 238
- Configuration on page 239
- Verification on page 242

Requirements

Before you begin, you should be familiar with Web Filtering and Enhanced Web Filtering. See "Web Filtering Overview" on page 209 and "Understanding the Enhanced Web Filtering Process" on page 214.

Overview

In this example, you configure Web Filtering profiles to URLs according to defined categories using the site reputation action. You set the URL whitelist filtering category to url-cat-white and the type of Web Filtering engine to juniper-enhanced. Then you set the cache size parameters for Web Filtering and the cache timeout parameters to 1.

Then you create a juniper-enhanced profile called profile ewf-test-profile, set the URL whitelist category to cust-cat-quarantine, and set the reputation action to quarantine.

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You enter a custom message to be sent when HTTP requests are quarantined. In this example, the following message is sent: **The requested webpage is blocked by your organization's access policy**.

You block URLs in the Enhanced_News_and_Media category and permit URLs in the Enhanced_Education category. Then you quarantine the URLs in the Enhanced_Streaming_Media category and configure the device to send the following message: **The requested webpage is blocked by your organization's access policy**.

In this example, you set the default action to permit. You select fallback settings (block or log-and-permit) for this profile in case errors occur in each configured category. Finally, you set the fallback settings to block.

Configuration

Configuring Site Reputation Action

CLI Quick Configuration

To quickly configure this example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile web-filtering set url-whitelist url-cat-white
set security utm feature-profile web-filtering juniper-enhanced cache size
set security utm feature-profile web-filtering juniper-enhanced reputation
  reputation-very-safe 85
set security utm feature-profile web-filtering juniper-enhanced reputation
  reputation-moderately-safe 75
set security utm feature-profile web-filtering juniper-enhanced reputation
  reputation-fairly-safe 65
set security utm feature-profile web-filtering juniper-enhanced reputation
  reputation-suspicious 55
set security utm feature-profile web-filtering juniper-enhanced cache timeout 1
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  category cust-cat-quarantine action quarantine
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  category Enhanced_News_and_Media action block
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  category Enhanced_Education action permit
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  category Enhanced_Education reputation-action harmful block
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  category Enhanced_Streaming_Media action quarantine
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  default permit
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  default quarantine-message “*** The requested webpage is blocked by your
  organization’s access policy***”.
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  fallback-settings server-connectivity block
set security utm feature-profile web-filtering juniper-enhanced profile ewf-test-profile
  fallback-settings timeout block
```

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Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure the site reputation action:

1. Configure the Web Filtering URL whitelist.

```
[edit security utm feature-profile web-filtering]
user@host# set url-whitelist custwhitelist
```

2. Specify the Enhanced Web Filtering engine, and set the cache size parameters.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced cache size
```

3. Configure the base reputation scores.

```
[edit security utm feature-profile web-filtering]
set juniper-enhanced reputation reputation-very-safe 85
set juniper-enhanced reputation reputation-moderately-safe 75
set juniper-enhanced reputation reputation-fairly-safe 65
set juniper-enhanced reputation reputation-suspicious 55
```

NOTE: The base reputation value must be ordered.

4. Set the cache timeout parameters.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced cache timeout 1
```

5. Create a profile name, and select a category from the whitelist categories.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile category
   cust-cat-quarantine action quarantine
```

6. Create a profile name, and select a category from the whitelist categories.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile category
   Enhanced_News_and_Media action block
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile category
   Enhanced_Education action permit
```


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```
user@host# set juniper-enhanced profile ewf-test-profile category
   Enhanced_Education action harmful block
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile category
   Enhanced_Streaming_Media action quarantine
```

7. Enter a warning message to be sent when HTTP requests are quarantined.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile
   quarantine-custom-message "***The requested webpage is blocked by your
   organization's access policy ***"
```

8. Select a default action (permit, log-and-permit, block, or quarantine) for the profile, when no other explicitly configured action (blacklist, whitelist, custom category, predefined category or site reputation) is matched .

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile default permit
```

9. Select fallback settings (block or log-and-permit) for this profile.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-enhanced profile ewf-test-profile fallback-settings
   server-connectivity block
user@host# set juniper-enhanced profile ewf-test-profile fallback-settings timeout
   block
```

Results From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the instructions in this example to correct.

```
[edit]
user@host# show security utm
feature-profile{
web-filtering {
   url-whitelist url-cat-white;
   type juniper-enhanced;
   traceoptions;
   flag all;
}
   juniper-enhanced {
      reputation {
         reputation-very-safe 85
         reputation-moderately-safe 75
         reputation-fairly-safe 65
      reputation-suspicious 55
      cache {
```

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```
    timeout 1
  }
  profile ewf-test-profile {
    category {
      cust-cat-quarantine {
        action quarantine;
        }
        Enhanced_News_and_Media {
          action block;
          reputation-action;
        }
        Enhanced_Education {
        action permit;
        reputation-action;
        {
        harmful block;
        }
        }
        Enhanced_Streaming_Media {
        action quarantine;
        }
      }
    default permit;
  quarantine-custom-message "***The requested webpage is blocked by your
    organization's access policy***".
    fallback-settings {
      server-connectivity block;
      timeout block;
      }
      }
      }
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Confirm that the configuration is working properly.

- Verifying the Status of UTM Service on page 242
- Verifying the Status of UTM Session on page 243
- Verifying the Status of UTM Web Filtering on page 243
- Verifying the Statistics of UTM Web Filtering on page 243

Verifying the Status of UTM Service

Purpose Verify the UTM service status.

Action From operational mode, enter the **show security utm status** command.

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Sample Output

```
user@host>show security utm status
UTM service status: Running
```

Verifying the Status of UTM Session

Purpose Verify the UTM session status.

Action From operational mode, enter the **show security utm session** command.

Sample Output

```
user@host>show security utm session
UTM session info:
 Maximum sessions:                4000
 Total allocated sessions:        0
 Total freed sessions:            0
 Active sessions:                 0
```

Verifying the Status of UTM Web Filtering

Purpose Verify the UTM Web filtering status.

Action From operational mode, enter the **show security utm web-filtering status** command.

Sample Output

```
user@host>show security utm web-filtering status
UTM web-filtering status:
    Server status: Juniper Enhanced using Websense server UP
```

Verifying the Statistics of UTM Web Filtering

Purpose Verify the Web filtering statistics for connections including whitelist and blacklist hits and custom category hits.

Action From operational mode, enter the **show security utm web-filtering statistics** command.

Sample Output

```
user@host>show security utm web-filtering statistics
UTM web-filtering statistics:
    Total requests:                    2594
```

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```
   white list hit:                     0
   Black list hit:                     0
   Queries to server:                  2407
   Server reply permit:                1829
   Server reply block:                 0
   Server reply quarantine:            517
   Server reply quarantine block:      0
   Server reply quarantine permit:     8
   Custom category permit:             0
   Custom category block:              0
   Custom category quarantine:         0
   Custom category qurantine block:    0
   Custom category quarantine permit:  0
   Site reputation permit:             0
   Site reputation block:              0
   Site reputation quarantine:         0
   Site reputation quarantine block:   0
   Site reputation quarantine permit:  0
   Site reputation by Category         0
   Site reputation by Global           0
   Cache hit permit:                   41
   Cache hit block:                    0
   Cache hit quarantine:               144
   Cache hit quarantine block:         0
   Cache hit quarantine permit:        1
   Safe-search redirect:               0
   Web-filtering sessions in total:    16000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
        Default                                 0               0
        Timeout                                 0               0
    Connectivity                                0               1
Too-many-requests                               0               0
```

See Also

- Understanding URL Whitelists on page 168

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Release History Table

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Release	Description
17.4R1	Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.
17.4R1	Starting with Junos OS Release 17.4R1, you can download and dynamically load new EWF categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories.
17.4R1	Starting with Junos OS Release 17.4R1, predefined base filters, defined in a category file, are supported for individual EWF categories. Each EWF category has a default action in a base filter, which is attached to the user profile to act as a backup filter. If the categories are not configured in the user profile, then the base filter takes the action.
17.4R1	Starting with Junos OS Release 17.4R1, the reputation base scores are configurable. Users can apply global reputation values, provided by the Websense ThreatSeeker Cloud (TSC). For the non-category URLs, the global reputation value is used to perform filtering,
17.4R1	Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.
17.4R1	Starting with Junos OS Release 17.4R1, support for custom category configuration is available for local and Websense redirect profiles.
15.1X49-D40	Starting in Junos OS Release 15.1X49-D40 and Junos OS Release 17.3R1, EWF supports HTTPS traffic by intercepting HTTPS traffic passing through the SRX Series device.
15.1X49-D40	Starting with Junos OS 15.1X49-D40 and Junos OS Release 17.3R1, EWF intercepts HTTPS traffic passing through the SRX Series device. The security channel from the SRX Series device is divided as one SSL channel between the client and the SRX Series device and another SSL channel between the SRX Series device and the HTTPS server. SSL forward proxy acts as the terminal for both channels and forwards the cleartext traffic to the UTM. UTM extracts the URL from the HTTP request message.
15.1X49-D110	Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** command that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category.
15.1X49-D110	Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category.
15.1X49-D110	Starting with Junos OS Release 15.1X49-D110, the "***** " in a wildcard syntax, required to create URL pattern for Web filtering profile, matches all subdomains.
15.1X49-D110	Starting with Junos OS Release 15.1X49-D110, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user

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	messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category.
15.1X49-D10	The Surf-Contol feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
12.3X48-D25	Starting with Junos OS Release 12.3X48-D25 and Junos OS Release 17.3R1, Enhanced Web Filtering (EWF) over SSL forward proxy supports HTTPS traffic.
12.1X47-D40	Starting in Junos OS 12.1X47-D40 and Junos OS Release 17.3R1, the structured log fields have changed.

Related Documentation

- Displaying Global SurfControl URL Categories on page 259
- Monitoring Web Filtering Configurations on page 285
- Redirect Web Filtering on page 273

Integrated Web Filtering

Enhanced Web Filtering (EWF) with Websense is an integrated URL filtering solution. When you enable the solution on the device, the firewall intercepts the HTTP and the HTTPS requests and sends the HTTP URL or the HTTPS source IP to the Websense ThreatSeeker Cloud (TSC). For more information, see the following topics:

- Understanding Integrated Web Filtering on page 247
- Example: Configuring Integrated Web Filtering on page 250
- Displaying Global SurfControl URL Categories on page 259

Understanding Integrated Web Filtering

The Integrated Web Filtering is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, with integrated Web filtering, the firewall intercepts every HTTP request in a TCP connection and extracts the URL from the HTTP request. Each individual HTTP request is blocked or permitted based on URL filtering profiles defined by you. The decision making is done on the device after it identifies a category for a URL.

A URL category is a list of URLs grouped by content. URL categories are predefined and maintained by SurfControl or are defined by you. SurfControl maintains about 40 predefined categories. When defining your own URL categories, you can group URLs and create categories specific to your needs.

You define your own categories using URL pattern list and custom URL category list custom objects. Once defined, you can select your categories when you configure your Web filtering profile. Each category can have a maximum of 20 URLs. When you create a category, you can add either the URL or the IP address of a site. When you add a URL to a user-defined category, the device performs DNS lookup, resolves the host name into IP addresses, and caches this information. When a user tries to access a site with the IP

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address of the site, the device checks the cached list of IP addresses and tries to resolve the hostname. Many sites have dynamic IP addresses, meaning that their IP addresses change periodically. A user attempting to access a site can type an IP address that is not in the cached list on the device. Therefore, if you know the IP addresses of sites you are adding to a category, enter both the URL and the IP address(es) of the site.

NOTE: If a URL appears in both a user-defined category and a predefined category, the device matches the URL to the user-defined category.

NOTE: Web filtering is performed on all the methods defined in HTTP 1.0 and HTTP 1.1.

This topic contains the following sections:

- Integrated Web Filtering Process on page 248
- Integrated Web Filtering Cache on page 249
- Integrated Web Filtering Profiles on page 249
- Profile Matching Precedence on page 249

Integrated Web Filtering Process

This is a general description of how Web traffic is intercepted and acted upon by the Web filtering module.

1. The device intercepts a TCP connection.
2. The device intercepts each HTTP request in the TCP connection.
3. The device extracts each URL in the HTTP request and checks its URL filter cache.
4. Global Web filtering whitelists and blacklists are checked first for block or permit.
5. If the HTTP request URL is allowed based on cached parameters, it is forwarded to the webserver. If there is no cache match, a request for categorization is sent to the SurfControl server. (If the HTTP request URL is blocked, the request is not forwarded and a notification message is logged.)
6. In the allowed case, the SurfControl server responds with the corresponding category.
7. Based on the identified category, if the URL is permitted, the device forwards the HTTP request to the webserver. If the URL is not permitted, then a deny page is sent to the HTTP client.

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Integrated Web Filtering Cache

By default, the device retrieves and caches the URL categories from the SurfControl CPA server. This process reduces the overhead of accessing the SurfControl CPA server each time the device receives a new request for previously requested URLs. You can configure the size and duration of the cache, according to the performance and memory requirements of your networking environment. The lifetime of cached items is configurable between 1 and 1800 seconds with a default value of 300 seconds.

NOTE: Caches are not preserved across device reboots or power losses.

Integrated Web Filtering Profiles

You configure Web filtering profiles that permit or block URLs according to defined categories. A Web filtering profile consists of a group of URL categories assigned one of the following actions:

- Permit — The device always allows access to the websites in this category.
- Block — The device blocks access to the websites in this category. When the device blocks access to this category of websites, it displays a message in your browser indicating the URL category.
- Blacklist — The device always blocks access to the websites in this list. You can create a user-defined category.
- Whitelist — The device always allows access to the websites in this list. You can create a user-defined category.

NOTE: A predefined profile is provided and can be used if you choose not to define your own profile.

A Web filtering profile may contain one blacklist or one whitelist, multiple user-defined and/or predefined categories each with a permit or block action, and an *Other* category with a permit or block action. You can define an action for all *Other* categories in a profile to specify what to do when the incoming URL does not belong to any of the categories defined in the profile. If the action for the *Other* category is block, the incoming URL is blocked if it does not match any of the categories explicitly defined in the profile. If an action for the *Other* category is not specified, the default action of permit is applied to the incoming URL not matching any category.

Profile Matching Precedence

When a profile employs several categories for URL matching, those categories are checked for matches in the following order:

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1. If present, the global blacklist is checked first. If a match is made, the URL is blocked. If no match is found...
2. The global whitelist is checked next. If a match is made, the URL is permitted. If no match is found...
3. User-defined categories are checked next. If a match is made, the URL is blocked or permitted as specified. If no match is found...
4. Predefined categories are checked next. If a match is made, the URL is blocked or permitted as specified. If no match is found...
5. The Other category is checked next. If a match is made, the URL is blocked or permitted as specified.

See Also

- Enhanced Web Filtering Overview on page 212
- Understanding Redirect Web Filtering on page 273
- Understanding Local Web Filtering on page 260

Example: Configuring Integrated Web Filtering

The Integrated Web Filtering is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, this example shows how to configure integrated Web filtering.

- Requirements on page 250
- Overview on page 250
- Configuration on page 251
- Verification on page 258

Requirements

Before you begin, learn more about Web filtering. See "Web Filtering Overview" on page 209.

Overview

In this example you configure integrated Web filtering custom objects, integrated Web filtering feature profiles, and integrated Web filtering UTM policies. You also attach integrated Web filtering UTM policies to security policies.

In the first example configuration you create a custom object called urllist3 that contains the pattern http://www.example.net 1.2.3.4. The urllist3 custom object is then added to the custom URL category custurl3.

In the second example configuration, you configure the Web filtering feature profile. You set the URL blacklist filtering category to custblacklist, set the whitelist filtering category to custwhitelist and the type of Web filtering engine to surf-control-integrated. Then you

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set the cache size parameters for Web filtering to 500 KB, which is the default, and the cache timeout parameters to 1800.

You name the Surf Control server as surfcontrolserver and enter 8080 as the port number for communicating with it. (Default ports are 80, 8080, and 8081.) Then you create a surf-control-integrated profile name called surfprofile1.

Next you select a category from the included whitelist and blacklist categories or select a custom URL category list you created for filtering against. Then you enter an action (permit, log and permit, block) to go with the filter. You do this as many times as necessary to compile your whitelists and blacklists and their accompanying actions. This example blocks URLs in the custurl3 category.

Then you enter a custom message to be sent when HTTP requests are blocked. This example configures the device to send an ***access denied*** message. You select a default action (permit, log and permit, block) for this profile for requests that experience errors. This example sets the default action to block. You select fallback settings (block or log and permit) for this profile, in case errors occur in each configured category. This example sets fallback settings to block.

Finally, you enter a timeout value in seconds. Once this limit is reached, fail mode settings are applied. The default is 10 seconds, and you can enter a value from 10 to 240 seconds. This example sets the timeout value to 10.

In the third example configuration, you create UTM policy utmp5 and attach it to profile surfprofile1.

In the final example configuration, you attach the UTM policy utmp5 to the security policy p5.

Configuration

- Configuring Integrated Web Filtering Custom Objects on page 251
- Configuring the Integrated Web Filtering Feature Profiles on page 253
- Configuring Integrated Web Filtering UTM Policies on page 256
- Attaching Integrated Web Filtering UTM Policies to Security Policies on page 257

Configuring Integrated Web Filtering Custom Objects

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects url-pattern urllist3 value http://www.example.net
set security utm custom-objects url-pattern urllist3 value 1.2.3.4
set security utm custom-objects url-pattern urllistblack value http://www.untrusted.com
set security utm custom-objects url-pattern urllistblack value 13.13.13.13
set security utm custom-objects url-pattern urllistwhite value http://www.trusted.com
set security utm custom-objects url-pattern urllistwhite value 7.7.7.7
set security utm custom-objects custom-url-category custurl3 value urllist3
```

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```
set security utm custom-objects custom-url-category custblacklist value urllistblack
set security utm custom-objects custom-url-category custwhiltelist value urllistwhite
```

WARNING: Custom category does not take precedence over predefined categories when it has the same name as one of the predefined categories. We do not recommend having a custom category name be the same as the predefined category name.

Step-by-Step Procedure

To configure integrated Web filtering:

1. Create custom objects and create the URL pattern list.

```
[edit security utm]
user@host# set custom-objects url-pattern urllist3 value [http://www.example.net
  1.2.3.4]
```

2. Configure the custom URL category list custom object using the URL pattern list.

```
[edit security utm]
user@host# set custom-objects custom-url-category custurl3 value urllist3
```

3. Create a list of untrusted sites.

```
[edit security utm]
user@host# set custom-objects url-pattern urllistblack value
  [http://www.untrusted.com 13.13.13.13]
```

4. Configure the custom URL category list custom object using the URL pattern list of untrusted sites.

```
[edit security utm]
user@host# set custom-objects custom-url-category custblacklist value urllistblack
```

5. Create a list of trusted sites.

```
[edit security utm]
user@host# set custom-objects url-pattern urllistwhite value
  [http://www.trusted.com 7.7.7.7]
```

6. Configure the custom URL category list custom object using the URL pattern list of trusted sites.

```
[edit security utm]
user@host# set custom-objects custom-url-category custwhitelist value urllistwhite
```


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Results From configuration mode, confirm your configuration by entering the **show security utm custom-objects** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

For brevity, this show command output includes only the configuration that is relevant to this example. Any other configuration on the system has been replaced with ellipses (...).

```
[edit]
userhost#show security utm custom-objects
  url-pattern {
    urllist3 {
      value [ http://www.example.net ];
    }
    urllistblack {
      value [ http://www.untrusted.com 13.13.13.13 ];
    }
    urllistwhite {
      value [ http://www.trusted.com 7.7.7.7 ];
    }
  }
    custom-url-category {
      custurl3 {
        value urllist3;
      }
      custblacklist {
        value urllistblack;
      }
      custwhiltelist {
        value urllistwhite;
      }
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring the Integrated Web Filtering Feature Profiles

CLI Quick Configuration To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile web-filtering url-whitelist custwhitelist
set security utm feature-profile web-filtering url-blacklist custblacklist
set security utm feature-profile web-filtering surf-control-integrated cache timeout 1800
set security utm feature-profile web-filtering surf-control-integrated cache size 500
set security utm feature-profile web-filtering surf-control-integrated server host
  surfcontrolserver
set security utm feature-profile web-filtering surf-control-integrated server port 8080
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
  category custurl3 action block
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
  default block
```

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```
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   custom-block-message "***access denied ***"
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   fallback-settings default block
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   fallback-settings server-connectivity block
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   fallback-settings timeout block
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   fallback-settings too-many-requests block
set security utm feature-profile web-filtering surf-control-integrated profile surfprofile1
   timeout 10
set security utm feature-profile content-filtering profile contentfilter1
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see Using the CLI Editor in Configuration Mode in the CLI User Guide.

To configure integrated Web filtering feature profiles:

1. Configure the Web filtering URL Black List.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set url-blacklist custblacklist
   ```

2. Configure the Web filtering URL White List.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set url-whitelist custwhitelist
   ```

3. Specify the surf-control-integrated Web filtering engine and set the cache size parameters.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set surf-control-integrated cache size 500
   ```

4. Set the cache timeout parameters.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set surf-control-integrated cache timeout 1800
   ```

5. Set the server name or IP address.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set surf-control-integrated server host surfcontrolserver
   ```

6. Enter the port number for communicating with the server.

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```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated server port 8080
```

7. Create a profile name and select a category from the included whitelist and blacklist categories.

```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated profile surfprofile1 category custurl3 action
  block
```

8. Enter a custom message to be sent when HTTP requests are blocked.

```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated profile surfprofile1 custom-block-message
  "***access denied***"
```

9. Select a default action (permit, log and permit, block) for this profile for requests that experience errors.

```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated profile surfprofile1 default block
```

10. Select fallback settings (block or log and permit) for this profile.

```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated profile surfprofile1 fallback-settings default
  block
```

```
user@host# set surf-control-integrated profile surfprofile1 fallback-settings
  server-connectivity block
user@host# set surf-control-integrated profile surfprofile1 fallback-settings timeout
  block
user@host# set surf-control-integrated profile surfprofile1 fallback-settings
  too-many-requests block
```

11. Enter a timeout value, in seconds.

```
[edit security utm feature-profile web-filtering]
user@host# set surf-control-integrated profile surfprofile1 timeout 10
```

Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost#show security utm feature-profile
```

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```
web-filtering {
  url-whitelist custwhitelist;
  url-blacklist custblacklist;
type juniper-local;
  surf-control-integrated {
    cache {
      timeout 1800;
      size 500;
    }
    server {
      host surfcontrolserver;
      port 8080;
    }
    profile surfprofile1 {
      category {
        custurl3 {
          action block;
        }
      }
      default block;
      custom-block-message "***access denied ***";
      fallback-settings {
        default block;
        server-connectivity block;
        timeout block;
        too-many-requests block;
      }
      timeout 10;
    }
  }
  content-filtering {
    profile contentfilter1;
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring Integrated Web Filtering UTM Policies

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm utm-policy utmp5 web-filtering http-profile surfprofile1
```

Step-by-Step Procedure

To configure a UTM policy:

1. Create the UTM policy referencing a profile.

```
[edit]
user@host# set security utm utm-policy utmp5 web-filtering http-profile surfprofile1
```


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Results From configuration mode, confirm your configuration by entering the **show security utm utm-policy** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost#show security utm utm-policy
...
  utm-policy utmp5 {
    content-filtering {
      http-profile contentfilter1;
    }
    web-filtering {
      http-profile surfprofile1;
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Attaching Integrated Web Filtering UTM Policies to Security Policies

CLI Quick Configuration To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security policies from-zone trust to-zone untrust policy p5 match source-address any
set security policies from-zone trust to-zone untrust policy p5 match destination-address
  any
set security policies from-zone trust to-zone untrust policy p5 match application junos-http
set security policies from-zone trust to-zone untrust policy p5 then permit
  application-services utm-policy utmp5
```

Step-by-Step Procedure To attach a UTM policy to a security policy:

1. Create and configure the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p5]
user@host# set match source-address any
user@host# set match destination-address any
user@host# set match application junos-http
```

2. Attach the UTM policy to the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p5]
user@host# set then permit application-services utm-policy utmp5
```

Results From configuration mode, confirm your configuration by entering the **show security policies** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

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```
[edit]
userhost#show security policies
  from-zone trust to-zone untrust {
    policy p5 {
      match {
        source-address any;
        destination-address any;
        application junos-http;
      }
      then {
        permit {
          application-services {
            utm-policy utmp5;
          }
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

To confirm that the configuration is working properly, perform these tasks:

- Verifying the Configuration of Integrated Web Filtering Custom Objects on page 258
- Verifying the Configuration of Integrated Web Filtering Feature Profiles on page 258
- Verifying the Configuration of Integrated Web Filtering UTM Policies on page 258
- Verifying the Attachment of Integrated Web Filtering UTM Policies to Security Policies on page 259

Verifying the Configuration of Integrated Web Filtering Custom Objects

Purpose Verify the configuration of integrated Web filtering custom objects.

Action From the top of the configuration in configuration mode, enter the **show security utm custom-objects** command.

Verifying the Configuration of Integrated Web Filtering Feature Profiles

Purpose Verify the configuration of integrated Web filtering feature profiles.

Action From the top of the configuration in configuration mode, enter the **show security utm feature-profile** command.

Verifying the Configuration of Integrated Web Filtering UTM Policies

Purpose Verify the configuration of integrated Web filtering UTM policies.

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Action From the top of the configuration in configuration mode, enter the **show security utm** command.

Verifying the Attachment of Integrated Web Filtering UTM Policies to Security Policies

Purpose Verify the attachment of integrated Web filtering UTM policies to security policies.

Action From the top of the configuration in configuration mode, enter the **show security policies** command.

See Also
- Example: Enhancing Security by Configuring Redirect Web Filtering Using Custom Objects on page 275

Displaying Global SurfControl URL Categories

Purpose The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards. For previous releases, view global URL categories defined and maintained by SurfControl.

Action Enter the **user@host# show groups junos-defaults** CLI command. You can also look for **custom-url-category**.

Release History Table

Release	Description
15.1X49-D10	The Integrated Web Filtering is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Integrated Web Filtering is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.
15.1X49-D10	The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 and Junos OS Release 17.3R1 onwards.

Related Documentation
- Redirect Web Filtering on page 273
- Monitoring Web Filtering Configurations on page 285

Local Web Filtering

The Web filtering lets you to manage Internet usage by preventing access to inappropriate Web content. There are three types of Web filtering solutions:

- Redirect Web filtering
- Local Web filtering

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- Enhanced Web filtering

For more information, see the following topics:

- Understanding Local Web Filtering on page 260
- Example: Configuring Local Web Filtering on page 263

Understanding Local Web Filtering

Local web filtering allows you to define custom URL categories, which can be included in blacklists and whitelists that are evaluated on the SRX Series device. All URLs for each category in a blacklist are denied, while all URLs for each category in a whitelist are permitted.

With local Web filtering, a firewall intercepts every HTTP request in a TCP connection and extracts the URL. A decision is made by the device after it looks up a URL to determine whether it is in the whitelist or blacklist based on its user-defined category. A URL is first compared to the blacklist URLs. If a match is found, the request is blocked. If no match is found, the URL is compared to the whitelist. If a match is found, the request is permitted. If the URL is not in either list, the custom category is taken (block, log-and-permit, or permit). If the URL is not in custom category, the defined default action is taken (block, log-and-permit, or permit). You can permit or block access to a requested site by binding a Web filtering profile to a firewall policy. Local Web filtering provides basic Web filtering without requiring an additional license or external category server.

This topic contains the following sections:

- Local Web Filtering Process on page 260
- User-Defined Custom URL Categories on page 261
- Local Web Filtering Profiles on page 261
- User Messages and Redirect URLs for Web Filtering on SRX Series devices on page 262
- Profile Matching Precedence on page 262

Local Web Filtering Process

The following section describes on how Web traffic is intercepted and acted upon by the Web filtering module.

1. The device intercepts a TCP connection.
2. The device intercepts each HTTP request in the TCP connection.
3. The device extracts each URL in the HTTP request and checks its URL against the user-defined whitelist and blacklist.

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4. If the URL is found in the blacklist, the request is not permitted and a deny page is sent to the http client. If the URL is found in the whitelist, the request is permitted.

5. If the URL is not found in the whitelist or blacklist, the configured default fallback action is applied. If no fallback action is defined, then the request is permitted.

User-Defined Custom URL Categories

To perform local Web filtering, you must define a blacklist and whitelist content that can be applied to the profile.

When defining your own URL categories, you can group URLs and create categories specific to your needs. Each category can have a maximum of 20 URLs. When you create a category, you can add either the URL or the IP address of a site. When you add a URL to a user-defined category, the device performs DNS lookup, resolves the hostname into IP addresses, and caches this information. When a user tries to access a site with the IP address of the site, the device checks the cached list of IP addresses and tries to resolve the hostname. Many sites have dynamic IP addresses, meaning that their IP addresses change periodically. A user attempting to access a site can type an IP address that is not in the cached list on the device. Therefore, if you know the IP addresses of sites you are adding to a category, enter both the URL and the IP address(es) of the site.

You define your own categories using URL pattern list and custom URL category list custom objects. Once defined, you assign your categories to the global user-defined url-blacklist (block) or url-whitelist (permit) categories.

NOTE: Web filtering is performed on all the methods defined in HTTP 1.0 and HTTP 1.1.

Local Web Filtering Profiles

You configure Web filtering profiles that permit or block URLs according to defined custom categories. A Web filtering profile consists of a group of URL categories assigned one of the following actions:

- Blacklist — The device always blocks access to the websites in this list. Only user-defined categories are used with local Web filtering.
- Whitelist — The device always allows access to the websites in this list. Only user-defined categories are used with local Web filtering.

A Web filtering profile can contain one blacklist or one whitelist with multiple user-defined categories each with a permit or block action. You can define a default fallback action when the incoming URL does not belong to any of the categories defined in the profile. If the action for the default category is block, the incoming URL is blocked if it does not match any of the categories explicitly defined in the profile. If an action for the default action is not specified, the default action of permit is applied to the incoming URL not matching any category.

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NOTE: Starting with Junos OS Release 17.4R1, custom category configuration is supported for local Web filtering. The custom-message option is also supported in a category for local Web filtering and Websense redirect profiles. Users can create multiple URL lists (custom categories) and apply them to a UTM Web filtering profile with actions such as permit, permit and log, block, and quarantine. To create a global whitelist or blacklist, apply a local Web filtering profile to a UTM policy and attach it to a global rule.

User Messages and Redirect URLs for Web Filtering on SRX Series devices

Starting with Junos OS Release 17.4R1, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category. The **custom-message** option has the following mandatory attributes:

- **Name**: Name of the custom message; maximum length is 59 ASCII characters.
- **Type**: Type of custom message: **user-message** or **redirect-url**.
- **Content**: Content of the custom message; maximum length is 1024 ASCII characters.

You configure a user message or redirect URL as a custom object and assign the custom object to an EWF category.

- User messages indicate that website access has been blocked by an organization's access policy. To configure a user message, include the **type user-message content *message-text*** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.
- Redirect URLs redirect a blocked or quarantined URL to a user-defined URL. To configure a redirect URL, include the **type redirect-url content redirect-url** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

The **custom-message** option provides the following benefits:

- You can configure a separate custom message or redirect URL for each EWF category.
- The **custom-message** option enables you to fine-tune messages to support your polices to know which URL is blocked or quarantined.

Profile Matching Precedence

When a profile employs several categories for URL matching, those categories are checked for matches in the following order:

1. If present, the global blacklist is checked first. If a match is made, the URL is blocked. If no match is found...
2. The global whitelist is checked next. If a match is made, the URL is permitted. If no match is found...

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3. User-defined categories are checked next. If a match is made, the URL is blocked or permitted as specified.

See Also

- Web Filtering Overview on page 209
- Understanding Redirect Web Filtering on page 273
- Example: Configuring Local Web Filtering on page 263

Example: Configuring Local Web Filtering

This example shows how to configure local Web filtering for managing website access.

- Requirements on page 263
- Overview on page 263
- Configuration on page 265
- Verification on page 271

Requirements

This example uses the following hardware and software components:

- SRX1500 device
- Junos OS Release 12.1X46-D10 or later

Before you begin, learn more about Web filtering. See "Web Filtering Overview" on page 209.

Overview

In this example you configure local Web filtering custom objects, local Web filtering feature profiles, and local Web filtering UTM policies. You also attach local Web filtering UTM policies to security policies. Table 5 on page 223 shows information about local Web filtering configuration type, steps, and parameters used in this example.

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Table 6: Local Web filtering Configuration Type, Steps, and Parameters

Configuration Type	Configuration Steps	Configuration Parameters
URL pattern and custom objects	Configure a URL pattern list of URLs or addresses that you want to bypass. Create a custom object called urllis1 that contains the pattern [http://www.example1.net 192.0.2.0] Create a custom object called urllist2 that contains the pattern [http://www.example2.net 192.0.2.3] Create a custom object called urllist3 that contains the pattern [http://www.example3.net 192.0.2.9] Create a custom object called urllist4 that contains the pattern [http://www.example4.net 192.0.2.8]	• [http://www.example1.net 192.0.2.0] • [http://www.example2.net 192.0.2.3] • [http://www.example3.net 192.0.2.9] • [http://www.example4.net 192.0.2.8] • value urllist3 • value urllist4
	The urllist1 and urllist2 custom objects are then added to the custom URL categories cust-black-list, and cust-permit-list respectively.	• value urllist1 • value urllist2
Feature profiles	Configure the Web filtering feature profile:	
	• Set the URL blacklist filtering category to custurl4 and the URL whitelist filtering category to custurl3. Set the type of Web filtering engine to juniper-local.	• custurl3 • custurl4 • type juniper-local
	• Create a juniper-local profile name called localprofile1. Select a default action (permit, log-and-permit, block) for this profile for requests that experience errors. This example sets the default action to permit. Add category cust-permit-list with log-and-permit action and cus-black-list with block action.	• localprofile1 • Action: block • Action: log-and-permit • cust-black-list • cust-permit-list

	• Define redirect url. Enter a custom message to be sent when HTTP requests are blocked.
	• Select fallback settings (block or log-and-permit) for this profile, in case errors occur in each configured category. This example sets fallback settings to block.
		• block-message type custom-redirect-url
		• block-message url 192.0.2.10
		• custom-block-message “**Access to this site is not permitted**”.
		• fallback-settings:
		  ◦ block
		  ◦ log-and-permit

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Table 6: Local Web filtering Configuration Type, Steps, and Parameters (continued)

Configuration Type	Configuration Steps	Configuration Parameters
UTM policies	Create the UTM policy utmp5 and attach it to the profile localprofile1. In the final configuration example, attach the UTM policy utmp5 to the security policy p5.	• utm policy utmp5 • policy p5

Configuration

- Configuring Local Web Filtering Custom Objects and URL Patterns on page 265
- Apply Custom Objects to the Feature Profiles on page 267
- Attaching Web Filtering UTM Policies to Security Policies on page 270
- Attaching Local Web Filtering UTM Policies to Security Policies on page 270

Configuring Local Web Filtering Custom Objects and URL Patterns

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects url-pattern urllist1 value http://www.example1.net
set security utm custom-objects url-pattern urllist1 value 192.0.2.0
set security utm custom-objects url-pattern urllist2 value http://www.example2.net
set security utm custom-objects url-pattern urllist2 value 192.0.2.3
set security utm custom-objects url-pattern urllist3 value http://www.example3.net
set security utm custom-objects url-pattern urllist3 value 192.0.2.9
set security utm custom-objects url-pattern urllist4 value http://www.example4.net
set security utm custom-objects url-pattern urllist4 value 192.0.2.8
set security utm custom-objects custom-url-category cust-black-list value urllist1
set security utm custom-objects custom-url-category cust-permit-list value urllist2
set security utm custom-objects custom-url-category custurl3 value urllist3
set security utm custom-objects custom-url-category custurl4 value urllist4
```

Starting in Junos OS Release 15.1X49-D110, the "* " in a wildcard syntax, used for URL pattern Web filtering profile, matches all subdomains. For example, *.example.net matches:

- http://a.example.net
- http://example.net
- aaa.example.net

Step-by-Step Procedure

To configure local Web filtering using the CLI:

1. Configure a URL pattern list custom object by creating the list name and adding values to it as follows:

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NOTE: Because you use URL pattern lists to create custom URL category lists, you must configure URL pattern list custom objects before you configure custom URL category lists.

```
[edit]
user@host# set security utm custom-objects url-pattern urllist1 value
  [http://www.example1.net 192.0.2.0]
user@host# set security utm custom-objects url-pattern urllist2 value
  [http://www.example2.net 192.0.2.3]
user@host# set security utm custom-objects url-pattern urllist3 value
  [http://www.example3.net 192.0.2.9]
user@host# set security utm custom-objects url-pattern urllist4 value
  [http://www.example4.net 192.0.2.8]
```

NOTE:

- The guideline to use a URL pattern wildcard is as follows: Use ***\.[]\?*** and precede all wildcard URLs with **http://**. You can use "*" only if it is at the beginning of the URL and is followed by ".". You can use "**?**" only at the end of the URL.
- The following wildcard syntaxes are supported: **http://*.example.net**, **http://www.example.ne?**, **http://www.example.n??**. The following wildcard syntaxes are not supported: *.example.???, http://*example.net, http://?.

2. Applying the URL pattern to a custom URL category.

```
[edit]
user@host# set security utm custom-objects custom-url-category cust-black-list
  value urllist1
user@host# set security utm custom-objects custom-url-category cust-permit-list
  value urllist2
user@host# set security utm custom-objects custom-url-category custurl3 value
  urllist3
user@host# set security utm custom-objects custom-url-category custurl4 value
  urllist4
```

Results From configuration mode, confirm your configuration by entering the **show security utm custom-objects** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost#show security utm custom-objects
  url-pattern {
```


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```
    urllist1 {
      value [ http://www.example1.net 192.0.2.0 ];
    }
    urllist2 {
      value [ http://www.example2.net 192.0.2.3 ];
    }
    urllist3 {
      value [ http://www.example3.net 192.0.2.9 ];
    }
    urllist4 {
      value [ http://www.example4.net 192.0.2.8 ];
    }
  }
    custom-url-category {
      cust-black-list {
        value urllist1;
      }
      cust-permit-list {
        value urllist2;
      }
      custurl3 {
        value urllist3;
      }
      custurl4 {
        value urllist4;
      }
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

Apply Custom Objects to the Feature Profiles

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile web-filtering url-whitelist custurl3
set security utm feature-profile web-filtering url-blacklist custurl4
set security utm feature-profile web-filtering type juniper-local
set security utm feature-profile web-filtering juniper-local profile localprofile1 category
  cust-black-list action block
set security utm feature-profile web-filtering juniper-local profile localprofile1 category
  cust-permit-list action log-and-permit
set security utm feature-profile web-filtering juniper-local profile localprofile1
  block-message type custom-redirect-url
set security utm feature-profile web-filtering juniper-local profile localprofile1
  block-message url http://192.0.2.10
set security utm feature-profile web-filtering juniper-local profile localprofile1
  custom-block-message "Access to this site is not permitted."
set security utm feature-profile web-filtering juniper-local profile localprofile1 default
  log-and-permit
```

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```
set security utm feature-profile web-filtering juniper-local profile localprofile1
   fallback-settings default block
set security utm feature-profile web-filtering juniper-local profile localprofile1
   fallback-settings too-many-requests block
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure local Web filtering feature profiles:

1. Configure the Web filtering URL blacklist, URL whitelist, and the Web filtering engine.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set url-whitelist custurl3
   user@host# set url-blacklist custurl4
   user@host# set type juniper-local
   ```

2. Create a profile name, and select a category from the included permit and blacklist categories. The custom category action could be block, permit, log-and-permit, and quarantine.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set juniper-local profile localprofile1 category cust-black-list action
      block
   user@host# set juniper-local profile localprofile1 category cust-permit-list action
      log-and-permit
   ```

3. Define a redirect URL server so that instead of the device sending a block page with plain text HTML, the device send an HTTP 302 redirect to this redirect server with special variables embedded in the HTTP redirect location field. These special variables are parsed by the redirect server and serve as a special block page to the client with images and a clear text format.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set security utm feature-profile web-filtering juniper-local profile
      localprofile1 block-message type custom-redirect-url
   user@host# set security utm feature-profile web-filtering juniper-local profile
      localprofile1 block-message url http://192.0.2.10
   ```

4. Enter a custom message to be sent when HTTP requests are blocked.

   ```
   [edit security utm feature-profile web-filtering]
   user@host# set juniper-local profile localprofile1 custom-block-message “Access
      to this site is not permitted”
   ```


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5. Specify a default action (permit, log and permit, block, or quarantine) for the profile, when no other explicitly configured action (blacklist, whitelist, custom category, predefined category actions, or site reputation actions) is matched .

```
[edit security utm feature-profile web-filtering]
user@host# set juniper-local profile localprofile1 default log-and-permit
```

6. Configure fallback settings (block or log and permit) for this profile.

```
[edit security utm feature-profile web-filtering]
user@host# set juniper–local profile localprofile1 fallback-settings default block
user@host# set juniper–local profile localprofile1 fallback-settings
   too-many-requests block
```

Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost#show security utm feature-profile
web-filtering {
   url-whitelist custurl3;
   url-blacklist custurl4;
   type juniper-local;
   juniper-local {
      profile localprofile1 {
         default log-and-permit;
         category {
         cust-black-list {
         action block;
         }
         cust-permit-list {
         action log-and-permit;
         }
         }
         custom-block-message "Access to this site is not permitted.";
         block-message {
         type custom-redirect-url;
         url http://192.0.2.10;
         }
         fallback-settings {
            default block;
            too-many-requests block;
         }
         }
         }
      }
   }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

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Attaching Web Filtering UTM Policies to Security Policies

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm utm-policy utmp5 web-filtering http-profile localprofile1
```

Step-by-Step Procedure

To configure a UTM policy:

1. Create the UTM policy referencing a profile. Apply the Web filtering profile to the UTM policy.

```
[edit]
user@host# set security utm utm-policy utmp5 web-filtering http-profile localprofile1
```

Results

From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

For brevity, this show command output includes only the configuration that is relevant to this example. Any other configuration on the system has been replaced with ellipses (...).

```
[edit]
userhost# show security utm
utm-policy utmp5 {
  web-filtering {
    http-profile localprofile1;
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Attaching Local Web Filtering UTM Policies to Security Policies

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security policies from-zone trust to-zone untrust policy p5 match source-address any
set security policies from-zone trust to-zone untrust policy p5 match destination-address
  any
set security policies from-zone trust to-zone untrust policy p5 match application junos-http
set security policies from-zone trust to-zone untrust policy p5 then permit
  application-services utm-policy utmp5
```


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Step-by-Step Procedure

To attach a UTM policy to a security policy:

1. Create and configure the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p5]
user@host# set match source-address any
user@host# set match destination-address any
user@host# set match application junos-http
```

2. Apply the UTM policy to the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p5]
user@host# set then permit application-services utm-policy utmp5
```

Results

From configuration mode, confirm your configuration by entering the **show security policies** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security policies
  from-zone trust to-zone untrust {
    policy p5 {
      match {
        source-address any;
        destination-address any;
        application junos-http;
      }
      then {
        permit {
          application-services {
            utm-policy utmp5;
          }
        }
      }
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

To confirm that the configuration is working properly, perform the following task:

- Verifying the Statistics of UTM Web Filtering on page 271

Verifying the Statistics of UTM Web Filtering

Purpose

Verify the Web filtering statistics for connections including whitelist and blacklist hits and custom category hits.

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Action From operational mode, enter the **show security utm web-filtering statistics** command.

Sample Output

```
user@host>show security utm web-filtering statistics
UTM web-filtering statistics:
    Total requests:                     0
    white list hit:                     0
    Black list hit:                     0
    Custom category permit:             0
    Custom category block:              0
    Custom category quarantine:         0
    Custom category qurantine block:    0
    Custom category quarantine permit:  0
    Web-filtering sessions in total:    0
    Web-filtering sessions in use:      0
    Fallback:                       log-and-permit          block
          Default                                0              0
          Timeout                                0              0
     Connectivity                                0              0
Too-many-requests                                0              0
```

See Also

- Example: Enhancing Security by Configuring Redirect Web Filtering Using Custom Objects on page 275
- Monitoring Web Filtering Configurations on page 285

Release History Table

Release	Description
17.4R1	Starting with Junos OS Release 17.4R1, custom category configuration is supported for local Web filtering. The **custom-message** option is also supported in a category for local Web filtering and Websense redirect profiles. Users can create multiple URL lists (custom categories) and apply them to a UTM Web filtering profile with actions such as permit, permit and log, block, and quarantine. To create a global whitelist or blacklist, apply a local Web filtering profile to a UTM policy and attach it to a global rule.
17.4R1	Starting with Junos OS Release 17.4R1, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category.
15.1X49-D110	Starting in Junos OS Release 15.1X49-D110, the "***** " in a wildcard syntax, used for URL pattern Web filtering profile, matches all subdomains.

Related Documentation

- Enhanced Web Filtering on page 212
- Whitelists on page 167

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Redirect Web Filtering

The redirect Web filtering solution intercepts HTTP requests and sends them to an external URL filtering server, provided by Websense, to determine whether to block the requests. For more information, see the following topics:

- Understanding Redirect Web Filtering on page 273
- Example: Enhancing Security by Configuring Redirect Web Filtering Using Custom Objects on page 275

Understanding Redirect Web Filtering

With redirect Web filtering, the Web filtering module intercepts an HTTP request. The URL in the request is then sent to the external Websense server, which makes a permit or a deny decision. If access is permitted to the URL in question, the original HTTP request and all the subsequent requests are sent to the intended HTTP server. But if access is denied to the URL in question, a blocking message is sent to the client.

This is a general description of how Web traffic is intercepted, redirected, and acted upon by the Web filtering module:

1. A Web client establishes a TCP connection with the webserver.
2. The Web client then sends an HTTP request.
3. The device intercepts the requests and extracts the URL. The URL is checked against global Web filtering whitelists and blacklists. If no match is made, the Websense server configuration parameters are utilized. Otherwise the process continues with step 6.
4. The URL is sent to the Websense server for checking,
5. The Websense server returns a response indicating whether or not the URL is to be permitted or blocked.
6. If access is allowed, the original HTTP request is sent to the webserver. If access is denied, the device sends a blocking message to the client and tears down the TCP connection.

NOTE: Web filtering is performed on all the methods defined in HTTP 1.0 and HTTP 1.1. However, redirect Web filtering uses destination IP as URL when it is checking HTTPS traffic.

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NOTE: Decision making from real-time options provides a higher level of accuracy, therefore caching for redirect Web filtering is not supported.

NOTE: Redirect Web filtering does not require a subscription license.

User Messages and Redirect URLs for Web Filtering on SRX Series devices

Starting with Junos OS Release 17.4R1, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category. The **custom-message** option has the following mandatory attributes:

- **Name**: Name of the custom message; maximum length is 59 ASCII characters.
- **Type**: Type of custom message: **user-message** or **redirect-url**.
- **Content**: Content of the custom message; maximum length is 1024 ASCII characters.

You configure a user message or redirect URL as a custom object and assign the custom object to an EWF category.

- User messages indicate that website access has been blocked by an organization's access policy. To configure a user message, include the **type user-message content *message-text*** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.
- Redirect URLs redirect a blocked or quarantined URL to a user-defined URL. To configure a redirect URL, include the **type redirect-url content redirect-url** statement at the **[edit security utm custom-objects custom-message *message*]** hierarchy level.

The **custom-message** option provides the following benefits:

- You can configure a separate custom message or redirect URL for each EWF category.
- The **custom-message** option enables you to fine-tune messages to support your polices to know which URL is blocked or quarantined.

Dynamic Support for New Websense EWF Categories

Starting with Junos OS Release 17.4R1, you can download and dynamically load new Enhanced Web Filtering (EWF) categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories. Users can leverage new categories as soon as they are available rather than waiting for a patch release.

NOTE: Existing configurations are not affected by the new categories but can be modified to make use of the new categories.

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See Also

- Web Filtering Overview on page 209
- Understanding Local Web Filtering on page 260

Example: Enhancing Security by Configuring Redirect Web Filtering Using Custom Objects

This example shows how to manage Internet usage by configuring redirect Web filtering using custom objects and preventing access to inappropriate Web content.

- Requirements on page 275
- Overview on page 275
- Configuration on page 276
- Verification on page 282

Requirements

Before you begin, learn more about Web filtering. See "Web Filtering Overview" on page 209.

Overview

The benefit of using Web filtering is that it extracts the URLs from HTTP request messages and performs filtering according to the requirements. The advantage of configuring redirect Web filtering is that it extracts the URLs from the HTTP requests and sends them to an external URL filtering server to determine whether to allow or deny access.

In this example you configure redirect Web filtering custom objects, redirect Web filtering feature profiles, and redirect Web filtering UTM policies. You also attach redirect Web filtering UTM policies to security policies.

The default websense-redirect server port number is 15868.

You select fallback settings (block or log-and-permit) for this profile, in case errors occur in each configured category. This example sets fallback settings to block the profile. You enter the number of sockets used for communicating between the client and the server. The default is 32 for SRX Series devices.

Finally, you enter a timeout value in seconds. Once this limit is reached, fail mode settings are applied. The default is 15 seconds, and you can enter a value from 1 to 1800 seconds. This example sets the timeout value to 10.

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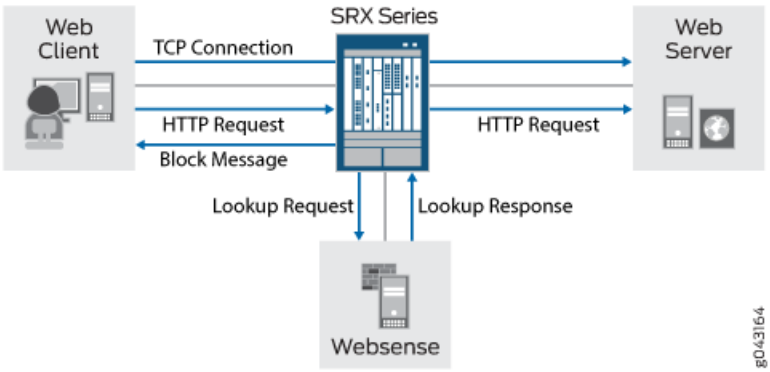
Figure 1 on page 276 shows the overall architecture for the Websense redirect feature.

Figure 1: Websense Redirect Architecture



Configuration

- Configuring Redirect Web Filtering Custom Objects on page 276
- Configuring the Redirect Web Filtering Feature Profiles on page 278
- Configuring Redirect Web Filtering UTM Policies and Attaching the Redirect Web Filtering UTM Policies to Security Policies on page 280

Configuring Redirect Web Filtering Custom Objects

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm custom-objects url-pattern urllist4 value 1.2.3.4
set security utm custom-objects url-pattern urllistblack value http://www.untrusted.com
set security utm custom-objects url-pattern urllistblack value 13.13.13.13
set security utm custom-objects url-pattern urllistwhite value http://www.trusted.com
set security utm custom-objects url-pattern urllistwhite value 7.7.7.7
set security utm custom-objects custom-url-category custurl4 value urllist4
set security utm custom-objects custom-url-category custblacklist value urllistblack
set security utm custom-objects custom-url-category custwhitelist value urllistwhite
```

Step-by-Step Procedure

To configure redirect Web filtering custom objects:

1. Create custom objects and create the URL pattern list.

```
[edit security utm]
user@host# set custom-objects url-pattern urllist4 value [http://www.example.net
  1.2.3.4]
```

2. Configure the custom URL category list custom object using the URL pattern list.

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```
[edit security utm]
user@host# set custom-objects custom-url-category custurl4 value urllist4
```

3. Create a list of untrusted sites

```
[edit security utm]
user@host# set custom-objects url-pattern urllistblack value
   [http://www.untrusted.com 13.13.13.13]
```

4. Configure the custom URL category list custom object using the URL pattern list of untrusted sites.

```
[edit security utm]
user@host# set custom-objects custom-url-category custblacklist value urllistblack
```

5. Create a list of trusted sites.

```
[edit security utm]
user@host# set custom-objects url-pattern urllistwhite value
   [http://www.trusted.com 7.7.7.7]
```

6. Configure the custom URL category list custom object using the URL pattern list of trusted sites.

```
[edit security utm]
user@host# set custom-objects custom-url-category custwhitelist value urllistwhite
```

Results From configuration mode, confirm your configuration by entering the **show security utm custom-objects** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security utm custom-objects
url-pattern {
   urllist4 {
      value [ http://www.example.net 1.2.3.4 ];
   }
   urllistblack {
      value [ http://www.untrusted.com 13.13.13.13 ];
   }
   urllistwhite {
      value [ http://www.trusted.com 7.7.7.7 ];
   }
}
   custom-url-category {
      custurl4 {
         value urllist4;
```

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```
    }
    custblacklist {
      value urllistblack;
    }
    custwhitelist {
      value urllistwhite;
    }
  }
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring the Redirect Web Filtering Feature Profiles

CLI Quick Configuration

To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm feature-profile web-filtering url-whitelist custwhitelist
set security utm feature-profile web-filtering url-blacklist custblacklist
set security utm feature-profile web-filtering type websense-redirect
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  server host Websenseserver
set security utm feature-profile web-filtering websense-redirect profile p1 category
  cust-white-list action log-and-permit
set security utm feature-profile web-filtering websense-redirect profile p1 category
  cust-list2 action permit
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  server port 15868
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  fallback-settings server-connectivity block
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  fallback-settings timeout block
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  fallback-settings too-many-requests block
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  timeout 10
set security utm feature-profile web-filtering websense-redirect profile websenseprofile1
  sockets 1
```

Step-by-Step Procedure

The following example requires you to navigate various levels in the configuration hierarchy. For instructions on how to do that, see *Using the CLI Editor in Configuration Mode* in the *CLI User Guide*.

To configure redirect Web filtering feature profiles:

1. Configure the Web filtering URL blacklist.

```
[edit security utm feature-profile web-filtering]
user@host# set url-blacklist custblacklist
```


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2. Configure the Web filtering URL whitelist.

```
[edit security utm feature-profile web-filtering]
user@host# set url-whitelist custwhitelist
```

3. Specify the Web filtering type, create a profile name, and set the server name or IP address.

```
[edit security utm feature-profile web-filtering]
user@host# set websense-redirect profile websenseprofile1 server host
  Websenseserver
```

4. Configure the custom category action **log-and-permit** and **permit** for the URL whitelist and cust-list2, respectively.

```
[edit security utm feature-profile web-filtering]
user@host# set websense-redirect profile websenseprofile1 category cust-white-list
  action log-and-permit
user@host# set websense-redirect profile websenseprofile1 category cust-list2
  action permit
```

5. Enter the port number for communicating with the server.

```
[edit security utm feature-profile web-filtering]
user@host# set websense-redirect profile websenseprofile1 server port 15868
```

6. Configure the fallback settings action **block**for this profile.

```
[edit security utm feature-profile web-filtering]
user@host# set websense-redirect profile websenseprofile1 fallback-settings default
  block
```

```
user@host# set websense-redirect profile websenseprofile1 fallback-settings
  server-connectivity block
user@host# set websense-redirect profile websenseprofile1 fallback-settings
  timeout block
user@host# set websense-redirect profile websenseprofile1 fallback-settings
  too-many-requests block
```

7. Enter the number of sockets used for communicating between the client and the server.

```
[edit security utm feature-profile web-filtering]
user@host# set websense-redirect profile websenseprofile1 sockets 1
```

8. Enter a timeout value, in seconds.

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```
[edit security utm feature-profile web-filtering]
user@host# set .websense-redirect profile websenseprofile1 timeout 10
```

Results From configuration mode, confirm your configuration by entering the **show security utm feature-profile** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security utm feature-profile
  web-filtering {
    url-whitelist custwhitelist;
    url-blacklist custblacklist;
    type websense-redirect {
      profile websenseprofile1 {
        server {
          host Websenseserver;
          port 15868;
          }
          category {
          cust-white-list {
          action log-and-permit ;
          cust-list2 {
          action permit;
          }
          }
        }
        fallback-settings {
          server-connectivity block;
          timeout block;
          too-many-requests block;
        }
        timeout 10;
        sockets 1;
      }
    }
  }
    content-filtering {
      profile contentfilter1;
    }
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring Redirect Web Filtering UTM Policies and Attaching the Redirect Web Filtering UTM Policies to Security Policies

CLI Quick Configuration To quickly configure this section of the example, copy the following commands, paste them into a text file, remove any line breaks, change any details necessary to match your network configuration, copy and paste the commands into the CLI at the **[edit]** hierarchy level, and then enter **commit** from configuration mode.

```
set security utm utm-policy utmp6 web-filtering http-profile websenseprofile1
```


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```
set security policies from-zone trust to-zone untrust policy p6 match source-address any
set security policies from-zone trust to-zone untrust policy p6 match destination-address
  any
set security policies from-zone trust to-zone untrust policy p6 match application junos-http
set security policies from-zone trust to-zone untrust policy p6 then permit
  application-services utm-policy utmp6
```

Step-by-Step Procedure

To configure a UTM policy and attach it to a security policy:

1. Create the UTM policy referencing a profile.

```
[edit security utm]
user@host# set utm-policy utmp6 web-filtering http-profile websenseprofile1
```

2. Create and configure the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p6]
user@host# set match source-address any
user@host#  set match destination-address any
user@host# set match application junos-http
```

3. Attach the UTM policy to the security policy.

```
[edit security policies from-zone trust to-zone untrust policy p6]
user@host# set then permit application-services utm-policy utmp6
```

Results

From configuration mode, confirm your configuration by entering the **show security utm** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security utm
utm-policy utmp6 {
  web-filtering {
    http-profile websenseprofile1;
  }
}
```

From configuration mode, confirm your configuration by entering the **show security policies** command. If the output does not display the intended configuration, repeat the configuration instructions in this example to correct it.

```
[edit]
userhost# show security policies
  from-zone trust to-zone untrust {
    policy p6 {
      match {
        source-address any;
```

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```
        destination-address any;
        application junos-http;
      }
      then {
        permit {
          application-services {
            utm-policy utmp6;
          }
        }
      }
    }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

To confirm that the configuration is working properly, perform these tasks:

- Verifying the Configuration of Redirect Web Filtering Custom Objects on page 282
- Verifying the Configuration of Redirect Web Filtering Feature Profiles on page 283
- Verifying the Attachment of Redirect Web Filtering UTM Policies to Security Policies on page 283

Verifying the Configuration of Redirect Web Filtering Custom Objects

Purpose Verify the configuration of redirect Web filtering custom objects.

Action From the top of the configuration in configuration mode, enter the **show security utm custom-objects** command.

```
[edit]
userhost# show security utm custom-objects
url-pattern {
  urllist4 {
    value [ http://www.example.net 1.2.3.4 ];
  }
  urllistblack {
    value [ http://www.untrusted.com 13.13.13.13 ];
  }
  urllistwhite {
    value [ http://www.trusted.com 7.7.7.7 ];
  }
}
  custom-url-category {
    custurl4 {
      value urllist4;
    }
    custblacklist {
      value urllistblack;
    }
    custwhitelist {
```


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```
            value urllistwhite;
        }
    }
```

Meaning The sample output shows the list of custom objects created.

Verifying the Configuration of Redirect Web Filtering Feature Profiles

Purpose Verify the configuration of redirect Web filtering feature profiles.

Action From the top of the configuration in configuration mode, enter the **show security utm feature-profile** command.

```
[edit]
userhost# show security utm feature-profile
  web-filtering {
    url-whitelist custwhitelist;
    url-blacklist custblacklist;
    type websense-redirect {
      profile websenseprofile1 {
        server {
          host Websenseserver;
          port 15868;
        }
        fallback-settings {
          server-connectivity block;
          timeout block;
          too-many-requests block;
        }
        timeout 10;
        sockets 1;
      }
    }
  }
    content-filtering {
      profile contentfilter1;
    }
```

Meaning The sample output shows the feature profile configured for a Websense redirect server.

Verifying the Attachment of Redirect Web Filtering UTM Policies to Security Policies

Purpose Verify the attachment of the newly created redirect Web filtering UTM policies to the security policies.

Action From the top of the configuration in configuration mode, enter the **show security utm** and **show security policies** commands.

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```
[edit]
userhost# show security utm
utm-policy utmp6 {
   web-filtering {
      http-profile websenseprofile1;
   }
}
```

```
[edit]
userhost# show security policies
   from-zone trust to-zone untrust {
      policy p6 {
         match {
            source-address any;
            destination-address any;
            application junos-http;
         }
         then {
            permit {
               application-services {
                  utm-policy utmp6;
               }
            }
         }
      }
   }
```

Meaning The sample output shows the security policies to which the newly created redirect Web filtering UTM policies are attached.

See Also

- Example: Configuring Enhanced Web Filtering on page 222

Release History Table

Release	Description
17.4R1	Starting with Junos OS Release 17.4R1, a new option, **custom-message**, is added for the **custom-objects** statement that enables you to configure user messages and redirect URLs to notify users when a URL is blocked or quarantined for each EWF category.
17.4R1	Starting with Junos OS Release 17.4R1, you can download and dynamically load new Enhanced Web Filtering (EWF) categories.

Related Documentation

- Enhanced Web Filtering on page 212
- Monitoring Web Filtering Configurations on page 285

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Monitoring Web Filtering Configurations

Purpose View Web-filtering statistics.

Action To view Web-filtering statistics using the CLI, enter the following commands:

```
user@host> show security utm web-filtering status
user@host> show security utm web-filtering statistics
```

To view Web-filtering statistics using J-Web:

1. Select **Clear Web Filtering Statistics**.

   The following information is displayed in the right pane.

   ```
   Total Requests: #
   White List Hit: #
   Black List Hit: #
   Queries to Server: #
   Server Reply Permit: #
   Server Reply Block: #
   Custom Category Permit: #
   Custom Category Block: #
   Cache Hit Permit: #
   Cache Hit Block: #
   Web Filtering Session Total: #
   Web Ffiltering Session Inuse: #
   Fall Back: Log-and-Permit Block
   Default # #
   Timeout # #
   Server-Connectivity # #
   Too-Many-Requests # #
   ```

2. You can click the **Clear Web Filtering Statistics** button to clear all current viewable statistics and begin collecting new statistics.

Related Documentation

- Web Filtering Overview on page 209
- Example: Configuring Enhanced Web Filtering on page 222

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CHAPTER 7

Configuration Statements

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action (Security UTM Web Filtering)

Syntax

```
action (block | log-and-permit | permit | quarantine);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile profile-name
  category customurl-last-name]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name category
  customurl-last-name]
```

Release Information

The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for UTM Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Enter an action to go with the customurl-list filter.

Options

- block—Log the error and deny the traffic.
- log-and-permit—Log the error and permit the traffic.
- permit—Permit the traffic.
- quarantine—Show the warning message and permit/block the traffic based on user input.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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address-blacklist

Syntax address-blacklist *list-name*;

Hierarchy Level [edit security utm feature-profile anti-spam]
[edit security utm default-configuration]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Enter an address blacklist (or whitelist) custom object for local list spam filtering.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

address-whitelist

Syntax address-whitelist *list-name*;

Hierarchy Level [edit security utm feature-profile anti-spam]
[edit security utm default-configuration]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Enter an address-whitelist (or blacklist) custom-object for local list spam filtering.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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admin-email

Syntax

```
admin-email email-address;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update
  email-notify]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update email-notify]
[edit security utm feature-profile anti-virus sophos-engine pattern-update email-notify]
[edit security utm default-configuration anti-virus avira-engine pattern-update email-notify]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Support for Avira engine added in Junos OS Release 18.4R1.

Description

You can configure the device to notify a specified administrator when patterns are updated. This is an e-mail notification with a custom message and a custom subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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administrator-email (Security Fallback Block)

Syntax

```
administrator-email email-address;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the administrator e-mail address that will be notified when a fallback-block occurs. This is an e-mail notification with a custom message and a custom subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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administrator-email (Security Virus Detection)

Syntax

```
administrator-email email address;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile name
  notification-options virus-detection]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the administrator e-mail address that will be notified when a virus is detected by Sophos antivirus. This is an e-mail notification with a custom message and a custom subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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allow-email (Security Fallback Block)

Syntax
```
allow-email;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information
The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Enable e-mail notification to notify a specified administrator when a fallback-block occurs.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

allow-email (Security Virus Detection)

Syntax
```
allow–email;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus profile notification-options virus-detect]
```

Release Information
Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Enable e-mail notification to notify a specified administrator when a virus is detected.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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application (Security Policies)

Syntax

```
application {
  [application];
  any;
}
```

Hierarchy Level

[edit security policies from-zone *zone-name* to-zone *zone-name* policy *policy-name* match]

[edit security policies global policy *policy-name* match]

Release Information

Statement introduced in Junos OS Release 8.5.

Description

Specify the IP or remote procedure call (RPC) application or set of applications to be used as match criteria.

Options

application-name-or-set—Name of the predefined or custom application or application set used as match criteria.

any—Any predefined or custom applications or application sets.

NOTE: A custom application that does not use a well-known destination port for the application will not be included in the any option, and must be named explicitly.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Overview*

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application-proxy (Security UTM)

Syntax

```
application-proxy {
  traceoptions {
    flag flag;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure trace options for the application proxy.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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anti-spam (Security Feature Profile)

Syntax

```
anti-spam {
  address-blacklist list-name;
  address-whitelist list-name;
  sbl {
    profile profile-name {
      custom-tag-string [string];
      (sbl-default-server | no-sbl-default-server);
      spam-action (block | tag-header | tag-subject);
    }
  }
  traceoptions flag flag;
}
```

Hierarchy Level

```
[edit security utm feature-profile]
[edit security utm default-configuration]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM antispam features. You can also configure the default UTM configuration for antispam feature profile. If you do not configure any option in the antispam feature profile, the values configured in the default UTM configuration are applied.

The antispam feature examines transmitted e-mail messages to identify e-mail spam. When the device detects a message deemed to be spam, it blocks the e-mail message or tags the e-mail message header or subject with a preprogrammed string. Antispam filtering uses both a third-party server-based Spam Block List (SBL) and optionally created local whitelists (benign) and blacklists (malicious) for filtering against e-mail messages.

NOTE: A license check for the antispam configuration is performed at the time of a commit and will provide a warning if a valid license is not installed on the device. Once a valid license is installed on the device then a custom antispam profile or the default profile will be able to process traffic. If a license is expired or is not installed, the antivirus service will not process traffic.

In the default UTM profile, the antispam type is configured as SBL instead of none. This configuration enables SBL. However, to use this feature, you must enable the SBL server using the **[edit security utm default-configuration anti-spam sbl sbl-default-server]** command.

Options

anti-spam—Configure antispam feature.

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address-blacklist—Enter an address blacklist custom object for local list spam filtering.

address-whitelist—Enter an address-whitelist custom-object for local list spam filtering.

sbl—Antispam filtering allows you to use both a third-party server-based spam block list (SBL) and to optionally create your own local whitelists and blacklists for filtering against e-mail messages.

traceoptions—Defines tracing operations for UTM antispam features.

type—Antispam type.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

anti-spam (Security UTM Policy)

Syntax

```
anti-spam {
  smtp-profile profile-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name]
[edit logical-systems logical-system-name security utm utm-policy policy-name]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for configuration in logical systems introduced in Junos OS Release 18.3R1.

Description
Configures a UTM policy for the antispam SMTP protocol and attach this policy to a security profile to implement it. The device can block and drop detected spam at either the connection level or the e-mail level. When the SMTP sender is identified as a spam sender based on its IP address, the SMTP connection is rejected and dropped. When a particular e-mail sender is identified as spam sender based on its sender address, the e-mail is rejected and dropped.

Options
The statements are explained separately. See CLI Explorer.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Antispam Filtering Overview on page 175

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anti-virus (Security Feature Profile)

Syntax

```
anti-virus {
  mime-whitelist {
    exception;
    list;
  }
  sophos-engine {
    fallback-options {
      content-size (block | log-and-permit | permit);
      default (block | log-and-permit | permit);
      engine-not-ready (block | log-and-permit | permit);
      out-of-resources (block | log-and-permit | permit);
      timeout (block | log-and-permit | permit);
      too-many-requests (block | log-and-permit | permit);
    }
    notification-options {
      fallback-block {
        custom-message;
        custom-message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      fallback-non-block {
        custom-message;
        custom-message-subject;
        (notify-mail-recipient | no-notify-mail-recipient);
      }
      virus-detection {
        custom-message;
        custom-message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
    }
    pattern-update {
      email-notify {
        admin-email;
        custom-message;
        custom-message-subject;
      }
      interval;
      no-autoupdate;
      proxy {
        password;
        port;
        server;
        username;
      }
      routing-instance;
      url;
    }
    scan-options {
```

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```
        content-size-limit;
        timeout seconds;
        (uri-check | no-uri-check);
    }
    server {
        ip;
        routing-instance;
    }
    sxl-retry;
    sxl-timeout seconds;
    trickling timeout;
  }
  traceoptions {
    flag name;
  }
  url-whitelist;
}
```

Hierarchy Level

```
[edit security utm feature-profile]
[edit security utm default-configuration]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM Sophos antivirus features. You can also configure the default UTM configuration for antivirus feature profile. If you do not configure any option in the antivirus feature profile, the values configured in the default UTM configuration are applied. Antivirus, one of several features including content filtering, antispam, and Web filtering, makes up Juniper's UTM suite, provides the ability to prevent threats at the gateway before they enter the network.

NOTE: A license check for the antivirus configuration is performed at the time of a commit and will provide a warning if a valid license is not installed on the device. Once a valid license is installed on the device then a custom antivirus profile or the default profile will be able to process traffic. If a license is expired or is not installed, the antivirus service will not process traffic.

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Options

anti-virus—Configure antivirus feature.

mime-whitelist—This is the comprehensive list for those MIME types that can bypass antivirus scanning.

sophos-engine—The antivirus engine that is used on the device. You can only have one engine type running and you must restart the device if you change engines.

fallback-options—Fallback options tell the system how to handle the errors.

notification-options—There are multiple notification options you can configure to trigger when a virus is detected.

fallback-non-block—Notifications for fallback nonblocking actions.

virus-detection—Notification to send when a virus is detected.

pattern-update—You can configure the security device to regularly update the pattern file automatically, or you can update the file manually.

scan-options—Antivirus sophos-engine scan options.

server—Sophos Antivirus (SAV) and antispam first hop DNS server.

sxl-retry—Number of retry attempts to the remote Sophos Extensible List (SXL) server when a request timeout occurs.

Range: 0 through 5

sxl-timeout —Timeout value for responses to a Sophos checksum or URI query.

Range: 1 through 5

trickling —HTTP trickling is a mechanism used to prevent the HTTP client or server from timing-out during a file transfer or during antivirus scanning.

traceoptions —Define tracing operations for UTM antivirus features.

url-whitelist—Antivirus URL white list. A URL whitelist is a unique custom list that you define in which all the URLs or IP addresses in that list for a specified category are always bypassed for scanning.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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anti-virus (Security UTM Policy)

Syntax

```
anti-virus {
  ftp {
    download-profile profile-name;
    upload-profile profile-name;
  }
  http-profile profile-name;
  imap-profile profile-name;
  pop3-profile profile-name;
  smtp-profile profile-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name]
[edit logical-systems logical-systems-name security utm utm-policy policy-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for configuration in logical systems introduced in Junos OS Release 18.3R1.

Description

Configures a UTM policy for the antivirus protocols and attaches this policy to a security profile to implement it. The internal antivirus scan engine supports scanning for specific Application Layer transactions allowing you to select the content (HTTP, FTP, SMTP, POP3, or IMAP traffic) to scan.

Options

The statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Unified Threat Management Overview on page 23

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avira-engine

Syntax

```
avira-engine {
  pattern-update {
    email-notify {
      admin-email admin-email;
      custom-message custom-message;
      custom-message-subject custom-message-subject;
    }
    interval interval;
    no-autoupdate;
    proxy-profile proxy-profile;
    routing-instance routing-instance;
    start-time start-time;
    url url;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration anti-virus]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Statement introduced in Junos OS Release 18.4R1.

Description

The Avira scan engine is a licensed feature provided as a downloadable module. Download and install the Avira scan engine either through SRX with Internet connectivity to Juniper hosted URL, user hosted URL, or manually.

The Antivirus engine provides a full file-based virus scanning function which is available through a licensed subscription service. When your antivirus license key expires, you can continue to use the locally stored antivirus signatures without any updates. In case, the local database is deleted, antivirus scanning is also disabled.

Required Privilege Level

security— To view this statement in the configuration.
security-control— To add this statement to the configuration.

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block-command

Syntax block-command *protocol-command-list*;

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile *profile-name*]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Apply protocol block command custom-objects to the content-filtering profile.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

block-content-type

Syntax block-content-type (activex | exe | http-cookie | java-applet | zip);

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile *profile-name*]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Apply blocks to other available content such as exe, http-cookie, java-applet. This is for HTTP only.

Options

- **activex**—Block ActiveX.
- **exe**—Block EXE files.
- **http-cookie**—Block cookies.
- **java-applet**—Block Java applets.
- **zip**—Block ZIP files.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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block-extension

Syntax

```
block-extension extension-list;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Apply block extensions to the content-filtering profile.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

block-message (Security UTM)

Syntax

```
block-message {
  type {
    custom-redirect-url;
  }
  url url;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure Juniper enhanced block message settings.

Options

- **type**—Specify the following type of the block message:
  - **custom-redirect-url**—Specify Custom redirect URL server.
- **url *url***—Specify an URL of the block message.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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block-mime

Syntax

```
block-mime {
  exception list-name;
  list list-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Apply MIME pattern list custom-objects to the content-filtering profile for blocking MIME types.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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cache

Syntax

```
cache {
  size value;
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated]
[edit security utm feature-profile web-filtering juniper-enhanced]
```

Release Information

The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 for surf-control integrated.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Set the cache parameters for Surf-Control-Integrated Web filtering and Enhanced Web Filtering.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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category (Security Logging)

Syntax

```
category (all | content-security | fw-auth | screen | alg | nat | flow | sctp | gtp | ipsec | idp |
  rtlog | pst-ds-lite | appqos | secintel)
```

Hierarchy Level

```
[edit security log stream stream-name]
```

Release Information

Statement introduced in Junos OS Release 10.0. Statement modified in Junos OS Release 15.1X49-D40.

Description

Set the category of logging to **all** or **content-security**. Note that for the WELF format, the category must be set to **content-security**.

Options

- **all**—All events are logged. By default, all the events listed in the **category** parameter are logged.
- **content-security**—Only content security events are logged.
- **fw-auth**—Firewall authentication events are logged.
- **screen**—Screen events are logged.
- **alg**—Application Layer Gateway (ALG) events are logged.
- **nat**—Network Address Translation (NAT) events are logged.
- **flow**—Flow events are logged.
- **sctp**—Stream Control Transmission Protocol (SCTP) events are logged.
- **gtp**—GPRS Tunneling Protocol (GTP) events are logged.
- **ipsec**—IPsec events are logged.
- **idp**—Intrusion Detection and Prevention (IDP) events are logged.
- **rtlog**—RTLOG system log events are logged.
- **pst-ds-lite**—PST dual-stack lite (DS-Lite) events are logged.
- **appqos**—Application quality of service (AppQoS) events are logged.
- **secintel**—Juniper Networks Security Intelligence (SecIntel) events are logged.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Application Security Feature Guide for Security Devices*
- *Logical Systems and Tenant Systems Feature Guide for Security Devices*

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category (Security Web Filtering)

Syntax

```
category name{
  action (block | log-and-permit | permit | quarantine);
  custom-message message-name;
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile *profile-name*]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name*]

Release Information

Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering. Support for new categories and category name updates by Websense added in Junos OS Release 12.1X47-D15 and 12.3X48-D10.
Starting with Junos OS Release 15.1X49-D10, the SurfControl integrated feature is no longer supported. For previous releases, statement introduced in Junos OS Release 9.5.
The **custom-message** option introduced in Junos OS Release 15.1X49-D110.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Select a custom URL category list you created (custom objects) for filtering against. The **custom-message** configuration option is used to notify the users when the URL is blocked or quarantined for each EWF category. You can customize the message with options such as user message or redirect URL. User messages indicate that website access has been blocked by an organization's access policy. Redirect URLs redirect a blocked or quarantined URL to any user-defined URL. Table 7 on page 314 shows the list of categories predefined by Websense.

Starting with Junos OS Release 17.4R1, you can download and dynamically load new Enhanced Web Filtering (EWF) categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories.

NOTE: Existing configurations are not affected by the new categories but can be modified to make use of the new categories.

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Table 7: List of Categories Predefined by Websense

Category ID	Category Name	Parent ID
1	Adult Material	0
2	Business and Economy	0
3	Education	0
4	Government	0
5	News and Media	0
6	Religion	0
7	Society and Lifestyles	0
8	Special Events	0
9	Information Technology	0
10	Abortion	0
11	Advocacy Groups	0
12	Entertainment	0
13	Gambling	0
14	Games	0
15	Illegal or Questionable	0
16	Job Search	0
17	Shopping	0
18	Sports	0
19	Tasteless	0
20	Travel	0
21	Vehicles	0
22	Violence	0
23	Weapons	0
24	Drugs	0

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Table 7: List of Categories Predefined by Websense (continued)

Category ID	Category Name	Parent ID
25	Militancy and Extremist	0
26	Intolerance	0
27	Health	0
28	Website Translation	9
29	Advertisements	110
64	User-Defined	0
65	Nudity	1
66	Adult Content	1
67	Sex	1
68	Financial Data and Services	2
69	Cultural Institutions	3
70	Media File Download	12
72	Military	4
73	Political Organizations	4
74	General Email	91
75	Proxy Avoidance	9
76	Search Engines and Portals	9
78	Web Hosting	9
79	Web Chat	91
80	Hacking	9
81	Alternative Journals	5
82	Non-Traditional Religions	6
83	Traditional Religions	6
84	Restaurants and Dining	7

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Table 7: List of Categories Predefined by Websense (continued)

Category ID	Category Name	Parent ID
85	Gay or Lesbian or Bisexual Interest	7
86	Personals and Dating	7
87	Alcohol and Tobacco	7
88	Prescribed Medications	24
89	Nutrition	24
90	Abused Drugs	24
91	Internet Communication	0
92	Pro-Choice	10
93	Pro-Life	10
94	Sex Education	1
95	Lingerie and Swimsuit	1
96	Online Brokerage and Trading	110
97	Educational Institutions	3
98	Instant Messaging	110
99	Application and Software Download	110
100	Pay-to-Surf	110
101	Internet Auctions	17
102	Real Estate	17
103	Hobbies	7
107	Sport Hunting and Gun Clubs	18
108	Internet Telephony	116
109	Streaming Media	116
110	Productivity	0
111	Marijuana	24

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Table 7: List of Categories Predefined by Websense (continued)

Category ID	Category Name	Parent ID
112	Message Boards and Forums	110
113	Personal Network Storage and Backup	116
114	Internet Radio and TV	116
115	Peer-to-Peer File Sharing	116
116	Bandwidth	0
117	Social Networking and Personal Sites	7
118	Educational Materials	3
121	Reference Materials	3
122	Social Organizations	0
123	Service and Philanthropic Organizations	122
124	Social and Affiliation Organizations	122
125	Professional and Worker Organizations	122
126	Security	0
128	Malicious Web Sites	126
138	Computer Security	9
146	Miscellaneous	0
147	Web Infrastructure	146
148	Web Images	146
149	Private IP Addresses	146
150	Content Delivery Networks	146
151	Dynamic Content	146
152	Network Errors	146
153	Uncategorized	146
154	Spyware	126

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Table 7: List of Categories Predefined by Websense (continued)

Category ID	Category Name	Parent ID
156	File Download Servers	146
164	Phishing and Other Frauds	126
166	Keyloggers	126
167	Potentially Unwanted Software	126
172	Bot Networks	126
191	Extended Protection	0
192	Elevated Exposure	191
193	Emerging Exploits	191
194	Suspicious Content	191
195	Organizational Email	91
196	Text and Media Messaging	91
200	Web and Email Spam	9
220	Compromised Websites	0
221	Newly Registered Websites	0
222	Collaboration Office	0
223	Office Mail	222
224	Office Drive	222
225	Office Documents	222
226	Office Apps	222
227	Web Analytics	9
228	Web and Email Marketing	9
1529	Classifieds Posting	0
1530	Blog Posting	0
1531	Blog Commenting	0

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Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Understanding Redirect Web Filtering on page 273

content-filtering (Security Feature Profile)

Syntax

```
content-filtering {
  block-command;
  block-content-type {
    activex;
    exe;
    http-cookie;
    java-applet;
    zip;
  }
  block-extension;
  block-mime {
    exception;
    list;
  }
  notification-options {
    custom-message;
    (notify-mail-sender | no-notify-mail-sender);
    type (message | protocol-only);
  }
  permit-command;
  traceoptions {
    flag name;
  }
  type (content-filtering-none | local);
}
```

Hierarchy Level

```
[edit security utm feature-profile]
[edit security utm default-configuration]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM content-filtering features. You can also configure the default UTM configuration for content filtering feature profile. If you do not configure any option in the content filtering feature profile, the values configured in the default UTM configuration are applied. The content filtering feature controls file transfers across the gateway by checking traffic against configured filter lists. It evaluates the traffic before all other UTM features, except Web filtering.

NOTE: A license check for the content filtering configuration is performed at the time of a commit and will provide a warning if a valid license is not installed on the device. Once a valid license is installed on the device then a custom content filtering profile or the default profile will be able to process traffic. If a license is expired or is not installed, the content filtering service will not process traffic.

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Options

block-command—Protocol block command custom-objects to the content-filtering profile.

block-content-type—Blocks to other available content such as exe, http-cookie, java-applet. This is for HTTP only.

block-extension—Block extensions to the content-filtering profile.

block-mime—MIME pattern list custom-objects to the content-filtering profile for blocking MIME types.

notification-options—A message notification to trigger when a content filter is matched.

permit-command—Protocol permit command custom-objects to the content-filtering profile.

traceoptions—Defines tracing operations for default UTM configuration for content filtering feature.

type—Type of content filtering solution or URL filtering solution used by the device.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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content-filtering (Security UTM Policy)

Syntax

```
content-filtering {
  ftp {
    download-profile profile-name;
    upload-profile profile-name;
  }
  http-profile profile-name;
  imap-profile profile-name;
  pop3-profile profile-name;
  smtp-profile profile-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name]
[edit logical-systems logical-systems-name security utm utm-policy policy-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for configuration in logical systems introduced in Junos OS Release 18.3R1.

Description

Configures a UTM policy for the content filtering protocols and attach this policy to a security profile to implement it. Each supported protocol may implement available content filters differently. Not all filtering capabilities are supported for each protocol. The HTTP protocol supports all content filtering features. The FTP protocol supports only lock Extension List and Protocol Command Block List. The e-mail protocols (SMTP, IMAP, POP3) supports limited to Block Extension List, Protocol Command Block List, and MIME Pattern Filtering.

Options

The statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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content-size

Syntax

```
content-size (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

If the content size exceeds a set limit, the content is either passed or blocked. The default action is log-and-permit.

NOTE: When you configure the content-size value, keep in mind that in certain cases, content size is available in the protocol headers, so the max-content-size fallback is applied before a scan request is sent. However, in many cases, content size is not provided in the protocol headers. In these cases, the TCP payload is sent to the antivirus scanner and accumulates until the end of the payload. If the accumulated payload exceeds the maximum content size value, then max-content-size fallback is applied. The default fallback action is log and permit, so you may want to change this option to block, in which case such a packet is dropped and a block message is sent to the client.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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content-size (Security Antivirus Sophos Engine)

Syntax

```
content-size (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

If the content size exceeds a set limit, the content is either passed or blocked.

NOTE: When you configure the content-size value, keep in mind that in certain cases, content size is available in the protocol headers, so the max-content-size fallback is applied before a scan request is sent. However, in many cases, content size is not provided in the protocol headers. In these cases, the TCP payload is sent to the antivirus scanner and accumulates until the end of the payload. If the accumulated payload exceeds the maximum content size value, then max-content-size fallback is applied. You might want to set the fallback action to block, in which case such a packet is dropped and a block message is sent to the client.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Sophos Antivirus Configuration Overview on page 101

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content-size-limit

Syntax

```
content-size-limit value;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  scan-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
[edit security utm default-configuration anti-virus scan-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

The content size check occurs before the scan request is sent. The content size refers to accumulated TCP payload size. The maximum configurable content size varies with different platforms. For example, the content size ranges from 20 through 40,000 for SRX4100.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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corrupt-file

Syntax

```
corrupt-file (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Corrupt file is the error returned by the scan engine when engine detects a corrupted file. The default action is log-and-permit.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Full Antivirus Configuration Overview on page 67

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custom-block-message

Syntax
custom-block-message *value*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile *profile-name*]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name*]

Release Information
The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Enter a custom message to be sent when HTTP requests are blocked.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

custom-message (Security Content Filtering)

Syntax
custom-message *message*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile *profile-name* notification-options]

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Custom message notifications are generally used when content is blocked by the content filter.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Content Filtering Overview on page 195

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custom-message (Security Email Notify)

Syntax

```
custom-message message;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update
  email-notify]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update email-notify]
[edit security utm feature-profile anti-virus sophos-engine pattern-update email-notify]
[edit security utm default-configuration anti-virus avira-engine pattern-update email-notify]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

You can configure the device to notify a specified administrator when patterns are updated. This is an e-mail notification with a custom message.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message (Security Fallback Block)

Syntax

```
custom-message message;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message (Security Fallback Non-Block)

Syntax

```
custom-message message;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-non-block]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message (Security Virus Detection)

Syntax

```
custom-message message;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options virus-detection]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message-subject (Security Email Notify)

Syntax

```
custom-message-subject message-subject;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update
  email-notify]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update email-notify]
[edit security utm feature-profile anti-virus sophos-engine pattern-update email-notify]
[[edit security utm default-configuration avira-engine pattern-update email-notify]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

You can configure the device to notify a specified administrator when patterns are updated. This is an e-mail notification with a custom message and a custom subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message-subject (Security Fallback Block)

Syntax

```
custom-message-subject message-subject;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file. As part of a custom message, you can customize the message subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message-subject (Security Fallback Non-Block)

Syntax

```
custom-message-subject message-subject;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-non-block]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file. As part of a custom message, you can customize the message subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-message-subject (Security Virus Detection)

Syntax

```
custom-message-subject message-subject;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options virus-detection]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Custom message notifications are mainly used in file replacement or in a response message when the antivirus scan result is to drop the file. As part of a custom message, you can customize the message subject line.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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custom-objects

Syntax

```
custom-objects {
  custom-url-category object-name {
    value [value];
  }
  custom-message {
    name message-name;
    type redirect-url | user-message;
    content redirect-url by user| user-message by user;
  }
  filename-extension object-name {
    value [value];
  }
  mime-pattern object-name {
    value [value];
  }
  protocol-command object-name {
    value [value];
  }
  url-pattern object-name {
    value [value];
  }
}
```

Hierarchy Level

```
[edit security utm]
[edit security utm default-configuration]
[edit logical-systems logical-system-name security utm]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level introduced in Junos OS Release 18.2R1.
Support for configuration in logical systems introduced in Junos OS Release 18.3R1.

Description

Configure custom objects before configuring UTM feature-profile features.

WARNING: Custom category does not take precedence over predefined categories when it has the same name as one of the predefined categories. We do not recommend having a custom category name be the same as the predefined category name.

NOTE: Starting from Junos OS Release 17.4R1, support for custom category configuration is available for EWF, local, and Websense redirect profiles.

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Options The statements are explained separately. See CLI Explorer.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Unified Threat Management Overview on page 23

custom-tag-string

Syntax
```
custom-tag-string [string];
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam sbl profile profile-name]
```

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Configure a custom string for identifying a message as spam.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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custom-url-category

Syntax

```
custom-url-category object-name {
  value [value];
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm custom-objects]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Use URL pattern lists to create Custom URL category lists. These are lists of patterns that bypass scanning.

WARNING: Custom category does not take precedence over predefined categories when it has the same name as one of the predefined categories. We do not recommend having a custom category name be the same as the predefined category name.

Options

- ***object-name***—Name of the URL category-list object.
- **value *value***—Value of the URL category-list object. You can configure multiple values separated by spaces and enclosed in square brackets.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- UTM Overview on page 23

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decompress-layer

Syntax

```
decompress-layer (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Description

The Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, decompress layer error is the error returned by the scan engine when the scanned file has too many compression layers. The default action is block.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Full Antivirus Configuration Overview on page 67

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decompress-layer-limit

Syntax

```
decompress-layer-limit value;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
[edit anti-virus scan-options]
```

Release Information

The Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

The decompression layer limit specifies how many layers of nested compressed files and files with internal extractable objects, such as archive files (tar), the internal antivirus scanner can decompress before it executes the virus scan.

Range: 0 through 10

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Full Antivirus Configuration Overview on page 67

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default (Security Antivirus)

Syntax

```
default (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

All errors other than those specifically listed fall into this category. This could include either unhandled system exceptions (internal errors) or other unknown errors.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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default (Security Antivirus Sophos Engine)

Syntax

```
default (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

All errors other than those specifically listed fall into this category. This could include either unhandled system exceptions (internal errors) or other unknown errors.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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default (Security UTM)

Syntax

```
default (block |log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 11.4.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Specify the default action to take for a URL.

Options

- block—Log the error and deny the traffic.
- log-and-permit—Log the error and permit the traffic.
- permit—Permit the traffic.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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default (Security Web Filtering)

Syntax

```
default (block | log-and-permit | permit | quarantine);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering juniper–local profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name
  fallback-settings]
```

Release Information

The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Specify an action for the profile, for requests that experience internal errors in the Web-filtering module.

Options

- block—Log the error and deny the traffic.
- log-and-permit—Log the error and permit the traffic.
- permit —Permit the traffic.
- quarantine—Show the warning message and permit/block the traffic based on user input.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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display-host (Security Fallback Block)

Syntax
```
display-host;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information
The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Display the computer host name in the notification e-mail sent to the administrator when a fallback-block notification occurs.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

display-host (Security Virus Detection)

Syntax
```
display-host;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus profile profile name notification-options
  virus-detection]
```

Release Information
Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Display the computer host name in the notification e-mail sent to the administrator when a virus is detected by Sophos antivirus.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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download-profile (Security Antivirus FTP)

Syntax
```
download-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus ftp]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus FTP (download) protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

download-profile (Security Content Filtering FTP)

Syntax
```
download-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering ftp]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content-filtering FTP (download) protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Content Filtering Overview on page 195

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email-notify

Syntax

```
email-notify {
  admin-email email-address;
  custom-message message;
  custom-message-subject message-subject;
}
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm default-configuration anti-virus avira-engine pattern-update]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

You can configure the device to notify a specified administrator when patterns are updated. This is an e-mail notification with a custom message and a custom subject line.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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engine-not-ready

Syntax

```
engine-not-ready (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

The scan engine is initializing itself, for example, loading the signature database. During this phase, it is not ready to scan a file. A file could either pass or be blocked according to this setting. The default action is block.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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engine-not-ready (Security Antivirus Sophos Engine)

Syntax

```
default (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

The scan engine is initializing itself, for example, loading the signature database. During this phase, it is not ready to scan a file. A file could either pass or be blocked according to this setting.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Sophos Antivirus Configuration Overview on page 101

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exception (Security Antivirus Mime Whitelist)

Syntax
```
exception listname;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus mime-whitelist]
[edit security utm feature-profile anti-virus mime-whitelist list listname]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure the antivirus scanner to use an exception list to the MIME bypass list (custom objects). To use the exception list, you first create a whitelist custom-object list with the **list** statement. The system will first look at any existing whitelist mime pattern. If it matches an item, it will then continue to look for any exceptions to the whitelist and will then scan any item in the exception list.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

exception (Security Content Filtering)

Syntax
```
exception list-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name block-mime]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure the content filter to use an exception list to the MIME block list (custom objects).

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Content Filtering Overview on page 195

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fallback-block (Security Antivirus)

Syntax

```
fallback-block {
  administrator-email email-address;
  allow-email;
  custom-message message;
  custom-message-subject message-subject;
  display-host;
  (notify-mail-sender | no-notify-mail-sender);
  type (message | protocol-only);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure notifications for fallback blocking actions. Fallback options tell the system how to handle the errors returned by either the scan engine or the scan manager.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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fallback-non-block (Security Antivirus)

Syntax

```
fallback-non-block {
  custom-message message;
  custom-message-subject message-subject;
  (notify-mail-recipient | no-notify-mail-recipient);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options]
```

Release Information

The Express and Kaspersky antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure notifications for fallback nonblocking actions.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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fallback-options (Security Antivirus Juniper Express Engine)

Syntax

```
fallback-options {
  content-size (block | log-and-permit);
  default (block | log-and-permit);
  engine-not-ready (block | log-and-permit);
  out-of-resources (block | (log-and-permit);
  timeout (block | log-and-permit);
  too-many-requests (block | log-and-permit);
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile *profile-name*]

Release Information

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback options tell the system how to handle the errors.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Express Antivirus Configuration Overview on page 44

fallback-options (Security Antivirus Kaspersky Lab Engine)

Syntax

```
fallback-options {
  content-size (block | log-and-permit);
  corrupt-file (block | log-and-permit);
  decompress-layer (block | log-and-permit);
  default (block | log-and-permit);
  engine-not-ready (block | log-and-permit);
  out-of-resources (block | (log-and-permit);
  password-file (block | (log-and-permit);
  timeout (block | log-and-permit);
  too-many-requests (block | log-and-permit);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name]
```

Release Information

The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 .
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback options tell the system how to handle the errors returned by either the scan engine or the scan manager.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Full Antivirus Configuration Overview on page 67

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fallback-options (Security Antivirus Sophos Engine)

Syntax

```
fallback-options {
  content-size (block | log-and-permit | permit);
  default (block | log-and-permit | permit);
  engine-not-ready (block | log-and-permit | permit);
  out-of-resources (block | log-and-permit | permit);
  timeout (block | log-and-permit | permit);
  too-many-requests (block | log-and-permit | permit);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure fallback options to instruct the system how to handle errors.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Sophos Antivirus Configuration Overview on page 101

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fallback-settings (Security Web Filtering)

Syntax

```
fallback-settings {
  default (block | log-and-permit);
  server-connectivity (block | log-and-permit);
  timeout (block | log-and-permit);
  too-many-requests (block | log-and-permit);
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile *profile-name*]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name*]

Release Information

The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, Statement introduced in Junos OS Release 9.5 .
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback settings tell the system how to handle errors.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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fallback-settings (Security Web Filtering Juniper Local)

Syntax

```
fallback-settings {
  default (block | log-and-permit);
  server-connectivity (block | log-and-permit);
  timeout (block | log-and-permit);
  too-many-requests (block | log-and-permit);
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper–local profile *profile-name*]

Release Information

Statement introduced in Junos OS Release 10.0.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback settings tell the system how to handle errors.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Web Filtering Overview on page 209

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fallback-settings (Security Web Filtering Websense Redirect)

Syntax

```
fallback-settings {
  default (block | log-and-permit);
  server-connectivity (block | log-and-permit);
  timeout (block | log-and-permit);
  too-many-requests (block | log-and-permit);
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile web-filtering websense-redirect profile *profile-name*]

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback settings tell the system how to handle errors.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Understanding Redirect Web Filtering on page 273

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feature-profile

Syntax

```
feature-profile {
  anti-spam {
    address-blacklist list-name;
    address-whitelist list-name;
    sbl {
      profile profile-name {
        custom-tag-string [string];
        (sbl-default-server | no-sbl-default-server);
        spam-action (block | tag-header | tag-subject);
      }
    }
    traceoptions flag flag;
  }
  anti-virus {
    juniper-express-engine {
      pattern-update {
        email-notify {
          admin-email email-address;
          custom-message message;
          custom-message-subject message-subject;
        }
        interval value;
        no-autoupdate;
        proxy {
          password password-string;
          port port-number;
          server address-or-url;
          username name;
        }
        url url;
      }
      profile profile-name {
        fallback-options {
          content-size (block | log-and-permit);
          default (block | log-and-permit);
          engine-not-ready (block | log-and-permit);
          out-of-resources (block | (log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        notification-options {
          fallback-block {
            administrator-email email-address;
            allow-email;
            custom-message message;
            custom-message-subject message-subject;
            display-host;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
          fallback-non-block {
```

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```
            custom-message message;
            custom-message-subject message-subject;
            (notify-mail-recipient | no-notify-mail-recipient);
          }
          virus-detection {
            custom-message message;
            custom-message-subject message-subject;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
        }
        scan-options {
          content-size-limit value;
          (intelligent-prescreening | no-intelligent-prescreening);
          timeout value;
        }
        trickling {
          timeout value;
        }
      }
    }
    kaspersky-lab-engine {
      pattern-update {
        email-notify {
          admin-email email-address;
          custom-message message;
          custom-message-subject message-subject;
        }
        interval value;
        no-autoupdate;
        proxy {
          password password-string;
          port port-number;
          server address-or-url;
          username name;
        }
        url url;
      }
      profile profile-name {
        fallback-options {
          content-size (block | log-and-permit);
          corrupt-file (block | log-and-permit);
          decompress-layer (block | log-and-permit);
          default (block | log-and-permit);
          engine-not-ready (block | log-and-permit);
          out-of-resources (block | (log-and-permit);
          password-file (block | (log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        notification-options {
          fallback-block {
            administrator-email email-address;
            allow-email;
            custom-message message;
```


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```
            custom-message-subject message-subject;
            display-host;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
          fallback-non-block {
            custom-message message;
            custom-message-subject message-subject;
            (notify-mail-recipient | no-notify-mail-recipient);
          }
          virus-detection {
            custom-message message;
            custom-message-subject message-subject;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
        }
        scan-options {
          content-size-limit value;
          decompress-layer-limit value;
          (intelligent-prescreening | no-intelligent-prescreening);
          scan-extension filename;
          scan-mode (all | by-extension);
          timeout value;
        }
        trickling {
          timeout value;
        }
      }
    }
    mime-whitelist {
      exception listname;
      list listname {
        exception listname;
      }
    }
    sophos-engine {
      pattern-update {
        email-notify {
          admin-email email-address;
          custom-message message;
          custom-message-subject message-subject;
        }
        interval value;
        no-autoupdate;
        proxy {
          password password-string;
          port port-number;
          server address-or-url;
          username name;
        }
        url url;
      }
      profile <name> {
        fallback-options {
```

```
            content-size (block | log-and-permit | permit);
            default (block | log-and-permit | permit);
            engine-not-ready (block | log-and-permit | permit);
            out-of-resources (block | log-and-permit | permit);
            timeout (block | log-and-permit | permit);
            too-many-requests (block | log-and-permit | permit);
          }
          notification-options {
            fallback-block {
              administrator-email email-address;
              allow-email;
              custom-message message;
              custom-message-subject message-subject;
              display-host;
              (notify-mail-sender | no-notify-mail-sender);
              type (message | protocol-only);
            }
            fallback-non-block {
              custom-message message;
              custom-message-subject message-subject;
              (notify-mail-recipient | no-notify-mail-recipient);
            }
            virus-detection {
              custom-message message;
              custom-message-subject message-subject;
              (notify-mail-sender | no-notify-mail-sender);
              type (message | protocol-only);
            }
          }
          scan-options {
            content-size-limit value;
            (no-uri-check | uri-check);
            timeout value;
          }
          trickling {
            timeout value;
          }
        }
        sxl-retry value;
        sxl-timeout seconds;
      }
      traceoptions flag flag;
      type (juniper-express-engine | kaspersky-lab-engine | sophos-engine);
      url-whitelist listname;
    }
    content-filtering {
      profile profile-name {
        block-command protocol-command-list;
        block-content-type (activex | exe | http-cookie | java-applet | zip);
        block-extension extension-list;
        block-mime {
          exception list-name;
          list list-name;
        }
        notification-options {
```


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```
        custom-message message;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      permit-command protocol-command-list;
    }
    traceoptions flag flag;
}
web-filtering {
    url-whitelist custwhitelist;
    url-blacklist custblacklist;
    http-reassemble;
    type juniper-enhanced;
    juniper-enhanced {
      cache {
        timeout 1800;
        size 500;
      }
      server {
        host rp.cloud.threatseeker.com;
        port 80;
      }
      profile junos-wf-enhanced-default {
        category {
          Enhanced_Hacking {
            action log-and-permit;
            }
            Enhanced_Government {
            action quarantine;
          }
        }
        site-reputation-action {
          very-safe permit;
          moderately-safe log-and-permit;
          fairly-safe log-and-permit;
          harmful block;
          suspicious block;
        }
        default block;
        custom-block-message "***access denied ***";
        fallback-settings {
          default block;
          server-connectivity block;
          timeout block;
          too-many-requests block;
        }
        timeout 10;
        no-safe-search;
      }
      utm-policy mypolicy {
        web-filtering {
      http-profile my_ewfprofile01;
    }
    }
}
```

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```
web-filtering {
  juniper-enhanced {
    cache {
      size value;
      timeout value;
    }
    profile profile-name {
      category customurl-list name {
        action (block | log-and-permit | permit | quarantine);
      }
      custom-block-message value;
      custom-quarantine-message value;
      default (block | log-and-permit | permit | quarantine);
      fallback-settings {
        default (block | log-and-permit);
        server-connectivity (block | log-and-permit);
        timeout (block | log-and-permit);
        too-many-requests (block | log-and-permit);
      }
      no-safe-search;
      site-reputation-action {
        fairly-safe (block | log-and-permit | permit | quarantine);
        harmful (block | log-and-permit | permit | quarantine);
        moderately-safe (block | log-and-permit | permit | quarantine);
        suspicious (block | log-and-permit | permit | quarantine);
        very-safe (block | log-and-permit | permit | quarantine);
      }
      timeout value;
    }
    server {
      host host-name;
      port number;
    }
  }
  juniper-local {
    profile profile-name {
      custom-block-message value;
      default (block | log-and-permit | permit);
      fallback-settings {
        default (block | log-and-permit);
        server-connectivity (block | log-and-permit);
        timeout (block | log-and-permit);
        too-many-requests (block | log-and-permit);
      }
      timeout value;
    }
  }
  surf-control-integrated {
    cache {
      size value;
      timeout value;
    }
    profile profile-name {
      category customurl-list name {
        action (block | log-and-permit | permit);
```


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```
        }
        custom-block-message value;
        default (block | log-and-permit | permit);
        fallback-settings {
          default (block | log-and-permit);
          server-connectivity (block | log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        timeout value;
      }
      server {
        host host-name;
        port number;
      }
    }
    traceoptions flag flag;
    type (juniper-enhanced | juniper-local | surf-control-integrated | websense-redirect);
    url-blacklist listname;
    url-whitelist listname;
    websense-redirect {
      profile profile-name {
        account value;
        custom-block-message value;
        fallback-settings {
          default (block | log-and-permit);
          server-connectivity (block | log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        server {
          host host-name;
          port number;
        }
        sockets value;
        timeout value;
      }
    }
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm]
```

Release Information

The Kaspersky, Express antivirus and Surf-Control features are not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM features, antivirus, antispam, content-filtering, and web-filtering by creating feature profiles.

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Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

filename-extension

Syntax

```
filename-extension object-name {
  value [value];
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm custom-objects]
```

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description When scanning content, you can use a file extension list to define a set of file extensions that are used in file extension scan mode (scan-by-extension).

Options

- ***object-name***—Name of the extension-list object.
- **value *value***—Value of the extension-list object. You can configure multiple values separated by spaces and enclosed in square brackets.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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flag (SMTP)

Syntax

```
flag {
  all;
  configuration;
  IPC;
  protocol-exchange;
  send-request;
}
```

Hierarchy Level

```
[edit smtp traceoptions]
```

Release Information Statement added in Junos OS Release 10.0.

Description Set flag for the SMTP traceoptions.

Options The following flag options are supported:

- **IPC**—Trace interprocesss communication.
- **all**—Trace everything.
- **configuration**—Trace configuration event.
- **protocol-exchange**—Trace SMTP protocol exchanges.
- **send-request**—Trace send mail request event.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- smtp-profile (Security UTM Policy Antispam) on page 458

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format (Security Log Stream)

Syntax format (binary | sd-syslog | syslog | welf)

Hierarchy Level [edit security log stream *stream-name*]

Release Information Statement introduced in Junos OS Release 10.0 . Updated in Junos OS Release 12.1 .

Description Set the format for remote security message logging to **binary**, **syslog** (system log), **sd-syslog** (structured system log), or **welf**. Note that for the WELF format, the category must be set to **content-security** (see category (Security Logging)).

Options

- **binary**—Binary encoded text to conserve resources.
- **sd-syslog**—Structured system log file.
- **syslog**—Traditional system log file.
- **welf**—Web Trends Extended Log Format.

Default: By default **syslog** (system log) is enabled.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Application Security Feature Guide for Security Devices*
- *Logical Systems and Tenant Systems Feature Guide for Security Devices*

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from-zone (Security Policies)

Syntax

```
from-zone zone-name to-zone zone-name {
  policy policy-name {
    description description;
    match {
      application {
        [junos-defaults | application];
        any;
      }
      dynamic-application {
        [dynamic-application-name |dynamic-application-group-name];
        any;
        none;
      }
      destination-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
      }
      source-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
      }
      source-identity {
        [role-name];
        any;
        authenticated-user;
        unauthenticated-user;
        unknown-user;
      }
      source-end-user-profile {
        profile-name;
      }
    }
    scheduler-name scheduler-name;
    then {
      count {
        alarm {
          per-minute-threshold number;
          per-second-threshold number;
        }
      }
      deny;
      log {
        session-close;
        session-init;
      }
      permit {
        application-services {
```

```
        application-firewall {
            rule-set rule-set-name;
        }
        application-traffic-control {
            rule-set rule-set-name;
        }
        gprs-gtp-profile profile-name;
        gprs-sctp-profile profile-name;
        idp;
        redirect-wx | reverse-redirect-wx;
        ssl-proxy {
            profile-name profile-name;
        }
        uac-policy {
            captive-portal captive-portal;
        }
        utm-policy policy-name;
    }
    destination-address {
        drop-translated;
        drop-untranslated;
    }
    firewall-authentication {
        pass-through {
            access-profile profile-name;
            client-match user-or-group-name;
            ssl-termination-profile profile-name;
            web-redirect;
            web-redirect-to-https;
        }
        user-firewall {
            access-profile profile-name;
            domain domain-name
            ssl-termination-profile profile-name;
        }
        web-authentication {
            client-match user-or-group-name;
        }
    }
    services-offload;
    tcp-options {
        initial-tcp-mss mss-value;
        reverse-tcp-mss mss-value;
        sequence-check-required;
        sequence-check-required;
        syn-check-required;
    }
    tunnel {
        ipsec-group-vpn group-vpn;
        ipsec-vpn vpn-name;
        pair-policy pair-policy;
    }
}
deny | reject;
deny | reject [profile name];
```


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```
    }
  }
}
```

Hierarchy Level

```
[edit security policies]
```

Release Information

Statement introduced in Junos OS Release 8.5. Support for the **services-offload** option added in Junos OS Release 11.4. Support for the **source-identity** option added in Junos OS Release 12.1. Support for the **description** option added in Junos OS Release 12.1. Support for the **ssl-termination-profile** and **web-redirect-to-https** options added in Junos OS Release 12.1X44-D10. Support for the **user-firewall** option added in Junos OS Release 12.1X45-D10. Support for the **initial-tcp-mss** and **reverse-tcp-mss** options added in Junos OS Release 12.3X48-D20. Support for the **dynamic-application** and **deny** options added in Junos OS Release 18.2R1.

Description

Specify a source zone and destination zone to be associated with the security policy.

Options

- **from-zone** ***zone-name***—Name of the source zone.
- **to-zone** ***zone-name***—Name of the destination zone.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*
- *Unified Policies Configuration Overview*

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ftp (UTM Policy Anti-Virus)

Syntax

```
ftp {
  download-profile profile-name;
  upload-profile profile-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure a UTM policy for the antivirus FTP protocol and attach this policy to a security profile to implement it.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*

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ftp (UTM Policy Content Filtering)

Syntax

```
ftp {
  download-profile profile-name;
  upload-profile profile-name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure a UTM policy for the content-filtering FTP protocol and attach this policy to a security profile to implement it.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*

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host (Security Web Filtering)

Syntax
host *host-name*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated server]
[edit security utm feature-profile web-filtering websense-redirect profile *profile-name* server]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name* server]

Release Information
The Surf-Control feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Set server host parameters by entering the server name or IP address.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

http-profile (Security Antivirus)

Syntax
http-profile *profile-name*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm utm-policy *policy-name* anti-virus]

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus HTTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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http-profile (Security Content Filtering)

Syntax
```
http-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content-filtering HTTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Content Filtering Overview on page 195

http-profile (Security Web Filtering)

Syntax
```
http-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name web-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the Web-filtering HTTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Web Filtering Overview on page 209

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imap-profile (Security UTM Policy Antivirus)

Syntax
```
imap-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus IMAP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

imap-profile (Security UTM Policy Content Filtering)

Syntax
```
imap-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content-filtering IMAP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Content Filtering Overview on page 195

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http-persist

Syntax

```
http-persist;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information

Statement introduced in Junos OS Release 12.3X48-D25.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Checks all HTTP requests in a connection. By default, Web filtering first checks the HTTP request method (for example, GET or PUT) in the same session. If there are multiple HTTP request methods in the subsequent HTTP request of the same session, then Web filtering checks are not performed on these methods. If **http-persist** command is enabled for clear text HTTP traffic, then Web filtering checks every HTTP request packet in the same session.

Required Privilege Level

view

Related Documentation

- Example: Configuring Enhanced Web Filtering on page 222

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http-reassemble

Syntax

```
http-reassemble;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information

Statement introduced in Junos OS Release 12.3X48-D25.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Reassembles HTTP requests segments. When the **http-reassemble** option is enabled the requested fragment is reassembled. By default, Web filtering checks only HTTP requests in the first HTTP request packet. If HTTP request methods and URLs are fragmented in different packets, then these URLs are not checked. If **http-reassemble** option is enabled for clear text HTTP traffic, then Enhanced Web Filtering (EWF) reassembles the fragmented HTTP request to avoid evasion instead of packet-based inspection.

On SRX Series devices, when a new URL is matched against the active Web Filtering profile and the profile dictates that the URL should be dropped, the entire HTTP session will be blocked by the device.

Required Privilege Level

view

Related Documentation

- Example: Configuring Enhanced Web Filtering on page 222

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intelligent-prescreening

Syntax

```
intelligent-prescreening;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  scan-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1x49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Enable intelligent prescreening.

Intelligent prescreening tells the antivirus module to begin scanning a file much earlier. In this case, the scan engine uses the first packet or the first several packets to determine if a file could possibly contain malicious code. The scan engine does a quick check on these first packets and if the scan engine finds that it is unlikely that the file is infected, it then determines that it is safe to bypass the normal scanning procedure.

You can disable intelligent prescreening with the **no-intelligent-prescreening** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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interval (Security Antivirus)

Syntax

```
interval value;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm default-configuration anti-virus avira-engine pattern-update]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 for Juniper Express engine and Kaspersky Lab engine. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

Set the pattern data files auto-update interval. You can choose to leave the default interval value or you can change it by using this command. You can also force a manual update, if necessary.

NOTE: The data files used with Sophos are not typical virus pattern files; they are small files that help guide virus scanning logic. The full virus pattern database is stored on an external Sophos server called the Sophos Extensible List (SXL) server.

Options

value—Pattern data files auto-update interval in minutes.

Range: 10 through 10,080 minutes (10 minutes through 7 days)

Default: For Juniper Express engine and Kaspersky Lab engine, 60 minutes; for Sophos engine, 1440 minutes (every 24 hours)

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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ipc

Syntax

```
ipc {
  traceoptions flag flag;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure trace options for IPC.

Options

- **flag**—Trace operation to perform. To specify more than one trace operation, include multiple **flag** statements.
  - **all**—Enable trace for all IPC trace options.
  - **basic**—Trace basic IPC related information.
  - **connection-manager**—Trace IPC connection manager information.
  - **connection-status**—Trace IPC connection status information.
  - **detail**—Trace IPC related detailed information.
  - **pfe**—Trace communication with PFE.
  - **utm-realtime**—Trace IPC realtime-thread information.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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juniper-enhanced

Syntax

```
juniper-enhanced {
  cache {
    size value;
    timeout value;
  }
  profile profile-name {
    category customurl-list name {
      action (block | log-and-permit | permit | quarantine);
    }
    custom-block-message value;
    custom-quarantine-message value;
    default (block | log-and-permit | permit | quarantine);
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    no-safe-search;
    site-reputation-action {
      fairly-safe (block | log-and-permit | permit | quarantine);
      harmful (block | log-and-permit | permit | quarantine);
      moderately-safe (block | log-and-permit | permit | quarantine);
      suspicious (block | log-and-permit | permit | quarantine);
      very-safe (block | log-and-permit | permit | quarantine);
      }
    timeout value;
  }
  server {
    host host-name;
    port number;
    proxy-profile proxy profile name;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[set security utm feature-profile web-filtering]
```

Release Information

Statement introduced in Junos OS Release 11.4.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The **proxy-profile** option is introduced under the **security utm default-configuration web-filtering juniper-enhanced server** hierarchy level in Junos OS Release 18.3R1.

Description

Configure the UTM Enhanced Web Filtering feature.

Options

The remaining statements are explained separately. See CLI Explorer.

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Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- Web Filtering Overview on page 209

juniper-express-engine

Syntax

```
juniper-express-engine {
  pattern-update {
    email-notify {
      admin-email email-address;
      custom-message message;
      custom-message-subject message-subject;
    }
    interval value;
    no-autoupdate;
    proxy {
      password password-string;
      port port-number;
      server address-or-url;
      username name;
    }
    url url;
  }
  profile profile-name {
    fallback-options {
      content-size (block | log-and-permit);
      default (block | log-and-permit);
      engine-not-ready (block | log-and-permit);
      out-of-resources (block | (log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    notification-options {
      fallback-block {
        administrator-email email-address;
        allow-email;
        custom-message message;
        custom-message-subject message-subject;
        display-host;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      fallback-non-block {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-recipient | no-notify-mail-recipient);
      }
      virus-detection {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
    }
    scan-options {
      content-size-limit value;
      (intelligent-prescreening | no-intelligent-prescreening);
```


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```
        timeout value;
    }
    trickling {
        timeout value;
    }
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the UTM express antivirus feature.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Express Antivirus Configuration Overview on page 44

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juniper-local

Syntax

```
juniper-local {
  profile profile-name {
    custom-block-message value;
    default (block | log-and-permit | permit);
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    timeout value;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[set security utm feature-profile web-filtering]
```

Release Information

Statement introduced in Junos OS Release 10.0.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the UTM Web-filtering local feature.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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kaspersky-lab-engine

Syntax

```
kaspersky-lab-engine {
  pattern-update {
    email-notify {
      admin-email email-address;
      custom-message message;
      custom-message-subject message-subject;
    }
    interval value;
    no-autoupdate;
    proxy {
      password password-string;
      port port-number;
      server address-or-url;
      username name;
    }
    url url;
  }
  profile profile-name {
    fallback-options {
      content-size (block | log-and-permit);
      corrupt-file (block | log-and-permit);
      decompress-layer (block | log-and-permit);
      default (block | log-and-permit);
      engine-not-ready (block | log-and-permit);
      out-of-resources (block | (log-and-permit);
      password-file (block | (log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    notification-options {
      fallback-block {
        administrator-email email-address;
        allow-email;
        custom-message message;
        custom-message-subject message-subject;
        display-host;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      fallback-non-block {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-recipient | no-notify-mail-recipient);
      }
      virus-detection {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
    }
```

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```
    scan-options {
      content-size-limit value;
      decompress-layer-limit value;
      (intelligent-prescreening | no-intelligent-prescreening);
      scan-extension filename;
      scan-mode (all | by-extension);
      timeout value;
    }
    trickling {
      timeout value;
    }
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information

The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1x49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the UTM full file-based antivirus feature.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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limit (UTM Policy)

Syntax

```
limit value;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name traffic-options sessions-per-client]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

In an attempt to consume all available resources and hinder the ability of the device, a malicious user might generate a large amount of traffic all at once. To prevent such activity from succeeding, you can impose a session throttle to limit sessions.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

list (Security Antivirus Mime Whitelist)

Syntax

```
list listname {
  exception listname;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus mime-whitelist]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the antivirus scanner to use MIME bypass lists (custom objects). If you want to have exceptions to the whitelist, create a mime-pattern list with the **exception** statement in addition to the **list** statement.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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list (Security Content Filtering Block Mime)

Syntax

```
list list-name;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name block-mime]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the content filter to use MIME block lists (custom objects).

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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log (Security)

Syntax

```
log {
  cache {
    exclude exclude-name {
      destination-address destination-address;
      destination-port destination-port;
      event-id event-id;
      failure;
      interface-name interface-name;
      policy-name policy-name;
      process process-name;
      protocol protocol;
      source-address source-address;
      source-port source-port;
      success;
      user-name user-name;
    }
    limit value;
  }
  disable;
  event-rate rate;
  facility-override (authorization | daemon | ftp | kernel | local | user);
  file {
    files max-file-number;
    name file-name;
    path binary-log-file-path;
    size maximum-file-size;
  }
  format (binary | sd-syslog | syslog);
  max-database-record <max-database-record>;
  mode (event | stream);
  rate-cap <rate-cap-value>;
  report;
  (source-address source-address | source-interface interface-name);
  stream stream-name {
    category (all | content-security | fw-auth | screen | alg | nat | flow | sctp | gtp | ipsec | idp
      | rtlog |pst-ds-lite | appqos |secintel);
    file {
      name file-name;
      size file-size;
      rotation max-rotation-number;
    }
    filter {
      threat-attack;
      }
    format (binary | sd-syslog | syslog | welf);
    host {
      ip-address;
      port port-number;
    }
    rate-limit {
      log-rate;
```

```
    }
    severity (alert | critical | debug | emergency | error | info | notice | warning);
  }
  traceoptions {
    file {
      filename;
      files number;
      match regular-expression;
      size maximum-file-size;
      (world-readable | no-world-readable);
    }
    flag (all | configuration | hpl | report | source);
    no-remote-trace;
  }
  transport {
    protocol (udp | tcp | tls);
    tcp-connections tcp-connections;
    tls-profile tls-profile-name;
  }
  utc-timestamp;
}
```

Hierarchy Level [edit security]

Release Information Statement introduced in Junos OS Release 9.2.

Description Configure security log. Set the mode of logging (event for traditional system logging or stream for streaming security logs through a revenue port to a server). You can also specify all the other parameters for security logging.

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Options

cache—Cache security log events in the audit log buffer.

disable—Disable the security logging for the device.

event-rate ***rate***—Limit the rate at which logs are streamed per second.

Range: 0 through 1500

Default: 1500

facility-override—Alternate facility for logging to remote host.

file—Specify the security log file options for logs in binary format.

Values:

- ***max-file-number***—Maximum number of binary log files.
  - The range is 2 through 10 and the default value is 10.
- ***file-name***—Name of binary log file.
- ***binary-log-file-path***—Path to binary log files.
- ***maximum-file-size***—Maximum size of binary log file in megabytes.
  - The range is 1 through 10 and the default value is 10.

format—Set the security log format for the device.

max-database-record—The following are the disk usage range limits for the database:

Range:

- SRX1500, SRX4100, and SRX4200: 0 through 15,000,000
- vSRX: 0 through 1,000,000

Default:

- SRX1500, SRX4100, and SRX4200: 15,000,000
- vSRX: 1,000,000

NOTE: **Be sure there is enough free space in /var/log/hostlogs/, otherwise logs might be dropped when written into the database.**

mode—Control how security logs are processed and exported.

rate-cap ***rate-cap-value***—Work with event mode only. This option limits the rate at which data plane logs are generated per second.

Range: 0 through 5000 logs per second

Default: 5000 logs per second

source-address ***source-address***—Specify a source IP address or IP address used when exporting security logs, which is mandatory to configure *stream host*.

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source-interface *interface-name*—Specify a source interface name, which is mandatory to configure *stream host*.

NOTE: The source-address and source-interface are alternate values. Using one of the options is mandatory.

stream—Every stream can configure file or host.

- ***category***— Type of events that might be logged.
- ***file name***—Specify the filename.
- ***file size***—Specify the file size.
  - SRX1500, SRX4100, and SRX4200—The default value is 25 MB and the range is 10 MB through 50 MB.
  - vSRX - The default value is 2 MB and the range is 1 MB through 3 MB.
- ***rotation***—Configure the maximum file number for rotation.
  - The default value is 10 and the range is 2 through 19.
- ***rate-limit***—Rate-limit for security logs.
  - The range is 1 through 65,535 logs per second and the default value is 65,535 .
- ***filter***—Selects the filter to filter the logs to be logged.
- ***format***—Specify the log stream format.
- ***host***—Destination to send security logs.
- ***severity***—Severity threshold for security logs.

traceoptions—Specify security log daemon trace options.

transport—Set security log transport settings.

utc-timestamp—Specify to use UTC time for security log timestamps.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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mime-pattern

Syntax

```
mime-pattern object-name {
  value [value];
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm custom-objects]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

The gateway device uses MIME (Multipurpose Internet Mail Extension) types to decide which traffic is allowed to bypass various types of scanning.

Options

- ***object-name***—Name of the MIME object.
- **value *value***—Value of the MIME object. You can configure multiple values separated by spaces and enclosed in square brackets.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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mime-whitelist

Syntax

```
mime-whitelist {
  exception listname;
  list listname {
    exception listname;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information

Statement introduced in Junos OS Release 9.5. Statement updated for Sophos antivirus support in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the antivirus scanner to use MIME bypass lists and exception lists. You can use your own custom object lists, or you can use the default list that ships with the device called junos-default-bypass-mime.

WARNING: When you configure the MIME whitelist feature, be aware that, because header information in HTTP traffic can be spoofed, you cannot always trust HTTP headers to be legitimate. When a Web browser is determining the appropriate action for a given file type, it detects the file type without checking the MIME header contents. However, the MIME whitelist feature does refer to the MIME encoding in the HTTP header. For these reasons, it is possible in certain cases for a malicious website to provide an invalid HTTP header. For example, a network administrator might inadvertently add a malicious website to a MIME whitelist, and, because the site is in the whitelist, it will not be blocked by Sophos even though Sophos has identified the site as malicious in its database. Internal hosts would then be able to reach this site and could become infected.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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no-autoupdate

Syntax

```
no-autoupdate;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm default-configuration anti-virus avira-engine pattern-update]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 for Juniper Express engine and Kaspersky Lab engine. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

Turn off automatic data file (pattern file) update for the Kaspersky Lab, Juniper Express, or Sophos engines.

NOTE: The data files used with Sophos are not typical virus pattern files; they are small files that help guide virus scanning logic. The full virus pattern database is stored on an external Sophos server called the Sophos Extensible List (SXL) server.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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no-intelligent-prescreening

Syntax

```
no-intelligent-prescreening;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  scan-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Disables intelligent prescreening.

Intelligent prescreening tells the antivirus module to begin scanning a file much earlier. In this case, the scan engine uses the first packet or the first several packets to determine if a file could possibly contain malicious code. The scan engine does a quick check on these first packets and if the scan engine finds that it is unlikely that the file is infected, it then determines that it is safe to bypass the normal scanning procedure.

You can enable intelligent prescreening with the **intelligent-prescreening** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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no-notify-mail-recipient

Syntax

```
no-notify-mail-recipient;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-non-block]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Do not notify the e-mail recipient about errors returned by the antivirus scan engine when a fallback nonblocking action occurs.

You can specify that the e-mail recipient is to be notified with the **notify-mail-recipient** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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no-notify-mail-sender (Security Content Filtering Notification Options)

Syntax

```
no-notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name notification-options]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Do not notify the e-mail sender.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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no-notify-mail-sender (Security Fallback Block)

Syntax

```
no-notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Do not notify the e-mail sender about errors returned by the antivirus scan engine when a fallback action occurs.

You can specify that the e-mail sender is to be notified with the **notify-mail-sender** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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no-notify-mail-sender (Security Virus Detection)

Syntax

```
no-notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options virus-detection]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Do not notify the e-mail sender when a virus is detected by the antivirus engine.

You can specify that the e-mail sender is to be notified with the **notify-mail-sender** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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no-sbl-default-server

Syntax

```
no-sbl-default-server;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam sbl profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Disable the default SBL server lookup.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Antispam Filtering Overview on page 175

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notification-options (Security Antivirus)

Syntax

```
notification-options {
  fallback-block {
    administrator-email email-address;
    allow-email;
    custom-message message;
    custom-message-subject message-subject;
    display-host;
    (notify-mail-sender | no-notify-mail-sender);
    type (message | protocol-only);
  }
  fallback-non-block {
    custom-message message;
    custom-message-subject message-subject;
    (notify-mail-recipient | no-notify-mail-recipient);
  }
  virus-detection {
    custom-message message;
    custom-message-subject message-subject;
    (notify-mail-sender | no-notify-mail-sender);
    type (message | protocol-only);
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

There are multiple notification options you can configure to trigger when a virus is detected.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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notification-options (Security Content Filtering)

Syntax

```
notification-options {
  custom-message message;
  (notify-mail-sender | no-notify-mail-sender);
  type (message | protocol-only);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

You can configure a message notification to trigger when a content filter is matched.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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notify-mail-recipient

Syntax

```
notify-mail-recipient;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-non-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-non-block]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Notify the e-mail recipient about errors returned by the antivirus scan engine when a fallback nonblocking action occurs.

You can specify that the e-mail recipient is not to be notified with the **no-notify-mail-recipient** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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notify-mail-sender (Security Content Filtering Notification Options)

Syntax

```
notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name notification-options]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Notify the e-mail sender.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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notify-mail-sender (Security Fallback Block)

Syntax

```
notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 . Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

E-mail notification is used to notify the sender or the recipient about the errors returned by either the scan engine or the scan manager when a fallback action occurs.

You can specify that the sender is not to be notified with the **no-notify-mail-sender** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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notify-mail-sender (Security Virus Detection)

Syntax

```
notify-mail-sender;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options virus-detection]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 . Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

E-mail notification is used to notify the sender or the recipient about the detected viruses or the scanning errors. When a virus is detected, an e-mail is sent to the sender upon virus detection.

You can specify that the sender is not to be notified with the **no-notify-mail-sender** statement.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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no-uri-check

Syntax no-uri-check;

Hierarchy Level [edit security utm default-configuration anti-virus scan-options]

Release Information Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Do not perform Sophos antivirus Uniform Resource Identifier (URI) checking. URI checking is performed by analyzing HTTP traffic URI content against a remote Sophos database server to identify malware or malicious content. URI checking is on by default.

NOTE: Starting in Junos OS release 18.4R1, the URI checking is off by default.

You can enable Sophos antivirus URI checking with the **uri-check** statement.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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out-of-resources

Syntax

```
out-of-resources (block | (log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Virus scanning requires a great deal of memory and CPU resources. Due to resource constraints, memory allocation requests can be denied by the system. When out-of-resources occurs, scanning is aborted. The default action is block.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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out-of-resources (Security Antivirus Sophos Engine)

Syntax

```
default (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Virus scanning requires a great deal of memory and CPU resources. Due to resource constraints, memory allocation requests can be denied by the system. When out-of-resources occurs, scanning is aborted.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Sophos Antivirus Configuration Overview on page 101

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over-limit

Syntax

```
over-limit (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name traffic-options sessions-per-client]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

In an attempt to consume all available resources and hinder the ability of the device, a malicious user might generate a large amount of traffic all at once. To prevent such activity from succeeding, you can impose a session throttle to limit sessions and configure an action to occur when the limit is exceeded.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- utm on page 495

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packet-filter

Syntax

```
packet-filter packet-filter-name {
  action-profile profile-name {
  destination-port (port-range | protocol-name);
  destination-prefix destination-prefix;
  interface logical-interface-name;
  protocol (protocol-number | protocol-name;
  source-port (port-range | protocol- name);
  source-prefix source-prefix;
  }
```

Hierarchy Level

```
[edit security datapath-debug]
```

Release Information Command introduced in Junos OS Release 9.6 ; Support for IPv6 addresses for the **destination-prefix** and **source-prefix** options added in Junos OS Release 10.4.

Description Set packet filter for taking the datapath-debug action. A filter is defined to filter traffic, then an action profile is applied to the filtered traffic. Be sure to configure multiple packet filters to capture the traffic. One packet filter only captures the traffic as specified in it, such as from one source to one destination. The same packet filter will not capture the traffic in the reverse direction. You need to configure another packet filter to capture the traffic in reverse direction and specify the source and destination according to the response packet in it. The action profile specifies a variety of actions on the processing unit. A maximum of four filters are supported at the same time. Packet filters can be configured with source and destination prefix and port (including ranges), and protocol.

Action-profile settings have no specific minimum setting, it is based on trace, count, packet summary and packet-dump. Enabling end-to-end debugging without or with a very broad filter is not recommended. This could result in a high PFE CPU usage. Therefore when selecting what to capture through a filter care must be taken. List as many and specific criteria which then results in the minimum amount of traffic to be captured.

NOTE: Packet filter is supported on SRX1400, SRX3400, SRX3600, SRX5400, SRX5600, and SRX5800 devices.

Options

- **action-profile *profile-name***—Identify the action profile to use. You can specify the name of the action profile to use. Using the request security action-profile command, you can set the action for the packet match for a specified filter. Action-profile must be defined.
- **destination-port (*port-range* | *protocol name*)**—Specify a destination port to match TCP/UDP destination port.
- **destination-prefix *destination-prefix***—Specify a destination IPv4/IPv6 address prefix.

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- **interface** ***logical-interface-name***—Specify a logical interface name.
- **protocol (*protocol-number* | *protocol-name***—Match IP protocol type.
- **source-port (*port-range* | *protocol-name***—Match TCP/UDP source port.
- **source-prefix** ***source-prefix***—Specify a source IP address prefix.

Required Privilege Level
security—To view this in the configuration
security-control—To add this to the configuration.

password (Security Antivirus)

Syntax

```
password password-string;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update proxy]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update proxy]
[edit security utm feature-profile anti-virus sophos-engine pattern-update proxy]
```

Release Information
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Release 11.2.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Set the password for the proxy server.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- utm on page 495

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password-file

Syntax

```
password-file (block | (log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Password protected file is the error returned by the scan engine when the scanned file is protected by a password. The default action is log-and-permit.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Full Antivirus Configuration Overview on page 67

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pattern-update (Security Antivirus)

Syntax

```
pattern-update {
  email-notify {
    admin-email email-address;
    custom-message message;
    custom-message-subject message-subject;
  }
  interval value;
  no-autoupdate;
  proxy-profile proxy profile name;
  routing-instance name;
  start-time start-time;
  url url;
}
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus juniper-express-engine]
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
[edit security utm feature-profile anti-virus sophos-engine]
[edit security utm default-configuration anti-virus avira-engine]
```

Release Information

Statement introduced in Junos OS Release 9.5 for Juniper Express engine and Kaspersky Lab engine. Support for Sophos engine added in Junos OS Release 11.1 .
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The **proxy-profile** option is introduced under the **security utm feature-profile anti-virus sophos-engine** hierarchy level in Junos OS Release 18.3R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

Updates to the pattern file are added as new viruses are discovered. You can configure the security device to regularly update the pattern file automatically, or you can update the file manually.

Required Privilege Level

security— To view this statement in the configuration.
security-control— To add this statement to the configuration.

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permit-command

Syntax

```
permit-command protocol-command-list;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Apply protocol permit command custom-objects to the content-filtering profile.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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policies

Syntax

```
policies {
  default-policy (deny-all | permit-all);
  from-zone zone-name to-zone zone-name {
    policy policy-name {
      description description;
      match {
        application {
          [application];
          any;
        }
        destination-address {
          [address];
          any;
          any-ipv4;
          any-ipv6;
        }
        source-address {
          [address];
          any;
          any-ipv4;
          any-ipv6;
        }
        source-identity {
          [role-name];
          any;
          authenticated-user;
          unauthenticated-user;
          unknown-user;
        }
      }
      scheduler-name scheduler-name;
      then {
        count {
          alarm {
            per-minute-threshold number;
            per-second-threshold number;
          }
        }
        deny;
        log {
          session-close;
          session-init;
        }
        permit {
          application-services {
            application-firewall {
              rule-set rule-set-name;
            }
            application-traffic-control {
              rule-set rule-set-name;
            }
```

```
            gprs-gtp-profile profile-name;
            gprs-sctp-profile profile-name;
            idp;
            idp-policy idp-policy;
            redirect-wx | reverse-redirect-wx;
            ssl-proxy {
              profile-name profile-name;
            }
            uac-policy {
              captive-portal captive-portal;
            }
            utm-policy policy-name;
          }
          destination-address {
            drop-translated;
            drop-untranslated;
          }
          firewall-authentication {
            pass-through {
              access-profile profile-name;
              client-match user-or-group-name;
              ssl-termination-profile profile-name;
              web-redirect;
              web-redirect-to-https;
            }
            user-firewall {
              access-profile profile-name;
              domain domain-name
              ssl-termination-profile profile-name;
            }
            web-authentication {
              client-match user-or-group-name;
            }
          }
          services-offload;
          tcp-options {
            sequence-check-required;
            syn-check-required;
          }
          tunnel {
            ipsec-group-vpn group-vpn;
            ipsec-vpn vpn-name;
            pair-policy pair-policy;
          }
        }
        reject;
      }
    }
}
global {
    policy policy-name {
      description description;
      match {
        application {
          [application];
```


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```
        any;
    }
    destination-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
    }
    from-zone {
        [zone-name];
        any;
    }
    source-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
    }
    source-identity {
        [role-name];
        any;
        authenticated-user;
        unauthenticated-user;
        unknown-user;
    }
    to-zone {
        [zone-name];
        any;
    }
}
scheduler-name scheduler-name;
then {
    count {
        alarm {
            per-minute-threshold number;
            per-second-threshold number;
        }
    }
    deny;
    log {
        session-close;
        session-init;
    }
    permit {
        application-services {
            application-firewall {
                rule-set rule-set-name;
            }
            application-traffic-control {
                rule-set rule-set-name;
            }
            gprs-gtp-profile profile-name;
            gprs-sctp-profile profile-name;
            idp;
            idp-policy idp-policy;
```

```
            redirect-wx | reverse-redirect-wx;
            ssl-proxy {
              profile-name profile-name;
            }
            uac-policy {
              captive-portal captive-portal;
            }
            utm-policy policy-name;
          }
          destination-address {
            drop-translated;
            drop-untranslated;
          }
          firewall-authentication {
            pass-through {
              access-profile profile-name;
              client-match user-or-group-name;
              ssl-termination-profile profile-name;
              web-redirect;
              web-redirect-to-https;
            }
            web-authentication {
              client-match user-or-group-name;
            }
          }
          services-offload;
          tcp-options {
            initial-tcp-mss mss-value;
            reverse-tcp-mss mss-value;
            sequence-check-required;
            syn-check-required;
          }
        }
        reject;
      }
    }
  }
  policy-rematch;
  policy-stats {
    system-wide (disable | enable) ;
  }
  traceoptions {
    file {
      filename;
      files number;
      match regular-expression;
      size maximum-file-size;
      (world-readable | no-world-readable);
    }
    flag flag;
    no-remote-trace;
  }
}
```


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Hierarchy Level [edit security]

Release Information Statement introduced in Junos OS Release 8.5.
Support for the **services-offload** option added in Junos OS Release 11.4.
Support for the **source-identitiy** option added in Junos OS Release 12.1.
Support for the **description** option added in Junos OS Release 12.1.
Support for the **ssl-termination-profile** and **web-redirect-to-https** options are added starting from Junos OS Release 12.1X44-D10 and Junos OS Release 15.1X49-D40.
Support for the **user-firewall** option added in Junos OS Release 12.1X45-D10.
Support for the **domain** option, and for the **from-zone** and **to-zone** global policy match options, added in Junos OS Release 12.1X47-D10.
Support for the **initial-tcp-mss** and **reverse-tcp-mss** options added in Junos OS Release 12.3X48-D20. Support for the **extensive** option for **policy-rematch** added in Junos OS Release 15.1X49-D20.
Starting in Junos OS Release 18.2R1, an IDP policy is available within unified security policy. The IDP policy access is simplified and made available under the unified policy as one of the policy. When an IDP policy is available within a unified security policy, configuring source or destination address, source and destination-except, from and to zone, or application is not required, because the match happens in the security policy itself.
Starting in Junos OS Release 18.3R1, when an SRX Series device is configured with a unified policies, you can configure multiple IDP policies and set one of those policies as the default IDP policy. If multiple IDP policies are configured for a session and when policy conflict occurs, the device applies the default IDP policy for that session and thus resolves any policy conflicts.

NOTE: If you have configured two or more IDP policies in a unified security policy, then you must configure the default IDP policy.

Description Configure network security policies.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- *Security Policies Overview*

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pop3-profile (Security UTM Policy Antivirus)

Syntax
```
pop3-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus POP3 protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

pop3-profile (Security UTM Policy Content Filtering)

Syntax
```
pop3-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content filtering POP3 protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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port (Security Antivirus)

Syntax
port *port-number*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update proxy]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update proxy]
[edit security utm feature-profile anti-virus sophos-engine pattern-update proxy]

Release Information
Statement introduced in Junos OS Release 11.2.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Set the port number for the proxy server.

Options
Range: 0 through 65,535

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

port (Security Web Filtering Server)

Syntax
port *number*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated server]
[edit security utm feature-profile web-filtering websense-redirect profile *profile-name* server]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name* server]

Release Information
Statement introduced in Junos OS Release 9.5 .
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Enter the port number for communicating with the server. (Default ports are 80, 8080, and 8081.)

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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primary-server

Syntax

```
primary-server {
   address ipv4-address;
   login sender-email-address {
      password password;
   }
}
```

Hierarchy Level

```
[edit smtp]
```

Release Information Statement added in Junos OS Release 10.0.

Description Configure Simple Mail Transfer Protocol (SMTP) primary server for access authorization for SMTP requests.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

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profile (Security Antispam SBL)

Syntax

```
profile profile-name {
  custom-tag-string [string];
  (sbl-default-server | no-sbl-default-server);
  spam-action (block | tag-header | tag-subject);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam sbl]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the antispam sbl feature. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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profile (Security Antivirus Juniper Express Engine)

Syntax

```
profile profile-name {
  fallback-options {
    content-size (block | log-and-permit);
    default (block | log-and-permit);
    engine-not-ready (block | log-and-permit);
    out-of-resources (block | (log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  notification-options {
    fallback-block {
      administrator-email email-address;
      allow-email;
      custom-message message;
      custom-message-subject message-subject;
      display-host;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
    fallback-non-block {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-recipient | no-notify-mail-recipient);
    }
    virus-detection {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
  }
  scan-options {
    content-size-limit value;
    (intelligent-prescreening | no-intelligent-prescreening);
    timeout value;
  }
  trickling {
    timeout value;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine]
```

Release Information

The express engine feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

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Description Create a profile for the Juniper express engine. This profile includes all subsequent configuration options.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Express Antivirus Configuration Overview on page 44

profile (Security Antivirus Kaspersky Lab Engine)

Syntax

```
profile profile-name {
  fallback-options {
    content-size (block | log-and-permit);
    corrupt-file (block | log-and-permit);
    decompress-layer (block | log-and-permit);
    default (block | log-and-permit);
    engine-not-ready (block | log-and-permit);
    out-of-resources (block | (log-and-permit);
    password-file (block | (log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  notification-options {
    fallback-block {
      administrator-email email-address;
      allow-email;
      custom-message message;
      custom-message-subject message-subject;
      display-host;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
    fallback-non-block {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-recipient | no-notify-mail-recipient);
    }
    virus-detection {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
  }
  scan-options {
    content-size-limit value;
    decompress-layer-limit value;
    (intelligent-prescreening | no-intelligent-prescreening);
    scan-extension filename;
    scan-mode (all | by-extension);
    timeout value;
  }
  trickling {
    timeout value;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine]
```


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Release Information

The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the Kaspersky Lab engine. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- kaspersky-lab-engine on page 387
- profile (Security Antivirus Juniper Express Engine) on page 428

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profile (Security Content Filtering)

Syntax

```
profile profile-name {
  block-command protocol-command-list;
  block-content-type (activex | exe | http-cookie | java-applet | zip);
  block-extension extension-list;
  block-mime {
    exception list-name;
    list list-name;
  }
  notification-options {
    custom-message message;
    (notify-mail-sender | no-notify-mail-sender);
    type (message | protocol-only);
  }
  permit-command protocol-command-list;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the content-filtering feature. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Content Filtering Overview on page 195

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profile (Security Sophos Engine Antivirus)

Syntax

```
profile <name> {
  fallback-options {
    content-size (block | log-and-permit | permit);
    default (block | log-and-permit | permit);
    engine-not-ready (block | log-and-permit | permit);
    out-of-resources (block | log-and-permit | permit);
    timeout (block | log-and-permit | permit);
    too-many-requests (block | log-and-permit | permit);
  }
  notification-options {
    fallback-block {
      administrator-email email-address;
      allow-email;
      custom-message message;
      custom-message-subject message-subject;
      display-host;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
    fallback-non-block {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-recipient | no-notify-mail-recipient);
    }
    virus-detection {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
  }
  scan-options {
    content-size-limit value;
    (no-uri-check | uri-check);
    timeout value;
  }
  trickling {
    timeout value;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

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Description Create a profile for the Sophos antivirus engine. This profile includes all subsequent configuration options.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Sophos Antivirus Configuration Overview on page 101

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profile (Security Avira Engine Antivirus)

Syntax

```
profile <name> {
  fallback-options {
    content-size (block | log-and-permit | permit);
    default (block | log-and-permit | permit);
    engine-not-ready (block | log-and-permit | permit);
    out-of-resources (block | log-and-permit | permit);
    timeout (block | log-and-permit | permit);
    too-many-requests (block | log-and-permit | permit);
  }
  mime-whitelist {
    exception exception;
    list list;
  }
  notification-options {
    fallback-block {
      administrator-email email-address;
      allow-email;
      custom-message message;
      custom-message-subject message-subject;
      display-host;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
    fallback-non-block {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-recipient | no-notify-mail-recipient);
    }
    virus-detection {
      custom-message message;
      custom-message-subject message-subject;
      (notify-mail-sender | no-notify-mail-sender);
      type (message | protocol-only);
    }
  }
  url-whitelist url-whitelist;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus profile profile1]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Statement introduced in Junos OS Release 18.4R1.

Description

Create a profile for the Avira antivirus engine. The antivirus feature profile settings include the scanning options, such as virus detection type, white list, black list, fallback and notification options.

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Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

profile (Security Web Filtering Juniper Enhanced)

Syntax

```
profile profile-name {
  category customurl-list name {
    action (block | log-and-permit | permit | quarantine);
  }
  custom-block-message value;
  custom-quarantine-message value;
  default (block | log-and-permit | permit | quarantine);
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  no-safe-search;
  site-reputation-action {
    fairly-safe (block | log-and-permit | permit | quarantine);
    harmful (block | log-and-permit | permit | quarantine);
    moderately-safe (block | log-and-permit | permit | quarantine);
    suspicious (block | log-and-permit | permit | quarantine);
    very-safe (block | log-and-permit | permit | quarantine);
  }
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-enhanced]
```

Release Information Statement introduced in Junos OS Release 11.4.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Create a profile for the juniper-enhanced feature. This profile includes all subsequent configuration options.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Monitoring Web Filtering Configurations on page 285

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profile (Security Web Filtering Juniper Local)

Syntax

```
profile profile-name {
  custom-block-message value;
  default (block | log-and-permit | permit);
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-local]
```

Release Information

Statement introduced in Junos OS Release 10.0.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the web-filtering juniper–local feature. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Monitoring Web Filtering Configurations on page 285
- Example: Configuring Local Web Filtering on page 263

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profile (Security Web Filtering Surf Control Integrated)

Syntax

```
profile profile-name {
  category customurl-list name {
    action (block | log-and-permit | permit);
  }
  custom-block-message value;
  default (block | log-and-permit | permit);
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated]
```

Release Information

The Surf-Control feature is not supported from Junos OS Release 15.1x49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the web-filtering surf-control-integrated feature. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Monitoring Web Filtering Configurations on page 285

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profile (Security Web Filtering Websense Redirect)

Syntax

```
profile profile-name {
  account value;
  custom-block-message value;
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  server {
    host host-name;
    port number;
  }
  sockets value;
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[security utm feature-profile web-filtering websense-redirect]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Create a profile for the web-filtering web-sense feature. This profile includes all subsequent configuration options.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Monitoring Web Filtering Configurations on page 285

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protocol-command

Syntax

```
protocol-command object-name {
  value [value];
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm custom-objects]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Different protocols use different commands to communicate between servers and clients. By blocking or allowing certain commands, traffic can be controlled on the protocol command level.

Options

- ***object-name***—Name of the command-list object.
- **value *value***—Value of the command-list object. You can configure multiple values separated by spaces and enclosed in square brackets.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- UTM Overview on page 23

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proxy (Security Antivirus)

Syntax

```
proxy {
  password password-string;
  port port-number;
  server address-or-url;
  username name;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 11.2.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Update the pattern file on the proxy server.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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proxy-profile

Syntax proxy-profile *proxy profile name*

Hierarchy Level [set security utm default-configuration web-filtering juniper-enhanced server]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm default-configuration anti-virus avira-engine pattern-update]

Release Information Statement introduced in Junos OS Release 18.3R1. Support for Avira engine added in Junos OS Release 18.4R1.

Description Specify the proxy profile name and is used for configuring the explicit proxy.

Required Privilege Level services—To view this statement in the configuration.
services-control—To add this statement to the configuration.

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quarantine-message (Security UTM)

Syntax

```
quarantine-message {
  type {
    custom-redirect-url;
  }
  url url;
}
```

Hierarchy Level

[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-enhanced profile *profile-name*]

Release Information

Statement introduced in Junos OS Release 12.1X44-D10 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure Juniper enhanced quarantine message settings.

Options

- **type**—Specify the following type of the quarantine message:
  - **custom-redirect-url**—Specify Custom redirect URL server.
- **url *url***—Specify an URL of the quarantine message.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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routing-instance (Security UTM)

Syntax

```
routing-instance name;
```

Hierarchy Level

```
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm feature-profile web-filtering juniper-enhanced server]
[edit security utm feature-profile web-filtering websense-redirect profile wr server]
[edit security utm feature-profile anti-virus sophos-engine server]
[edit security utm default-configuration anti-virus avira-engine pattern-update]
```

Release Information

Statement introduced in Junos OS Release 15.1X49-D90.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description

Configure the routing instance name. A routing instance is a collection of routing tables, interfaces, and routing protocol parameters. The set of interfaces belongs to the routing tables, and the routing protocol parameters control the information in the routing tables. Each routing instance has a unique name.

Options

name—Specify the name of the routing instance.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- admin-email on page 295
- url (Security Antivirus) on page 491

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sbl

Syntax

```
sbl {
  profile profile-name {
    custom-tag-string [string];
    (sbl-default-server | no-sbl-default-server);
    spam-action (block | tag-header | tag-subject);
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM server-based antispam features.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

sbl-default-server

Syntax

```
sbl-default-server;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam sbl profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Enable the default SBL server lookup. You should enable this feature if you are using server-based spam filtering. (The SBL server is predefined on the device. It ships with the name and address of the SBL server.)

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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scan-extension

Syntax

```
scan-extension filename;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
```

Release Information

The Kaspersky feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

For antivirus file extension scanning, configure the scan extension setting by specifying the name of the defined file extension list.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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scan-mode

Syntax

```
scan-mode (all | by-extension);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
```

Release Information

The scan-mode is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, the statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

You can scan all content or scan content with specific file extensions. You can use a file extension list to define a set of file extensions that are used in file extension scan mode. The antivirus module can then only scan files with extensions on the scan-extension list.

Options

- **all**—Scan all files.
- **by-extension**—Scan only files with extensions specified in a file extension list custom object.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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scan-options (Security Antivirus Juniper Express Engine)

Syntax

```
scan-options {
  content-size-limit value;
  (intelligent-prescreening | no-intelligent-prescreening);
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name]
```

Release Information

The scan-options (Security Antivirus Juniper Express Engine) is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the antivirus feature to scan specific types of traffic based on various scanning configuration parameters.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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scan-options (Security Antivirus Kaspersky Lab Engine)

Syntax

```
scan-options {
  content-size-limit value;
  decompress-layer-limit value;
  (intelligent-prescreening | no-intelligent-prescreening);
  scan-extension filename;
  scan-mode (all | by-extension);
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name]
```

Release Information

The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the antivirus feature to scan specific types of traffic based on various scanning configuration parameters.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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scan-options (Security Antivirus Sophos Engine)

Syntax

```
scan-options {
  content-size-limit value;
  (no-uri-check | uri-check);
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration antivirus scan-options]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the antivirus feature to scan specific types of traffic based on various scanning configuration parameters.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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scan-options (Security Antivirus Avira Engine)

Syntax

```
scan-options {
  content-size-limit value;
  decompress-layer-limit value;
  (no-pre-detection | pre-detection);
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit antivirus scan-options]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Statement introduced in Junos OS Release 18.4R1.

Description

Configure the antivirus feature to scan specific types of traffic based on various scanning configuration parameters. The scan engine scans the data by accessing the virus pattern database. You can download and uninstall the Avira scan engine. The antivirus module is the software subsystem on the gateway device that scans specific application layer traffic to protect the user from virus attacks and to prevent virus from spreading. The antivirus module software subsystem consists of a virus signature database, an application proxy, the scan manager, and the scan engine. The scan engine requires a valid license

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- decompress-layer-limit
- content-size-limit

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secondary-server

Syntax

```
secondary-server {
  address ipv4-address;
  login sender-email-address {
    password password;
  }
}
```

Hierarchy Level

```
[edit smtp]
```

Release Information Statement added in Junos OS Release 10.0.

Description Configure Simple Mail Transfer Protocol (SMTP) secondary server for access authorization for SMTP requests.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

server (Security Antivirus)

Syntax

```
server address-or-url;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update proxy]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update proxy]
[edit security utm feature-profile anti-virus sophos-engine pattern-update proxy]
```

Release Information The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 11.2.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Set the IP address or URL for the proxy server.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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server (Security Sophos Engine Antivirus)

Syntax

```
server ip;
routing-instance name;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine]
```

Release Information

Statement introduced in Junos OS Release 15.1X49-D90.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Set server parameters by entering the server IP address.

Options

ip—Specify Sophos anitivirus and antispam first-hop DNS server IP address.

routing-instance *name*—Specify the name of the routing instance.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- utm on page 495

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server (Security Web Filtering)

Syntax

```
server {
   host host-name;
   port number;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name]
[edit security utm feature-profile web-filtering juniper-enhanced]
```

Release Information

The surf-control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5 .
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Set server parameters by entering the server name or IP address.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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server-connectivity

Syntax

```
server-connectivity (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name
  fallback-settings]
```

Release Information

The surf-control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5 .
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback settings tell the system how to handle errors. This is the action that occurs when a request fails for this reason.

Options

- block—Log the error and deny the traffic
- log-and-permit—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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sessions-per-client

Syntax

```
sessions-per-client {
  limit value;
  over-limit (block | log-and-permit);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name traffic-options]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

In an attempt to consume all available resources and hinder the ability of the device, a malicious user might generate a large amount of traffic all at once. To prevent such activity from succeeding, you can impose a session throttle.

NOTE: The sessions-per-client limit command supports the antispam, content filtering, and antivirus UTM features. It does not support Web filtering.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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site-reputation-action

Syntax

```
site-reputation-action {
  harmful (block | log-and-permit | permit | quarantine);
  fairly-safe (block | log-and-permit | permit | quarantine);
  moderately-safe (block | log-and-permit | permit | quarantine);
  suspicious (block | log-and-permit | permit | quarantine);
  very-safe (block | log-and-permit | permit | quarantine);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name category
  category-name]
```

Release Information

Statement introduced in Junos OS Release 11.4.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Specify the action to be taken depending on the site reputation returned for all types of URLs whether it is categorized or uncategorized.

NOTE: Starting with Junos OS Release 17.4R1, the reputation base scores are configurable. Users can apply global reputation values, provided by the Websense ThreatSeeker Cloud (TSC). For the non-category URLs, the global reputation value is used to perform filtering,

Options

fairly-safe —Permit, log-and-permit, block, or quarantine a request if a site-reputation of 70 through 79 is returned.

harmful —Permit, log-and-permit, block, or quarantine a request if a site-reputation of zero through 59 is returned.

moderately-safe —Permit, log-and-permit, block, or quarantine a request if a site-reputation of 80 through 89 is returned.

suspicious —Permit, log-and-permit, block, or quarantine a request if a site-reputation of 60 through 69 is returned.

very-safe —Permit, log-and-permit, block, or quarantine a request if a site-reputation of 90 through 100 is returned.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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size (Security Web Filtering Cache)

Syntax
```
size value;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated cache]
[edit security utm feature-profile web-filtering juniper-enhanced cache]
```

Release Information
The surf-control feature is not supported from Junos OS Release 15.1X49-D10 onwards.
For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Set the cache size parameters for Web filtering.

Options
Range: 0 through 4096 kilobytes.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

smtp-profile (Security UTM Policy Antispam)

Syntax
```
smtp-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-spam]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antispam SMTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

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smtp-profile (Security UTM Policy Antivirus)

Syntax
```
smtp-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus SMTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

smtp-profile (Security UTM Policy Content Filtering)

Syntax
```
smtp-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name content-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content-filtering SMTP protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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sockets

Syntax sockets *value*;

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile web-filtering websense-redirect profile *profile-name*]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Enter the number of sockets used for communicating between the client and server. The default is 1.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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sophos-engine

Syntax

```
sophos-engine {
  pattern-update {
    email-notify {
      admin-email email-address;
      custom-message message;
      custom-message-subject message-subject;
    }
    interval value;
    no-autoupdate;
    proxy {
      password password-string;
      port port-number;
      server address-or-url;
      username name;
    }
    url url;
  }
  profile <name> {
    fallback-options {
      content-size (block | log-and-permit | permit);
      default (block | log-and-permit | permit);
      engine-not-ready (block | log-and-permit | permit);
      out-of-resources (block | log-and-permit | permit);
      timeout (block | log-and-permit | permit);
      too-many-requests (block | log-and-permit | permit);
    }
    notification-options {
      fallback-block {
        administrator-email email-address;
        allow-email;
        custom-message message;
        custom-message-subject message-subject;
        display-host;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      fallback-non-block {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-recipient | no-notify-mail-recipient);
      }
      virus-detection {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
    }
    scan-options {
      content-size-limit value;
      (no-uri-check | uri-check);
```

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```
        timeout value;
    }
    trickling {
        timeout value;
    }
  }
  sxl-retry value;
  sxl-timeout seconds;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the UTM Sophos antivirus feature.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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spam-action

Syntax

```
spam-action (block | tag-header | tag-subject);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam sbl profile profile-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the action to be taken by the device when spam is detected.

Options

- **block**— Block e-mail.
- **tag-header**—Tag header of e-mail.
- **tag-subject**—Tag subject of e-mail.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Example: Configuring Server-Based Antispam Filtering on page 179
- Example: Configuring Local List Antispam Filtering on page 187

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start-time

Syntax start-time *start-time*;

Hierarchy Level [edit security utm default-configuration anti-virus avira-engine pattern-update]
[edit security utm default-configuration anti-virus sophos-engine pattern-update]

Release Information The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description Specify the time that the device automatically starts downloading the updated signature database from the specified URL.

Options ***start-time***—Time in MM-DD.hh:mm format.

Required Privilege Level security— To view this statement in the configuration.
security-control— To add this statement to the configuration.

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surf-control-integrated

Syntax

```
surf-control-integrated {
  cache {
    size value;
    timeout value;
  }
  profile profile-name {
      category customurl-list name {
        action (block | log-and-permit | permit);
      }
    custom-block-message value;
    default (block | log-and-permit | permit);
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
      }
      timeout value;
    }
  }
  server {
    host host-name;
    port number;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[set security utm feature-profile web-filtering]
```

Release Information

The surf-control- integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the UTM web-filtering integrated feature.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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sxl-retry

Syntax sxl-retry *value;*

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine]

Release Information Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Configure the number of retry attempts to the remote Sophos Extensible List (SXL) server when a request timeout occurs.

Options *value* —Number of retries.
Range: 0 through 5
Default: 1

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

sxl-timeout

Syntax sxl-timeout *seconds;*

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine]

Release Information Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Configure the timeout value for responses to a Sophos checksum or URI query.

Options *seconds* —Number of seconds before timeout occurs.
Range: 1 through 5 seconds
Default: 2 seconds

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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timeout (Security Antivirus Fallback Options)

Syntax

```
timeout (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Scanning a complex file could consume resources and time. If the time it is taking to scan exceeds the timeout setting in the antivirus profile, the processing is aborted and the content is either passed or blocked without completing the virus checking. The decision is made based on the timeout fallback option. The default action is block.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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timeout (Security Antivirus Fallback Options Sophos Engine)

Syntax

```
default (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Scanning a complex file could consume resources and time. If the time it is taking to scan exceeds the timeout setting in the antivirus profile, the processing is aborted and the content is either passed or blocked without completing the virus checking. The decision is made based on the timeout fallback option.

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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timeout (Security Antivirus Scan Options)

Syntax
```
timeout value;
```

Hierarchy Level
```
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  scan-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  scan-options]
[edit security utm default-configuration anti-virus scan-options]
```

Release Information
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 . Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description
The scanning timeout value includes the time frame from when the scan request is generated to when the scan result is returned by the scan engine. The time range can be 1 to 1800 seconds. By default, it is 180 seconds.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

timeout (Security Web Filtering)

Syntax
```
timeout value;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name]
```

Release Information
Statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Enter a timeout limit for requests. Once this limit is reached, fail mode settings are applied. The default here is 15 seconds.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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timeout (Security Web Filtering Cache)

Syntax timeout *value*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated cache]
[edit security utm feature-profile web-filtering juniper-enhanced cache]

Release Information The surf-control-integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Set the cache timeout parameters for surf-control-integrated web filtering (24 hours is the default and the maximum allowed life span of cached items).

Options **Range:** 1 through 1800 minutes.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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timeout (Security Web Filtering Fallback Settings)

Syntax

```
timeout (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name
  fallback-settings]
```

Release Information

The surf-control-integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Fallback settings tell the system how to handle errors.

Options

- log-and-permit—Log the error and permit the traffic
- block—Log the error and deny the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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too-many-requests (Security Antivirus Fallback Options)

Syntax

```
too-many-requests (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  fallback-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  fallback-options]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

If the total number of messages received concurrently exceeds 4000, the content is either passed or blocked depending on the too-many-request fallback option. The default action is block. (The allowed request limit is not configurable.)

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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too-many-requests (Security Antivirus Fallback Options Sophos Engine)

Syntax

```
default (block | log-and-permit | permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  fallback-options]
```

Release Information

Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

If the total number of messages received concurrently exceeds the device limits, the content is either passed or blocked depending on the too-many-request fallback option. (The allowed request limit is not configurable.)

Options

- **block**—Log the error and deny the traffic
- **log-and-permit**—Log the error and permit the traffic
- **permit**—Permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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too-many-requests (Security Web Filtering Fallback Settings)

Syntax

```
too-many-requests (block | log-and-permit);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering surf-control-integrated profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering websense-redirect profile profile-name
  fallback-settings]
[edit security utm feature-profile web-filtering juniper-enhanced profile profile-name
  fallback-settings]
```

Release Information

The surf-control-integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
Statement introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

If the total number of messages received concurrently exceeds the device limits, the content is either passed or blocked depending on the too-many-request fallback option. The default action is BLOCK. (The allowed request limit is not configurable.)

Options

- block—Log the error and deny the traffic
- log-and-permit—Log the error and permit the traffic

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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to-zone (Security Policies)

Syntax

```
to-zone zone-name {
  policy policy-name {
    description description;
    match {
      application {
        [application];
        any;
      }
      destination-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
      }
      source-address {
        [address];
        any;
        any-ipv4;
        any-ipv6;
      }
      source-identity {
        [role-name];
        any;
        authenticated-user;
        unauthenticated-user;
        unknown-user;
      }
    }
    scheduler-name scheduler-name;
    then {
      count {
        alarm {
          per-minute-threshold number;
          per-second-threshold number;
        }
      }
      deny;
      log {
        session-close;
        session-init;
      }
      permit {
        application-services {
          application-firewall {
            rule-set rule-set-name;
          }
          application-traffic-control {
            rule-set rule-set-name;
          }
          gprs-gtp-profile profile-name;
          gprs-sctp-profile profile-name;
```

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```
            idp;
            redirect-wx | reverse-redirect-wx;
            ssl-proxy {
              profile-name profile-name;
            }
            uac-policy {
              captive-portal captive-portal;
            }
            utm-policy policy-name;
          }
          destination-address {
            drop-translated;
            drop-untranslated;
          }
          firewall-authentication {
            pass-through {
              access-profile profile-name;
              client-match user-or-group-name;
              ssl-termination-profile profile-name;
              web-redirect;
              web-redirect-to-https;
            }
            web-authentication {
              client-match user-or-group-name;
            }
          }
          services-offload;
          tcp-options {
            sequence-check-required;
            syn-check-required;
          }
          tunnel {
            ipsec-group-vpn group-vpn;
            ipsec-vpn vpn-name;
            pair-policy pair-policy;
          }
        }
        reject;
      }
    }
}
```

Hierarchy Level

```
[edit security policies from-zone zone-name]
```

Release Information

Statement introduced in Junos OS Release 8.5. Support for the **services-offload** and **junos-host** options added in Junos OS Release 11.4. Support for the **source-identity** option added in Junos OS Release 12.1. Support for the **ssl-termination-profile** and **web-redirect-to-https** options added in Junos OS Release 12.1X44-D10.

Description

Specify a destination zone to be associated with the security policy.

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Options

- **zone-name**—Name of the destination zone object.
- **junos-host**—Default security zone for self-traffic of the device.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*

traceoptions (Security Antispam)

Syntax

```
traceoptions flag flag;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-spam]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Define tracing operations for UTM antispam features.

Options

- *flag*:
  - **all**—Enable all antispam trace flags.
  - **manager** —Trace antispam manager information.
  - **sbl**—Trace SBL server information.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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traceoptions (Security Antivirus)

Syntax

```
traceoptions flag flag;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Define tracing operations for UTM antivirus features.

Options

- **flag**—Trace operation to perform. To specify more than one trace operation, include multiple **flag** statements.
  - **all**—Enable trace all antivirus trace options.
  - **basic**—Trace antivirus module generic basic information.
  - **detail**—Trace antivirus module generic detail information.
  - **engine**—Trace scan engine information.
  - **event**—Trace communication events between routing engine side processes.
  - **ipc**—Trace communication events with Packet Forwarding Engine.
  - **manager**—Trace antivirus manager process activities.
  - **pattern**—Trace detail information of pattern loading.
  - **sendmail**—Trace mail notifying process activities.
  - **statistics**—Trace statistics information.
  - **updater**—Trace pattern updater process activities.
  - **worker**—Trace antivirus worker process activities.

Required Privilege Level

trace—To view this statement in the configuration.
trace-control—To add this statement to the configuration.

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traceoptions (Security Application Proxy)

Syntax

```
traceoptions {
  flag flag;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm application-proxy]
[edit logical-system logical-system-name security]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The logical system option is introduced in Junos OS Release 18.3R1.

Description

Configure tracing options for application proxy.

Options

- **flag**—Trace operation to perform. To specify more than one trace operation, include multiple **flag** statements.
  - **abort**—Trace aborted sessions for application proxy.
  - **all**—Trace with all flags enabled.
  - **anti-virus**—Trace anti-virus information.
  - **application-objects**—Trace application-proxy objects information.
  - **basic**—Trace application-proxy related basic information.
  - **buffer**— Trace application-proxy data buffer information.
  - **connection-rating**—Trace connection rating information.
  - **detail**—Trace application-proxy related detailed information.
  - **express-anti-virus**—Trace anti-virus express engine information.
  - **ftp-control**—Trace FTP control connection information.
  - **ftp-data**—Trace FTP data connection information.
  - **http**—Trace HTTP protocol information.
  - **imap**—Trace IMAP protocol information.
  - **memory**—Trace memory usage.
  - **mime**—Trace MIME parser information.
  - **parser**— Trace protocol parser information.
  - **pfe**—Trace communication with PFE.
  - **pop3**—Trace POP3 protocol information.

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- **queue**—Trace queue information.
- **regex-engine**—Trace Pattern Match Engine (PME) information.
- **smtp**—Trace SMTP protocol information.
- **sophos-anti-virus**—Trace anti-virus sophos engine information.
- **tcp**—Trace TCP level information.
- **timer**—Trace timer processing.
- **utm-realtime**—Trace application-proxy realtime-thread information

Required Privilege Level
trace—To view this statement in the configuration.
trace-control—To add this statement to the configuration.

traceoptions (Security Content Filtering)

Syntax
```
traceoptions flag flag;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Define tracing options for content filtering features.

Options
- *flag*:
  - **all**—Enable all content filtering trace flags.
  - **basic** —Trace content filtering basic information.
  - **detail**—Trace content filtering detailed information.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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traceoptions (Security UTM)

Syntax

```
traceoptions flag flag;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Define tracing operations for UTM features.

Options

- **flag**—Trace operation to perform. To specify more than one trace operation, include multiple **flag** statements.
  - **all**—Enable trace for all UTM trace options.
  - **cli**—Trace CLI configuration activity and command changes.
  - **daemon**—Trace daemon information.
  - **ipc**—Trace communication events with Packet Forwarding Engine (PFE).
  - **pfe**—Trace PFE information.

Required Privilege Level

trace—To view this statement in the configuration.
trace-control—To add this statement to the configuration.

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traceoptions (Security Web Filtering)

Syntax

```
traceoptions flag flag;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information

Command introduced in Junos OS Release 10.1.
Command introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Define tracing operations for individual Web filtering modules. To specify more than one tracing operation, include multiple flag statements.

Options

- *flag*:
  - **all**—Enable all Web filtering trace flags.
  - **basic** —Trace basic information on the Web filtering module.
  - **cache**—Enable Web filtering flags for the Web filtering cache maintained on the Web filtering module.
  - **enhanced**—Enable Web filtering flags for processing through Enhanced Web Filtering.
  - **heartbeat**—Trace connectivity information with Web filter server.
  - **ipc**—Trace Web filtering IPC messages.
  - **packet**—Trace packet information from session management.
  - **profile**—Trace profile configuration information.
  - **requests**—Trace requests sent to Web filter server.
  - **response**—Trace response received from Web filter server.
  - **session manager**—Trace session management information.
  - **socket**—Trace the communication socket with Web filter server.
  - **timer**—Trace aging information for requests sent to server.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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traceoptions (SMTP)

Syntax

```
traceoptions {
  flag {
    all;
    configuration;
    IPC;
    protocol-exchange;
    send-request;
  }
}
```

Hierarchy Level

```
[edit smtp]
```

Release Information Statement added in Junos OS Release 10.0.

Description Set the Simple Mail Transfer Protocol (SMTP) traceoptions.

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level system—To view this statement in the configuration.
system-control—To add this statement to the configuration.

Related Documentation

- utm on page 495

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traffic-options

Syntax

```
traffic-options {
  sessions-per-client {
    limit value;
    over-limit (block | log-and-permit);
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

In an attempt to consume all available resources and hinder the ability of the device, a malicious user might generate a large amount of traffic all at once. To prevent such activity from succeeding, you can impose a session throttle.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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trickling

Syntax

```
trickling {
  timeout value;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Statement updated for Sophos support in Junos OS Release 11.1.

Description

HTTP trickling is a mechanism used to prevent the HTTP client or server from timing-out during a file transfer or during antivirus scanning. HTTP Trickling is time-based and there is only one parameter to configure for this feature, which is the timeout Interval. By default, trickling is disabled.

WARNING: When you enable the trickling option, keep in mind that trickling might send part of a file to the client during its antivirus scan. It is therefore possible that some of the content could be received by the client before the file has been fully scanned.

Options

value—Timeout interval in seconds.

Range: 0 through 600 seconds

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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type (Security Antivirus Feature Profile)

Syntax
```
type (juniper-express-engine | kaspersky-lab-engine | sophos-engine);
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus]
```

Release Information The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Statement updated for Sophos in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description Set the antivirus engine that will be used on the device. You can only have one engine type running and you must restart the device if you change engines.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

type (Security Content Filtering Notification Options)

Syntax
```
type (message | protocol-only);
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile content-filtering profile profile-name notification-options]
```

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description When content is blocked, the client generally still receives a successful response code but with modified content (file replacement) containing a warning message. But with protocol-only notifications, a protocol-specific error code might be returned to the client.

Options
- **message**—Send a generic notification.
- **protocol-only**—Send a protocol-specific notification.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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type (Security Fallback Block)

Syntax

```
type (message | protocol-only);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options fallback-block]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options fallback-block]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1 .

Description

You can configure notifications for both fallback blocking and fallback nonblocking actions. With protocol-only notifications, a protocol-specific error code may be returned to the client.

Options

- message—Send a generic notification.
- protocol-only—Send a protocol-specific notification.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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type (Security Virus Detection)

Syntax

```
type (message | protocol-only);
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options virus-detection]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options virus-detection]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.

Description

When content is blocked because a virus is found or a scan error occurs, the client generally still receives a successful response code but with modified content (file replacement) containing a warning message. But with protocol-only notifications, a protocol-specific error code might be returned to the client.

Options

- message—Send a generic notification.
- protocol-only—Send a protocol-specific notification.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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type (Security Web Filtering)

Syntax
```
type (juniper-enhanced | juniper-local | surf-control-integrated | websense-redirect);
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information
The surf-control-integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, command introduced in Junos OS Release 9.5.
Command introduced in Junos OS Release 11.4 for Enhanced Web Filtering.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Define the type of Web filtering solution or URL filtering solution used by the device.

Options
- **juniper-enhanced**—Enable Enhanced Web Filtering on the device.
- **juniper-local** —Enable Juniper Networks local URL filtering on the device.
- **surf-control-integrated**—Enable integrated Web filtering on the device.
- **websense-redirect**—Redirect the URL to the Websense server.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

upload-profile (Security Antivirus FTP)

Syntax
```
upload-profile profile-name;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name anti-virus ftp]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the antivirus FTP (upload) protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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upload-profile (Security Content Filtering FTP)

Syntax
upload-profile *profile-name*;

Hierarchy Level
[edit security utm default-configuration]
[edit security utm utm-policy *policy-name* content-filtering ftp]

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Configure a UTM policy for the content-filtering FTP (upload) protocol and attach this policy to a security profile to implement it.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

uri-check

Syntax
uri-check;

Hierarchy Level
[edit security utm default-configuration anti-virus scan-options]

Release Information
Statement introduced in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
Perform Sophos antivirus Uniform Resource Identifier (URI) checking. URI checking is a way of analyzing URI content in HTTP traffic against a remote Sophos database to identify malware or malicious content. URI checking is on by default.

NOTE: **Starting in Junos OS release 18.4R1, the URI checking is off by default.**

You can disable Sophos antivirus URI checking with the **no-uri-check** statement.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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url (Security Antivirus)

Syntax
```
url url;
```

Hierarchy Level
```
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update]
[edit security utm feature-profile anti-virus sophos-engine pattern-update]
[edit security utm default-configuration anti-virus avira-engine pattern-update]
```

Release Information
The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 for Juniper Express engine and Kaspersky Lab engine. Support for Sophos engine added in Junos OS Release 11.1.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
Support for Avira engine added in Junos OS Release 18.4R1.

Description
Specify the URL for the pattern database. You should not change the default URL unless you are experiencing problems with it and have called for support.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

url-blacklist

Syntax
```
url-blacklist listname;
```

Hierarchy Level
```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information
Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description
This is a global blacklist category, blocking content for Web filtering.

Options
The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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url-pattern

Syntax

```
url-pattern object-name {
  value [value];
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm custom-objects]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Use URL pattern lists to create custom URL category lists. These are lists of patterns that bypass scanning.

WARNING: Custom category does not take precedence over predefined categories when it has the same name as one of the predefined categories. We do not recommend having a custom category name be the same as the predefined category name.

Options

- ***object-name***—Name of the URL list object.
- **value *value***—Value of the URL list object. You can configure multiple values separated by spaces and enclosed in square brackets.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Security Policies Feature Guide for Security Devices*

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url-whitelist (Security Antivirus)

Syntax url-whitelist *listname*;

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile anti-virus]

Release Information Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description A URL whitelist is a unique custom list that you define in which all the URLs or IP addresses in that list for a specified category are always bypassed for scanning.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

url-whitelist (Security Web Filtering)

Syntax url-whitelist *listname*;

Hierarchy Level [edit security utm default-configuration]
[edit security utm feature-profile web-filtering]

Release Information The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description A URL whitelist is a unique custom list that you define in which all the URLs or IP addresses in that list for a specified category are always bypassed for filtering

Options The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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username (Security Antivirus)

Syntax

```
username name;
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine pattern-update proxy]
[edit security utm feature-profile anti-virus kaspersky-lab-engine pattern-update proxy]
[edit security utm feature-profile anti-virus sophos-engine pattern-update proxy]
```

Release Information

The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 11.2.

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Set the username for the proxy server.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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utm

Syntax

```
utm {
  application-proxy {
    traceoptions {
      flag flag;
    }
  }
  custom-objects {
    custom-url-category object-name {
      value [value];
    }
    filename-extension object-name {
      value [value];
    }
    mime-pattern object-name {
      value [value];
    }
    protocol-command object-name {
      value [value];
    }
    url-pattern object-name {
      value [value];
    }
  }
  feature-profile {
    anti-spam {
      address-blacklist list-name;
      address-whitelist list-name;
      sbl {
        profile profile-name {
          custom-tag-string [string];
          (sbl-default-server | no-sbl-default-server);
          spam-action (block | tag-header | tag-subject);
        }
      }
      traceoptions {
        flag flag;
      }
    }
    anti-virus {
      juniper-express-engine {
        pattern-update {
          email-notify {
            admin-email email-address;
            custom-message message;
            custom-message-subject message-subject;
          }
          interval value;
          no-autoupdate;
          proxy {
            password password-string;
            port port-number;
```

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```
            server address-or-url;
            username name;
          }
          url url;
        }
        profile profile-name {
          fallback-options {
            content-size (block | log-and-permit);
            default (block | log-and-permit);
            engine-not-ready (block | log-and-permit);
            out-of-resources (block | (log-and-permit);
            timeout (block | log-and-permit);
            too-many-requests (block | log-and-permit);
          }
          notification-options {
            fallback-block {
              administrator-email email-address;
              allow-email;
              custom-message message;
              custom-message-subject message-subject;
              display-host;
              (notify-mail-sender | no-notify-mail-sender);
              type (message | protocol-only);
            }
            fallback-non-block {
              custom-message message;
              custom-message-subject message-subject;
              (notify-mail-recipient | no-notify-mail-recipient);
            }
            virus-detection {
              custom-message message;
              custom-message-subject message-subject;
              (notify-mail-sender | no-notify-mail-sender);
              type (message | protocol-only);
            }
          }
          scan-options {
            content-size-limit value;
            (intelligent-prescreening | no-intelligent-prescreening);
            timeout value;
          }
          trickling {
            timeout value;
          }
        }
      }
      kaspersky-lab-engine {
        pattern-update {
          email-notify {
            admin-email email-address;
            custom-message message;
            custom-message-subject message-subject;
          }
          interval value;
          no-autoupdate;
```


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```
        proxy {
            password password-string;
            port port-number;
            server address-or-url;
            username name;
        }
        url url;
    }
    profile profile-name {
        fallback-options {
            content-size (block | log-and-permit);
            corrupt-file (block | log-and-permit);
            decompress-layer (block | log-and-permit);
            default (block | log-and-permit);
            engine-not-ready (block | log-and-permit);
            out-of-resources (block | (log-and-permit);
            password-file (block | (log-and-permit);
            timeout (block | log-and-permit);
            too-many-requests (block | log-and-permit);
        }
        notification-options {
            fallback-block {
                administrator-email email-address;
                allow-email;
                custom-message message;
                custom-message-subject message-subject;
                display-host;
                (notify-mail-sender | no-notify-mail-sender);
                type (message | protocol-only);
            }
            fallback-non-block {
                custom-message message;
                custom-message-subject message-subject;
                (notify-mail-recipient | no-notify-mail-recipient);
            }
            virus-detection {
                custom-message message;
                custom-message-subject message-subject;
                (notify-mail-sender | no-notify-mail-sender);
                type (message | protocol-only);
            }
        }
        scan-options {
            content-size-limit value;
            decompress-layer-limit value;
            (intelligent-prescreening | no-intelligent-prescreening);
            scan-extension filename;
            scan-mode (all | by-extension);
            timeout value;
        }
        trickling {
            timeout value;
        }
    }
}
```

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```
mime-whitelist {
  exception listname;
  list listname {
    exception listname;
  }
}
sophos-engine {
  pattern-update {
    email-notify {
      admin-email email-address;
      custom-message message;
      custom-message-subject message-subject;
    }
    interval value;
    no-autoupdate;
    proxy {
      password password-string;
      port port-number;
      server address-or-url;
      username name;
    }
    url url;
  }
  profile <name> {
    fallback-options {
      content-size (block | log-and-permit | permit);
      default (block | log-and-permit | permit);
      engine-not-ready (block | log-and-permit | permit);
      out-of-resources (block | log-and-permit | permit);
      timeout (block | log-and-permit | permit);
      too-many-requests (block | log-and-permit | permit);
    }
    notification-options {
      fallback-block {
        administrator-email email-address;
        allow-email;
        custom-message message;
        custom-message-subject message-subject;
        display-host;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      fallback-non-block {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-recipient | no-notify-mail-recipient);
      }
      virus-detection {
        custom-message message;
        custom-message-subject message-subject;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
    }
    scan-options {
```


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```
            content-size-limit value;
            (no-uri-check | uri-check);
            timeout value;
          }
          trickling {
            timeout value;
          }
        }
        sxl-retry value;
        sxl-timeout seconds;
      }
      traceoptions {
        flag flag;
      }
      type (juniper-express-engine | kaspersky-lab-engine | sophos-engine);
      url-whitelist listname;
    }
    content-filtering {
      profile profile-name {
        block-command protocol-command-list;
        block-content-type (activex | exe | http-cookie | java-applet | zip);
        block-extension extension-list;
        block-mime {
          exception list-name;
          list list-name;
        }
        notification-options {
          custom-message message;
          (notify-mail-sender | no-notify-mail-sender);
          type (message | protocol-only);
        }
        permit-command protocol-command-list;
      }
      traceoptions {
        flag flag;
      }
    }
    web-filtering {
      juniper-enhanced {
        cache {
          size value;
          timeout value;
        }
        profile profile-name {
          block-message {
            type {
              custom-redirect-url;
            }
            url url;
            }
          quarantine-message {
            type {
              custom-redirect-url;
            }
              url url;
```

```
            }
        category customurl-list name {
          action (block | log-and-permit | permit | quarantine);
        }
        custom-block-message value;
        custom-quarantine-message value;
        default (block | log-and-permit | permit | quarantine);
        fallback-settings {
          default (block | log-and-permit);
          server-connectivity (block | log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        no-safe-search;
        site-reputation-action {
          fairly-safe (block | log-and-permit | permit | quarantine);
          harmful (block | log-and-permit | permit | quarantine);
          moderately-safe (block | log-and-permit | permit | quarantine);
          suspicious (block | log-and-permit | permit | quarantine);
          very-safe (block | log-and-permit | permit |quarantine);
        }
        timeout value;
      }
      server {
        host host-name;
        port number;
      }
    }
    juniper-local {
      profile profile-name {
        custom-block-message value;
        default (block | log-and-permit | permit);
        fallback-settings {
          default (block | log-and-permit);
          server-connectivity (block | log-and-permit);
          timeout (block | log-and-permit);
          too-many-requests (block | log-and-permit);
        }
        timeout value;
      }
    }
    surf-control-integrated {
      cache {
        size value;
        timeout value;
      }
      profile profile-name {
        category customurl-list name {
          action (block | log-and-permit | permit);
        }
        custom-block-message value;
        default (block | log-and-permit | permit);
        fallback-settings {
          default (block | log-and-permit);
          server-connectivity (block | log-and-permit);
```


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```
            timeout (block | log-and-permit);
            too-many-requests (block | log-and-permit);
          }
          timeout value;
        }
        server {
          host host-name;
          port number;
        }
      }
      traceoptions {
        flag flag;
      }
      type (juniper-enhanced | juniper-local | surf-control-integrated | websense-redirect);
      url-blacklist listname;
      url-whitelist listname;
      websense-redirect {
        profile profile-name {
          account value;
          custom-block-message value;
          fallback-settings {
            default (block | log-and-permit);
            server-connectivity (block | log-and-permit);
            timeout (block | log-and-permit);
            too-many-requests (block | log-and-permit);
          }
          server {
            host host-name;
            port number;
          }
          sockets value;
          timeout value;
        }
      }
    }
  }
  ipc {
    traceoptions flag flag;
  }
  traceoptions {
    flag flag;
  }
  utm-policy policy-name {
    anti-spam {
      smtp-profile profile-name;
    }
    anti-virus {
      ftp {
        download-profile profile-name;
        upload-profile profile-name;
      }
      http-profile profile-name;
      imap-profile profile-name;
      pop3-profile profile-name;
      smtp-profile profile-name;
```

```
    }
    content-filtering {
      ftp {
        download-profile profile-name;
        upload-profile profile-name;
      }
      http-profile profile-name;
      imap-profile profile-name;
      pop3-profile profile-name;
      smtp-profile profile-name;
    }
    traffic-options {
      sessions-per-client {
        limit value;
        over-limit (block | log-and-permit);
      }
    }
    web-filtering {
      http-profile profile-name;
    }
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

The Kaspersky, surf-control-integrated, and express antivirus features are not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5 .

Description

Configure UTM features.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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utm default-configuration

Syntax

```
utm {
  default-configuration {
    anti-spam {
      address-blacklist;
      address-whitelist;
      sbl {
        custom-tag-string;
        (sbl-default-server | no-sbl-default-server);
        spam-action (block | tag-header | tag-subject);
      }
      traceoptions {
        flag name;
      }
      type (anti-spam-none | sbl);
    }
    anti-virus {
      mime-whitelist {
        exception;
        list;
      }
      sophos-engine {
        fallback-options {
          content-size (block | log-and-permit | permit);
          default (block | log-and-permit | permit);
          engine-not-ready (block | log-and-permit | permit);
          out-of-resources (block | log-and-permit | permit);
          timeout (block | log-and-permit | permit);
          too-many-requests (block | log-and-permit | permit);
        }
        notification-options {
          fallback-block {
            custom-message;
            custom-message-subject;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
          fallback-non-block {
            custom-message;
            custom-message-subject;
            (notify-mail-recipient | no-notify-mail-recipient);
          }
          virus-detection {
            custom-message;
            custom-message-subject;
            (notify-mail-sender | no-notify-mail-sender);
            type (message | protocol-only);
          }
        }
        pattern-update {
          email-notify {
            admin-email;
```

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```
            custom-message;
            custom-message-subject;
          }
          interval;
          no-autoupdate;
          proxy {
            password;
            port;
            server;
            username;
          }
          routing-instance;
          url;
        }
        scan-options {
          content-size-limit;
          timeout seconds;
          (uri-check | no-uri-check);
        }
        server {
          ip;
          routing-instance;
        }
        sxl-retry;
        sxl-timeout seconds;
        trickling timeout;
      }
      traceoptions {
        flag name;
      }
      url-whitelist;
    }
    content-filtering {
      block-command;
      block-content-type {
        activex;
        exe;
        http-cookie;
        java-applet;
        zip;
      }
      block-extension;
      block-mime {
        exception;
        list;
      }
      notification-options {
        custom-message;
        (notify-mail-sender | no-notify-mail-sender);
        type (message | protocol-only);
      }
      permit-command;
      traceoptions {
        flag name;
      }
```


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```
    type (content-filtering-none | local);
  }
  web-filtering {
    http-persist;
    http-reassemble;
    juniper-enhanced {
      base-filter;
      block-message {
        type custom-redirect-url;
        url;
      }
      cache {
        size kilobytes;
        timeout minutes;
      }
      category name {
        action (block | log-and-permit | permit | quarantine);
        custom-message;
      }
      custom-block-message;
      default (block | log-and-permit | permit | quarantine);
      fallback-settings {
        default (block | log-and-permit);
        server-connectivity (block | log-and-permit);
        timeout (block | log-and-permit);
        too-many-requests (block | log-and-permit);
      }
      no-safe-search;
      quarantine-custom-message;
      quarantine-message {
        type custom-redirect-url;
        url;
      }
      reputation {
        reputation-fairly-safe;
        reputation-moderately-safe;
        reputation-suspicious;
        reputation-very-safe;
      }
      server {
        host;
        port;
        routing-instance;
      }
      site-reputation-action {
        fairly-safe (block | log-and-permit | permit | quarantine);
        harmful (block | log-and-permit | permit | quarantine);
        moderately-safe (block | log-and-permit | permit | quarantine);
        suspicious (block | log-and-permit | permit | quarantine);
        very-safe (block | log-and-permit | permit | quarantine);
      }
      timeout seconds;
    }
    juniper-local {
      block-message {
```

```
      type custom-redirect-url;
      url;
    }
    category name {
      action (block | log-and-permit | permit | quarantine);
      custom-message;
    }
    custom-block-message;
    default (block | log-and-permit | permit);
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    quarantine-custom-message;
    quarantine-message {
      type custom-redirect-url;
      url;
    }
    timeout seconds;
  }
  traceoptions {
    flag name;
  }
  url-blacklist;
  url-whitelist;
  websense-redirect {
    account;
    block-message {
      type custom-redirect-url;
      url;
    }
    category name {
      action (block | log-and-permit | permit | quarantine);
      custom-message;
    }
    custom-block-message;
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    quarantine-custom-message;
    quarantine-message {
      type custom-redirect-url;
      url;
    }
    server {
      host;
      port;
      routing-instance;
    }
    sockets;
```


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```
        timeout seconds;
      }
    }
  }
  application-proxy;
  custom-objects;
  feature-profile;
  traceoptions;
  utm-policy junos-default-utm-policy;
  }
}
```

Hierarchy Level [edit security utm]

Release Information Statement introduced in Junos OS Release 18.2R1.

Description The UTM default configuration is used in two scenarios.

- **UTM default configuration for unified policies**—For security policies that enable UTM with no custom UTM policy defined, the default UTM policy will be used.
- **UTM default configuration for existing UTM policies**—For existing security policies that have a UTM policy enabled, the default UTM policy will NOT be used.

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Options

default-configuration—Global default UTM configurations.

anti-spam—Configure the default UTM configuration for antispam feature profile.

anti-virus—Configure the default UTM configuration for antivirus feature profile.

content-filtering—Configure the default UTM configuration for content filtering feature profile.

web-filtering—Configure the default UTM configuration for Web filtering feature profile.

utm-policy—Configure a UTM policy for antivirus, antispam, content filtering, traffic options, and Web filtering protocols and attach this policy to a security profile to implement it.

traceoptions—Define tracing operations for UTM features.

feature-profile—Configure UTM features, antivirus, antispam, content filtering, and Web filtering by creating feature profiles.

application-proxy—Application proxy settings.

custom-objects—Configure custom objects before configuring UTM feature-profile features. Custom category does not take precedence over predefined categories when it has the same name as one of the predefined categories. It is not recommended to have a custom category name be the same as the predefined category name.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- *Unified Threat Management (UTM) support within Unified Policy*

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utm-policy

Syntax

```
utm-policy policy-name {
  anti-spam {
    smtp-profile profile-name;
  }
  anti-virus {
    ftp {
      download-profile profile-name;
      upload-profile profile-name;
    }
    http-profile profile-name;
    imap-profile profile-name;
    pop3-profile profile-name;
    smtp-profile profile-name;
  }
  content-filtering {
    ftp {
      download-profile profile-name;
      upload-profile profile-name;
    }
    http-profile profile-name;
    imap-profile profile-name;
    pop3-profile profile-name;
    smtp-profile profile-name;
  }
  traffic-options {
    sessions-per-client {
      limit value;
      over-limit (block | log-and-permit);
    }
  }
  web-filtering {
    http-profile profile-name;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure a UTM policy for antivirus, antispam, content-filtering, traffic-options, and Web-filtering protocols and attach this policy to a security profile to implement it.

Options

policy-name—Specify name of the UTM policy.

The remaining statements are explained separately. See CLI Explorer.

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Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation
- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*

utm-policy (Application Services)

Syntax
```
utm-policy policy-name;
```

Hierarchy Level
```
[edit security policies from-zone zone-name to-zone zone-name policy policy-name then
  permit application-services]
```

Release Information
Statement introduced in Junos OS Release 11.1.

Description
Configure a UTM policy for application services and attach this policy to a security profile to implement it.

Options
policy-name—Specify the name of the UTM policy.

Required Privilege Level
security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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virus-detection (Security Antivirus)

Syntax

```
virus-detection {
  custom-message message;
  custom-message-subject message-subject;
  (notify-mail-sender | no-notify-mail-sender);
  type (message | protocol-only);
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile anti-virus juniper-express-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus kaspersky-lab-engine profile profile-name
  notification-options]
[edit security utm feature-profile anti-virus sophos-engine profile profile-name
  notification-options]
```

Release Information

The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.
The Express and Kaspersky Antivirus features are not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5. Support for Sophos engine added in Junos OS Release 11.1.

Description

Configure a notification to send when a virus is detected.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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web-filtering

Syntax

```
web-filtering {
  http-persist;
  http-reassemble;
  juniper-enhanced {
    base-filter;
    block-message {
      type custom-redirect-url;
      url;
    }
    cache {
      size kilobytes;
      timeout minutes;
    }
    category name {
      action (block | log-and-permit | permit | quarantine);
      custom-message;
    }
    custom-block-message;
    default (block | log-and-permit | permit | quarantine);
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    no-safe-search;
    quarantine-custom-message;
    quarantine-message {
      type custom-redirect-url;
      url;
    }
    reputation {
      reputation-fairly-safe;
      reputation-moderately-safe;
      reputation-suspicious;
      reputation-very-safe;
    }
    server {
      host;
      port;
      routing-instance;
    }
    site-reputation-action {
      fairly-safe (block | log-and-permit | permit | quarantine);
      harmful (block | log-and-permit | permit | quarantine);
      moderately-safe (block | log-and-permit | permit | quarantine);
      suspicious (block | log-and-permit | permit | quarantine);
      very-safe (block | log-and-permit | permit | quarantine);
    }
    timeout seconds;
  }
```


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```
juniper-local {
  block-message {
    type custom-redirect-url;
    url;
  }
  category name {
    action (block | log-and-permit | permit | quarantine);
    custom-message;
  }
  custom-block-message;
  default (block | log-and-permit | permit);
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  quarantine-custom-message;
  quarantine-message {
    type custom-redirect-url;
    url;
  }
  timeout seconds;
}
traceoptions {
  flag name;
}
url-blacklist;
url-whitelist;
websense-redirect {
  account;
  block-message {
    type custom-redirect-url;
    url;
  }
  category name {
    action (block | log-and-permit | permit | quarantine);
    custom-message;
  }
  custom-block-message;
  fallback-settings {
    default (block | log-and-permit);
    server-connectivity (block | log-and-permit);
    timeout (block | log-and-permit);
    too-many-requests (block | log-and-permit);
  }
  quarantine-custom-message;
  quarantine-message {
    type custom-redirect-url;
    url;
  }
  server {
    host;
    port;
    routing-instance;
```

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```
    }
    sockets;
    timeout seconds;
  }
}
```

Hierarchy Level

```
[edit security utm feature-profile]
[edit security utm default-configuration]
```

Release Information

The surf-control-integrated feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure UTM web filtering features. You can also configure the default UTM configuration for web filtering feature profile. If you do not configure any option in the web filtering feature profile, the values configured in the default UTM configuration are applied. The default UTM Web filtering configuration for HTTP is also applicable for the HTTPS sessions. Web filtering feature's potential policies conflict check is independent of the content filtering, antivirus, and antispam features.

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Options

http-persist—Check all HTTP request in a connection. If **http-persist** option is enabled for clear text HTTP traffic, then Web filtering checks every HTTP request packet in the same session.

http-reassemble—Reassemble HTTP request segments. If http-reassemble option is enabled for clear text HTTP traffic, then Enhanced Web Filtering (EWF) reassembles the fragmented HTTP request to avoid evasion instead of packet-based inspection.

juniper-enhanced—Enable enhanced Web filtering on the device.

base-filter—A base filter is an object that contains a category-action pair for all categories defined in the category file.

block-message—Juniper enhanced block message settings.

cache—Set the cache parameters for Surf-Control-Integrated Web filtering and Enhanced Web Filtering.

category—Select a custom URL category list you created (custom objects) for filtering against.

custom-block-message—Enter a custom message to be sent when HTTP requests are blocked.

default—Specify an action for the profile, for requests that experience internal errors in the Web filtering module.

fallback-settings—Fallback settings tell the system how to handle errors.

no-safe-search— Do not perform safe-search for Juniper enhanced protocol. Safe-search redirect supports HTTP only. Therefore it is not possible to generate a redirect response for HTTPS search URLs. Safe-search redirects can be disabled by using the CLI option **no-safe-search**.

quarantine-custom-message—Juniper enhanced quarantine custom message.

quarantine-message—Juniper enhanced quarantine message settings.

reputation—Customize reputation level. The ThreatSeeker Cloud (TSC) provides site reputation information. Based on these reputations, you can choose a block or a permit action.

server—Set server parameters by entering the server name or IP address.

site-reputation-action—Specify the action to be taken depending on the site reputation returned for all types of URLs whether it is categorized or uncategorized.

timeout—Enter a timeout limit for requests. Once this limit is reached, fail mode settings are applied.

Range: 1 through 120

juniper-local—Enable Juniper Networks local URL filtering on the device.

block-message—Juniper local block message settings.

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traceoptions—Trace options for Web filtering feature.

url-blacklist—This is a global blacklist category, blocking content for Web filtering.

url-whitelist—A URL whitelist is a unique custom list that you define in which all the URLs or IP addresses in that list for a specified category are always bypassed for filtering.

websense-redirect—Web filtering websense redirect engine. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories.

type—Type of Web filtering solution or URL filtering solution used by the device.

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Understanding Local Web Filtering on page 260
- Monitoring Web Filtering Configurations on page 285

web-filtering (Security UTM Policy)

Syntax

```
web-filtering {
  http-profile http-profile;
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm utm-policy policy-name]
[edit logical-systems logical-systems-name security utm utm-policy policy-name]
```

Release Information

Statement introduced in Junos OS Release 9.5.
Support in default configuration introduced in Junos OS Release 18.2R1.
Support for configuration in logical systems introduced in Junos OS Release 18.3R1.

Description

Configures a UTM policy for the Web filtering protocols and attach this policy to a security profile to implement it. Web filtering allows you to manage Internet usage by preventing access to inappropriate Web content.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

Related Documentation

- Web Filtering Overview on page 209

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websense-redirect

Syntax

```
websense-redirect {
  profile profile-name {
    account value;
    custom-block-message value;
    fallback-settings {
      default (block | log-and-permit);
      server-connectivity (block | log-and-permit);
      timeout (block | log-and-permit);
      too-many-requests (block | log-and-permit);
    }
    server {
      host host-name;
      port number;
    }
    sockets value;
    timeout value;
  }
}
```

Hierarchy Level

```
[edit security utm default-configuration]
[edit security utm feature-profile web-filtering]
```

Release Information

Statement introduced in Junos OS Release 9.5.
The **[edit security utm default-configuration]** hierarchy level is introduced in Junos OS Release 18.2R1.

Description

Configure the Websense redirect engine features.

Starting with Junos OS Release 17.4R1, you can download and dynamically load new Enhanced Web Filtering (EWF) categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade. Websense occasionally releases new EWF categories. EWF classifies websites into categories according to host, URL, or IP address and performs filtering based on the categories.

NOTE: Existing configurations are not affected by the new categories but can be modified to make use of the new categories.

Options

The remaining statements are explained separately. See CLI Explorer.

Required Privilege Level

security—To view this statement in the configuration.
security-control—To add this statement to the configuration.

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Related Documentation

- Example: Enhancing Security by Configuring Redirect Web Filtering Using Custom Objects on page 275

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CHAPTER 8

Operational Commands

- clear security utm anti-spam statistics
- clear security utm antivirus statistics
- clear security utm content-filtering statistics
- clear security utm session
- clear security utm web-filtering statistics
- request security utm anti-virus juniper-express-engine
- request security utm anti-virus kaspersky-lab-engine
- request security utm anti-virus sophos-engine
- request security utm anti-virus avira-engine
- request security utm web-filtering category install
- request security utm web-filtering category uninstall
- request security utm web-filtering category download-install [version]
- request security utm web-filtering category download [version]
- request system license update
- show configuration smtp
- show groups junos-defaults
- show security log
- show security policies
- show security utm anti-spam statistics
- show security utm anti-spam status
- show security utm anti-virus statistics
- show security utm anti-virus status
- show security utm content-filtering statistics
- show security utm session
- show security utm status
- show security utm web-filtering category base-filter
- show security utm web-filtering category category
- show security utm web-filtering category status

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- show security utm web-filtering statistics
- show security utm web-filtering status

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clear security utm anti-spam statistics

Syntax

```
clear security utm anti-spam statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Clears antispam statistics information. With chassis cluster support for UTM, statistics from both the nodes is cleared.

Starting in Junos OS Release 18.3R1, you can clear the antispam statistics information for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Clears the antispam statistics information for the master logical system.

root-logical-system—(Optional) Clears the antispam statistics information for the master logical system.

logical-system *logical-system-name*—(Optional) Clears the antispam statistics information for a specific user logical system.

all—(Optional) Clears the antispam statistics information for all the user logical systems.

Required Privilege Level

clear

Related Documentation

- show security utm anti-spam statistics on page 558
- show security utm anti-spam status on page 561

Sample Output

clear security utm anti-spam statistics

```
user@host> clear security utm anti-spam statistics
Anti-spam clear statistics result: clear done
```

clear security utm anti-spam statistics root-logical-system

```
user@host> clear security utm anti-spam statistics root-logical-system
Anti-spam clear statistics result: clear done
```

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clear security utm anti-spam statistics logical-system LSYS1

```
user@host> clear security utm anti-spam statistics logical-system LSYS1
Anti-spam clear statistics result: clear done
```

clear security utm anti-spam statistics logical-system all

```
user@host> clear security utm anti-spam statistics logical-system all
Anti-spam clear statistics result: clear done
```


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clear security utm antivirus statistics

Syntax

```
clear security utm anti-virus statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for Sophos Antivirus added in Junos OS Release 11.1.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Clears antivirus statistics information. With chassis cluster support for UTM, statistics from both the nodes are cleared.

Starting in Junos OS Release 18.3R1, you can clear the antivirus statistics information for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Clears the antivirus statistics information for the master logical system.

root-logical-system—(Optional) Clears the antivirus statistics information for the master logical system.

logical-system *logical-system-name*—(Optional) Clears the antivirus statistics information for a specific user logical system.

all—(Optional) Clears the antivirus statistics information for all the user logical systems.

Required Privilege Level

clear

Related Documentation

- show security utm anti-virus statistics on page 562
- show security utm anti-virus status on page 566
- request security utm anti-virus juniper-express-engine on page 530
- request security utm anti-virus kaspersky-lab-engine on page 531

Sample Output

clear security utm anti-virus statistics

```
user@host> clear security utm anti-virus statistics
Anti-virus clear statistics result: clear done
```

clear security utm anti-virus statistics root-logical-system

```
user@host> clear security utm anti-virus statistics root-logical-system
```

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```
Anti-virus clear statistics result: clear done
```

clear security utm anti-virus statistics logical-system LSYS1

```
user@host> clear security utm anti-virus statistics logical-system LSYS1
Anti-virus clear statistics result: clear done
```

clear security utm anti-virus statistics logical-system all

```
user@host> clear security utm anti-virus statistics logical-system all
Anti-virus clear statistics result: clear done
```


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clear security utm content-filtering statistics

Syntax

```
clear security utm content-filtering statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Clears content-filtering statistics information. With chassis cluster support for UTM, statistics from both the nodes are cleared.

Starting in Junos OS Release 18.3R1, you can clear the content filtering statistics information for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Clears the content filtering statistics information for the master logical system.

root-logical-system—(Optional) Clears the content filtering statistics information for the master logical system.

logical-system *logical-system-name*—(Optional) Clears the content filtering statistics information for a specific user logical system.

all—(Optional) Clears the content filtering statistics information for all the user logical systems.

Required Privilege Level

clear

Related Documentation

- show security utm content-filtering statistics on page 568

Sample Output

clear security utm content-filtering statistics

```
user@host> clear security utm content-filtering statistics
Content-filtering clear statistics result: clear done
```

clear security utm content-filtering statistics root-logical-system

```
user@host> clear security utm content-filtering statistics root-logical-system
Content-filtering clear statistics result: clear done
```

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clear security utm content-filtering statistics logical-system LSYS1

```
user@host> clear security utm content-filtering statistics logical-system LSYS1
Content-filtering clear statistics result: clear done
```

clear security utm content-filtering statistics logical-system all

```
user@host> clear security utm content-filtering statistics logical-system all
Content-filtering clear statistics result: clear done
```


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clear security utm session

Syntax

```
clear security utm session
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.

Description

Clear UTM session information. With chassis cluster support for UTM, sessions on both the nodes are cleared.

Required Privilege Level

clear

Related Documentation

- show security utm session on page 570
- show security utm status on page 571

Output Fields

This command produces no output.

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clear security utm web-filtering statistics

Syntax

```
clear security utm web-filtering statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5 .
Support for UTM in chassis cluster added in Junos OS Release 11.4 .
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Clear web filtering statistics information. With chassis cluster support for UTM, statistics from both the nodes is cleared.

Starting in Junos OS Release 18.3R1, you can clear the Web filtering statistics information for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Clears the Web filtering statistics information for the master logical system.

root-logical-system—(Optional) Clears the Web filtering statistics information for the master logical system.

logical-system *logical-system-name*—(Optional) Clears the Web filtering statistics information for a specific user logical system.

all—(Optional) Clears the Web filtering statistics information for all the user logical systems.

Required Privilege Level

clear

Related Documentation

- show security utm web-filtering statistics on page 578
- show security utm web-filtering status on page 582

Sample Output

clear security utm web-filtering statistics

```
user@host> clear security utm web-filtering statistics
Web-filtering clear statistics result: clear done
```

clear security utm web-filtering statistics root-logical-system

```
user@host> clear security utm web-filtering statistics root-logical-system
Web-filtering clear statistics result: clear done
```


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clear security utm web-filtering statistics logical-system LSYS1

```
user@host> clear security utm web-filtering statistics logical-system LSYS1
Web-filtering clear statistics result: clear done
```

clear security utm web-filtering statistics logical-system all

```
user@host> clear security utm web-filtering statistics logical-system all
Web-filtering clear statistics result: clear done
```

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request security utm anti-virus juniper-express-engine

Syntax

```
request security utm anti-virus juniper-express-engine
```

Release Information

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, command introduced in Junos OS Release 9.5. Support for UTM in chassis cluster added in Junos OS Release 11.4 .

Description

The Express Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards. For previous releases, manually update the express antivirus pattern database using the command described. You can update the express antivirus pattern database automatically or manually. With full chassis cluster support for UTM this command is operational on both the nodes.

Options

- **pattern-delete** — Delete the current express antivirus pattern database.
- **pattern-reload** — Reload the express antivirus pattern database.
- **pattern-update** — Update the express antivirus pattern database with the latest signatures.

Required Privilege Level

maintenance

Related Documentation

- clear security utm antivirus statistics on page 523
- show security utm anti-virus statistics on page 562
- show security utm anti-virus status on page 566

List of Sample Output

request security utm anti-virus juniper-express-engine pattern-update on page 530

Output Fields

request security utm anti-virus juniper-express-engine pattern-update

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request security utm anti-virus juniper-express-engine pattern-update

```
user@host> request security utm anti-virus juniper-express-engine pattern-update
```


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request security utm anti-virus kaspersky-lab-engine

Syntax request security utm anti-virus kaspersky-lab-engine

Release Information Command introduced in Junos OS Release 11.1 .
Support for UTM in chassis cluster added in Junos OS Release 11.4 .

Description The Kaspersky Antivirus feature is not supported from Junos OS Release 15.1x49-D10 onwards.For previous releases, manually update the full file-based antivirus pattern database using the commands described. You can update the full file-based antivirus pattern database automatically or manually. With full chassis cluster support for UTM this command is operational on both the nodes.

Options

- **pattern-delete** — Delete the current full file-based antivirus pattern database.
- **pattern-reload** — Reload the full file-based antivirus pattern database.
- **pattern-update** — Update the full file-based antivirus pattern database with the latest signatures.

Required Privilege Level maintenance

Related Documentation

- request security utm anti-virus juniper-express-engine on page 530
- clear security utm antivirus statistics on page 523
- show security utm anti-virus statistics on page 562
- show security utm anti-virus status on page 566

List of Sample Output request security utm anti-virus kaspersky-lab-engine pattern-update on page 531

Output Fields request security utm anti-virus kaspersky-lab-engine pattern-update

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request security utm anti-virus kaspersky-lab-engine pattern-update

```
user@host> request security anti-virus kaspersky-lab-engine pattern-update
```

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request security utm anti-virus sophos-engine

Syntax

```
request security utm anti-virus sophos-engine
```

Release Information

Command introduced in Junos OS Release 11.1 .
Support for UTM in chassis cluster added in Junos OS Release 11.4 .

Description

Manually update the Sophos antivirus pattern database using the command described. To update automatically you use the configuration statement **set security utm feature-profile anti-virus sophos-engine pattern-update interval *seconds***. With full chassis cluster support for UTM this command is operational on both the nodes.

Options

- **pattern-delete** — Delete the current Sophos antivirus pattern database.
- **pattern-reload** — Reload the Sophos antivirus pattern database.
- **pattern-update** — Update the Sophos antivirus pattern database with the latest signatures.

Required Privilege Level

maintenance

Related Documentation

- clear security utm antivirus statistics on page 523
- show security utm anti-virus statistics on page 562
- show security utm anti-virus status on page 566

List of Sample Output

request security utm anti-virus sophos-engine pattern-update on page 532

Output Fields

request security utm anti-virus sophos-engine pattern-update

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request security utm anti-virus sophos-engine pattern-update

```
user@host> request security utm anti-virus sophos-engine pattern-update
```


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request security utm anti-virus avira-engine

Syntax request security utm anti-virus avira-engine

Release Information Command introduced in Junos OS Release 18.4R1.

Description Manually update the Avira antivirus pattern database using the command described. To update automatically you use the configuration statement **set security utm default-configuration anti-virus avira-engine pattern-update interval *seconds***. Avira is an internal scan engine that provides a full file-based anitvirus scanning feature. The full file-based antivirus scanning feature is a separately licensed subscription service. The Avira scan engine is provided as a downloadable UTM module. You can download and install virus signature database.

Options

- **pattern-delete** — Delete the current Avira antivirus pattern database.
- **pattern-local-update** — Update the Avira antivirus pattern database from local folder.
- **pattern-reload** — Reload the Avira antivirus pattern database.
- **pattern-update** — Update the Avira antivirus pattern database with the latest signatures.

Required Privilege Level maintenance

Related Documentation

- clear security utm antivirus statistics on page 523
- show security utm anti-virus statistics on page 562
- show security utm anti-virus status on page 566

List of Sample Output

request security utm anti-virus avira-engine pattern-delete on page 533
request security utm anti-virus avira-engine pattern-local-update <path> on page 534
request security utm anti-virus avira-engine pattern-reload on page 534
request security utm anti-virus avira-engine pattern-update on page 534

Output Fields request security utm anti-virus avira-engine pattern-delete

When you enter this command, you are provided feedback on the status of your request.

Sample Output

request security utm anti-virus avira-engine pattern-delete

```
user@host> request security utm anti-virus avira-engine pattern-delete
```

```
Anti-virus update request results:
Anti-virus update request results: Starting to delete avira files.
```

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Sample Output

request security utm anti-virus avira-engine pattern-local-update <path>

```
user@host> request security utm anti-virus avira-engine pattern-local-update from
</var/tmp/db_0531>
```

```
Anti-virus update request results:
av_mgr: pattern updater 30445 is started, updating from /var/tmp/db_0531
```

Sample Output

request security utm anti-virus avira-engine pattern-reload

```
user@host> request security utm anti-virus avira-engine pattern-reload
```

```
Anti-virus update request results:
    Reloading good database starts ...
```

Sample Output

request security utm anti-virus avira-engine pattern-update

```
user@host> request security utm anti-virus avira-engine pattern-update
```

```
Anti-virus update request results:
av_mgr: pattern updater 44934 is started, downloading from
https://update.juniper-updates.net/avira.
```


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request security utm web-filtering category install

Syntax request security utm web-filtering category install

Release Information Command introduced in Junos OS Release 17.4.

Description Install the predefined category and predefined filter on the system. Users could check the category or filter using the following command: **show security utm web-filtering category base-filter**.

NOTE: During new category file installation, if the category filename is changed, then the new category file overwrites the old category file in the internal system and all related output information is replaced with the new category name.

Required Privilege Level maintenance

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category uninstall on page 536

Sample Output

request security utm web-filtering category install

```
user@host> request security utm web-filtering category install
Category updater result: install done
```

request security utm web-filtering category uninstall

Syntax request security utm web-filtering category uninstall

Release Information Command introduced in Junos OS Release 17.4.

Description Reset the predefined category and the base filters to the factory default. This option helps for category rollback.

Required Privilege Level maintenance

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535

Sample Output

request security utm web-filtering category uninstall

```
user@host> request security utm web-filtering category uninstall
Category updater result: Uninstall done
```


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request security utm web-filtering category download-install [version]

Syntax request security utm web-filtering category download-install *version*;

Release Information Command introduced in Junos OS Release 17.4.

Description Download and install the category file, if no version is specified, the latest version is downloaded and installed during category upgrade.

Required Privilege Level maintenance

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- request security utm web-filtering category download [version] on page 538

Sample Output

request security utm web-filtering category download-install version 5

```
user@host> request security utm web-filtering category download-install version 5
Category updater result: Download scheduled
```

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request security utm web-filtering category download [version]

Syntax

```
request security utm web-filtering category download version;
```

Release Information Command introduced in Junos OS Release 17.4.

Description Download the category file, if no version is specified, the latest version of the category file is downloaded during category upgrade.

Required Privilege Level maintenance

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- request security utm web-filtering category uninstall on page 536
- request security utm web-filtering category download-install [version] on page 537

Sample Output

request security utm web-filtering category download version 3

```
user@host> request security utm web-filtering category download version 3
Category updater result: Download done
```


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request system license update

Syntax request system license update

Release Information Command introduced in Junos OS Release 9.5.

Description Starts autoupdating license keys from the LMS server.

NOTE: The request system license update command always uses the default Juniper license server: https://ae1.juniper.net/.

Options **trial**—Immediately updates trial license keys from the LMS server.

Required Privilege Level maintenance

List of Sample Output
request system license update on page 539
request system license update trial on page 539

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license update

```
user@host> request system license update

Trying to update license keys from https://ae1.juniper.net has been sent, use
show system license to check status.
```

request system license update trial

```
user@host> request system license update trial

Request to automatically update trial license keys from https://ae1.juniper.net
has been sent, use show system license to check status.
```

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show configuration smtp

Syntax show configuration smtp

Release Information Command introduced in Junos OS Release 10.0 .

Description Display complete SMTP information.

Options
- apply-groups—Groups from which SMTP inherits configuration data.
- apply-groups-except—Groups from which SMTP restricts inheriting configuration data.

Required Privilege Level view

Related Documentation
- utm on page 495

List of Sample Output show configuration smtp on page 540

Output Fields Table 8 on page 540 describes the output fields for the **show configuration smtp** command.

Table 8: show configuration smtp

Field Name	Field Description	Level of Output
address	SMTP server's IPv4 address	All levels
login	Configure a mail sender account to the server	All levels
password	Default sender password for user authentication	All levels

Sample Output

show configuration smtp

```
user@host> show configuration smtp
primary-server {
    address 218.102.48.213;
    login "dayone@example.com" {
        password "$ABC123"; ## SECRET-DATA
    }
}
```


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show groups junos-defaults

Syntax

```
show groups junos-defaults
```

Release Information Command introduced before Junos OS Release 7.4.

Description Display the full set of available preset statements from the Junos OS defaults group.

```
user@host# show groups junos-defaults
  groups {
    junos-defaults {
      applications {
        # File Transfer Protocol
        application junos-ftp {
          application-protocol ftp;
          protocol tcp;
          destination-port 21;
        }
        # Trivial File Transfer Protocol
        application junos-tftp {
          application-protocol tftp;
          protocol udp;
          destination-port 69;
        }
        # RPC port mapper on TCP
        application junos-rpc-portmap-tcp {
          application-protocol rpc-portmap;
          protocol tcp;
          destination-port 111;
        }
        # RPC port mapper on UDP
      }
    }
  }
```

Required Privilege Level view

Related Documentation

- Using Junos OS Defaults Groups.

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show security log

Syntax

show security log {*all*| *destination-address*| *destination-port*| *event-id*| *failure*|*interface-name*| *newer-than*| *older-than*| *process*| *protocol*|*report*| *severity*| *sort-by*| *source-address*| *source-port*| *success*| *user*}

Release Information

Command introduced in Junos OS Release 11.2 .

Description

Display security event logs. This command continuously displays security events on the screen. To stop the display, press Ctrl+c.

Options

all—Display all audit event logs stored in the device memory.

destination-address—Display audit event logs with the specified destination address.

destination-port—Display audit event logs with the specified destination port.

event-id—Display audit event logs with the specified event identification number.

failure—Display failed audit event logs.

interface-name—Display audit event logs with the specified interface.

newer-than—Display audit event logs newer than the specified date and time.

older-than—Display audit event logs older than the specified date and time.

process—Display audit event logs with the specified process that generated the event.

protocol—Display audit event logs generated through the specified protocol.

report—Display on-box reports for system traffic logs.

severity—Display audit event logs generated with the specified severity.

sort-by—Display audit event logs generated sorted with the specified options.

source-address—Display audit event logs with the specified source address.

source-port—Display audit event logs with the specified source port.

success—Display successful audit event logs.

username—Display audit event logs generated for the specified user.

Required Privilege Level

view

Related Documentation

- *exclude (Security Log)*
- *clear security log*

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List of Sample Output show security log on page 543

Output Fields Table 9 on page 543 lists the output fields for the **show security log** command. Output fields are listed in the approximate order in which they appear.

Table 9: show security log Output Fields

Field Name	Field Description
Event time	The timestamp of the events received. On SRX Series devices, security logs were always timestamped using the UTC time zone by running **set system time-zone utc** and **set security log utc-timestamp** CLI commands. Now, time zone can be defined using the local time zone by running the **set system time-zone time-zone** command to specify the local time zone that the system should use when timestamping the security logs.
Message	Security events are listed.

Sample Output

show security log

```
user@host> show security log
```

```
Event time               Message
2010-10-22 13:28:37 CST  session created 1.1.1.2/1-->2.2.2.2/1308
 icmp 1.1.1.2/1-->2.2.2.2/1308
 None None 1 policy1 trustZone untrustZone 52 N/A(N/A) ge-0/0/1.0
2010-10-22 13:28:38 CST  session created 1.1.1.2/1-->2.2.2.2/1308 icmp
1.1.1.2/1-->2.2.2.2/1308 None None 1 policy1 trustZone untrustZone 54 N/A(N/A)
ge-0/0/1.0

...
```

```
2010-10-22 13:36:12 CST  session denied m icmp 1(8) policy1 trustZone untrustZone
 N/A(N/A) ge-0/0/1.0
2010-10-22 13:36:14 CST  session denied 1.1.1.2/2-->2.2.2.2/54812  icmp 1(8)
policy1 trustZone untrustZone N/A(N/A) ge-0/0/1.0

...
```

```
2010-10-27 15:50:11 CST  IP spoofing! source: 2.2.2.20, destination: 2.2.2.2,
protocol-id: 17, zone name: trustZone, interface name: ge-0/0/1.0, action: drop
2010-10-27 15:50:11 CST  IP spoofing! source: source: 2.2.2.20, destination:
2.2.2.2, protocol-id: 17, zone name: trustZone, interface name: ge-0/0/1.0, action:
 drop

...
```

```
2011-02-18 15:53:34 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/common/certification-authority/ca-profile1-ca1.cert
2011-02-18 15:53:35 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/common/crl/ca-profile1.crl
2011-02-18 15:53:35 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/system-key-pair/system-generated.priv
```

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```
2011-02-18 15:53:35 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/system-cert/system-generated.cert
2011-02-18 15:53:35 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/common/key-pair/cert1.priv
2011-02-18 15:53:42 CST  PKID_PV_OBJECT_READ: A PKI object was read into memory
from /var/db/certs/common/key-pair/test2.priv

...
```

```
2011-03-14 23:00:40 PDT  IDP_COMMIT_COMPLETED: IDP policy commit is complete.
                         IDP_POLICY_LOAD_FAILED: IDP policy loading failed ;poli
cy[/var/db/idpd/bins/.bin.gz.v], detector[/usr/libdata/libidp-detector.so.tgz.v]

 ,failure detail[Policy loading failed :: Policy file not found
2011-03-14 23:00:58 PDT  ]
                         IDP_POLICY_LOAD_FAILED: IDP policy loading failed ;poli
cy[/var/db/idpd/bins/.bin.gz.v], detector[/usr/libdata/libidp-detector.so.tgz.v]

 ,failure detail[Policy loading failed :: Policy file not found
2011-03-14 23:00:58 PDT  ]
                         IDP_POLICY_LOAD_FAILED: IDP policy loading failed ;poli
cy[/var/db/idpd/bins/.bin.gz.v], detector[/usr/libdata/libidp-detector.so.tgz.v]

 ,failure detail[Policy loading failed :: Policy file not found
2011-03-14 23:00:58 PDT  ]

...
```

```
Event time               Message
2011-03-21 14:21:49 CST  UI_CMDLINE_READ_LINE: User 'root', command 'set date ntp
 9.9.9.1 source-address 6.6.6.1 '
2011-03-21 14:23:01 CST  UI_CMDLINE_READ_LINE: User 'root', command 'set date ntp
 9.9.9.1 source-address 6.6.6.1 .5 '
2011-03-21 14:23:05 CST  KMD_PM_SA_ESTABLISHED: Local gateway: 7.7.7.1, Remote
gateway: 8.8.8.1, Local ID: ipv4(any:0,[0..3]=6.6.6.1), Remote ID:
ipv4(any:0,[0..3]=9.9.9.1), Direction: inbound, SPI: 37a2a179, AUX-SPI: 0, Mode:
 tunnel, Type: dynamic
2011-03-21 14:23:05 CST  KMD_PM_SA_ESTABLISHED: Local gateway: 7.7.7.1, Remote
gateway: 8.8.8.1, Local ID: ipv4(any:0,[0..3]=6.6.6.1), Remote ID:
ipv4(any:0,[0..3]=9.9.9.1), Direction: outbound, SPI: b2231c1f, AUX-SPI: 0, Mode:
 tunnel, Type: dynamic
2011-03-21 14:23:08 CST  UI_CMDLINE_READ_LINE: User 'root', command 'set date ntp
 9.9.9.1 source-address 6.6.6.1 '
2011-03-21 14:23:13 CST  UI_CMDLINE_READ_LINE: User 'root', command 'show security
 log '
```


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show security policies

Syntax

```
show security policies
application-firewall
count
detail
from-zone <zone-name>
global
hit-count
interface
logical-system <logical-system-name>
policy <policy-name>
root-logical-system
service-set
start
tenant <tenant-name>
to-zone <zone-name>
unknown-source-identity
zone-context
```

Release Information

Command modified in Junos OS Release 9.2.
Support for IPv6 addresses is added in Junos OS Release 10.2.
Support for wildcard addresses is added in Junos OS Release 11.1.
Support for global policy and services offloading is added in Junos OS Release 11.4.
Support for source-identities and the **Description** output field is added in Junos OS Release 12.1.
Support for negated address added in Junos OS Release 12.1X45-D10.
The output fields for Policy Statistics expanded, and the output fields for the **global** and **policy-name** options are expanded to include from-zone and to-zone global match criteria in Junos OS Release 12.1X47-D10.
Support for the **initial-tcp-mss** and **reverse-tcp-mss** options is added in Junos OS Release 12.3X48-D20.
Output field and description for **source-end-user-profile** option is added in Junos OS Release 15.1x49-D70.
Output field and description for **dynamic-applications** option is added in Junos OS Release 15.1x49-D100.
Output field and description for **dynapp-redir-profile** option is added in Junos OS Release 18.2R1.
The **tenant** option is introduced in Junos OS Release 18.3R1.

Description

Displays a summary of all security policies configured on the device. If a particular policy is specified, display information specific to that policy. The existing show commands for displaying the policies configured with multiple tenant support are enhanced. A security policy controls the traffic flow from one zone to another zone. The security policies allow you to deny, permit, reject (deny and send a TCP RST or ICMP port unreachable message to the source host), encrypt and decrypt, authenticate, prioritize, schedule, filter, and monitor the traffic attempting to cross from one security zone to another.

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Options

- **application-firewall**—Displays the information of application-firewall.
- **count**—Displays the number of policies. Range is 1 through 65,535.
- **detail**—(Optional) Displays a detailed view of all of the policies configured on the device.
- **from-zone**—Displays the policy information matching the given source zone.
- **global**—(Optional) Displays information about global policies.
- **hit-count**—Displays the policies hit count.
- **interface**—Displays the name of the adaptive services interface.
- **logical-system**—Displays the logical system name.
- **policy-name**—(Optional) Displays the information about a specified policy.
- **root-logical-system**—Displays root logical system as default.
- **service-set**—Displays the name of the service set.
- **start**—Displays the policies from a given position. Range is 1 through 65,535.
- **tenant**—Displays the name of the tenant system.
- **to-zone**—Displays the policy information matching the given destination zone.
- **unknown-source-identity**—Displays the unknown-source-identity of a policy.
- **zone-context**—Displays the count of policies in each context (from-zone and to-zone).

Required Privilege Level

view

Related Documentation

- *Security Policies Overview*
- *Understanding Security Policy Rules*
- *Understanding Security Policy Elements*
- *Unified Policies Configuration Overview*

List of Sample Output

show security policies on page 549
show security policies (Dynamic Applications) on page 550
show security policies policy-name detail on page 551
show security policies (Services-Offload) on page 552
show security policies (Device Identity) on page 552
show security policies detail on page 552
show security policies detail (TCP Options) on page 555
show security policies policy-name (Negated Address) on page 555
show security policies policy-name detail (Negated Address) on page 555
show security policies global on page 556
show security policies detail tenant on page 556

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Output Fields Table 10 on page 547 lists the output fields for the **show security policies** command. Output fields are listed in the approximate order in which they appear.

Table 10: show security policies Output Fields

Field Name	Field Description
From zone	Name of the source zone.
To zone	Name of the destination zone.
Policy	Name of the applicable policy.
Description	Description of the applicable policy.
State	Status of the policy: • **enabled**: The policy can be used in the policy lookup process, which determines access rights for a packet and the action taken in regard to it. • **disabled**: The policy cannot be used in the policy lookup process, and therefore it is not available for access control.
Index	Internal number associated with the policy.
Sequence number	Number of the policy within a given context. For example, three policies that are applicable in a from-zoneA-to-zoneB context might be ordered with sequence numbers 1, 2, 3. Also, in a from-zoneC-to-zoneD context, four policies might have sequence numbers 1, 2, 3, 4.
Source addresses	For standard display mode, the names of the source addresses for a policy. Address sets are resolved to their individual names. For detail display mode, the names and corresponding IP addresses of the source addresses for a policy. Address sets are resolved to their individual address name-IP address pairs.
Destination addresses	Name of the destination address (or address set) as it was entered in the destination zone's address book. A packet's destination address must match this value for the policy to apply to it.
source-end-user-profile	Name of the device identity profile (referred to as **end-user-profile** in the CLI) that contains attributes, or characteristics of a device. Specification of the device identity profile in the **source-end-user-profile** field is part of the device identity feature. If a device matches the attributes specified in the profile and other security policy parameters, then the security policy's action is applied to traffic issuing from the device.
Source addresses (excluded)	Name of the source address excluded from the policy.
Destination addresses (excluded)	Name of the destination address excluded from the policy.
Source identities	One or more user roles specified for a policy.

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Table 10: show security policies Output Fields (continued)

Field Name	Field Description
Applications	Name of a preconfigured or custom application whose type the packet matches, as specified at configuration time. • **IP protocol**: The Internet protocol used by the application—for example, TCP, UDP, ICMP. • **ALG**: If an ALG is explicitly associated with the policy, the name of the ALG is displayed. If **application-protocol ignore** is configured, **ignore** is displayed. Otherwise, **0** is displayed. However, even if this command shows **ALG: 0**, ALGs might be triggered for packets destined to well-known ports on which ALGs are listening, unless ALGs are explicitly disabled or when **application-protocol ignore** is not configured for custom applications. • **Inactivity timeout**: Elapsed time without activity after which the application is terminated. • **Source port range**: The low-high source port range for the session application.
Dynamic Applications	Application identification-based Layer 7 dynamic applications.
Destination Address Translation	Status of the destination address translation traffic: • **drop translated**—Drop the packets with translated destination addresses. • **drop untranslated**—Drop the packets without translated destination addresses.

Application Firewall	An application firewall includes the following:
	• **Rule-set**—Name of the rule set.
	• **Rule**—Name of the rule.
	  • **Dynamic applications**—Name of the applications.
	  • **Dynamic application groups**—Name of the application groups.
	  • **Action**—The action taken with respect to a packet that matches the application firewall rule set. Actions include the following:
	  • **permit**
	  • **deny**
	• **Default rule**—The default rule applied when the identified application is not specified in any rules of the rule set.

Action or Action-type	• The action taken for a packet that matches the policy's tuples. Actions include the following:
	  • **permit**
	  • **firewall-authentication**
	  • **tunnel ipsec-vpn** *vpn-name*
	  • **pair-policy** *pair-policy-name*
	  • **source-nat pool** *pool-name*
	  • **pool-set** *pool-set-name*
	  • **interface**
	  • **destination-nat** *name*
	  • **deny**
	  • **reject**
	  • **services-offload**

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Table 10: show security policies Output Fields (continued)

Field Name	Field Description
Session log	Session log entry that indicates whether the **at-create** and **at-close** flags were set at configuration time to log session information.
Scheduler name	Name of a preconfigured scheduler whose schedule determines when the policy is active and can be used as a possible match for traffic.

Policy statistics	• **Input bytes**—The total number of bytes presented for processing by the device.
	  ◦ **Initial direction**—The number of bytes presented for processing by the device from the initial direction.
	  ◦ **Reply direction**—The number of bytes presented for processing by the device from the reply direction.
	• **Output bytes**—The total number of bytes actually processed by the device.
	  ◦ **Initial direction**—The number of bytes from the initial direction actually processed by the device.
	  ◦ **Reply direction**—The number of bytes from the reply direction actually processed by the device.
	• **Input packets**—The total number of packets presented for processing by the device.
	  ◦ **Initial direction**—The number of packets presented for processing by the device from the initial direction.
	  ◦ **Reply direction**—The number of packets presented for processing by the device from the reply direction.
	• **Output packets**—The total number of packets actually processed by the device.
	  ◦ **Initial direction**—The number of packets actually processed by the device from the initial direction.
	  ◦ **Reply direction**—The number of packets actually processed by the device from the reply direction.
	• **Session rate**—The total number of active and deleted sessions.
	• **Active sessions**—The number of sessions currently present because of access control lookups that used this policy.
	• **Session deletions**—The number of sessions deleted since system startup.
	• **Policy lookups**—The number of times the policy was accessed to check for a match.

dynapp-redir-profile	Displays unified policy redirect profile. See *profile(dynamic-application)*.
Per policy TCP Options	Configured syn and sequence checks, and the configured TCP MSS value for the initial direction, the reverse direction or, both.

Sample Output

show security policies

```
user@host> show security policies

From zone: trust, To zone: untrust
Policy: p1, State: enabled, Index: 4, Sequence number: 1
  Source addresses:
  sa-1-ipv4: 198.51.100.11/24
```

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```
    sa-2-ipv6: 2001:db8:a0b:12f0::1/32
    sa-3-ipv6: 2001:db8:a0b:12f0::22/32
    sa-4-wc:   203.0.113.1/255.255.0.255
    Destination addresses:
    da-1-ipv4: 2.2.2.2/24
    da-2-ipv6: 2001:db8:a0b:12f0::8/32
    da-3-ipv6: 2001:db8:a0b:12f0::9/32
    da-4-wc:   192.168.22.11/255.255.0.255
    Source identities: role1, role2, role4
    Applications: any
    Action: permit, application services, log, scheduled
    Application firewall : my_ruleset1
  Policy: p2, State: enabled, Index: 5, Sequence number: 2
    Source addresses:
    sa-1-ipv4:  198.51.100.11/24
    sa-2-ipv6:  2001:db8:a0b:12f0::1/32
    sa-3-ipv6:  2001:db8:a0b:12f0::22/32
    Destination addresses:
    da-1-ipv4:  2.2.2.2/24
    da-2-ipv6:  2001:db8:a0b:12f0::1/32
    da-3-ipv6:  2001:db8:a0b:12f0::9/32
    Source identities: role1, role4
    Applications: any
    Action: deny, scheduled
```

show security policies (Dynamic Applications)

```
user@host>show security policies

  Policy: p1, State: enabled, Index: 4, Scope Policy: 0, Sequence number: 1
    Source addresses: any
    Destination addresses: any
    Applications: any
    Dynamic Applications: junos:YAHOO
    Action: deny, log
  Policy: p2, State: enabled, Index: 5, Scope Policy: 0, Sequence number: 2
    Source addresses: any
    Destination addresses: any
    Applications: any
    Dynamic Applications: junos:web, junos:web:social-networking:facebook,
    junos:TFTP, junos:QQ
    Action: permit, log
  Policy: p3, State: enabled, Index: 6, Scope Policy: 0, Sequence number: 3
    Source addresses: any
    Destination addresses: any
    Applications: any
    Dynamic Applications: junos:HTTP, junos:SSL
    Action: permit, application services, log
```

The following example displays the output with unified policies configured.

```
user@host>  show security policies

Default policy: deny-all
Pre ID default policy: permit-all
From zone: trust, To zone: untrust
  Policy: p2, State: enabled, Index: 4, Scope Policy: 0, Sequence number: 1
    Source addresses: any
```


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```
  Destination addresses: any
  Applications: junos-defaults
  Dynamic Applications: junos:GMAIL, junos:FACEBOOK-CHAT
  dynapp-redir-profile: profile1
```

show security policies policy-name detail

```
user@host> show security policies policy-name p1 detail

 Policy: p1, action-type: permit, State: enabled, Index: 4, Scope Policy: 0
 Description: The policy p1 is for the sales team
 Sequence number: 1
 From zone: trust, To zone: untrust
 Source addresses:
   sa-1-ipv4:  198.51.100.11/24
   sa-2-ipv6:  2001:db8:a0b:12f0::1/32
   sa-3-ipv6:  2001:db8:a0b:12f0::9/32
   sa-4-wc:    203.0.113.1/255.255.0.255
 Destination addresses:
   da-1-ipv4: 192.0.2.0/24
   da-2-ipv6: 2001:db8:a0b:12f0::1/32
   da-3-ipv6: 2001:db8:a0b:12f0::9/32
   da-4-wc:   192.168.22.11/255.255.0.255
Source identities:
 role1
 role2
 role4
 Application: any
   IP protocol: 0, ALG: 0, Inactivity timeout: 0
     Source port range: [0-0]
     Destination port range: [0-0]
 Destination Address Translation: drop translated
 Application firewall :
 Rule-set: my_ruleset1
   Rule: rule1
     Dynamic Applications: junos:FACEBOOK-ACCESS, junos:YMSG
     Dynamic Application groups: junos:web, junos:chat
     Action: deny
   Default rule: permit
 Session log: at-create, at-close
 Scheduler name: sch20
 Per policy TCP Options: SYN check: No, SEQ check: No
 Policy statistics:
   Input  bytes       :               18144                 545 bps
     Initial direction:                9072                272 bps
     Reply direction  :                9072                 272 bps
   Output bytes       :               18144                 545 bps
     Initial direction:                9072                 272 bps
     Reply direction  :                9072                 272 bps
   Input  packets     :                 216                   6 pps
     Initial direction:                 108                   3 bps
     Reply direction  :                 108                   3 bps
   Output packets     :                 216                   6 pps
     Initial direction:                 108                   3 bps
     Reply direction  :                 108                   3 bps
   Session rate       :                 108                   3 sps
   Active sessions    :                  93
   Session deletions  :                  15
   Policy lookups     :                 108
```

The following example displays the output with unified policies configured.

```
user@host> show security policies policy-name p1 detail

Default policy: permit-all
Pre ID default policy: permit-all
From zone: trust, To zone: trust
  Policy: p1, State: enabled, Index: 4, Scope Policy: 0, Sequence number: 1
    Source addresses: any
    Destination addresses: any
    Applications: any
    Action: reject
    dynapp-redir-profile: profile1
```

show security policies (Services-Offload)

```
user@host> show security policies

  Policy: p1, action-type: reject, State: enabled, Index: 4, Scope Policy: 0
  Policy Type: Configured
  Sequence number: 1
  From zone: trust, To zone: trust
  Source addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Destination addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Application: any
    IP protocol: 0, ALG: 0, Inactivity timeout: 0
      Source port range: [0-0]
      Destination port range: [0-0]
  dynapp-redir-profile: profile1(1)
  Per policy TCP Options: SYN check: No, SEQ check: No, Window scale: No
```

show security policies (Device Identity)

```
user@host> show security policies
From zone: trust, To zone: untrust
       Policy: dev-id-marketing, State: enabled, Index: 5, Scope Policy: 0,
Sequence number: 1
         Source addresses: any
         Destination addresses: any
         source-end-user-profile: marketing-profile
         Applications: any
         Action: permit
```

show security policies detail

```
user@host> show security policies detail

Default policy: deny-all
Policy: p1, action-type: permit, services-offload:enabled , State: enabled, Index:
 4, Scope Policy: 0
  Policy Type: Configured
  Description: The policy p1 is for the sales team
```


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```
  Sequence number: 1
  From zone: trust, To zone: untrust
  Source addresses:
    any-ipv4(global):  0.0.0.0/0
    any-ipv6(global): ::/0
  Destination addresses:
    any-ipv4(global):  0.0.0.0/0
    any-ipv6(global): ::/0
 Source identities:
  role1
  role2
  role4
  Application: any
    IP protocol: 0, ALG: 0, Inactivity timeout: 0
      Source port range: [0-0]
      Destination port range: [0-0]
  Per policy TCP Options: SYN check: No, SEQ check: No
  Policy statistics:
    Input  bytes       :                18144                  545 bps
      Initial direction:                 9072                 272 bps
      Reply direction  :                 9072                  272 bps
    Output bytes       :                18144                  545 bps
      Initial direction:                 9072                  272 bps
      Reply direction  :                 9072                  272 bps
    Input  packets     :                  216                    6 pps
      Initial direction:                  108                    3 bps
      Reply direction  :                  108                    3 bps
    Output packets     :                  216                    6 pps
      Initial direction:                  108                    3 bps
      Reply direction  :                  108                    3 bps
    Session rate       :                  108                    3 sps
    Active sessions    :                   93
    Session deletions  :                   15
    Policy lookups     :                  108
Policy: p2, action-type: permit, services-offload:enabled , State: enabled, Index:
 5, Scope Policy: 0
  Policy Type: Configured
  Description: The policy p2 is for the sales team
  Sequence number: 1
  From zone: untrust, To zone: trust
  Source addresses:
    any-ipv4(global):  0.0.0.0/0
    any-ipv6(global): ::/0
  Destination addresses:
    any-ipv4(global):  0.0.0.0/0
    any-ipv6(global): ::/0
 Source identities:
  role1
  role2
  role4
  Application: any
    IP protocol: 0, ALG: 0, Inactivity timeout: 0
      Source port range: [0-0]
      Destination port range: [0-0]
  Per policy TCP Options: SYN check: No, SEQ check: No
```

The following example displays the output with unified policies configured.

```
user@host> show security policies detail
```

```
Default policy: deny-all
Pre ID default policy: permit-all
Policy: p2, action-type: reject, State: enabled, Index: 4, Scope Policy: 0
  Policy Type: Configured
  Sequence number: 1
  From zone: trust, To zone: untrust
  Source addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Destination addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Application: junos-defaults
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [443-443]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [5432-5432]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [80-80]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [3128-3128]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [8000-8000]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [8080-8080]
    IP protocol: 17, ALG: 0, Inactivity timeout: 60
      Source port range: [0-0]
      Destination port range: [1-65535]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [443-443]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [5432-5432]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [80-80]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [3128-3128]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [8000-8000]
    IP protocol: 6, ALG: 0, Inactivity timeout: 1800
      Source port range: [0-0]
      Destination port range: [8080-8080]
    IP protocol: 17, ALG: 0, Inactivity timeout: 60
      Source port range: [0-0]
      Destination port range: [1-65535]
  Dynamic Application:
    junos:FACEBOOK-CHAT: 10704
    junos:GMAIL: 51
```


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```
  dynapp-redir-profile: profile1(1)
  Per policy TCP Options: SYN check: No, SEQ check: No, Window scale: No
```

show security policies detail (TCP Options)

```
user@host> show security policies policy-name p2 detail
node0:
--------------------------------------------------------------------------
Policy:p2, action-type:permit, State: enabled,Index: 4, Scope Policy: 0
  Policy Type: Configured
  Sequence number: 1
  From zone: trust, To zone: trust
  Source addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Destination addresses:
    any-ipv4(global): 0.0.0.0/0
    any-ipv6(global): ::/0
  Application: junos-defaults
    IP protocol: tcp, ALG: 0, Inactivity timeout: 0
      Source port range: [0-0]
 Destination port range: [80-80]
Per policy TCP Options: SYN check: No, SEQ check: No, Window scale: No
  Dynamic-application: junos:HTTP
```

show security policies policy-name (Negated Address)

```
user@host> show security policies policy-name p1
node0:
--------------------------------------------------------------------------
From zone: trust, To zone: untrust
  Policy: p1, State: enabled, Index: 4, Scope Policy: 0, Sequence number: 1
    Source addresses(excluded): as1
    Destination addresses(excluded): as2
    Applications: any
    Action: permit
```

show security policies policy-name detail (Negated Address)

```
user@host> show security policies policy-name p1 detail
node0:
--------------------------------------------------------------------------
Policy: p1, action-type: permit, State: enabled, Index: 4, Scope Policy: 0
  Policy Type: Configured
  Sequence number: 1
  From zone: trust, To zone: untrust
  Source addresses(excluded):
    ad1(ad): 255.255.255.255/32
    ad2(ad):  198.51.100.1/24
    ad3(ad):  198.51.100.6  ~ 198.51.100.56
    ad4(ad):  192.0.2.8/24
    ad5(ad):  198.51.100.99 ~ 198.51.100.199
    ad6(ad):  203.0.113.9/24
    ad7(ad):  203.0.113.23/24
  Destination addresses(excluded):
    ad13(ad2): 198.51.100.76/24
```

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```
    ad12(ad2): 198.51.100.88/24
    ad11(ad2): 192.0.2.23 ~ 192.0.2.66
    ad10(ad2): 192.0.2.93
    ad9(ad2):  203.0.113.76 ~ 203.0.113.106
    ad8(ad2):  203.0.113.199
  Application: any
    IP protocol: 0, ALG: 0, Inactivity timeout: 0
      Source port range: [0-0]
      Destination port range: [0-0]
  Per policy TCP Options: SYN check: No, SEQ check: No
```

show security policies global

```
user@host> show security policies global policy-name Pa
```

```
node0:
--------------------------------------------------------------------------
  Global policies:
  Policy: Pa, State: enabled, Index: 6, Scope Policy: 0, Sequence number: 1
    From zones: any
    To zones: any
    Source addresses: H0
    Destination addresses: H1
    Applications: junos-http
    Action: permit
```

show security policies detail tenant

```
user@host> show security policies detail tenant TN1
```

```
Default policy: deny-all
Pre ID default policy: permit-all
Policy: p1, action-type: permit, State: enabled, Index: 4, Scope Policy: 0
Policy Type: Configured
Sequence number: 1
From zone: trust, To zone: untrust
Source addresses: any
Destination addresses: any
Application: junos-ping
IP protocol: 1, ALG: 0, Inactivity timeout: 60
ICMP Information: type=255, code=0
Application: junos-telnet
IP protocol: tcp, ALG: 0, Inactivity timeout: 1800
Source port range: [0-0]
Destination port range: [23-23]
Application: app_udp
IP protocol: udp, ALG: 0, Inactivity timeout: 1800
Source port range: [0-0]
Destination port range: [5000-5000]
Application: junos-icmp6-all
IP protocol: 58, ALG: 0, Inactivity timeout: 60
ICMP Information: type=255, code=0
Per policy TCP Options: SYN check: No, SEQ check: No, Window scale: No
Session log: at-create, at-close
Policy statistics:
Input  bytes     :                   0                   0 bps
Initial direction:                   0                   0 bps
```


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```
Reply direction  :                0                0 bps
Output bytes     :                0                0 bps
Initial direction:                0                0 bps
Reply direction  :                0                0 bps
Input  packets   :                0                0 pps
Initial direction:                0                0 bps
Reply direction  :                0                0 bps
Output packets   :                0                0 pps
Initial direction:                0                0 bps
Reply direction  :                0                0 bps
Session rate     :                0                0 sps
Active sessions  :                0
Session deletions:                0
Policy lookups   :                0
```

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show security utm anti-spam statistics

Syntax

```
show security utm anti-spam statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Displays antispam statistics for connections including total e-mail scanned, tagged, and dropped connections.

Statistics from both the nodes (with full chassis cluster support for UTM) are displayed.

Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** to view the physical interface cards (PICs) and Flexible PIC Concentrator (FPC) statistics are not supported.

Starting in Junos OS Release 18.3R1, you can view the antispam statistics for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Displays antispam statistics for the master logical system.

root-logical-system—(Optional) Displays antispam statistics for the master logical system.

logical-system *logical-system-name*—(Optional) Displays antispam statistics for a specific user logical system.

all—(Optional) Displays antispam statistics for all the user logical systems.

Required Privilege Level

view

Related Documentation

- clear security utm anti-spam statistics on page 521
- show security utm anti-spam status on page 561

List of Sample Output

show security utm anti-spam statistics on page 559
show security utm anti-spam statistics root-logical-system on page 559
show security utm anti-spam statistics logical-system LSYS1 on page 559
show security utm anti-spam statistics logical-system all on page 560

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Sample Output

show security utm anti-spam statistics

```
user@host> show security utm anti-spam statistics
Total connections:     0
Denied connections:    0
Total greetings:       0
Denied greetings:      0
Total e-mail scanned:  0
White list hit:        0
Black list hit:        0
Spam total:            0
Spam tagged:           0
Spam dropped:          0
DNS errors:            0
Timeout errors:        0
Return errors:         0
Invalid parameter errors: 0
```

show security utm anti-spam statistics root-logical-system

```
user@host> show security utm anti-spam statistics root-logical-system
 UTM Anti Spam statistics:

Total connections:     0
Denied connections:    0
Total greetings:       0
Denied greetings:      0
Total e-mail scanned:  0
White list hit:        0
Black list hit:        0
Spam total:            0
Spam tagged:           0
Spam dropped:          0
DNS errors:            0
Timeout errors:        0
Return errors:         0
Invalid parameter errors: 0
```

show security utm anti-spam statistics logical-system LSYS1

```
user@host> show security utm anti-spam statistics logical-system LSYS1
 UTM Anti Spam statistics:

Total connections:     0
Denied connections:    0
Total greetings:       0
Denied greetings:      0
Total e-mail scanned:  0
White list hit:        0
Black list hit:        0
Spam total:            0
Spam tagged:           0
Spam dropped:          0
DNS errors:            0
```

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```
Timeout errors:        0
Return errors:         0
Invalid parameter errors: 0
```

show security utm anti-spam statistics logical-system all

```
user@host> show security utm anti-spam statistics logical-system all
```

```
 UTM Anti Spam statistics:

Total connections:     0
Denied connections:    0
Total greetings:       0
Denied greetings:      0
Total e-mail scanned:  0
White list hit:        0
Black list hit:        0
Spam total:            0
Spam tagged:           0
Spam dropped:          0
DNS errors:            0
Timeout errors:        0
Return errors:         0
Invalid parameter errors: 0
```


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show security utm anti-spam status

Syntax

```
show security utm anti-spam status
```

Release Information

Command introduced in Junos OS Release 9.5 .
Support for UTM in chassis cluster added in Junos OS Release 11.4 .

Description

Display antispam status for connections including whitelist and blacklist server information. Status of both the nodes (with full chassis cluster support for UTM) is displayed.

Required Privilege Level

view

Related Documentation

- clear security utm anti-spam statistics on page 521
- show security utm anti-spam statistics on page 558

Output Fields

show security utm anti-spam status

Output fields are listed in the approximate order in which they appear.

show security utm anti-spam status

```
user@host> show security utm anti-spam status
```

```
SBL Whitelist Server:
SBL Blacklist Server:
    msgsecurity.example.net
```

```
DNS Server:
    Primary  :     1.2.3.4, Src Interface: ge-0/0/0
    Secondary:     0.0.0.0, Src Interface: ge-0/0/1
    Ternary  :     0.0.0.0, Src Interface: fe-0/0/2
```

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show security utm anti-virus statistics

Syntax

```
show security utm anti-virus statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
<fpc <fpc-slot fpc-slot pic-slot pic-slot>>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for Sophos Antivirus added in Junos OS Release 11.1.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for Flexible PIC Concentrator (FPC) and PIC status added in Junos OS Release 12.1X46-D10.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** are deprecated—rather than immediately removed—to provide backward compatibility.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Displays antivirus statistics for connections including clean and infected files, scan engine status, and aggregated statistics from all FPCs and PICs. Statistics from both the nodes (with full chassis cluster support for UTM) are displayed.

Starting in Junos OS Release 18.3R1, you can view the antivirus statistics for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Displays antivirus statistics for the master logical system.

root-logical-system—(Optional) Displays antivirus statistics for the master logical system.

logical-system *logical-system-name*—(Optional) Displays antivirus statistics for a specific user logical system.

all—(Optional) Displays antivirus statistics for all the user logical systems.

Required Privilege Level

view

Related Documentation

- clear security utm antivirus statistics on page 523
- show security utm anti-virus status on page 566
- The Express and Kaspersky Antivirus feature is not supported from Junos OS Release 15.1X49-D10 onwards.request security utm anti-virus juniper-express-engine on page 530
- request security utm anti-virus kaspersky-lab-engine on page 531

List of Sample Output

show security utm anti-virus statistics on page 563
show security utm anti-virus statistics fpc on page 563
show security utm anti-virus statistics fpc fpc-slot 5 pic-slot 0 on page 563

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show security utm anti-virus statistics root-logical-system on page 564
show security utm anti-virus statistics logical-system LSYS1 on page 564
show security utm anti-virus statistics logical-system all on page 564

Sample Output

show security utm anti-virus statistics

```
user@host> show security utm anti-virus statistics
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Scan Request:

 Total           Clean         Threat-found    Fallback
     0               0              0              0

Fallback:
                             Log-and-Permit    Block             Permit
Engine not ready:                 0                0                 0
Out of resources:                 0                0                 0
Timeout:                          0                0                 0
Maximum content size:             0                0                 0
Too many requests:                0                0                 0
Others:                           0                0                 0
```

show security utm anti-virus statistics fpc

```
user@host> show security utm anti-virus statistics fpc

fpc-slot 5 pic-slot 0
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Scan Request:

 Total           Clean         Threat-found    Fallback
     0               0              0              0

Fallback:
                             Log-and-Permit    Block             Permit
Engine not ready:                 0                0                 0
Out of resources:                 0                0                 0
Timeout:                          0                0                 0
Maximum content size:             0                0                 0
Too many requests:                0                0                 0
Others:                           0                0                 0
```

show security utm anti-virus statistics fpc fpc-slot 5 pic-slot 0

```
user@host> show security utm anti-virus statistics fpc fpc-slot 5 pic-slot 0
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Scan Request:

 Total           Clean         Threat-found    Fallback
```

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```
      0               0              0               0

Fallback:
                                Log-and-Permit    Block             Permit
Engine not ready:                    0                0                0
Out of resources:                    0                0                0
Timeout:                             0                0                0
Maximum content size:                0                0                0
Too many requests:                   0                0                0
Others:                              0                0                0
```

show security utm anti-virus statistics root-logical-system

```
user@host> show security utm anti-virus statistics root-logical-system
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Session abort:                       0
Scan Request:

 Total           Clean         Threat-found    Fallback
      0               0              0               0
Fallback:

                           Log-and-permit         Block
 Engine not ready:                0                      0
 Out of resources:                0                      0
 Timeout:                         0                      0
 Maximum content size:            0                      0
 Too many requests:               0                      0
 Others:                          0                      0
```

show security utm anti-virus statistics logical-system LSYS1

```
user@host> show security utm anti-virus statistics logical-system LSYS1
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Session abort:                       0
Scan Request:

 Total           Clean         Threat-found    Fallback
      0               0              0               0
Fallback:

                           Log-and-permit         Block
 Engine not ready:                0                      0
 Out of resources:                0                      0
 Timeout:                         0                      0
 Maximum content size:            0                      0
 Too many requests:               0                      0
 Others:                          0                      0
```

show security utm anti-virus statistics logical-system all

```
user@host> show security utm anti-virus statistics logical-system all
```


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```
UTM Anti Virus statistics:
MIME-whitelist passed:               0
URL-whitelist passed:                0
Session abort:                       0
Scan Request:

 Total           Clean         Threat-found    Fallback
     0               0              0               0
Fallback:

                          Log-and-permit         Block
 Engine not ready:                 0                    0
 Out of resources:                 0                    0
 Timeout:                          0                    0
 Maximum content size:             0                    0
 Too many requests:                0                    0
 Others:                           0                    0
```

show security utm anti-virus status

Syntax show security utm anti-virus status <fpc <fpc-slot *fpc-slot* pic-slot *pic-slot*>>

Release Information Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4. Support for Flexible PIC Concentrator (FPC) and PIC status added in Junos OS Release 12.1X46-D10.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** to display PIC and FPC statistics are not supported.

Description Display antivirus status for connections including clean and infected files, scan engine status, and aggregated status from all FPCs and PICs. Status of both the nodes (with full chassis cluster support for UTM) is displayed.

Required Privilege Level view

Related Documentation
- clear security utm antivirus statistics on page 523
- show security utm anti-virus statistics on page 562

List of Sample Output
show security utm anti-virus status on page 566
show security utm anti-virus status fpc on page 566
show security utm anti-virus status fpc fpc-slot 5 pic-slot 0 on page 567
show security utm anti-virus status on page 567

Output Fields show security utm anti-virus status

Output fields are listed in the approximate order in which they appear.

Sample Output

show security utm anti-virus status

```
user@host> show security utm anti-virus status
UTM anti-virus status:

   Anti-virus key expire date: 2017-04-01 00:00:00
   Update server: https://update.juniper-updates.net/SAV/
   Interval: 1440 minutes
   Pattern update status: next update in 1439 minutes
   Last result: new database downloaded
   Anti-virus signature version: 1.13 (1.02)
   Scan engine type: sophos-engine
   Scan engine information: last action result: No error
```

show security utm anti-virus status fpc

```
user@host> show security utm anti-virus status fpc
```


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```
fpc-slot 5 pic-slot 0
UTM anti-virus status:

   Anti-virus key expire date: license not installed
   Update server: http://update.juniper-updates.net/SAV/
          Interval: 1440 minutes
          Pattern update status: update disabled due to no license
          Last result: already have latest database
   Anti-virus signature version:  000000_00
   Scan engine type: sophos-engine
   Scan engine information: last action result: No error
```

show security utm anti-virus status fpc fpc-slot 5 pic-slot 0

user@host> **show security utm anti-virus status fpc fpc-slot 5 pic-slot 0**

```
UTM anti-virus status:

   Anti-virus key expire date: license not installed
   Update server: http://update.juniper-updates.net/SAV/
          Interval: 1440 minutes
          Pattern update status: update disabled due to no license
          Last result: already have latest database
   Anti-virus signature version: 000000_00
   Scan engine type: sophos-engine
   Scan engine information: last action result: No error
```

show security utm anti-virus status

Refer the sample output for Avira scan engine. Support for Avira is added in 18.4R1 release.

```
UTM anti-virus status:
 Update server: https://update.example-juniper.net/avira
          Interval: 360 minutes
          Pattern update status: next update in 236 minutes
          Last result: Downloading certs failed
   Scan engine type: avira-engine
   Scan engine information: 8.3.52.102
   Anti-virus signature version: 8.15.11.42
   Onbox AV load flavor: running heavy, configure heavy
```

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show security utm content-filtering statistics

Syntax

```
show security utm content-filtering statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** to display physical interface cards (PICs) and Flexible PIC Concentrator (FPC) statistics are not supported.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Displays the content filtering statistics for connections including lists of blocked files and the reasons for blocking. Statistics from both the nodes (with full chassis cluster support for UTM) are displayed.

Starting in Junos OS Release 18.3R1, you can view the content filtering statistics for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Displays content filtering statistics for the master logical system.

root-logical-system—(Optional) Displays content filtering statistics for the master logical system.

logical-system *logical-system-name*—(Optional) Displays content filtering statistics for a specific user logical system.

all—(Optional) Displays content filtering statistics for all the user logical systems.

Required Privilege Level

view

Related Documentation

- clear security utm content-filtering statistics on page 525

List of Sample Output

show security utm content-filtering statistics on page 568
show security utm content-filtering statistics root-logical-system on page 569
show security utm content-filtering statistics logical-system LSYS1 on page 569
show security utm content-filtering statistics logical-system all on page 569

Sample Output

show security utm content-filtering statistics

```
user@host> show security utm content-filtering statistics
```


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```
Content-filtering-statistic:         Blocked
    Base on command list:                    0
    Base on mime list:                       0
    Base on extension list:                  0
    ActiveX plugin:                          0
    Java applet:                             0
    EXE files:                               0
    ZIP files:                               0
    HTTP cookie:                             0
```

show security utm content-filtering statistics root-logical-system

```
user@host> show security utm content-filtering statistics root-logical-system
Content-filtering-statistic:         Blocked
    Base on command list:                    0
    Base on mime list:                       0
    Base on extension list:                  0
    ActiveX plugin:                          0
    Java applet:                             0
    EXE files:                               0
    ZIP files:                               0
    HTTP cookie:                             0
```

show security utm content-filtering statistics logical-system LSYS1

```
user@host> show security utm content-filtering statistics logical-system LSYS1
Content-filtering-statistic:         Blocked
    Base on command list:                    0
    Base on mime list:                       0
    Base on extension list:                  0
    ActiveX plugin:                          0
    Java applet:                             0
    EXE files:                               0
    ZIP files:                               0
    HTTP cookie:                             0
```

show security utm content-filtering statistics logical-system all

```
user@host> show security utm content-filtering statistics logical-system all
Content-filtering-statistic:         Blocked
    Base on command list:                    0
    Base on mime list:                       0
    Base on extension list:                  0
    ActiveX plugin:                          0
    Java applet:                             0
    EXE files:                               0
    ZIP files:                               0
    HTTP cookie:                             0
```

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show security utm session

Syntax

```
show security utm session
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** to display physical interface cards (PICs) and Flexible PIC Concentrator (FPC) statistics are not supported.

Description

Display general UTM session information including all allocated sessions and active sessions. Also, display information from both nodes in a chassis cluster.

Required Privilege Level

view

Related Documentation

- clear security utm session on page 527
- show security utm status on page 571

Output Fields

show security utm session

When you enter this command, you are provided feedback on the status of your request.

show security utm session

```
user@host> show security utm session
Maximum sessions:           4000
 Total allocated sessions:         0
 Total freed sessions:             0
 Active sessions:                  0
```


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show security utm status

Syntax

```
show security utm status
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.

Description

Display whether the UTM service is running or not and status of both the nodes (with full chassis cluster support for UTM).

Required Privilege Level

view

Related Documentation

- clear security utm session on page 527
- show security utm session on page 570

Output Fields

show security utm status

When you enter this command, you are provided feedback on the status of your request.

show security utm status

```
user@host> show security utm status
UTM service status: Running
```

show security utm web-filtering category base-filter

Syntax show security utm web-filtering category base-filter

Release Information Command introduced in Junos OS Release 17.4.

Description Show the list of predefined base filters. A base filter is an object that contains a category-action pair for all categories defined in the category file. A base filter is a structured object, and is defined with the help of a filter name and an array of category-action pairs. Each Enhanced Web Filtering (EWF) category has a default action in a base filter, which is attached to the user profile to act as a backup filter. If the categories are not configured in the user profile, the base filter takes the action. Junos OS Release 17.4R1 also supports online upgradation of base filters.

Required Privilege Level view

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- show security utm web-filtering category status on page 577

Sample Output

show security utm web-filtering category base-filter

```
user@host> show security utm web-filtering category base-filter
Base-filter: ewf-default-filter
    Enhanced_Adult_Material                                      block
    Enhanced_Business_and_Economy                                permit
    Enhanced_Education                                           permit
    Enhanced_Government                                          permit
    Enhanced_News_and_Media                                      permit
    Enhanced_Religion                                            permit
    Enhanced_Society_and_Lifestyles                              permit
    Enhanced_Special_Events                                      permit
    Enhanced_Information_Technology                              permit
    Enhanced_Abortion                                            block
    Enhanced_Advocacy_Groups                                     permit
    Enhanced_Entertainment                                       permit
```


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```
Enhanced_Gambling                                    block
Enhanced_Games                                       block
Enhanced_Illegal_or_Questionable                     block
Enhanced_Job_Search                                  permit
Enhanced_Shopping                                    permit
Enhanced_Sports                                      permit
Enhanced_Tasteless                                   permit
Enhanced_Travel                                      permit
Enhanced_Vehicles                                    permit
Enhanced_Violence                                    block
Enhanced_Weapons                                     block
Enhanced_Drugs                                       block
Enhanced_Militancy_and_Extremist                     block
Enhanced_Intolerance                                 permit
Enhanced_Health                                      permit
Enhanced_Website_Translation                         permit
Enhanced_Advertisements                              permit
Enhanced_User_Defined                                permit
Enhanced_Nudity                                      block
Enhanced_Adult_Content                               block
Enhanced_Sex                                         block
Enhanced_Financial_Data_and_Services                 permit
Enhanced_Cultural_Institutions                       permit
Enhanced_Media_File_Download                         permit
Enhanced_Military                                    permit
Enhanced_Political_Organizations                     permit
Enhanced_General_Email                               permit
Enhanced_Proxy_Avoidance                             block
Enhanced_Search_Engines_and_Portals                  permit
Enhanced_Web_Hosting                                 permit
```

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```
Enhanced_Web_Chat                                                permit
Enhanced_Hacking                                                  block
Enhanced_Alternative_Journals                                    permit
Enhanced_Non_Traditional_Religions                                block
Enhanced_Traditional_Religions                                   permit
Enhanced_Restaurants_and_Dining                                  permit
Enhanced_Gay_or_Lesbian_or_Bisexual_Interest                     permit
Enhanced_Personals_and_Dating                                    permit
Enhanced_Alcohol_and_Tobacco                                     permit
Enhanced_Prescribed_Medications                                  permit
```


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show security utm web-filtering category category

Syntax show security utm web-filtering category category

Release Information Command introduced in Junos OS Release 17.4.

Description Show the list of categories predefined by Websense. A category list is available on the device. This list consists of categories, each containing a category code, a name, and a parent ID. Categories can also be user-defined. Each category consists of a list of URLs or IP addresses. Categories are not updated dynamically and are tied to the Junos OS release because they have to be compiled into the Junos OS image. Any update in categories needs to be synchronized with the Junos OS release cycle.

NOTE: Starting with Junos OS Release 17.4R1, you can download and dynamically load new Enhanced Web Filtering (EWF) categories. The downloading and dynamic loading of the new EWF categories do not require a software upgrade.

Required Privilege Level view

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- show security utm web-filtering category base-filter on page 572
- Predefined Category Upgrading and Base Filter Configuration Overview on page 221

Sample Output

show security utm web-filtering category category

```
user@host> show security utm web-filtering category category
Enhanced_Adult_Material
    Enhanced_Business_and_Economy
    Enhanced_Education
    Enhanced_Government
    Enhanced_News_and_Media
    Enhanced_Religion
    Enhanced_Society_and_Lifestyles
    Enhanced_Special_Events
    Enhanced_Information_Technology
    Enhanced_Abortion
    Enhanced_Advocacy_Groups
    Enhanced_Entertainment
    Enhanced_Gambling
    Enhanced_Games
```

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```
    Enhanced_Illegal_or_Questionable
    Enhanced_Job_Search
    Enhanced_Shopping
    Enhanced_Sports
    Enhanced_Tasteless
    Enhanced_Travel
    Enhanced_Vehicles
    Enhanced_Violence
```


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show security utm web-filtering category status

Syntax show security utm web-filtering category status

Release Information Command introduced in Junos OS Release 17.4.

Description Show the current running version of the downloaded category file or the status of the installed predefined file.

Required Privilege Level view

Related Documentation

- category (Security Web Filtering) on page 313
- request security utm web-filtering category install on page 535
- show security utm web-filtering category base-filter on page 572

Sample Output

show security utm web-filtering category status

```
user@host> show security utm web-filtering category status
Installed version:  1
      Download version:   0
      Update status:      Done
```

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show security utm web-filtering statistics

Syntax

```
show security utm web-filtering statistics
<root-logical-system>
<logical-system (logical-system-name | all)>
<fpc <fpc-slot fpc-slot pic-slot pic-slot>>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4.
Support for Flexible PIC Concentrator (FPC) and PIC statistics added in Junos OS Release 12.1X46-D10.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** are deprecated—rather than immediately removed—to provide backward compatibility.
Support for UTM in logical system added in Junos OS Release 18.3R1.

Description

Displays Web filtering statistics for connections including whitelist and blacklist hits and custom category hits. The aggregated statistics from all FPCs and PICs and statistics from both the nodes (with full chassis cluster support for UTM) are also displayed.

Starting in Junos OS Release 18.3R1, you can view the Web filtering statistics for the master logical system or for a specific user logical system or for all the user logical systems.

Options

none—Displays Web filtering statistics for the master logical system.

root-logical-system—(Optional) Displays Web filtering statistics for the master logical system.

logical-system *logical-system-name*—(Optional) Displays Web filtering statistics for a specific user logical system.

all—(Optional) Displays Web filtering statistics for all the user logical systems.

Required Privilege Level

view

Related Documentation

- clear security utm web-filtering statistics on page 528
- show security utm web-filtering status on page 582

List of Sample Output

show security utm web-filtering statistics on page 579
show security utm web-filtering statistics fpc on page 579
show security utm web-filtering statistics fpc fpc-slot 5 pic-slot 0 on page 580
show security utm web-filtering statistics root-logical-system on page 581
show security utm web-filtering statistics logical-system LSYS1 on page 581
show security utm web-filtering statistics logical-system all on page 581

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Sample Output

show security utm web-filtering statistics

```
user@host> show security utm web-filtering statistics
UTM web-filtering statistics:
   Total requests:                     0
   white list hit:                     0
   Black list hit:                     0
   Queries to server:                  0
   Server reply permit:                0
   Server reply block:                 0
   Server reply quarantine:            0
   Server reply quarantine block:      0
   Server reply quarantine permit:     0
   Custom category permit:             0
   Custom category block:              0
   Custom category quarantine:         0
   Custom category qurantine block:    0
   Custom category quarantine permit:  0
   Site reputation permit:             0
   Site reputation block:              0
   Site reputation quarantine:         0
   Site reputation quarantine block:   0
   Site reputation quarantine permit:  0
   Site reputation by Category         0
   Site reputation by Global           0
   Cache hit permit:                   0
   Cache hit block:                    0
   Cache hit quarantine:               0
   Cache hit quarantine block:         0
   Cache hit quarantine permit:        0
   Safe-search redirect:               0
  SNI pre-check queries to server:    1
   SNI pre-check server responses:     1
   Web-filtering sessions in total:    128000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                0               0
         Timeout                                0               0
    Connectivity                                0               0
Too-many-requests                               0               0
```

show security utm web-filtering statistics fpc

```
user@host> show security utm web-filtering statistics fpc

fpc-slot 5 pic-slot 0
UTM web-filtering statistics:
   Total requests:                     0
   white list hit:                     0
   Black list hit:                     0
   Queries to server:                  0
   Server reply permit:                0
   Server reply block:                 0
   Server reply quarantine:            0
   Server reply quarantine block:      0
```

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```
   Server reply quarantine permit:     0
   Custom category permit:             0
   Custom category block:              0
   Custom category quarantine:         0
   Custom category qurantine block:    0
   Custom category quarantine permit:  0
   Site reputation permit:             0
   Site reputation block:              0
   Site reputation quarantine:         0
   Site reputation quarantine block:   0
   Site reputation quarantine permit:  0
   Site reputation by Category         0
   Site reputation by Global           0
   Cache hit permit:                   0
   Cache hit block:                    0
   Cache hit quarantine:               0
   Cache hit quarantine block:         0
   Cache hit quarantine permit:        0
   Safe-search redirect:               0
 SNI pre-check queries to server:   1
   SNI pre-check server responses:     1
   Web-filtering sessions in total:    128000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                0               0
         Timeout                                0               0
    Connectivity                                0               0
Too-many-requests                               0               0
```

show security utm web-filtering statistics fpc fpc-slot 5 pic-slot 0

```
user@host> show security utm web-filtering statistics fpc fpc-slot 5 pic-slot 0
```

```
UTM web-filtering statistics:
   Total requests:                     0
   white list hit:                     0
   Black list hit:                     0
   Queries to server:                  0
   Server reply permit:                0
   Server reply block:                 0
   Server reply quarantine:            0
   Server reply quarantine block:      0
   Server reply quarantine permit:     0
   Custom category permit:             0
   Custom category block:              0
   Custom category quarantine:         0
   Custom category qurantine block:    0
   Custom category quarantine permit:  0
   Site reputation permit:             0
   Site reputation block:              0
   Site reputation quarantine:         0
   Site reputation quarantine block:   0
   Site reputation quarantine permit:  0
   Site reputation by Category         0
   Site reputation by Global           0
   Cache hit permit:                   0
   Cache hit block:                    0
   Cache hit quarantine:               0
   Cache hit quarantine block:         0
   Cache hit quarantine permit:        0
```


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```
   Safe-search redirect:              0
  SNI pre-check queries to server:   1
   SNI pre-check server responses:     1
   Web-filtering sessions in total:    128000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                 0               0
         Timeout                                 0               0
    Connectivity                                 0               0
Too-many-requests                                0               0
```

show security utm web-filtering statistics root-logical-system

```
user@host> show security utm web-filtering statistics root-logical-system
```

```
UTM web-filtering statistics:
   Web-filtering sessions in total:    2048000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                 0               0
         Timeout                                 0               0
    Connectivity                                 0               0
Too-many-requests                                0               0
```

show security utm web-filtering statistics logical-system LSYS1

```
user@host> show security utm web-filtering statistics logical-system LSYS1
```

```
UTM web-filtering statistics:
   Web-filtering sessions in total:    2048000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                 0               0
         Timeout                                 0               0
    Connectivity                                 0               0
Too-many-requests                                0               0
```

show security utm web-filtering statistics logical-system all

```
user@host> show security utm web-filtering statistics logical-system all
```

```
UTM web-filtering statistics:
   Web-filtering sessions in total:    2048000
   Web-filtering sessions in use:      0
   Fallback:                       log-and-permit           block
         Default                                 0               0
         Timeout                                 0               0
    Connectivity                                 0               0
Too-many-requests                                0               0
```

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show security utm web-filtering status

Syntax

```
show security utm web-filtering status <fpc <fpc-slot fpc-slot pic-slot pic-slot>>
```

Release Information

Command introduced in Junos OS Release 9.5.
Support for UTM in chassis cluster added in Junos OS Release 11.4. Support for Flexible PIC Concentrator (FPC) and PIC status added in Junos OS Release 12.1X46-D10.
Starting in Junos OS Release 18.2R1, on SRX5000 Series devices, the options **pic** and **fpc** to display PIC and FPC statistics are not supported.

Description

Display whether the Web filtering server connection is up or not. The aggregated status from all FPCs and PICs and status of both the nodes (with full chassis cluster support for UTM) are also displayed.

Required Privilege Level

view

Related Documentation

- clear security utm web-filtering statistics on page 528
- show security utm web-filtering statistics on page 578

List of Sample Output

show security utm web-filtering status on page 582
show security utm web-filtering status fpc on page 582
show security utm web-filtering status fpc fpc-slot 5 pic-slot 0 on page 583
show security utm web-filtering chassis cluster status on page 583

Output Fields

show security utm web-filtering status

Output fields are listed in the approximate order in which they appear.

Sample Output

show security utm web-filtering status

```
user@host> show security utm web-filtering status
UTM web-filtering status:
   Server status: Juniper Enhanced using Websense server UP
```

show security utm web-filtering status fpc

```
user@host> show security utm web-filtering status fpc
UTM web-filtering status fpc:
fpc-slot 5 pic-slot 0
Connectivity status: UP
fpc-slot 0 pic-slot 1
Connectivity status: UP
```


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show security utm web-filtering status fpc fpc-slot 5 pic-slot 0

```
user@host> show security utm web-filtering status fpc fpc-slot 5 pic-slot 0
UTM web-filtering status:
Connectivity status: UP
```

show security utm web-filtering chassis cluster status

```
{primary:node0}
user@host>  show security utm web-filtering status
node0:
--------------------------------------------------------------------------
UTM web-filtering status:
   Server status: Juniper Enhanced using Websense server UP

node1:
--------------------------------------------------------------------------
UTM web-filtering status:
   Server status: Juniper Enhanced using Websense server DOWN
```

Starting with 12.3X48-D10 and Junos OS Release 17.3R1, on SRX210, SRX220, SRX240, SRX300, SRX320, SRX340, SRX345, and SRX550M devices, the UTM process has been moved to the Packet Forwarding Engine (PFE). Starting with 12.1X46-D10 and Junos OS Release 17.3R1, on SRX1400, SRX1500, SRX3400, SRX3600, SRX4100, SRX4200, SRX4600, SRX5400, and SRX5600 devices, the UTM process has been moved to the PFE. Hence, the status shows down on the secondary node of the cluster.

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