



Junos[®] OS

Subscribers Over Static Interfaces Feature Guide

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Junos® OS Subscribers Over Static Interfaces Feature Guide

13.2

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Documentation and Release Notes

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Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

Supported Platforms

For the features described in this document, the following platforms are supported:

- MX Series

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.

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.xml;
    }
  }
}
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.xml; }
```

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 the *CLI User Guide*.

Documentation Conventions

Table 1 on page xi 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.

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

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

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
<i>Italic text like this</i>	<ul style="list-style-type: none"> Introduces or emphasizes important new terms. Identifies book names. Identifies RFC and Internet draft titles. 	<ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS System Basics Configuration Guide</i> RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	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 <i>domain-name</i>
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> 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)	Enclose 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 <i>(string1 string2 string3)</i>
# (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)	Enclose a variable for which you can substitute one or more values.	community name members [community-ids]
Indentation and braces ({ })	Identify a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop <i>address</i> ; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none"> 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, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release 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 JNASC 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 <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

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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:

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- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>

- Join and participate in the Juniper Networks Community Forum:
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

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 <http://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 <http://www.juniper.net/support/requesting-support.html>.

PART 1

Overview

- [Subscribers over Static Interfaces in Subscriber Access Networks on page 3](#)

CHAPTER 1

Subscribers over Static Interfaces in Subscriber Access Networks

- [Subscribers on Static Interfaces Overview on page 3](#)

Subscribers on Static Interfaces Overview

You can associate subscribers with statically configured interfaces and provide dynamic service activation and activation for these subscribers. When the static interface comes up, the event is treated as a subscriber login. When the interface goes down, it is treated as a subscriber logout. After the subscribers are present in the session database (SDB), JSRC can report the subscribers to the SAE so that the SRC software can subsequently manage the subscribers.

Alternatively, you can configure the static subscribers to be authenticated and authorized by means of RADIUS. In this case, RADIUS can then activate and deactivate services with change of authorization (CoA) messages. However, this configuration does not prevent the interface from coming up and forwarding traffic. Further, authorization parameters are not imposed on the subscriber interface.

Currently, only Ethernet interfaces support static subscribers. Only one static subscriber can exist over a given interface. An interface cannot appear in more than one group. Static subscribers cannot be created over dynamic interfaces.

Static subscribers are intended to work with JSRC. Include the **provisioning-order jsrc** statement at the **[edit access profile *profile-name*]** hierarchy level to enable JSRC to handle the subscribers at the direction of the SRC software.

If the authentication request fails for a static subscriber, a 60-minute, nonconfigurable timer begins counting down. The request is reissued when the timer expires. This action repeats for as long as the interface is operationally up.

You can force a logout of the static subscriber by issuing the **request services static-subscribers logout interface *interface-name*** command. A static subscriber can also be logged out by AAA or an external policy manager. In both cases, no subsequent logins can take place on the underlying interface until you reset the state by issuing the **request services static-subscribers login interface *interface-name*** command or the router or process reboots.

You can log out an interface group by issuing the **request services static-subscriber logout group group-name** command. You can subsequently log in a group of interfaces by issuing the **request services static-subscriber login group group-name** command.

No new CLI statements are required to configure the dynamic profile for static subscribers. The dynamic profile can be very simple; it is activated at login and deactivated at logout. If you do not configure a profile, then the *junos-default-profile* is automatically activated.

During a graceful Routing Engine switchover (GRES) event, active static subscribers are recovered, inactive subscribers are cleaned up, and logout continues for subscribers that were in the process of logging out.

Include the **static-subscribers** statement at the **[edit system services]** hierarchy level to configure static subscribers. Include the **traceoptions** statement at the **[edit system processes static-subscribers]** hierarchy level to configure tracing operations for static subscribers.

You can configure the access profile, dynamic profile, and authentication parameters for all static subscribers or for a particular group of static subscribers:

- To configure the access profile that triggers AAA services for the static subscriber for all static subscribers, include the **access-profile** statement at the **[edit system services static-subscribers]** hierarchy level. Alternatively, include this statement at the **[edit system services static-subscribers group group-name]** hierarchy level to apply the profile to a specific group and override a top-level configuration.
- To configure the dynamic profile that is instantiated when the static subscriber logs in for all static subscribers, include the **dynamic-profile** statement at the **[edit system services static-subscribers]** hierarchy level. Alternatively, include this statement at the **[edit system services static-subscribers group group-name]** hierarchy level to apply the profile to a specific group and override a top-level configuration. Do not specify a dynamic profile that creates a dynamic interface.
- To configure the authentication parameters that trigger an Access-Request message to AAA for all static subscribers, include the **authentication** statement at the **[edit system services static-subscribers]** hierarchy level. Alternatively, include the statement at the **[edit system services static-subscribers group group-name]** hierarchy level to configure authentication for a specific group and override a top-level configuration. If you do not configure authentication, then by default the interface name is modified and used as the default username for the subscriber session and the authentication request.

The configurable authentication parameters include the password and details of how the username is formed. Include the **password** statement at the **[edit system services static-subscribers authentication]** hierarchy level to configure the authentication password for all static subscribers. Alternatively, include the statement at the **[edit system services static-subscribers group group-name authentication]** hierarchy level to configure authentication for a specific group and override a top-level configuration.

The username that is sent to AAA for authentication must include at least one of the following attributes:

- Domain name
- User prefix
- Interface name
- Logical system name
- Routing instance name

To configure how the username is formed for all static subscribers, include the desired statements at the **[edit system services static-subscribers authentication]** hierarchy level: **domain-name**, **user-prefix**, **logical-system-name**, or **routing-instance-name**. Alternatively, include the desired statements at the **[edit system services static-subscribers group group-name authentication]** hierarchy level to configure the username for a specific group and override a top-level configuration.

If you change the authentication configuration for an existing group or for static subscribers globally, the change has no effect on existing static subscribers. The changes are applied only to any new logins that are attempted after you commit the changes.

A group configuration must specify all the interfaces that you expect to support static subscribers. Include the **interface** statement at the **[edit system services static-subscribers group group-name]** hierarchy level to specify the interfaces. This statement enables you to specify a single interface or a range of interfaces.

You must also statically configure these interfaces before any static subscribers can be supported on them. You must configure the static interfaces in the same logical system and routing instance as the group that includes the interfaces.

If you change the interfaces that are included in an existing interface group, existing static subscribers are automatically logged out and then back in when you commit the changes. However, changes made to the configuration of the interface itself have no effect on the login or logout state of the static subscriber associated with that interface.

By default, multiple subscribers are not supported on top of the same VLAN logical interface. If you want to support this behavior, then you can manage multiple subscribers on a single logical interface in one of two ways. You can either merge attributes such as firewall filters and CoS attributes for the multiple subscribers, or you can replace the current attributes with those of a new subscriber whenever a new subscriber logs into the underlying VLAN logical interface.

- To enable attribute merging for all static interfaces, include the **aggregate-clients merge** statement at the **[edit system services static-subscribers]** hierarchy level. Alternatively, include this statement at the **[edit system services static-subscribers group group-name]** hierarchy level to enable attribute merging for a specific group of static interfaces and override a top-level configuration.
- To enable attribute replacement for all static interfaces, include the **aggregate-clients replace** statement at the **[edit system services static-subscribers]** hierarchy level.

Alternatively, include this statement at the **[edit system services static-subscribers group group-name]** hierarchy level to enable attribute replacement for a specific group of static interfaces and override a top-level configuration.

**Related
Documentation**

- [Configuring Subscribers over Static Interfaces on page 9](#)
- *Juniper Networks Session and Resource Control (SRC) and JSRC Overview*
- *Understanding JSRC-SAE Interactions*

PART 2

Configuration

- [Configuration Overview on page 9](#)
- [Configuration Tasks for Subscribers over Static Interfaces on page 11](#)
- [Static Subscriber Example on page 19](#)
- [Configuration Statements on page 21](#)

CHAPTER 2

Configuration Overview

- [Configuring Subscribers over Static Interfaces on page 9](#)

Configuring Subscribers over Static Interfaces

This topic describes the procedure for configuring subscribers over static interfaces (static subscribers).

Before you configure subscribers over static interfaces, perform the following tasks:

- Configure the static interfaces on which you want to create and manage subscribers.
- Create an access profile to trigger AAA services for static subscribers.
- Create a dynamic profile that is instantiated when static subscribers log in.

To configure static subscribers:

1. Specify the global access profile that triggers AAA services for static subscribers.
[See “Specifying the Static Subscriber Global Access Profile” on page 11.](#)
2. Specify the global dynamic profile that is instantiated when static subscribers log in.
[See “Specifying the Static Subscriber Global Dynamic Profile” on page 12.](#)
3. Configure global method to handle multiple subscribers on a VLAN Logical Interface.
[See “Enabling Multiple Subscribers on a VLAN Logical Interface for All Static Subscribers” on page 12](#)
4. Configure the global authentication password for static subscribers.
[See “Configuring the Static Subscriber Global Authentication Password” on page 13.](#)
5. Configure the global username for static subscribers.
[See “Configuring the Static Subscriber Global Username” on page 13.](#)
6. Configure a group of subscribers to share values different from the global configuration.
[See “Creating a Static Subscriber Group” on page 14.](#)
7. Specify the access profile for the static subscriber group.
[See “Specifying the Static Subscriber Group Access Profile” on page 15.](#)

8. Specify the dynamic profile for the static subscriber group.
See [“Specifying the Static Subscriber Group Dynamic Profile”](#) on page 15.
9. Configure method to handle multiple subscribers on a VLAN Logical Interface for a static subscriber group.
See [“Enabling Multiple Subscribers on a VLAN Logical Interface for a Static Subscriber Group”](#) on page 16.
10. Configure the authentication password for the static subscriber group.
See [“Configuring the Static Subscriber Group Authentication Password”](#) on page 16.
11. Configure the username for the static subscriber group.
See [“Configuring the Static Subscriber Group Username”](#) on page 17.
12. (Optional) Force a static subscriber to be logged out from an interface.
See [“Forcing a Static Subscriber to Be Logged Out”](#) on page 41.
13. (Optional) Enable an interface to accept static subscriber logins.
See [“Resetting the State of an Interface for Static Subscriber Login”](#) on page 41.
14. (Optional) Force static subscribers to be logged out from a group of interfaces.
See [“Forcing a Group of Static Subscribers to Be Logged Out”](#) on page 42.
15. (Optional) Enable a group of interfaces to accept static subscriber logins.
See [“Resetting the State of an Interface Group for Static Subscriber Login”](#) on page 42.
16. Configure trace options for troubleshooting the configuration.
See [“Tracing Static Subscriber Operations”](#) on page 57.

**Related
Documentation**

- [Subscribers on Static Interfaces Overview](#) on page 3
- [\[edit system services static-subscribers\] Hierarchy Level](#) on page 21

CHAPTER 3

Configuration Tasks for Subscribers over Static Interfaces

- [Specifying the Static Subscriber Global Access Profile on page 11](#)
- [Specifying the Static Subscriber Global Dynamic Profile on page 12](#)
- [Enabling Multiple Subscribers on a VLAN Logical Interface for All Static Subscribers on page 12](#)
- [Configuring the Static Subscriber Global Authentication Password on page 13](#)
- [Configuring the Static Subscriber Global Username on page 13](#)
- [Creating a Static Subscriber Group on page 14](#)
- [Specifying the Static Subscriber Group Access Profile on page 15](#)
- [Specifying the Static Subscriber Group Dynamic Profile on page 15](#)
- [Enabling Multiple Subscribers on a VLAN Logical Interface for a Static Subscriber Group on page 16](#)
- [Configuring the Static Subscriber Group Authentication Password on page 16](#)
- [Configuring the Static Subscriber Group Username on page 17](#)

Specifying the Static Subscriber Global Access Profile

You specify a previously created access profile that triggers AAA services for all static subscribers. This value can be overridden for a group of static subscribers when a different profile is configured for that group.

To specify the access profile used for all static subscribers:

- Specify the profile name.

```
[edit system services static-subscribers]  
user@host# set access-profile access5
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Specifying the Static Subscriber Group Access Profile on page 15](#)
- *profile*

Specifying the Static Subscriber Global Dynamic Profile

You specify a previously created dynamic profile that is instantiated when a static subscriber logs in. This profile is used for all static subscribers. This value can be overridden for a group of static subscribers when a different profile is configured for that group.

To specify the dynamic profile used for all static subscribers:

- Specify the profile name.

```
[edit system services static-subscribers]
user@host# set dynamic-profile dyn-profile-1
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Specifying the Static Subscriber Group Dynamic Profile on page 15](#)
- *dynamic-profiles*

Enabling Multiple Subscribers on a VLAN Logical Interface for All Static Subscribers

For a given interface, only a single static subscriber (or group) is logged in. Although we do not recommend this practice, you might have other kinds of subscribers configured on the same interface, such as a DHCP subscriber managed by the DHCP application. You can use the **aggregate-clients** statement to extend the dynamic profile for all static subscribers to enable multiple subscribers to share the same VLAN logical interface.

You can specify that attributes (such as CoS or firewall) for the multiple subscribers are merged for the logical interface. That is, the profiles for multiple subscribers of different types are instantiated on the interface, but the profile attributes of each are merged together. Alternatively, you can specify that the instantiated profile for the current subscriber is replaced by the profile of a new subscriber that logs in using the same logical interface. This configuration can be overridden for a group of static subscribers when a different configuration is applied for that group.

To enable multiple subscribers to share the same VLAN logical interface for all static subscribers, do one of the following:

- Specify that the multiple subscriber attributes are merged for the logical interface.

```
[edit system services static-subscribers dynamic-profile dyn-profile-1]
user@host# set aggregate-clients merge
```

- Specify that the entire logical interface is replaced when a new subscriber logs into the network using the same VLAN logical interface.

```
[edit system services static-subscribers dynamic-profile dyn-profile-3]
user@host# set aggregate-clients replace
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Specifying the Static Subscriber Group Dynamic Profile on page 15](#)

- [dynamic-profile on page 26](#)

Configuring the Static Subscriber Global Authentication Password

You configure a password that is included in the Access-Request message sent to AAA to authenticate all static subscribers. This value can be overridden for a group of static subscribers when a different password is configured for that group.

To specify the authentication password used for all static subscribers:

- Specify the password.

```
[edit system services static-subscribers authentication]
user@host# set password Gj85*3mS
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Configuring the Static Subscriber Group Authentication Password on page 16](#)
- [authentication on page 24](#)

Configuring the Static Subscriber Global Username

You configure how the username is formed. The username serves as the username for all static subscribers that are created and is included in the Access-Request message sent to AAA to authenticate all static subscribers. This value can be overridden for a group of static subscribers when a different username is configured for that group.

The username must include at least one of the five possible elements. The value of each element is concatenated in a specific order; the resulting string is the username. If you specify their inclusion, the interface name, logical system name, and routing instance name are derived from the configuration context. The elements are ordered as follows:

user-prefix.interface.logical-system-name.routing-instance-name@domain-name

To configure the username for all static subscribers:

1. (Optional) Specify a prefix for the username.

```
[edit system services static-subscribers authentication username-include]
user@host# set user-prefix Building5
```

2. (Optional) Specify that the interface name is included in the username.

```
[edit system services static-subscribers authentication username-include]
user@host# set interface
```

3. (Optional) Specify that the logical system name is included in the username.

```
[edit system services static-subscribers authentication username-include]
user@host# set logical-system-name
```

4. Specify that the routing instance name is included in the username.

```
[edit system services static-subscribers authentication username-include]
```

```
user@host# set routing-instance-name
```

5. Specify the domain name included in the username.

```
[edit system services static-subscribers authentication username-include]
```

```
user@host# set domain-name campus.example.com
```

Configured in the default logical system and master routing instance for interface ge-0/1/1.100, this sample configuration generates the following username:

```
Building5.ge-0-1-1-100.default.master.campus.example.com
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Configuring the Static Subscriber Group Username on page 17](#)
- [username-include on page 37](#)

Creating a Static Subscriber Group

You can override the configuration that is applied globally to static subscribers by creating a static subscriber group that consists of a set of statically configured interfaces. You can then apply a common configuration for the group with values different from the global values for access and dynamic profiles, password, and username.

To configure an interface group for static subscribers:

1. Access the **[edit system services static-subscribers]** hierarchy level.
2. Create the group and assign the name.

```
[edit system services static-subscribers]
```

```
user@host# edit group boston
```

3. Specify the names of one or more interfaces on which static subscribers can be created. You can repeat the *interface interface-name* statement to specify multiple interfaces within the group, but you cannot use the same interface in more than one group.

```
[edit system services static-subscribers group boston]
```

```
user@host# set interface ge-1/0/1.1
```

```
user@host# set interface ge-1/0/1.2
```

4. (Optional) You can use the **upto upto-interface-name** option to specify a range of interfaces for a group.

```
[edit system services static-subscribers group boston]
```

```
user@host# set interface ge-1/0/1.3 upto ge-1/0/1.9
```

5. (Optional) You can use the **exclude** option to exclude a specific interface or a specified range of interfaces from the group. For example:

```
[edit system services static-subscribers group boston]
```

```
user@host# set interface ge-1/0/1.1 upto ge-1/0/1.102
```

```
user@host# set interface ge-1/0/1.6 exclude
```

```
user@host# set interface ge-1/0/1.70 upto ge-1/0/1.80 exclude
```

- Related Documentation**
- [Configuring Subscribers over Static Interfaces on page 9](#)
 - [Specifying the Static Subscriber Group Access Profile on page 15](#)
 - [Specifying the Static Subscriber Group Dynamic Profile on page 15](#)
 - [Configuring the Static Subscriber Group Authentication Password on page 16](#)
 - [Configuring the Static Subscriber Group Username on page 17](#)

Specifying the Static Subscriber Group Access Profile

You can override the configured global access profile by specifying a different profile for a group of static subscribers. The access profile triggers AAA services for that group of static subscribers.

To specify the access profile used for a group of static subscribers:

- Specify the profile name.

```
[edit system services static-subscribers group boston]  
user@host# set access-profile boston-acs
```

- Related Documentation**
- [Configuring Subscribers over Static Interfaces on page 9](#)
 - [profile](#)

Specifying the Static Subscriber Group Dynamic Profile

You can override the configured global dynamic profile by specifying a different profile for a group of static subscribers. The dynamic profile is instantiated when any static subscriber in the group logs in.

To specify the dynamic profile used for a group of static subscribers:

- Specify the profile name.

```
[edit system services static-subscribers group boston]  
user@host# set dynamic-profile dyn-profile-2
```

- Related Documentation**
- [Configuring Subscribers over Static Interfaces on page 9](#)
 - [Specifying the Static Subscriber Global Dynamic Profile on page 12](#)
 - [dynamic-profiles](#)

Enabling Multiple Subscribers on a VLAN Logical Interface for a Static Subscriber Group

For a given interface, only a single static subscriber group (or static subscriber) is logged in. Although we do not recommend this practice, you might have other kinds of subscribers configured on the same interface, such as a DHCP subscriber managed by the DHCP application. You can use the **aggregate-clients** statement to extend the dynamic profile for a static subscriber group to enable multiple subscribers to share the same VLAN logical interface.

You can specify that attributes (such as CoS or firewall) for the multiple subscribers are merged for the logical interface. That is, the profiles for multiple subscribers of different types are instantiated on the interface, but the profile attributes of each are merged together. Alternatively, you can specify that the instantiated profile for the current subscriber group is replaced by the profile of a new subscriber that logs in using the same logical interface. This configuration overrides the configuration applied to all static subscribers that are not members of the group.

To enable multiple subscribers to share the same VLAN logical interface for a static subscriber group, do one of the following:

- Specify that the multiple subscriber attributes are merged for the logical interface.

```
[edit system services static-subscribers group boston dynamic-profile dyn-profile-2]  
user@host# set aggregate-clients merge
```

- Specify that the entire logical interface is replaced when a new subscriber logs into the network using the same VLAN logical interface.

```
[edit system services static-subscribers group boston dynamic-profile dyn-profile-4]  
user@host# set aggregate-clients replace
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Specifying the Static Subscriber Group Dynamic Profile on page 15](#)
- [dynamic-profile on page 26](#)

Configuring the Static Subscriber Group Authentication Password

You can override the configured global authentication password by specifying a different password for a group of static subscribers. This password is included in the Access-Request message sent to AAA to authenticate all static subscribers in the group.

To specify the authentication password used for a group of static subscribers:

- Specify the password.

```
[edit system services static-subscribers group boston authentication]  
user@host# set password knTS$$k2
```

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)

- [Configuring the Static Subscriber Global Authentication Password on page 13](#)
- [authentication on page 24](#)

Configuring the Static Subscriber Group Username

You can override the configured global username by specifying a different username for a group of static subscribers. The username serves as the username for a group of static subscribers that is created and is included in the Access-Request message sent to AAA to authenticate that group.

The username must include at least one of the five possible elements. The value of each element is concatenated in a specific order; the resulting string is the username. If you specify their inclusion, the interface name, logical system name, and routing instance name are derived from the configuration context. The elements are ordered as follows:

user-prefix.interface.logical-system-name.routing-instance-name@domain-name

To configure the username for a group of static subscribers:

1. (Optional) Specify a prefix for the username.

```
[edit system services static-subscribers group boston authentication username-include]
user@host# set user-prefix 2ndFloor
```

2. (Optional) Specify that the interface name is included in the username.

```
[edit system services static-subscribers group boston authentication username-include]
user@host# set interface
```

3. (Optional) Specify that the logical system name is included in the username.

```
[edit system services static-subscribers group boston authentication username-include]
user@host# set logical-system-name
```

4. Specify that the routing instance name is included in the username.

```
[edit system services static-subscribers group boston authentication username-include]
user@host# set routing-instance-name
```

5. Specify the domain name included in the username.

```
[edit system services static-subscribers group boston authentication username-include]
user@host# set domain-name building5.example.com
```

Configured in the default logical system and master routing instance for interface ge-0/1/2.50, this sample configuration generates the following username:

2ndfloor.ge-0-1-2-50.default.master.building5.example.com

Related Documentation

- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Configuring the Static Subscriber Global Username on page 13](#)
- [username-include on page 37](#)

Static Subscriber Example

- [Example: Configuring Static Subscribers for Subscriber Access on page 19](#)

Example: Configuring Static Subscribers for Subscriber Access

This example shows a static subscriber configuration.

1. Configure the access profile to be used for static subscribers.

```
access {
  profile access5 {
    provisioning-order jsr;
    accounting {
      order radius;
    }
    authentication {
      order radius;
    }
  }
}
```

2. Configure the dynamic profile to be used for static subscribers.

If you do not configure this profile, the default profile, junos-default-profile, is used.

3. Configure the static interfaces on which to layer the static subscribers.
4. Configure the parameters that apply globally to all static subscribers in the configuration context.

```
static-subscribers {
  access-profile access5;
  dynamic-profile dyn-profile-1;
  authentication {
    password Gj85*3mS;
    username-include {
      user-prefix Building5;
      interface;
      logical-system-name;
      routing-instance-name;
      domain-name example.com;
    }
  }
}
```

5. If you want to override the global parameters for certain static subscribers, create a group of static interfaces for those subscribers and configure parameters to apply to that group. Repeat this step for as many groups as you need.

```
static-subscribers {
  group boston {
    interface ge-1/0/1.1 upto ge-1/0/1.102
    interface ge-1/0/1.6 exclude
    interface ge-1/0/1.70 upto ge-1/0/1.80 exclude
    access-profile boston-ac;
    dynamic-profile dyn-profile-2;
    authentication {
      password knTS$$k2;
      username-include {
        user-prefix 2ndFloor;
        interface;
        logical-system-name;
        routing-instance-name;
        domain-name example.net;
      }
    }
  }
}
```

6. Configure tracing options for static subscriber events.

```
static-subscribers {
  traceoptions {
    file filename <files number> <match regular-expression> <size maximum-file-size>
      <world-readable | no-world-readable>;
    flag flag;
    level (all | error | info | notice | verbose | warning);
    no-remote-trace;
  }
}
```

**Related
Documentation**

- [Subscribers on Static Interfaces Overview on page 3](#)
- [Configuring Subscribers over Static Interfaces on page 9](#)

CHAPTER 5

Configuration Statements

- [\[edit system services static-subscribers\] Hierarchy Level on page 21](#)

[\[edit system services static-subscribers\] Hierarchy Level](#)

```
system {
  services {
    static-subscribers {
      access-profile profile-name;
      authentication {
        password password-string;
        username-include {
          domain-name domain-name;
          interface;
          logical-system-name;
          routing-instance-name;
          user-prefix user-prefix-string;
        }
      }
    }
    dynamic-profile profile-name {
      aggregate-clients (merge | replace);
    }
    group group-name {
      access-profile profile-name;
      authentication {
        password password-string;
        username-include {
          domain-name domain-name;
          interface;
          logical-system-name;
          routing-instance-name;
          user-prefix user-prefix-string;
        }
      }
    }
    dynamic-profile profile-name {
      aggregate-clients (merge | replace);
    }
    interface interface-name <exclude> <upto upto-interface-name>;
  }
  traceoptions {
    file filename <files number> <match regular-expression> <size maximum-file-size>
      <world-readable | no-world-readable>;
  }
}
```

```
        flag flag;  
        level (all | error | info | notice | verbose | warning);  
        no-remote-trace;  
    }  
}  
}
```

- Related Documentation**
- [Subscribers on Static Interfaces Overview on page 3](#)
 - [Configuring Subscribers over Static Interfaces on page 9](#)

access-profile (Static Subscribers)

Syntax	<code>access-profile <i>profile-name</i>;</code>
Hierarchy Level	<code>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers],</code> <code>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</code> <code>[edit logical-systems <i>logical-system-name</i> system services static-subscribers],</code> <code>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i>],</code> <code>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers],</code> <code>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</code> <code>[edit system services static-subscribers],</code> <code>[edit system services static-subscribers group <i>group-name</i>]</code>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify the access profile that triggers AAA services for all static subscribers on interfaces configured at the <code>[edit system services static-subscribers interface]</code> hierarchy level or for the static subscribers in a specific group. The group version of this statement overrides the global configuration.
Options	<i>profile-name</i> —Name of the static subscriber access profile.
Required Privilege Level	<code>access</code> —To view this statement in the configuration. <code>access-control</code> —To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Specifying the Static Subscriber Global Access Profile on page 11• Specifying the Static Subscriber Group Access Profile on page 15

aggregate-clients (Static Subscribers)

Syntax	aggregate-clients (merge replace);
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers dynamic-profile <i>profile-name</i>],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> dynamic-profile <i>profile-name</i>],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers dynamic-profile <i>profile-name</i>],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> dynamic-profile <i>profile-name</i>],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers dynamic-profile <i>profile-name</i>],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> dynamic-profile <i>profile-name</i>],</p> <p>[edit system services static-subscribers dynamic-profile <i>profile-name</i>],</p> <p>[edit system services static-subscribers group <i>group-name</i> dynamic-profile <i>profile-name</i>]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	<p>Specify for all static subscribers or for a group of static subscribers that the router merge (chain) subscriber (client) attributes such as firewall filters and CoS attributes or replace them when multiple subscriber sessions exist on the same underlying VLAN. The group version of this statement overrides the global version.</p> <p>This statement is not supported for IP demux subscriber interfaces.</p>
Default	By default, multiple subscribers cannot be on the same logical interface.
Options	<p>merge—Aggregate the attributes of multiple subscribers for the logical interface.</p> <p>replace—Replace the entire logical interface whenever a new client logs in to the network using the same VLAN logical interface.</p>
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Enabling Multiple Subscribers on a VLAN Logical Interface for All Static Subscribers on page 12


authentication (Static Subscribers)

Syntax	<pre>authentication { password <i>password-string</i>; username-include { domain-name <i>domain-name</i>; interface; logical-system-name; routing-instance-name; user-prefix <i>user-prefix-string</i>; } }</pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit system services static-subscribers],</p> <p>[edit system services static-subscribers group <i>group-name</i>]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	<p>Specify the authentication parameters that trigger the Access-Request message to AAA for all static subscribers on interfaces configured at the [edit system services static-subscribers interface] hierarchy level, or for the static subscribers in a specific group. The group version of this statement overrides the global configuration.</p> <p>The remaining statements are explained separately.</p>
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Configuring the Static Subscriber Global Authentication Password on page 13• Configuring the Static Subscriber Group Authentication Password on page 16


domain-name (Static Subscribers)

Syntax	<code>domain-name <i>domain-name</i>;</code>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit system services static-subscribers authentication username-include],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication username-include]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify the domain name that is included at the end of the username created for all static subscribers or for the static subscribers in a specified group. The group version of the statement takes precedence over the global version.
Options	<p><i>domain-name</i>—Domain name that ends the username created for all static subscribers. The username is also sent to RADIUS in the Access-Request message. The string can include the following characters: a through z, A through Z, 0 through 9, “-”, or “.”.</p>
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Configuring the Static Subscriber Global Username on page 13 • Configuring the Static Subscriber Group Username on page 17


dynamic-profile (Static Subscribers)

Syntax	<code>dynamic-profile <i>profile-name</i> { <i>aggregate-clients</i> (merge replace); }</code>
Hierarchy Level	<code>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services <i>static-subscribers</i>],</code> <code>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers <i>group</i> <i>group-name</i>],</code> <code>[edit logical-systems <i>logical-system-name</i> system services <i>static-subscribers</i>],</code> <code>[edit logical-systems <i>logical-system-name</i> system services static-subscribers <i>group</i> <i>group-name</i>],</code> <code>[edit routing-instances <i>routing-instances-name</i> system services <i>static-subscribers</i>],</code> <code>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers <i>group</i> <i>group-name</i>],</code> <code>[edit system services <i>static-subscribers</i>],</code> <code>[edit system services static-subscribers <i>group</i> <i>group-name</i>]</code>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify the dynamic client profile that is instantiated at login and de-instantiated at logout for all static subscribers on interfaces configured at the [edit system services static-subscribers interface] hierarchy level or for the static subscribers in a specific group. The group version of the statement takes precedence over the global version.
<div> NOTE: Do not specify a dynamic profile that creates a dynamic interface.</div>	
Default	By default, the <i>junos-default-profile</i> is used when you do not specify a global dynamic profile with this statement.
Options	<i>profile-name</i> —Name of the dynamic client profile profile. The remaining statement is explained separately.
Required Privilege Level	access—To view this statement in the configuration. access-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Specifying the Static Subscriber Global Dynamic Profile on page 12• Specifying the Static Subscriber Group Dynamic Profile on page 15

group (Static Subscribers)

Syntax	<pre> group <i>group-name</i> { access-profile <i>profile-name</i>; dynamic-profile <i>profile-name</i> { aggregate-clients (merge replace); } authentication { password <i>password-string</i>; username-include { domain-name <i>domain-name</i>; interface; logical-system-name; routing-instance-name; user-prefix <i>user-prefix-string</i>; } } interface <i>interface-name</i> <exclude> <upto <i>upto-interface-name</i>>; } </pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers],</p> <p>[edit system services static-subscribers]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	<p>Configure a static subscriber group with values that override the values configured at the [edit system services static-subscribers] hierarchy level for subscribers outside the group. Includes the subscriber access and dynamic profiles, the authentication parameters that trigger the Access-Request message to AAA for static subscribers in the group, and the statically configured interfaces that form the group.</p>
	<div>  <p>NOTE: The logical system and routing instance in which the group is configured must match the logical system and routing instance where the static interfaces are configured.</p> </div>
Options	<p><i>group-name</i>—Name of a group that defines authentication parameters for static subscribers to override the global authentication configuration.</p> <p>The remaining statements are explained separately.</p>
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Creating a Static Subscriber Group on page 14

interface (Static Subscriber Group)

Syntax	<code>interface <i>interface-name</i> <exclude> <upto <i>upto-interface-name</i>>;</code>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i>],</p> <p>[edit system services static-subscribers group <i>group-name</i>]</p>
Release Information	<p>Statement introduced in Junos OS Release 9.6.</p> <p>Support for IPv6 and IPv4 demux static interfaces introduced in Junos OS Release 11.2.</p>
Description	Specify one or more interfaces, or a range of interfaces, that are within a specified group on which static subscribers are created. You can repeat the interface <i>interface-name</i> statement to specify multiple interfaces within a group. You must configure each interface in only one group.
<div>  <p>NOTE: The logical system and routing instance in which the static interfaces are configured must match the logical system and routing instance where the group is configured.</p> </div>	
Options	<p>exclude—(Optional) Exclude an interface or a range of interfaces from the group.</p> <p><i>interface-name</i>—Name of the interface on which static subscribers are created. If you do not specify a unit number for the interface, then .0 is assumed. For example, ge-0/1/0 is interpreted as ge-0/1/0.0.</p> <p><i>upto-interface-name</i>—(Optional) The upper end of the range of interfaces; the lower end of the range is the <i>interface-name</i> entry. The interface device name of <i>upto-interface-name</i> must be the same as the device name of <i>interface-name</i>.</p>
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Creating a Static Subscriber Group on page 14

interface (Static Subscriber Username)

Syntax	interface;
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit system services static-subscribers authentication username-include],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication username-include]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify that a modified version of the interface name is included as part of the username created for all static subscribers or for the static subscribers in a specified group. The group version of the statement takes precedence over the global version. The username is also sent to RADIUS in the Access-Request message. The interface name is modified by replacing the "/" character with the "-" character. For example, ge-0/1/2.50 is converted to ge-0-1-2.50.
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Configuring the Static Subscriber Global Username on page 13 • Configuring the Static Subscriber Group Username on page 17

logical-system-name (Static Subscribers)

Syntax	logical-system-name;
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit system services static-subscribers authentication username-include],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication username-include]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify that the name of the logical system is included as part of the username created for all static subscribers or for the static subscribers in a specified group. The group version of the statement takes precedence over the global version. The username is also sent to RADIUS in the Access-Request message.
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Configuring the Static Subscriber Global Username on page 13• Configuring the Static Subscriber Group Username on page 17

password (Static Subscribers)

Syntax	<pre>password password-string; username-include { domain-name domain-name; username-include; logical-system-name; routing-instance-name; user-prefix user-prefix-string; }</pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include], authentication],</p> <p>[edit system services static-subscribers authentication],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify the password that is sent to AAA for user login for all static subscribers on interfaces configured at the [edit system services static-subscribers interface] hierarchy level, or for the subscribers in a specified group. The group version of the statement takes precedence over the global version.
Options	<p>password-string—String that defines the password.</p> <p>The remaining statements are explained separately.</p>
Required Privilege Level	<p>system-level—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Configuring the Static Subscriber Global Authentication Password on page 13 • Configuring the Static Subscriber Group Authentication Password on page 16

routing-instance-name (Static Subscribers)

Syntax	routing-instance-name;
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit system services static-subscribers authentication username-include],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication username-include]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify that the name of the routing instance is included as part of the username created for all static subscribers or for the static subscribers in the specified group. The group version of the statement takes precedence over the global version. The username is also sent to RADIUS in the Access-Request message.
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Configuring the Static Subscriber Global Username on page 13• Configuring the Static Subscriber Group Username on page 17

static-subscribers

Syntax	<pre> static-subscribers { access-profile <i>profile-name</i>; authentication { password <i>password-string</i>; username-include { domain-name <i>domain-name</i>; interface; logical-system-name; routing-instance-name; user-prefix <i>user-prefix-string</i>; } } dynamic-profile <i>profile-name</i> { aggregate-clients (merge replace); } group <i>group-name</i> { access-profile <i>profile-name</i>; authentication { password <i>password-string</i>; username-include { domain-name <i>domain-name</i>; interface; logical-system-name; routing-instance-name; user-prefix <i>user-prefix-string</i>; } } dynamic-profile <i>profile-name</i> { aggregate-clients (merge replace); } interface <i>interface-name</i> <exclude> <upto <i>upto-interface-name</i>>; } } </pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> system services], [edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services], [edit routing-instances <i>routing-instances-name</i> system services], [edit system services]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	<p>Configure and associate subscribers with statically configured interfaces for dynamic service provisioning.</p> <p>The remaining statements are explained separately.</p>
Required Privilege Level	<p>system—To view this statement in the configuration. system-control—To add this statement to the configuration.</p>

- Related Documentation**
- [Configuring Subscribers over Static Interfaces on page 9](#)

traceoptions (Static Subscribers)

Syntax	<pre> traceoptions { file <i>filename</i> <files <i>number</i>> <match <i>regular-expression</i>> <size <i>maximum-file-size</i>> <world-readable no-world-readable>; flag <i>flag</i>; level (all error info notice verbose warning); no-remote-trace; } </pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> system processes static-subscribers],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system processes static-subscribers],</p> <p>[edit routing-instances <i>routing-instances-name</i> system processes static-subscribers],</p> <p>[edit system processes static-subscribers]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Define tracing operations for static subscriber processes.
Options	<p>file <i>filename</i>—Name of the file to receive the output of the tracing operation. Enclose the name within quotation marks. All files are placed in the directory <code>/var/log</code>.</p> <p>files <i>number</i>—(Optional) Maximum number of trace files to create before overwriting the oldest one. If you specify a maximum number of files, you also must specify a maximum file size with the size option.</p> <p>Range: 2 through 1000</p> <p>Default: 3 files</p> <p>flag <i>flag</i>—Tracing operation to perform. To specify more than one tracing operation, include multiple flag statements. You can include the following flags:</p> <ul style="list-style-type: none"> • all—Trace all operations. • authentication—Trace authentication events. • configuration—Trace configuration events. • database—Trace database events. • general—Trace general events. • gres—Trace GRES events. • profile—Trace dynamic profile events. • rtsock—Trace routing socket events. • statistics—Trace statistics events. • subscriber—Trace subscriber events. <p>level—Level of tracing to perform. You can specify any of the following levels:</p> <ul style="list-style-type: none"> • all—Match all levels.

- **error**—Match error conditions.
- **info**—Match informational messages.
- **notice**—Match notice messages about conditions requiring special handling.
- **verbose**—Match verbose messages.
- **warning**—Match warning messages.

match *regular-expression*—(Optional) Refine the output to include lines that contain the regular expression.

no-remote-trace—(Optional) Disable remote tracing.

no-world-readable—(Optional) Disable unrestricted file access.

size *maximum-file-size*—(Optional) Maximum size of each trace file. By default, the number entered is treated as bytes. Alternatively, you can include a suffix to the number to indicate kilobytes (KB), megabytes (MB), or gigabytes (GB). If you specify a maximum file size, you also must specify a maximum number of trace files with the **files** option.

Syntax: *sizek* to specify KB, *sizem* to specify MB, or *sizeg* to specify GB

Range: 10240 through 1073741824

Default: 128 KB

world-readable—(Optional) Enable unrestricted file access.

Required Privilege Level	trace—To view this statement in the configuration.
	trace-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Tracing Static Subscriber Operations on page 57

username-include (Static Subscribers)

Syntax	<pre>username-include { domain-name <i>domain-name</i>; interface; logical-system-name; routing-instance-name; user-prefix <i>user-prefix-string</i>; }</pre>
Hierarchy Level	<pre>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication], [edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication], [edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication], [edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication], [edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication], [edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication], [edit system services static-subscribers authentication], [edit system services static-subscribers group <i>group-name</i> authentication]</pre>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	<p>Specify the information included in the username created for all static subscribers or for static subscribers in a specified group. The group version of the statement takes precedence over the global version. The username is also sent to RADIUS in the Access-Request message.</p> <p>The remaining statements are explained separately.</p>
Required Privilege Level	<p>system—To view this statement in the configuration.</p> <p>system-control—To add this statement to the configuration.</p>
Related Documentation	<ul style="list-style-type: none"> • Configuring Subscribers over Static Interfaces on page 9 • Configuring the Static Subscriber Global Username on page 13 • Configuring the Static Subscriber Group Username on page 17

user-prefix (Static Subscribers)

Syntax	<code>user-prefix <i>user-prefix-string</i>;</code>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers authentication username-include],</p> <p>[edit logical-systems <i>logical-system-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers authentication username-include],</p> <p>[edit routing-instances <i>routing-instances-name</i> system services static-subscribers group <i>group-name</i> authentication username-include],</p> <p>[edit system services static-subscribers authentication username-include],</p> <p>[edit system services static-subscribers group <i>group-name</i> authentication username-include]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify that a string is included as the beginning of the username created for all static subscribers or for the static subscribers in a specified group. The group version of the statement takes precedence over the global version. The username is also sent to RADIUS in the Access-Request message.
Options	<i>user-prefix-string</i> —String that begins the username. The string can include the following characters: a through z, A through Z, 0 through 9, "-", or ".".
Required Privilege Level	system—To view this statement in the configuration. system-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• Configuring Subscribers over Static Interfaces on page 9• Configuring the Static Subscriber Global Username on page 13• Configuring the Static Subscriber Group Username on page 17

PART 3

Administration

- [Manually Managing Subscribers on Static Interfaces on page 41](#)
- [Monitoring Subscriber Sessions on Static Interfaces on page 43](#)
- [Administrative Commands on page 45](#)
- [Monitoring Commands on page 51](#)

CHAPTER 6

Manually Managing Subscribers on Static Interfaces

- [Forcing a Static Subscriber to Be Logged Out on page 41](#)
- [Resetting the State of an Interface for Static Subscriber Login on page 41](#)
- [Forcing a Group of Static Subscribers to Be Logged Out on page 42](#)
- [Resetting the State of an Interface Group for Static Subscriber Login on page 42](#)

Forcing a Static Subscriber to Be Logged Out

You can force a static subscriber to be logged out on an interface. After you do so, no subscriber can subsequently log in on that interface until the interface state is reset either by a router reset or by entering the **request services static-subscribers login interface** command.

- To forcibly log out a static subscriber on a static interface:

```
user@host> request services static-subscribers logout interface ge-2/0/1.5
```

Related Documentation

- [Resetting the State of an Interface for Static Subscriber Login on page 41](#)

Resetting the State of an Interface for Static Subscriber Login

When a static subscriber has been forcibly logged out on an interface with the **request services static-subscribers logout interface** command, you can reset the state of the interface. This action enables a static subscriber to log in on the interface. If you do not reset the state manually, then no static subscribers can log in on the interface until the state is reset by a router reset.

- To reset the state of a static interface:

```
user@host> request services static-subscribers login interface ge-2/0/1.5
```

Related Documentation

- [Forcing a Static Subscriber to Be Logged Out on page 41](#)

Forcing a Group of Static Subscribers to Be Logged Out

You can force the static subscribers on all interfaces in a group to be logged out. After you do so, no subscriber can subsequently log in on an interface in that group until the interface state is reset either by a router reset or by entering the **request services static-subscribers login group** command.

- To forcibly log out all static subscribers on a static interface group:

```
user@host> request services static-subscribers logout group boston
```

Related Documentation

- [Resetting the State of an Interface Group for Static Subscriber Login on page 42](#)

Resetting the State of an Interface Group for Static Subscriber Login

When static subscribers have been forcibly logged out on an interface group with the **request services static-subscribers logout group** command, you can reset the state of the group. This action enables static subscribers to log in on the interfaces in the group. If you do not reset the state manually, then no static subscribers can log in on any interface in the group until the state is reset by a router reset.

- To reset the state of a static interface group:

```
user@host> request services static-subscribers login group boston
```

Related Documentation

- [Forcing a Group of Static Subscribers to Be Logged Out on page 42](#)

CHAPTER 7

Monitoring Subscriber Sessions on Static Interfaces

- [Verifying Information about Subscriber Sessions on Static Interfaces on page 43](#)

Verifying Information about Subscriber Sessions on Static Interfaces

Purpose View information about subscriber sessions on static interfaces:

Action • To display information about all static subscriber sessions:

`user@host> show static-subscribers sessions`

- To display information about the subscriber sessions for the specified group of static interfaces:

`user@host> show static-subscribers sessions group boston`

- To display information about the subscriber session for the specified interface:

`user@host> show static-subscribers sessions interface ge-0/0/1.1`

Related Documentation

- For more information, see the *Junos OS Operational Mode Commands*
- [Configuring Subscribers over Static Interfaces on page 9](#)
- [Subscribers on Static Interfaces Overview on page 3](#)

CHAPTER 8

Administrative Commands

request services static-subscribers login group

Syntax	request services static-subscribers login group <i>group-name</i>
Release Information	Command introduced in Junos OS Release 9.6.
Description	Resets the state of an interface group on which static subscribers were forcibly logged out by the request services static-subscribers logout group command. This action enables static subscriber to login on the interfaces in the group.
Options	group <i>group-name</i> —Group of static subscriber interfaces on which static subscribers have been created.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• Resetting the State of an Interface Group for Static Subscriber Login on page 42• request services static-subscribers logout group on page 47
List of Sample Output	request services static-subscribers login group on page 46
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request services static-subscribers login group

```
user@host> request services static-subscribers login group boston
```

request services static-subscribers logout group

Syntax	<code>request services static-subscribers logout group <i>igroup-name</i></code>
Release Information	Command introduced in Junos OS Release 9.6.
Description	Force static subscribers on the interfaces in the group to be logged out. No subscriber can subsequently log in on the interface group until the interface state is reset by a router reset or the <code>request services static-subscribers login group</code> command.
Options	<code>group <i>group-name</i></code> —Group of static subscriber interfaces on which static subscribers have been created.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• Forcing a Group of Static Subscribers to Be Logged Out on page 42• request services static-subscribers login group on page 46
List of Sample Output	request services static-subscribers logout group on page 47
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request services static-subscribers logout group

```
user@host> request services static-subscribers logout group boston
```

request services static-subscribers login interface

Syntax	<code>request services static-subscribers login interface <i>interface-name</i></code>
Release Information	Command introduced in Junos OS Release 9.6.
Description	Resets the state of an interface on which a static subscriber was forcibly logged out by the <code>request services static-subscribers logout interface</code> command. This action enables a static subscriber to login on the interface.
Options	<code>interface <i>interface-name</i></code> —Static interface on which a static subscriber has been created.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• Resetting the State of an Interface for Static Subscriber Login on page 41• request services static-subscribers logout interface on page 49
List of Sample Output	request services static-subscribers login interface on page 48
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request services static-subscribers login interface

```
user@host> request services static-subscribers login interface ge-2/0/1.5
```

request services static-subscribers logout interface

Syntax	<code>request services static-subscribers logout interface <i>interface-name</i></code>
Release Information	Command introduced in Junos OS Release 9.6.
Description	Force static subscriber on the interface to be logged out. No subscriber can subsequently log in on the interface until the interface state is reset by a router reset or the request services static-subscribers login interface command.
Options	<code>interface <i>interface-name</i></code> —Static interface on which a static subscriber has been created.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Forcing a Static Subscriber to Be Logged Out on page 41 • request services static-subscribers login interface on page 48
List of Sample Output	request services static-subscribers logout interface on page 49
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request services static-subscribers logout interface

```
user@host> request services static-subscribers logout interface ge-2/0/1.5
```


CHAPTER 9

Monitoring Commands

show static-subscribers sessions

Syntax	show static-subscribers sessions <code><group group-name></code> <code><interface interface-name></code>
Release Information	Command introduced in Junos OS Release 9.6.
Description	Display information about the subscriber sessions for all static subscribers, all static subscribers on an interface group, or a single subscriber on an interface.
Options	<p>group-name—(Optional) Display session information for static subscribers on all interfaces in the specified group.</p> <p>interface-name—(Optional) Display session information for the static subscriber on the specified in the specified group.</p>
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Subscribers on Static Interfaces Overview on page 3
List of Sample Output	show static-subscribers sessions on page 53 show static-subscribers sessions group on page 53 show static-subscribers sessions interface on page 53
Output Fields	Table 3 on page 52 lists the output fields for the show static-subscribers sessions command. Output fields are listed in the approximate order in which they appear.

Table 3: show static-subscribers sessions Output Fields

Field Name	Field Description	Level of Output
Interface	Name of the interface.	None specified
State	State of the static subscriber session: <ul style="list-style-type: none"> • authenticating—Subscriber is being authenticated. • activating client—Client is being activated. • activating services—Subscriber services are being activated. • deactivating client—Client is being deactivated. • deactivating services—Subscriber services are being deactivated. • initializing—Process is initializing. • logged in—Subscriber is logged in to the interface. • logged out—Subscriber is logged out of the interface. • processing statistics—Session statistics are being processed. • terminating session—Subscriber session is being terminated. 	None specified
Group	Name of the interface group to which the interface belongs.	None specified

Table 3: show static-subscribers sessions Output Fields (*continued*)

Field Name	Field Description	Level of Output
User Name	Username used for the static subscriber. Can be the interface name.	None specified

Sample Output

show static-subscribers sessions

```
user@host> show static-subscribers sessions
```

Static subscriber information:

Interface	State	Group	User Name
ge-9/1/0.1	logged out	SS1	ge-9-1-0.1
ge-9/1/0.10	logged out	SS1	ge-9-1-0.10
ge-9/1/0.100	logged out	SS1	ge-9-1-0.100
ge-9/1/0.11	logged out	SS1	ge-9-1-0.11
ge-9/1/0.12	logged out	SS1	ge-9-1-0.12
ge-9/1/0.13	logged out	SS1	ge-9-1-0.13
ge-9/1/0.14	logged out	SS1	ge-9-1-0.14
ge-9/1/0.15	logged out	SS1	ge-9-1-0.15
ge-9/1/0.16	logged out	SS1	ge-9-1-0.16
ge-9/1/0.17	logged out	SS1	ge-9-1-0.17
ge-9/1/0.18	logged out	SS1	ge-9-1-0.18
ge-9/1/0.19	logged out	SS1	ge-9-1-0.19
ge-9/1/0.2	logged out	SS1	ge-9-1-0.2
ge-9/1/0.20	logged out	SS1	ge-9-1-0.20
ge-9/1/0.21	logged out	SS1	ge-9-1-0.21

show static-subscribers sessions group

```
user@host> show static-subscribers sessions group boston
```

Interface	State	Group	User Name
ge-0/0/1.1	logged in	boston	ge-0/0/1.1
ge-0/0/1.2	logged in	boston	ge-0/0/1.2

show static-subscribers sessions interface

```
user@host> show static-subscribers sessions interface ge-0/0/1.1
```

Interface	State	Group	User Name
ge-0/0/1.1	logged in	foo	ge-0/0/1.1

PART 4

Troubleshooting

- [Acquiring Troubleshooting Information on page 57](#)
- [Troubleshooting Configuration Statement on page 63](#)

CHAPTER 10

Acquiring Troubleshooting Information

- [Tracing Static Subscriber Operations on page 57](#)
- [Configuring the Static Subscribers Trace Log Filename on page 58](#)
- [Configuring the Number and Size of Static Subscribers Log Files on page 58](#)
- [Configuring Access to the Static Subscribers Log File on page 59](#)
- [Configuring a Regular Expression for Static Subscriber Messages to Be Logged on page 59](#)
- [Configuring the Static Subscribers Tracing Flags on page 60](#)
- [Configuring the Severity Level to Filter Which Static Subscriber Messages Are Logged on page 60](#)
- [Collecting Subscriber Access Logs Before Contacting Juniper Technical Support on page 60](#)

Tracing Static Subscriber Operations

The Junos OS trace feature tracks static subscriber operations and records events in a log file. The error descriptions captured in the log file provide detailed information to help you solve problems.

By default, nothing is traced. When you enable the tracing operation, the default tracing behavior is as follows:

1. Important events are logged in a file located in the **/var/log** directory. By default, the router uses the filename **jsscd**. You can specify a different filename, but you cannot change the directory in which trace files are located.
2. When the trace log file **filename** reaches 128 kilobytes (KB), it is compressed and renamed **filename.0.gz**. Subsequent events are logged in a new file called **filename**, until it reaches capacity again. At this point, **filename.0.gz** is renamed **filename.1.gz** and **filename** is compressed and renamed **filename.0.gz**. This process repeats until the number of archived files reaches the maximum file number. Then the oldest trace file—the one with the highest number—is overwritten.

You can optionally specify the number of trace files to be from 2 through 1000. You can also configure the maximum file size to be from 10 KB through 1 gigabyte (GB). (For more information about how log files are created, see the *Junos OS System Log Messages Reference*.)

By default, only the user who configures the tracing operation can access log files. You can optionally configure read-only access for all users.

To configure static subscriber tracing operations:

1. (Optional) Configure a trace log filename.
See [“Configuring the Static Subscribers Trace Log Filename” on page 58](#).
2. (Optional) Configure the number and size of trace logs.
See [“Configuring the Number and Size of Static Subscribers Log Files” on page 58](#).
3. (Optional) Configure user access to trace logs.
See [“Configuring Access to the Static Subscribers Log File” on page 59](#).
4. (Optional) Configure a regular expression to filter the information to be included in the trace log.
See [“Configuring a Regular Expression for Static Subscriber Messages to Be Logged” on page 59](#).
5. (Optional) Configure flags to specify which events are logged.
See [“Configuring the Static Subscribers Tracing Flags” on page 60](#).
6. (Optional) Configure a severity level for messages to specify which event messages are logged.
See [“Configuring the Severity Level to Filter Which Static Subscriber Messages Are Logged” on page 60](#).

Configuring the Static Subscribers Trace Log Filename

By default, the name of the file that records trace output for static subscribers is `jsscd`. You can specify a different name with the `file` option.

To configure the filename for static subscribers tracing operations:

- Specify the name of the file used for the trace output.

```
[edit system processes static-subscribers traceoptions]  
user@host# set file stat-subs_1
```

Related Documentation

- [Tracing Static Subscriber Operations on page 57](#)

Configuring the Number and Size of Static Subscribers Log Files

You can optionally specify the number of compressed, archived trace log files to be from 2 through 1000. You can also configure the maximum file size to be from 10 KB through 1 gigabyte (GB); the default size is 128 kilobytes (KB).

The archived files are differentiated by a suffix in the format `.number.gz`. The newest archived file is `.0.gz` and the oldest archived file is `.(maximum number)-1.gz`. When the

current trace log file reaches the maximum size, it is compressed and renamed, and any existing archived files are renamed. This process repeats until the maximum number of archived files is reached, at which point the oldest file is overwritten.

For example, you can set the maximum file size to 2 MB, and the maximum number of files to 20. When the file that receives the output of the tracing operation, *filename*, reaches 2 MB, *filename* is compressed and renamed *filename.0.gz*, and a new file called *filename* is created. When the new *filename* reaches 2 MB, *filename.0.gz* is renamed *filename.1.gz* and *filename* is compressed and renamed *filename.0.gz*. This process repeats until there are 20 trace files. Then the oldest file, *filename.19.gz*, is simply overwritten when the next oldest file, *filename.18.gz* is compressed and renamed to *filename.19.gz*.

To configure the number and size of trace files:

- Specify the name, number, and size of the file used for the trace output.

```
[edit system processes static-subscribers traceoptions]
user@host# set file stat-subs_1 _logfile_1 files 20 size 2097152
```

**Related
Documentation**

- [Tracing Static Subscriber Operations on page 57](#)

Configuring Access to the Static Subscribers Log File

By default, only the user who configures the tracing operation can access the log files. You can enable all users to read the log file and you can explicitly set the default behavior of the log file.

To specify that all users can read the log file:

- Configure the log file to be world-readable.

```
[edit system processes static-subscribers traceoptions]
user@host# set file stat-subs_1 _logfile_1 world-readable
```

To explicitly set the default behavior, only the user who configured tracing can read the log file:

- Configure the log file to be no-world-readable.

```
[edit system processes static-subscribers traceoptions]
user@host# set file stat-subs_1 _logfile_1 no-world-readable
```

**Related
Documentation**

- [Tracing Static Subscriber Operations on page 57](#)

Configuring a Regular Expression for Static Subscriber Messages to Be Logged

By default, the trace operation output includes all messages relevant to the logged events.

You can refine the output by including regular expressions to be matched.

To configure regular expressions to be matched:

- Configure the regular expression.

```
[edit system processes static-subscribers traceoptions]  
user@host# set file stat-subs_1 _logfile match regex
```

**Related
Documentation**

- [Tracing Static Subscriber Operations on page 57](#)

Configuring the Static Subscribers Tracing Flags

By default, only important events are logged. You can specify which events and operations are logged by specifying one or more tracing flags.

To configure the flags for the events to be logged:

- Configure the flags.

```
[edit system processes static-subscribers traceoptions]  
user@host# set flag authentication
```

**Related
Documentation**

- [Tracing Static Subscriber Operations on page 57](#)

Configuring the Severity Level to Filter Which Static Subscriber Messages Are Logged

The messages associated with a logged event are categorized according to severity level. You can use the severity level to determine which messages are logged for the event type. The severity level that you configure depends on the issue that you are trying to resolve. In some cases you might be interested in seeing all messages relevant to the logged event, so you specify **all** or **verbose**. Either choice generates a large amount of output. You can specify a more restrictive severity level, such as **notice** or **info** to filter the messages. By default, the trace operation output includes only messages with a severity level of **error**.

To configure the type of messages to be logged:

- Configure the message severity level.

```
[edit system processes static-subscribers traceoptions]  
user@host# set level severity
```

**Related
Documentation**

- [Tracing Static Subscriber Operations on page 57](#)

Collecting Subscriber Access Logs Before Contacting Juniper Technical Support

Problem When you experience a subscriber access problem in your network, we recommend that you collect certain logs before you contact Juniper Technical Support. This topic shows you the most useful logs for a variety of network implementations. In addition to the

relevant log information, you must also collect standard troubleshooting information and send it to Juniper Technical Support in your request for assistance.

Solution To collect standard troubleshooting information:

- Redirect the command output to a file.

```
user@host> request support information | save rsi-1
```

To configure logging to assist Juniper Technical Support:

1. Review the following blocks of statements to determine which apply to your configuration.

```
[edit]
set system syslog archive size 100m files 25
set system auto-configuration traceoptions file filename
set system auto-configuration traceoptions file filename size 100m files 25
set protocols ppp-service traceoptions file filename size 100m files 25
set protocols ppp-service traceoptions level all
set protocols ppp-service traceoptions flag all
set protocols ppp traceoptions file filename size 100m files 25
set protocols ppp traceoptions level all
set protocols ppp traceoptions flag all
set protocols ppp monitor-session all
set interfaces pp0 traceoptions flag all
set demux traceoptions file filename size 100m files 25
set demux traceoptions level all
set demux traceoptions flag all
set system processes dhcp-service traceoptions file filename
set system processes dhcp-service traceoptions file size 100m
set system processes dhcp-service traceoptions file files 25
set system processes dhcp-service traceoptions flag all
set class-of-service traceoptions file filename
set class-of-service traceoptions file size 100m
set class-of-service traceoptions flag all
set class-of-service traceoptions file files 25
set routing-options traceoptions file filename
set routing-options traceoptions file size 100m
set routing-options traceoptions flag all
set routing-options traceoptions file files 25
set interfaces traceoptions file filename
set interfaces traceoptions file size 100m
set interfaces traceoptions flag all
set interfaces traceoptions file files 25
set system processes general-authentication-service traceoptions file filename
set system processes general-authentication-service traceoptions file size 100m
set system processes general-authentication-service traceoptions flag all
set system processes general-authentication-service traceoptions file files 25
```

2. Copy the relevant statements into a text file and modify the log filenames as you want.
3. Copy the statements from the text file and paste them into the CLI on your router to configure logging.
4. Commit the logging configuration to begin collecting information.



.....

NOTE: The maximum file size for DHCP local server and DHCP relay log files is 1 GB. The maximum number of log files for DHCP local server and DHCP relay is 1000.

.....



.....

BEST PRACTICE: Enable these logs only to collect information when troubleshooting specific problems. Enabling these logs during normal operations can result in reduced system performance.

.....

**Related
Documentation**

- *Compressing Troubleshooting Logs from /var/logs to Send to Juniper Technical Support*

CHAPTER 11

Troubleshooting Configuration Statement

traceoptions (Static Subscribers)

Syntax	<pre>traceoptions { file <i>filename</i><files <i>number</i>> <match <i>regular-expression</i> > <size <i>maximum-file-size</i>> <world-readable no-world-readable>; flag <i>flag</i>; level (all error info notice verbose warning); no-remote-trace; }</pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> system processes static-subscribers], [edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instances-name</i> system processes static-subscribers], [edit routing-instances <i>routing-instances-name</i> system processes static-subscribers], [edit system processes static-subscribers]</p>
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Define tracing operations for static subscriber processes.
Options	<p>file <i>filename</i>— Name of the file to receive the output of the tracing operation. Enclose the name within quotation marks. All files are placed in the directory <code>/var/log</code>.</p> <p>files <i>number</i>— (Optional) Maximum number of trace files to create before overwriting the oldest one. If you specify a maximum number of files, you also must specify a maximum file size with the size option.</p> <p>Range: 2 through 1000</p> <p>Default: 3 files</p> <p>flag <i>flag</i>—Tracing operation to perform. To specify more than one tracing operation, include multiple flag statements. You can include the following flags:</p> <ul style="list-style-type: none">• all—Trace all operations.• authentication—Trace authentication events.• configuration—Trace configuration events.• database—Trace database events.• general—Trace general events.• gres—Trace GRES events.• profile—Trace dynamic profile events.• rtsock—Trace routing socket events.• statistics—Trace statistics events.• subscriber—Trace subscriber events. <p>level—Level of tracing to perform. You can specify any of the following levels:</p> <ul style="list-style-type: none">• all—Match all levels.

- **error**—Match error conditions.
- **info**—Match informational messages.
- **notice**—Match notice messages about conditions requiring special handling.
- **verbose**—Match verbose messages.
- **warning**—Match warning messages.

match *regular-expression*—(Optional) Refine the output to include lines that contain the regular expression.

no-remote-trace—(Optional) Disable remote tracing.

no-world-readable—(Optional) Disable unrestricted file access.

size *maximum-file-size*—(Optional) Maximum size of each trace file. By default, the number entered is treated as bytes. Alternatively, you can include a suffix to the number to indicate kilobytes (KB), megabytes (MB), or gigabytes (GB). If you specify a maximum file size, you also must specify a maximum number of trace files with the **files** option.

Syntax: *sizek* to specify KB, *sizem* to specify MB, or *sizeg* to specify GB

Range: 10240 through 1073741824

Default: 128 KB

world-readable—(Optional) Enable unrestricted file access.

Required Privilege	trace—To view this statement in the configuration.
Level	trace-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • Tracing Static Subscriber Operations on page 57

PART 5

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