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# AI-Scripts, Service Now, and Service Insight Monitoring and Troubleshooting

Release

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*AI-Scripts, Service Now, and Service Insight Monitoring and Troubleshooting*  
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Juniper Networks hardware and software products are Year 2000 compliant. Junos OS has no known time-related limitations through the year 2038. However, the NTP application is known to have some difficulty in the year 2036.

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# About the Documentation

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## Documentation and Release Notes

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

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

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 <https://www.juniper.net/books>.

## Documentation Conventions

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

Table 1: Notice Icons







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

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

Table 2: Text and Syntax Conventions

Convention	Description	Examples
<b>Bold text like this</b>	Represents text that you type.	To enter configuration mode, type the <b>configure</b> command:  user@host> <b>configure</b>
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> <b>show chassis alarms</b>  No alarms currently active
<i>Italic text like this</i>	<ul style="list-style-type: none"> <li>Introduces or emphasizes important new terms.</li> <li>Identifies guide names.</li> <li>Identifies RFC and Internet draft titles.</li> </ul>	<ul style="list-style-type: none"> <li>A policy <i>term</i> is a named structure that defines match conditions and actions.</li> <li><i>Junos OS CLI User Guide</i></li> <li>RFC 1997, <i>BGP Communities Attribute</i></li> </ul>
<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@# <b>set system domain-name</b> <i>domain-name</i>

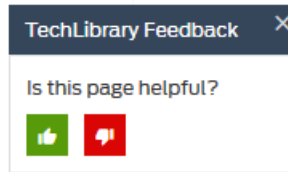
Table 2: Text and Syntax Conventions (continued)

Convention	Description	Examples
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"><li>To configure a stub area, include the <b>stub</b> statement at the <b>[edit protocols ospf area area-id]</b> hierarchy level.</li><li>The console port is labeled <b>CONSOLE</b>.</li></ul>
< > (angle brackets)	Encloses optional keywords or variables.	<b>stub &lt;default-metric <i>metric</i>&gt;;</b>
(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.	<b>broadcast   multicast</b>  <b>(<i>string1</i>   <i>string2</i>   <i>string3</i>)</b>
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	<b>rsvp { # Required for dynamic MPLS only</b>
[ ] (square brackets)	Encloses a variable for which you can substitute one or more values.	<b>community name members [ <i>community-ids</i> ]</b>
Indentation and braces ( { } )	Identifies a level in the configuration hierarchy.	<pre>[edit] routing-options {   static {     route default {       nexthop <i>address</i>;       retain;     }   } }</pre>
;(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"><li>In the Logical Interfaces box, select <b>All Interfaces</b>.</li><li>To cancel the configuration, click <b>Cancel</b>.</li></ul>
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select <b>Protocols&gt;Ospf</b> .

## Documentation Feedback

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

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



- Click the thumbs-up icon if the information on the page was helpful to you.
- Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.
- E-mail—Send your comments to [techpubs-comments@juniper.net](mailto:techpubs-comments@juniper.net). Include the document or topic name, URL or page number, and software version (if applicable).

## Requesting Technical Support

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

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <https://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

## Self-Help Online Tools and Resources

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

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

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

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

## Opening a Case with JTAC

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

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

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



## CHAPTER 1

# Monitoring

- [Accessing Junos Space Service Now and Junos Space Service Insight Logs on page 15](#)
- [Monitoring AI-Scripts Behavior by Using the AI-Scripts Event Simulator on page 17](#)
- [Monitoring Device Snapshots on page 19](#)
- [Junos Space Service Now and Junos Space Service Insight Widgets on page 20](#)
- [Junos Space Service Now and Junos Space Service Insight Timers on page 21](#)

### Accessing Junos Space Service Now and Junos Space Service Insight Logs

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Junos Space Service Now and Junos Space Service Insight logs are stored in the `/var/log/jboss/servers/server1` folder of a Junos Space Appliance. You can access the logs through the Junos Space CLI or Junos Space GUI.

The following logs are available in the `/var/log/jboss/servers/server1` folder:

- **DEVICE\_LOG**: Contains logs of off-box Juniper Message Bundles (JMBs) generated on individual devices managed by Service Now
- **boot.log**: Contains logs of booting sequences of the Junos Space Appliance
- **hornet.log**: Contains HornetQ-related logs
- **server.log**: Contains logs of all activities happening in the Junos Space Appliance, including activities of applications managed by Junos Space
- **serviceInsight.log**: Contains logs of activities performed by Service Insight to receive proactive bug notifications (PBNs) and End-of-Life (EOL) messages from Juniper Support System (JSS) and check the relevance of these PBNs and EOL messages with the devices managed by Junos Space
- **serviceNow.log**: Contains logs of activities performed by the Service Now application to connect to Service Now devices, collect and process event data, and communicate with JSS to submit incidents for creating a case

The maximum size of a **serviceNow.log** file is 50 MB. When a **serviceNow.log** file exceeds 50 MB, the name of the log file is appended with 1 and a new **serviceNow.log** file is created. The **serviceNow1.log** file, if it exists, is renamed the **serviceNow2.log** file.

- **serviceNow\_OSSJ.log**: Contains logs of the activities performed by OSS/J to display SOAP requests and responses and send notifications about incidents to users

To access Service Now and Service Insight logs by using the Junos Space CLI:

1. Log in to the Junos Space Appliance.

The Junos Space Settings Menu appears.

2. At the menu prompt, type **6** if the Junos Space Appliance is a hardware (JA1500 or JA2500 appliance) or type **7** if the Junos Space Appliance is a virtual appliance to access shell.

3. Navigate to the `/var/log/jboss/servers/server1` folder to access Service Now and Service Insight logs.

```
cd /var/log/jboss/servers/server1
```

To access Service Now and Service Insight logs by using the Junos Space GUI:

1. Log in to the Junos Space GUI.

2. From the Network Management Platform navigation tree, navigate to **Administration > Space Troubleshooting**.

The Space Troubleshooting page appears.

3. Read the Troubleshooting Tasks instruction and click the **Download** button to download the Service Now and Service Insight logs.

The Download Troubleshooting dialog box that appears displays the progress of the downloading task.

4. After the download is complete, you are prompted to save or open the logs in Windows Explorer.

5. Click **Open** to open the logs folder or click **Save** to save the logs.

The downloaded Service Now, Service Insight, and Junos Space Platform logs are packaged as a **.zip** file. The **.zip** file is named in the `troubleshoot_yyyy-mm-dd_hh-mm-ss` format, where `yyyy-mm-dd_hh-mm-ss` indicates the date and time when the **.zip** file was created.

#### Related Documentation

- [Troubleshooting Issues with Collecting JMBs on page 29](#)
- [Troubleshooting Issues with Creating Incidents on page 31](#)
- [Troubleshooting Issues with Submitting Incidents to JSS or a Service Now Partner on page 32](#)
- [Troubleshooting Issues with Adding an Organization to Junos Space Service Now on page 33](#)
- [Troubleshooting Issues with Receiving Notifications on page 34](#)



## Monitoring AI-Scripts Behavior by Using the AI-Scripts Event Simulator

With the AI-Scripts event simulator, you can generate error messages to monitor AI-Scripts behavior.

When the event simulator generates and enters an error message in the system logs of the device, the AI-Script pertaining to the event that caused the error message is triggered to generate a JMB for the event.

The event simulator is packaged with an AI-Scripts bundle starting from AI-Scripts Release 3.2R1.

To use the AI-Scripts event simulator for monitoring AI-Scripts behavior:

1. Log in to the device running Junos OS.
2. Verify that AI-Scripts Release 3.2R1 or later is installed on the device.

To verify that an AI-Scripts bundle is installed on the device, see [“Troubleshooting AI-Scripts Installation Issues” on page 23](#).

If not already installed, create an event profile by using AI-Scripts Release 3.2R1 or later and install the event profile on the device. To create and install an event profile, see *Adding an Event Profile to Junos Space Service Now in the Service Automation User Guide*.

3. On the device running Junos OS, run shell.
4. Navigate to the directory where the event simulator is located:

```
cd /var/db/scripts/op/.
```

5. Run the event simulator:

```
sh AIS_event_sim.sh
```

A menu of event types is displayed, as shown in the following sample:

```
AIS PROBLEM SIMULATION MENU (AI-Scripts 3.7R4/4.0R2 release)
=====
1. Hardware Failure
2. Software Failure
3. Resource Exhaustion Failure
4. Daemon crash [WARNING: This test could be service affecting as it kills the
  daemon]
5. Unstructured Events
6. Events that may be triggered on a Backup Routing Engine (platform dependent)
7. Events added/modified to 3.3R1
8. Events added/modified to 3.3R2
9. Events added to 3.3R3
10. Events added/modified to 3.4R1
```

```

11. Events added to 3.5R1/3.4R2
12. Events added to 3.6R1
13. Events added/modified for 3.6R2/3.7R1
14. Events added/modified for 3.7R3/4.0R1
15. Events added/modified for 3.7R4/4.0R2
16. Exit

```

Please enter option [1 - 16]:

6. From the menu, select an event type and enter its number at the command prompt. For example, type **3** to generate error messages for a resource exhaustion failure event on the device.

A menu listing the events for the selected event type appears. The following menu appears when you type **3**.

```

RESOURCE EXHAUSTION FAILURE MENU
=====

```

```

1. ACCT_MALLOC_FAILURE
2. ASP_L2TP_NO_MEM
3. AUTOCONFD_AUTH_NO_MEM
4. CHASSISD_IPC_MSG_DROPPED
5. L2CPD_SCHED_SLIP
6. L2CPD_SYSTEM_CALL_FAILED
7. RPD_ISIS_OVERLOAD
8. RPD_OS_MEMHIGH
9. RT_SCREEN_TCP
10. RT_SCREEN_UDP
11. RTPERF_CPU_THRESHOLD_EXCEEDED
12. SNMPD_SUBAGENT_NO_RESOURCES
13. TASK_OS_MEMHIGH
14. VCCPD_PROTOCOL_OVERLOAD
15. Exit

```

Please enter option [1 - 15]:

7. Select an event from the menu and type its number at the command prompt.  
The event simulator enters the error message in the system logs for the event that you select from this list.
8. Type the highest number on the menu to exit the program. For example, 15 in this case.  
The CLI prompt appears.
9. Execute the following command to monitor the execution of the **cscript** process to verify that a JMB is created for the event.  
**show system processes extensive | match csc**
10. Log in to the Junos Space GUI and navigate to **Service Now > Service Central > Incidents**.

An incident is generated in Service Now for the event that you generated using the event simulator. The incident is usually generated in Service Now within a few minutes after the event is generated on the device.

**Related  
Documentation**

- [AI-Scripts Overview](#)
- [Viewing Incident Details](#)
- [Troubleshooting AI-Scripts Installation Issues on page 23](#)

## Monitoring Device Snapshots

A device with AI-Scripts installed sends iJMBs or device snapshots to Junos Space once in seven days. The iJMBs contain the device identity, device configuration, device status, and trend information about the device. You can share the iJMBs with Juniper Support System (JSS) to assist with troubleshooting issues on the device. JSS uses the iJMBs to deliver information to customers about known issues to which the customer's devices may be susceptible and the End-of-Life (EOL) or End-of-Service (EOS) status of the customer's devices. The iJMBs also help in examining how changes to the configuration or hardware are related to the events on the device.

Service Now deletes an iJMB after the number of days configured in the Device Snapshot Purge Time (in days) attribute is lapsed.

To monitor device snapshots:

1. Log in to the Junos Space GUI.
2. Select **Service Now** from the drop-down list above the navigation tree.  
The Service Now navigation tree is displayed.
3. From the navigation tree, select **Service Central > Information > Device Snapshots**.  
The Device Snapshots page appears. The Device Snapshots page displays the iJMBs received from all managed devices.  
If you do not find iJMBs for a particular device, see ["Troubleshooting Issues with Collecting JMBs" on page 29](#).

**Related  
Documentation**

- [Service Now Device Snapshots Overview](#)
- [Viewing Details of a Device Snapshot](#)
- [Troubleshooting AI-Scripts Installation Issues on page 23](#)
- [Troubleshooting Issues with Generating JMBs on page 28](#)
- [Troubleshooting Issues with Collecting JMBs on page 29](#)

## Junos Space Service Now and Junos Space Service Insight Widgets

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Service Now and Service Insight provide widgets to monitor and obtain data about incidents and devices nearing EOL or susceptible to known issues. This topic discusses the following widgets:

- [Service Now Widgets on page 20](#)
- [Service Insight Widgets on page 20](#)

### Service Now Widgets

You can monitor the number of devices on which events have occurred and the number of events that have occurred on devices by using Service Now widgets.

Service Now provides the following widgets on the Service Now dashboard and in the Service Central and Administration workspaces:

- On the Service Now Dashboard:
  - Platforms with most incidents—Displays a percentage of total incidents on all platforms that have incidents reported on Service Now
  - Devices with most incidents—Displays the number of incidents on devices that have incidents reported on Service Now

Clicking a platform or device takes you to the Incidents page listing the incidents filtered for the platform or device.

- In the Service Central workspace:
  - Incident severities—Displays incidents classified according to severity (critical, high, medium, and low)
  - Incident priorities—Displays incidents classified according to priority (critical, high, medium, and low)

Clicking a severity or priority takes you to the Incidents page listing the incidents filtered by the selected severity or priority.

- In the Administration workspace:
  - Devices per device group—Displays the devices in each device group
  - Devices not sending device snapshots—Displays the devices that have not sent device snapshots for the past seven days

Clicking a device takes you to the Service Now Devices page listing the selected device.

### Service Insight Widgets

You can monitor the number of devices nearing EOL and the number of devices susceptible to known issues by using the Junos Space Service Insight widgets.

Service Insight provides the following widgets on the Service Insight Dashboard and in the Insight Central workspace:

- On the Service Insight Dashboard:
  - New EOL Matches—Displays the number of new EOL messages received the previous day, previous week, and previous month from JSS that are relevant to the devices managed by Service Now
  - Recent PBNs—Displays the number of proactive bug notifications received the previous day, previous week, and previous month from JSS
- In the Insight Central workspace:
  - Devices by EOL Milestone—Displays the devices by their EOL milestone (such as EOL, EOS, EOE, and EOSE)  
Clicking an EOL milestone takes you to the Exposure Analyzer page listing the devices nearing the selected milestone.
  - Devices with most PBN Matches—Displays the number of PBNs received from JSS that are relevant to devices managed by Service Now
  - Proactive Bug Notifications—Displays the number of PBNs assigned to you, PBNs flagged to you, and new PBNs received from JSS

#### Related Documentation

- [Junos Space Service Now Overview](#)
- [Service Insight Overview](#)
- [Service Now Incidents Overview](#)
- [Service Insight PBN Reports Overview](#)
- [Service Insight EOL Reports Overview](#)
- [Troubleshooting Issues with Receiving Notifications on page 34](#)

## Junos Space Service Now and Junos Space Service Insight Timers

Junos Space Service Now and Junos Space Service Insight use various timers to trigger the retrieval of data from devices running Junos OS and Juniper Support System (JSS). Service Now uses the timers listed in [Table 3 on page 21](#) and Service Insight uses the timers listed in [Table 4 on page 22](#). The intervals defined for these timers cannot be modified.

**Table 3: Timers Used by Service Now**

Timer	Description	Interval
Check Case Status	This timer triggers the retrieval of updates to a case submitted to JSS and initiates updates to the status of the case in Service Now.	2 minutes
Get Intelligence Update	This timer triggers the retrieval of intelligence updates from JSS and display of the updates as messages in Service Now.	1 hour

**Table 3: Timers Used by Service Now (continued)**

Timer	Description	Interval
Device Contract Information	This timer triggers the retrieval of device contract information from JSS or a Service Now partner. The device contract information is displayed on the Device Detail page.	1 day
Script Install Advisor (SIA) Information	This timer triggers the retrieval of information about versions of AI-Scripts, Junos OS, and Junos Space Network Management Platform that are susceptible to known issues from JSS.  Service Now uses this information to identify the devices that are susceptible to known issues and sets an alert icon next to the identified devices on the Service Now devices page.	1 day
Get iJMB	This timer triggers the retrieval of iJMBs from devices. The iJMBs are displayed on the Device Snapshots page of Service Now.  If the device does not generate an iJMB in seven days, Service Now generates and sends an off-box iJMB to JSS.	7 days
JMB Attachment Upload	This timer triggers the retrieval of JMB attachments that might have been missed during JMB collection.	2 hours
JMB and Attachment Retrieval Retry	This timer retries the retrieval of JMBs or attachments if an earlier attempt to retrieve JMBs or attachments failed.	2 hours

**Table 4: Timers Used by Service Insight**

Timer	Description	Interval
Get EOL Information	This timer triggers the retrieval of information about End of Life (EOL) from the JSS database.  Service Insight displays the retrieved information on the Exposure Analyzer page of Service Insight.	The timer is set to retrieve information every midnight (as defined by the NTP configured on the device).
Get PBN Information	This timer triggers the retrieval of information about proactive bug notifications from JSS.  Service Insight displays the retrieved information on the Exposure Analyzer page of Service Insight.	For Service Now operating in Direct and Partner Proxy modes, the timer is set to retrieve information once every two hours from JSS.

- Related Documentation**
- [Service Now Incidents Overview](#)
  - [AI-Scripts Overview](#)
  - [Service Insight PBN Reports Overview](#)
  - [Service Insight EOL Reports Overview](#)
  - [Troubleshooting Issues with Receiving Notifications on page 34](#)

## CHAPTER 2

# Troubleshooting

- [Troubleshooting Failures While Discovering Devices on page 23](#)
- [Troubleshooting AI-Scripts Installation Issues on page 23](#)
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### Troubleshooting Failures While Discovering Devices

For information about troubleshooting failures while discovering devices, see [Troubleshooting Device Discovery Failure](#).

#### **Related Documentation**

- [Troubleshooting AI-Scripts Installation Issues on page 23](#)
- [Troubleshooting Issues with Creating Incidents on page 31](#)
- [Troubleshooting Issues with Receiving Notifications on page 34](#)

### Troubleshooting AI-Scripts Installation Issues

**Problem**    **Description:** The installation of AI-Scripts on a device running Junos OS fails.

#### **Symptoms:**

- The AI-Scripts bundle is not being installed properly on the device.
- During the installation of the event profile, the SLAX files are not copied to the device.
- AI-Scripts installed on a device do not generate a JMB for a particular event.

**Resolution**    *Verifying the AI-Scripts Installation*

To verify that an AI-Scripts bundle is installed on a device running Junos OS:

1. Log in to the device.
2. Run the **show version** command.

If the AI-Scripts bundle is installed on the device, the **show version** command lists the version of the AI-Scripts bundle installed on the device, as shown in the following sample:

```
Hostname: mx-80-sn2
Model: mx80-48t
JUNOS Base OS boot [11.4R6-S2]
JUNOS Base OS Software Suite [11.4R6-S2]
JUNOS Kernel Software Suite [11.4R6-S2]
JUNOS Crypto Software Suite [11.4R6-S2]
JUNOS Packet Forwarding Engine Support (MX80) [11.4R6-S2]
JUNOS Online Documentation [11.4R6-S2]
JUNOS Routing Software Suite [11.4R6-S2]
JUNOS AIS Script Suite [4.1R1.1]
```

The presence of **JUNOS AIS Script Suite** in the output of the **show version** command indicates that AI-Scripts Release 4.1R1.1 is installed on the device.

3. If you do not find **JUNOS AIS Script Suite** in the output of the **show version** command, see:
  - *Installing an Event Profile on a Device by Using Service Now* to install AI-Scripts on devices managed by Service Now using the Junos Space GUI
  - *Manually Installing AI-Scripts on Devices* to install and configure AI-Scripts on the devices manually

**Resolving Issues with Copying Event Scripts to Devices**

During the installation of an event profile on a device, the SLAX files are not copied to the devices and the Jobs status page displays an error as shown in [Figure 1 on page 25](#).



Figure 1: Service Now Event Profile Install/Uninstall Status

Service Now Event Profile Install/Uninstall Status				
NetworkName	Host Name	Job Type	Status	Reason
▼ 192.0.2.194	J1-RE0	Install	Failed	Error: Failed to upload Event Profile on to the Master RE.  Write to destination file (/var/db/scripts/commit/jais-SN-activate-scripts.slax) failed: Permission denied
Event Profile Install/Uninstall steps			Status	
Connect to device			Success	
Copy script bundle to device			Success	
Commit configuration			Success	
Install script bundle on device			Success	
Copy slax file to device			Failed	
Commit slax file on device			Not Started	

To copy event scripts to devices:

1. Log in to the device running Junos OS.
2. Execute the following command to check permissions for `/var/db/scripts/commit`, `/var/db/scripts/event`, and `/var/db/scripts/op` directories:

```
# run file list /var/db/scripts/
```

The permissions for the `/var/db/scripts/commit`, `/var/db/scripts/event`, and `/var/db/scripts/op` directories should be `drwxrws---`.

```
drwxrws---  2 root  wheel  1024 Jan 30 15:27 commit
drwxrws---  2 root  wheel 21504 Jan 30 15:27 event
drwxrws---  2 root  wheel  1024 Jan 30 15:26 op
```

3. If the permissions are not as shown in the preceding example, enter configuration mode and navigate to the `/var/db/scripts` directory.
4. As root at the shell level, execute `chmod 2770` to set the directory permissions as `drwxrws---` for the `/var/db/scripts/commit`, `/var/db/scripts/event`, and `/var/db/scripts/op` directories.
5. Retry installing the event scripts.

### *Verifying the Event Scripts Installed on the Device*

To verify the event scripts installed on the device:

1. Log in to the device.
2. Execute the **show configuration groups** command as follows:

```
show configuration groups juniper-ais | display commit-scripts
```

The following output is displayed:

```
system {
  scripts {
    op {
      file ais-pt_attachment.slax;
      file ais-rma_attachment.slax;
      file ais_change_perm.slax;
      file ais_core_perm.slax;
      file on-demand.slax;
      file remove-jais.slax;
      file jais-commit-optimize.slax;
      file ais_arc.slax;
      file ais-attach-file.slax;
      file stop-ais-now.slax;
      file ais_signalSN.slax;
      file ais_core_chm.slax;
      file ais_all_chm.slax;
      file att_signalSN.slax;
      file ais-rsi-chk.slax;
      file ais-rsi-delay.slax;
      file ais-rsi-holdoff.slax;
      file ais-param-set.slax;
      file ais-sleep.slax;
      file ais-error.slax;
      file ais-health-report.slax;
      max-datasize 256m;
    }
  }
}
event-options {
  event-script {
    max-datasize 128m;
    file UI_CMDLINE_READ_LINE.slax;
    file UI_NETCONF_CMD.slax;
    file bios.slax;
    file bios-interval.slax;
    file ACCT_MALLOCFailure.slax;
    file ACCT_XFER_POPEN_FAILURE.slax;
    file ASP_PGCP_IPC_MSG_WRITE_FAILED.slax;
    file ASP_PGCP_IPC_PIPE_WRITE_FAILED.slax;
    file AUDITD_RADIUS_OPEN_FAILED.slax;
    file AUDITD_RADIUS_REQ_CREATE_FAILED.slax;
    file AUDITD_SOCKET_FAILURE.slax;
    file AUTHD_AUTH_CREATE_FAILED.slax;
    file AUTHD_SERVER_INIT_BIND_FAIL.slax;
    file AUTHD_SERVER_INIT_LISTEN_FAIL.slax;
```

```

        file AUTHD_SETSOCKOPT_FAILED.slax;
        file AUTHD_SOCKET_FAILED.slax;
        file AUTOCONFD_AUTH_NO_MEM.slax;
        file AUTOD_RECV_FAILURE.slax;
        file AUTOD_SEND_FAILURE.slax;
        file AUTOD_SOCKET_CREATE_FAILURE.slax;
        file AV_PATTERN_TOO_BIG.slax;
        file AV_PATTERN_WRITE_FS_FAILED.slax;
        file BFDD_READ_ERROR.slax;
        file BFDD_WRITE_ERROR.slax;
        file BOOTPD_HWDB_ERROR.slax;
        file CFMD_RTsock_OPEN_FAILURE.slax;
        file CHASSISD_BUS_DEVICE_OPEN_FAILURE.slax;
        file CHASSISD_CFEB_POWER_FAILURE.slax;
        file CHASSISD_CLOCK_FAILURE.slax;
        file CHASSISD_CMB_READBACK_ERROR.slax;
    }
    destinations {
        juniper-aim {
            archive-sites {
                /var/tmp/;
            }
        }
    }
}

```

If event scripts are installed on the device, and the AI-Scripts version is Release 5.0R1 or earlier, the **show configuration groups juniper-ais** command lists the event scripts (.slax files) from the AI-Scripts bundle that are installed on the device under **event-options**. If event scripts are not listed under **event-options** in the output, then either the event scripts are not installed on the device or if they are installed, the **juniper-ais** group is not applied to the device configuration.

To verify that the **juniper-ais** group is applied to the device configuration, run the **show configuration apply-groups** command.

```
show configuration apply-groups
```

The following output is displayed for the command:

```
## Last commit: 2014-08-26 14:00:40 PDT by lab
apply-groups [ re0 ASIA-ROUTING-REGION juniper-ais ];
```

If the **juniper-ais** group is not listed in the output, issue the following command to apply the **juniper-ais** group:

```
set apply-groups juniper-ais
```

Verify that the **juniper-ais** group is applied to the device configuration by executing the **show configuration groups juniper-ais** command to list the event scripts installed on the device.

- Related Documentation**
- [AI-Scripts Overview](#)
  - [Service Now Event Profiles Overview](#)
  - [Uninstalling an Event Profile from a Device](#)
  - [Monitoring AI-Scripts Behavior by Using the AI-Scripts Event Simulator on page 17](#)

---

## Troubleshooting Issues with Generating JMBs

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**Problem**    **Description:** No JMB is generated on a device running Junos OS.

**Solution**    AI-Scripts generate JMBs when an event occurs on the device on which they are installed and store the JMBs in the `/var/tmp` directory of the device. Service Now then copies the JMBs and the attachments from the device to `/var/cache/jboss/SN/Jmb/output` of the Junos Space Appliance. The JMBs and attachments are deleted from the device after they are copied to the Junos Space Appliance. From the Junos Space Appliance, the JMBs along with the attachments are uploaded to Juniper Support System (JSS) when the incident is submitted to JSS for creating a case.

To troubleshoot issues with JMB generation:

1. Log in to the device.
2. Enter CLI mode and execute the `show log default-log-messages | match AIS_DATA_AVAILABLE` command.

An output similar to the following is displayed if the JMBs are generated.

```
<13>1 2014-09-23T05:41:21.719Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: JMB generation initiated for eventID=998
<13>1 2014-09-23T05:42:36.945Z sn-space-ex6200-sys logger - - - transfer-file:
  Transferred /tmp/evt_op_i4fS37
<13>1 2014-09-23T05:51:29.139Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: To be Transferred : JMB ready for upload
/var/tmp/sn-space-ex6200-sys_998_ais_intel_20140923_054236 size=34089
<13>1 2014-09-23T05:54:08.446Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: To be Transferred : All attachments ready for upload
<13>1 2014-09-23T05:58:23.445Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: JMB generation initiated for eventID=995
<13>1 2014-09-23T06:09:58.222Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: To be Transferred : JMB ready for upload
/var/tmp/sn-space-ex6200-sys_ais_health_123456 size=10015
<13>1 2014-09-23T06:10:48.379Z sn-space-ex6200-sys cscript - - -
AIS_DATA_AVAILABLE: To be Transferred : All attachments ready for upload
```

If you do not find the AIS\_DATA\_AVAILABLE messages in the output, see [“Troubleshooting AI-Scripts Installation Issues” on page 23](#) to check whether the AI-Scripts bundle is properly installed on the device.

For assistance with resolving this issue, contact JTAC at <https://www.juniper.net/support/requesting-support.html>.

- Related Documentation**
- *AI-Scripts Overview*
  - *Service Now Incidents Overview*
  - [Troubleshooting Issues with Collecting JMBs on page 29](#)
  - [Troubleshooting AI-Scripts Installation Issues on page 23](#)

## Troubleshooting Issues with Collecting JMBs

**Problem**    **Description:** Junos Space Service Now fails to collect JMBs.

**Symptoms:** Service Now does not list any JMBs.

- Cause**
- Firewall rules on the device prevent Service Now from collecting JMBs.
  - AI-Scripts do not function properly.

**Resolution**    ***Setting Firewall Rules on the Device***

Service Now may not be able to collect JMBs from a device running Junos OS if the device does not allow traffic to the localhost address (127.0.0.1). Service Now uses the loopback interface on a device running Junos OS for collecting JMBs.

Set the following firewall rules on the device running Junos OS for Service Now to communicate by using the loopback address:

```
set firewall family inet filter scp-block term ais-scp from source-address
127.0.0.1/32
set firewall family inet filter scp-block term ais-scp from destination-address
127.0.0.1/32
set firewall family inet filter scp-block term ais-scp from protocol tcp
set firewall family inet filter scp-block term ais-scp from port 22
set firewall family inet filter scp-block term ais-scp then accept
Router001# show firewall family inet filter scp-block term ais-scp
from {
source-address {
127.0.0.1/32;
}
destination-address {
127.0.0.1/32;
}
protocol tcp;
port 22;
}
then accept;
```

If you do not want to use the loopback address, modify the firewall family configuration to use the device's management IP address for collecting JMBs.

### ***Resolving an AI-Scripts Error***

Service Now might be unable to collect JMBs as a result of an AI-Scripts error. AI-Scripts errors are logged in the Junos OS system logs as **AIS\_DATA\_AVAILABLE: ERROR:** as follows:

```
AIS_DATA_AVAILABLE: ERROR: rsi_done-timeout
AIS_DATA_AVAILABLE: ERROR: waiting_on_slax-timeout
```

The error may be caused by an issue in the Junos OS software (for example, a CLI command does not return the expected output) or can be due to an internal AI-Scripts error.

To troubleshoot issues with JMB collection because of an AI-Scripts error:

1. Log in to the device.
2. Execute the following commands to obtain the relevant logs and files for troubleshooting:

```
show log messages | match cscript
show log escript.log
show configuration groups juniper-ais | display commit-scripts | no-more
show configuration system | display inheritance
show version
file list /var/db/scripts/op/ detail
file list /var/tmp/ detail
show system storage detail
show system processes extensive | match csc
start shell
ps ax | grep ais exit
```

3. After collecting the files, do the following:
  - Look for related events that occurred when or just before an AI-Scripts error message is generated in the system log output.
  - Look for SLAX errors logged during the execution of any of the event scripts in the **escript.log** file.
  - Examine the error messages in the error JMB files that may be created.
  - Save the collected files for further investigation.
  - For AI-Scripts versions earlier than AI-Scripts Release 4.0, execute the **request support information** command and store and note the size of the output created.
4. During a maintenance window, uninstall the AI-Scripts package from the device.



**NOTE:** You must uninstall AI-Scripts manually from the backup Routing Engines by using the `request system scripts delete jais package name` command, where *jais package name* is the name of the AI-Scripts package installed on the backup Routing Engine.

5. Manually install the AI-Scripts package by using the **request system scripts add */var/tmp/jais package name*** CLI command, where *jais package name* is the name of the AI-Scripts installation package. Save the output printed on the monitor.
6. For AI-Scripts Release 4.1R1 and later, if Junos OS Release 14.1R1 or later is installed on the device, generate a health report JMB to obtain necessary information about the AI-Scripts error. To generate the health report JMB, execute the following command on the device running Junos OS:

```
op ais-health-report job-ID job-id-number
```

where, *job-id-number* is the number that you assign to the job.

7. If you continue to receive error messages, open a case with your technical support representative to investigate the issue further. Provide the following information with the case:
  - All Junos OS CLI command output mentioned in [Step 2](#)
  - Any error JMB files that you received
  - Output when you manually installed AI-Scripts
  - Version of Junos Space and Service Now that you used

#### Related Documentation

- [AI-Scripts Overview](#)
- [Service Now Incidents Overview](#)
- [Troubleshooting AI-Scripts Installation Issues on page 23](#)

## Troubleshooting Issues with Creating Incidents

**Problem**    **Description:** Junos Space Service Now does not create incidents.

**Symptoms:** Service Now does not list any incident.

**Solution**    When an event occurs on an AI-Scripts-enabled device running Junos OS, a script in the AI-Scripts bundle is executed to compile the event report in the form of a JMB. Service Now reads the JMB from the device and stores the JMB temporarily in the

`/var/cache/jboss/SN/Jmb/output` directory on the Junos Space server. An incident is created on Service Now a minute after the JMB is copied to the Junos Space server.

If you do not find any incidents on Service Now, do the following:

1. Check whether the JMB is generated on the device. See “[Troubleshooting Issues with Generating JMBs](#)” on page 28 .
2. Check whether the JMB is collected by Service Now. See “[Troubleshooting Issues with Collecting JMBs](#)” on page 29 .
3. Check whether the JMB is listed on **Service Central > JMB Errors**. To resolve errors in JMB, contact JTAC at <https://www.juniper.net/support/requesting-support.html> .

- Related Documentation**
- *Service Now Incidents Overview*
  - *AI-Scripts Overview*

## Troubleshooting Issues with Submitting Incidents to JSS or a Service Now Partner

**Problem**     **Description:** Junos Space Service Now does not submit incidents and JMBs to JSS or a Service Now partner.

**Symptoms:** The status of an incident is set to Submission failed on the Incidents page.

**Solution**     Service Now submits the incidents automatically to Juniper Support System (JSS) or a Service Now partner if configured to do so. If the submission of an incident fails, Service Now sets the status of the incident to Submission failed on the Incidents page.

To troubleshoot issues with submitting incidents to JSS or a Service Now partner:

1. Log in to Junos Space.
2. Select Service Now from the drop-down menu above the Junos Space Network Management Platform navigation tree.

The Service Now navigation tree appears.

3. From the Service Now navigation tree, select **Service Central > Incidents**.

The Incidents page appears.

4. Double-click the incident with the Submission failed status.

The Incident Details page appears. In the Status field of the Incident Details page, the reason for the failure to submit the incident to JSS or the Service Now partner is specified.



Look in the `/var/log/jboss/servers/server1/serviceNow.log` file with the search string “Case Submit failed for Incident” for more details.

See “[Accessing Junos Space Service Now and Junos Space Service Insight Logs](#)” on [page 15](#) for information about accessing Service Now logs.

A common reason for the Submission failed status of an incident is disrupted network connectivity with JSS. Check whether you are able to connect to JSS by pinging <https://services.juniper.net>.

For further assistance with resolving this issue, contact JTAC at <https://www.juniper.net/support/requesting-support.html>.

**Related Documentation**

- *Service Now Incidents Overview*

## Troubleshooting Issues with Adding an Organization to Junos Space Service Now

**Problem**    **Description:** An organization cannot be configured in Junos Space Service Now.

**Solution**    An organization in Service Now represents a unique site ID in Juniper Support System (JSS). Site IDs are used by JSS to identify customers when providing technical support. You can have multiple organizations defined in Service Now to manage multiple sites.

To communicate with JSS or a Service Now partner (when Service Now is operating in End-Customer mode), a Service Now organization requires a site ID, login name, and password. The login name must be a contact associated with the site ID. When an organization is added to Service Now, Junos Space must communicate with JSS to validate information about the organization. If Service Now cannot validate the organization information, the organization is created, but an error is reported on the GUI.

Each organization has a site ID, username, and password. You obtain the site ID, username, and password from Juniper Networks. If the site ID, username, and password are provided correctly, Service Now creates the organization and connects the organization with JSS or the Service Now partner. If the site ID, username, or password entered is incorrect, an error message such as **Connection Failed: Username or Password incorrect** is displayed indicating that the site ID, username, or password is incorrect. Retry adding the organization by entering the correct site ID, username, or password. If you are still unable to configure an organization, contact Juniper Customer Care at <https://www.juniper.net/support/requesting-support.html>.

If you receive a **Connection Failed: Internal Error** message:

1. Log in to the Junos Space Appliance.

The Junos Space Settings Menu appears.

2. At the menu prompt, enter **6** if the Junos Space Appliance is a hardware (JA2500 appliance) or **7** if the Junos Space Appliance is a virtual appliance used to access shell.

3. Retype the Junos Space password.

4. Check the JSS connection status to **services.juniper.net**. As ping is disabled, you can try connecting to port 443 of **services.juniper.net** by using either of the following commands:

- `telnet services.juniper.net 443`

Or

`curl -k https://services.juniper.net:443`

If you are able to connect to **services.juniper.net** by using the telnet command, your Junos Space node is able to communicate with **services.juniper.net**. To break the connection established using the telnet command, press Ctrl followed by ] on your keyboard.

If you are still unable to connect to **services.juniper.net**, it is possible that access to **services.juniper.net** is blocked on your network. Contact your network administrator to resolve the issue.

If you are unable to add an organization, there might be issues with your Juniper Networks account. Contact Juniper Technical Assistance Center (JTAC) at <https://www.juniper.net/support/requesting-support.html> for support.

#### Related Documentation

- *Service Now Organizations Overview*
- *Adding an Organization to Service Now*

## Troubleshooting Issues with Receiving Notifications

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**Problem**    **Description:** Junos Space Service Now is not sending notifications.

**Solution**    Conditions such as a new incident created, incident submitted to JSS or a Service Now partner, or case ID assigned to an incident prompt Service Now to send e-mail notifications or SNMP traps.

If a user does not receive a notification from Service Now:

- Check whether a notification is configured for the trigger condition.
  1. Log in to the Junos Space GUI.
  2. Select Service Now from the drop-down menu above the Junos Space Network Management Platform navigation tree.  
The Service Now navigation tree appears.
  3. From the Service Now navigation tree, select **Service Central > Notifications**.  
The Notifications page appears.
  4. Check whether a notification is configured for the required condition.  
If a notification is not configured for the required condition, configure a notification. For information about configuring notifications, see *Creating and Editing a Notification Policy* in the *Service Automation User Guide*.
  5. Generate the condition for triggering the notification and check whether the notification is received by the user.
- Check whether the configured notification is enabled.
  1. On the Notification page, right-click the disabled notification and select **Enable/Disable Notifications**.  
The Change Reaction Policies Status dialog box is displayed.
  2. Click **Change Status**.  
The notification policy is enabled.
  3. Create the condition for triggering the notification and check whether the notification is received by the user.
- Check whether an SMTP server is configured on Junos Space.  
To check whether an SMTP server is configured on Junos Space, navigate to **Administration > SMTP Servers** in the Network Management Platform navigation tree. If no servers are listed on the SMTP Servers page, no SMTP server is configured.  
Configure an SMTP server and create the conditions for triggering the notification and check whether the notification is received by the user. For information about configuring SMTP servers, see *Adding an SMTP Server* in the *Junos Space Network Management Platform User Guide* at [Junos Space Network Management Platform documentation](#).
- If an SMTP server is configured on Junos Space, check whether the SMTP server is operational by pinging the SMTP server.

- If you are able to ping and see the IP address of the SMTP server, but do not receive any responses to the ping, it is possible that ping is blocked in your network. Contact your Network Administrator for releasing ping on your network.
- If you are unable to ping the SMTP server and receive **unknown host <SMTP server hostname>** message, ensure that DNS is configured on Junos Space and that Junos Space is able to reach the configured DNS. For information about configuring or modifying the DNS on Junos Space, see *Changing Network and System Settings for a Junos Space Appliance* or *Changing the Network and System Settings of a Junos Space Virtual Appliance* at [Junos Space Network Management Platform Documentation Index](#).
- If you are unable to ping the SMTP server, try connecting by using the SMTP server port:

```
telnet <IP address of SMTP server> <SMTP server port>
```

If you are able to connect to the SMTP server by using the telnet command, it indicates that your Junos Space node is able to communicate with the SMTP server. To break the connection established using the telnet command, press Ctrl followed by ] on your keyboard.

- Look in the “Caught Exception in EmailMessageSender.sendEmail” entry in the Service Now log files for more information.

The Service Now log files are present at `/var/log/jboss/servers/server1/`.

If you are unable to resolve the issue and need assistance, contact Juniper Technical Assistance Center (JTAC) at <https://www.juniper.net/support/requesting-support.html>.

#### Related Documentation

- [Service Insight Notifications Overview](#)
- [Adding an SMTP Server](#)