

J-series Services Router Release Notes

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These release notes introduce the newest release of Juniper Networks J-series Services Routers and Release 7.3R4 of the JUNOS Internet software. They briefly describe J-series hardware features, identify known firmware and hardware problems, describe new J-Web features, and explain how to upgrade and downgrade the JUNOS Internet software and firmware on a Services Router. For information about software features and problems, see the *JUNOS Internet Software Release Notes*. You can find these release notes on the Juniper Networks Technical Publications Web page, which is located at <http://www.juniper.net/techpubs/>.

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J-series Services Router Features

This section describes the new J-series Services Routers features, available with the JUNOS 7.3R4 release. For more information, see the following manuals:

- *J-series Services Router Getting Started Guide*
- *J-series Services Router Configuration Guide*
- *J-series Services Router Administration Guide*

For more information about the JUNOS Internet software that runs on Services Routers, see the manuals listed in Table 4.

Interfaces and Chassis

- The asymmetrical digital subscriber line (ADSL) Annex A and Annex B Physical Interface Module (PIMs) supported on J4300 and J6300 Services Routers now support ADSL2 DMT (ITU G.992.3) and ADSL2 + (ITU G.992.5) modes. To configure an ATM-over-ADSL interface to use one of these modes:
 1. In the J-Web configuration editor, navigate to **Interfaces**.
 2. Click the ATM-over-ADSL interface name.
 3. Next to Dsl options, click **Configure**.
 4. From the Operating mode drop-down list, select **itu-dmt-bis** for ADSL2, or select **adsl2plus** for ADSL2 + .
 5. Click **OK**.

You can also use the CLI to configure the ATM-over-ADSL interface to use one of these modes by including **itu-dmt-bis** (for ADSL2) or **adsl2plus** (for ADSL2 +) at the [edit interfaces at-*pim* /0/ *port* dsl-options] hierarchy level.



NOTE: The ADSL Annex A and Annex B PIMs do not support ADSL2 DMT Lite (ITU G992.4) mode.



NOTE: Before implementing ADSL2 DMT or ADSL2 + on Annex B PIMs, contact Juniper Networks customer support. See “Requesting Support” on page 15.



NOTE: Upgrading or downgrading from one JUNOS software release to another might require you to upgrade or downgrade your firmware on the Services Router.

For instructions on upgrading or downgrading firmware, see the *J-series Services Router Administration Guide*.

- The J2300 Services Router is now available with one single-port Integrated Services Digital Network (ISDN) interface. The J4300 and J6300 Services Routers now support 4-port ISDN PIMs.

Each ISDN interface supports a Basic Rate Interface (BRI) consisting of two types of channels:

- Bearer-channel (B-channel)—Channel that carries main data.
- Delta-channel (D-channel)—Channel that carries control and signaling information.

The primary ISDN interface name is `br-pim /0/ port`. The B-channel interface name is `bc-pim /0/ port:channel`. The D-channel interface name is `dc-pim /0/ port`. (These interfaces are `br-0/0/4`, `bc-0/0/4`, and `dc-0/0/4` on a J2300 Services Router.)

The dialer interface, `dl`, is a logical interface for configuring dialing properties for a backup ISDN connection.

The single-port and 4-port interfaces are available with a 2-wire U interface or a 4-wire S/T interface. The U interface is compliant with the following standards:

- ANSI T1.601
- GR-1089-CORE Type III

The S/T interface is compliant with the following standards:

- ITU I.430
- ETSI TS 101080
- GR-1089-CORE Type III

For more information, see the *J-series Services Router Configuration Guide*.

- The J6300 Services Router now supports a single-port E3 PIM. E3 is a high-speed WAN digital communication technique that operates over copper facilities at a rate of 34.368 Mbps. It uses time-division multiplexing to carry 16 E1 circuits.

The E3 interface name is `e3-pim /0/0`.

For more information, see the *J-series Services Router Configuration Guide*.

Services Router User Interface and Configuration

- The J-Web graphical user interface provides the following new pages:
 - A Quick Configuration page that allows you to configure a Dynamic Host Configuration Protocol (DHCP) server running on the Services Router. To configure DHCP using Quick Configuration, navigate to **Configuration > Quick Configuration > DHCP**.
 - A page that displays information about DHCP configured on the Services Router. To display the information, navigate to **Monitor > DHCP**.
 - Pages that display information about Multiprotocol Label Switching (MPLS) configured on the Services Router. To display the information, navigate to **Monitor > MPLS** and click on any of the five options—**Interfaces**, **LSP Information**, **LSP Statistics**, **RSVP Sessions**, or **RSVP Interfaces**.

For more information about these J-Web pages, see the *J-series Services Router Administration Guide*.

- The Secure Access Quick Configuration page allows you to specify the interfaces on which the J-Web interface is enabled. You can also specify the protocol to use on the interfaces—Hypertext Transfer Protocol (HTTP) or HTTP over Secure Sockets Layer (HTTPS).

To access the Secure Access Quick Configuration page, navigate to **Configure > Quick Configuration > Secure Access**. To specify the interfaces from the CLI, include the interface *interface-name* statement at the [edit system services web-management (http | https)] hierarchy level.

Outstanding J-series Services Router Issues

The following problems currently exist in J-series Services Routers. The identifier following the description is the tracking number in the Juniper Networks bug database.

- On It interfaces, if you configure IPv6 addresses and an interior gateway protocol (IGP) between peer It logical interfaces, the peer interfaces might not be able to establish an adjacency. As a workaround, configure different IPv6 link-local addresses on each of the peers. [PR/37537]
- When you change the ADSL operating mode on an ADSL Annex A PIM interface, the interface can require between 1 and 2 minutes to negotiate the new ADSL mode.
- ADSL Annex A PIMs currently support only fast-path latency.
- ADSL Annex A PIMs currently support only reduced overhead framing in G.DMT framing mode.
- For ISDN dialer interfaces on a Services Router, when you configure the no-keepalives statement at the [edit interfaces dlo unit *logical-unit-number*] hierarchy

level and you issue the command `show interfaces dl0`, the output might display default keepalive settings. [PR/58520]

- If you disable an adaptive services interface by including the `disable` statement at the `[edit interfaces sp-0/0/0]` hierarchy level and then delete the `disable` statement from the configuration, IPsec service is not reset correctly. As a workaround, either issue the `deactivate services` command followed by the `activate services` command, or restart the PIM by issuing the `request chassis fpc offline pim-slot` command followed by the `request chassis fpc online pim-slot` command. [PR/58522]
- On a Services Router, when you configure the `dialer-watch` option, IPv6 prefixes are not monitored. [PR/59143]
- On a Services Router, if you take an ISDN interface offline, the LEDs on the ISDN PIM might not turn off. [PR/59536]
- For ISDN interfaces on a Services Router, if you configure the `vrf-table-label` statement at the `[edit routing-instances instance-name]` hierarchy level, packets might be dropped from the connection. [PR/59718]
- On ISDN dialer interfaces on a Services Router, if you configure the `minimum-links` statement at the `[edit interfaces dl0 unit logical-unit-number]` hierarchy level and then deactivate the BRI interface associated with the dialer interface, the output packets counter displayed in the output of the `show interfaces` command might continue to increment when the specified number of minimum links are not available. [PR/59986]
- On ISDN dialer interfaces on a Services Router, when you configure the `load-threshold 100` statement at the `[edit interfaces dl0 unit logical-unit-number dialer-options]` hierarchy level and the 56 Kbps bandwidth threshold is exceeded, packets smaller than 64 bytes might be dropped. [PR/60045]

Resolved Issues

The following section describes problems resolved since JUNOS Release 7.3R1. The identifier following the description is the tracking number in the bug database.

- For ISDN interfaces on a Services Router, if you configure a second service provider ID, the second ID might not be sent to the ISDN switch. [PR/59678: This issue has been resolved.]
- When you configure ISDN dialer watch on a Services Router, the router does not monitor routes in different routing instances. [PR/60318: This issue has been resolved.]
- For ISDN interfaces on a Services Router, if you disable the ISDN signaling and dial-on-demand processes, and then try to reenoble the two processes, the dialer filter might not activate when interesting traffic is present. The workaround is to disable and then reenoble the dialer filter. [PR/60517: This issue has been resolved.]

Supported Third-Party Hardware

The USB slots on J-series Services Routers accept a USB storage device or USB storage device adapter with a compact flash disk installed, as defined in the *CompactFlash Specification* published by the CompactFlash Association. When the USB device is installed and configured, it automatically acts as a secondary boot device if the primary compact flash disk fails on startup. Depending on the size of the USB storage device, you can also configure it to receive any core files generated during a router failure.

Table 1 lists USB devices supported for use with the J-Series Routers.

Table 1: Supported USB Devices on the J-series Services Routers

Manufacturer	Storage Capacity	Part Number
SanDisk—Cruzer Mini 2.0	256 MB	SDCZ2-256-A10
SanDisk—ImageMate USB 2.0 Reader/Writer for CompactFlash Type I and II	N/A	Model# SDDR-91-A15 20-90-0015
SanDisk CompactFlash	128 MB	SDCFB-256-A10
SanDisk CompactFlash	256 MB	SDCFB-256-A10
SanDisk CompactFlash	512 MB	SDCFB-512-455
SanDisk CompactFlash	1 GB	SDCFB-1000-A10

Contact Juniper Networks customer support before using USB interfaces in a J-series Services Router.

Upgrade and Downgrade Instructions

This section contains the following topics:

- Upgrade Instructions on page 6
- Downgrade Instructions on page 11

Upgrade Instructions

This section contains the following topics:

- Before You Begin on page 7
- About the junos-jseries Package on page 7
- Installing Software Upgrades with the J-Web Interface on page 7
- Installing Software Upgrades with the CLI—Sufficient Storage on page 9

- Installing Software Upgrades with the CLI—Limited Storage on page 10

Before You Begin

Before upgrading, be sure to back up the currently running and active file system and configuration so that you can recover to a known, stable environment in case the upgrade is unsuccessful. To back up the file system, you must have a removable compact flash disk installed on the J4300 or J6300 Services Router, or a USB drive installed on any J-series Services Router.

To back up the file system to the removable compact flash disk, issue the following command:

```
user@host> request system snapshot media removable-compact-flash
```

To back up the file system to the removable USB drive, issue the following command:

```
user@host> request system snapshot media usb
```

About the junos-jseries Package

All junos-jseries software is delivered in signed packages that contain SHA-1 checksums. A package is installed only if the SHA-1 checksum within it matches the SHA-1 hash recorded in its corresponding .sha1 file. (For example, -export.tgz contains -export.tgz and -export.tgz.sha1. The junos-jseries-*release*-export.tgz package is installed only if the SHA-1 hashes match in the two -export.tgz.sha1 files.)

The junos-jseries package completely reinstalls the software. This package rebuilds the file system but retains configuration files, log files, and similar information from the previous version.

For more information, see the *J-series Services Router Administration Guide*.

Installing Software Upgrades with the J-Web Interface

You can install software upgrades from a remote server, or by uploading files to the Services Router.

Installing Software Upgrades from a Remote Server

You can use the J-Web interface to install software upgrades on the Services Router from a remote server.

To install software upgrades from a remote server:

1. Using a Web browser, follow the links to the following download URL on the Juniper Networks Web page. Choose either **Canada and U.S. Version** or **Worldwide Version**.
 - <https://www.juniper.net/support/csc/swdist-domestic/>

- <https://www.juniper.net/support/csc/swdist-ww/>
- 2. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
- 3. Download the software to your local host or internal software distribution site.
- 4. In the J-Web interface, select **Manage > Software > Install Remote**.
- 5. On the Install Remote Quick Configuration page, enter information into the fields described in Table 2.
- 6. Click **Fetch and Install Package**. The software is activated after the router has rebooted.

Table 2: Install Remote Quick Configuration Field Descriptions

Field	Function	Your Action
Package Location (required)	Specify the FTP or HTTP server on which the software package resides.	Type the full address of the software package location on the FTP or HTTP server.
User	Specify the username, if the server requires one.	Type the username.
Password	Specify the password, if the server requires one.	Type the password.
Reboot If Required	If this box is checked, the router is automatically rebooted when the upgrade is complete.	Check the box if you want the router to automatically reboot when the upgrade is complete.

Installing Software Upgrades by Uploading Files

You can use the J-Web interface to install software upgrades by uploading files to the Services Router.

To install software upgrades by uploading files:

1. Using a Web browser, follow the links to the following download URL on the Juniper Networks Web page. Choose either **Canada and U.S. Version** or **Worldwide Version**.
 - <https://www.juniper.net/support/csc/swdist-domestic/>
 - <https://www.juniper.net/support/csc/swdist-ww/>
2. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.

3. Download the software to your local host or internal software distribution site.
4. In the J-Web interface, select **Manage > Software > Upload Package**.
5. On the Upload Package Quick Configuration page, enter information into the fields described in Table 3.
6. Click **Upload Package**. The software is activated after the router has rebooted.

Table 3: Upload Package Quick Configuration Field Descriptions

Field	Function	Your Action
File to Upload (required)	Specify the location of the software package.	Type the location of the software package, or click Browse to navigate to the location.
Reboot If Required	If this box is checked, the router is automatically rebooted when the upgrade is complete.	Select the check box if you want the router to automatically reboot when the upgrade is complete.

Installing Software Upgrades with the CLI—Sufficient Storage

To install software upgrades on a router with sufficient storage space, using the CLI:

1. Using a Web browser, follow the links to the following download URL on the Juniper Networks Web page. Choose either **Canada and U.S. Version** or **Worldwide Version**.
 - <https://www.juniper.net/support/csc/swdist-domestic/>
 - <https://www.juniper.net/support/csc/swdist-ww/>
2. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
3. Download the software to your local host.
4. Copy the software package to the router. We recommend that you copy it to the `/var/tmp` directory.
5. Install the new package on the router:
 - Customers in the United States and Canada use the following command:


```
user@host> request system software add validate
path /junos-jseries release-domestic.tgz
```
 - All other customers use the following command:

```
user@host> request system software add
validate path /junos-jseries release -export.tgz
```

Replace *path* with the full path name to the bundle. Replace *release* with the software release version of the bundle.

6. Reboot the router to activate the junos-jseries software:

```
user@host> request system reboot
Reboot the system ? [yes,no] (no) yes
Shutdown NOW!
```

All the software is activated when you issue the `reboot` command.

The router then reboots from the primary boot device on which you just installed the software. When the reboot is complete, the router displays the login prompt.

7. If your compact flash is running out of space and you do not wish to downgrade the software to a previous version, you can recover up to 30 MB of space by using the `request system software delete-backup` CLI command. This command deletes the backup software package.

Installing Software Upgrades with the CLI—Limited Storage

To install software upgrades on a router with limited storage space, using the CLI:

1. Using a Web browser, follow the links to the following download URL on the Juniper Networks Web page. Choose either **Canada and U.S. Version** or **Worldwide Version**.
 - <https://www.juniper.net/support/csc/swdist-domestic/>
 - <https://www.juniper.net/support/csc/swdist-ww/>
2. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
3. Download the software to your local host.
4. Install the new package on the Internet Router in one of the following ways:
 - To install the package directly from the source without saving it on the router, use the following command:


```
user@host> request system software add validate ftp:source
```
 - To instruct the router to find enough room for the upgrade, use one of the following commands—with the `unlink` option:


```
user@host> request system software add validate path /junos-jseries
release -domestic.tgz unlink
```

```
user@host> request system software add validate path /junos-jseries
release-export.tgz unlink
```

- To free up storage by rotating log files in /var/log that are not currently being written, deleting files in /var/tmp that have not been modified in two days, and deleting all crash files in /var/crash, use one of the following sets of commands:

```
user@host> request system storage cleanup
user@host> request system software add
validate path /junos-jseries release-domestic.tgz
```

```
user@host> request system storage cleanup
user@host> request system software add
validate path /junos-jseries release-export.tgz
```

Replace *path* with the full path name to the bundle. Replace *release* with the software release version of the bundle. Customers in the United States and Canada use the *release-domestic.tgz* bundle. All other customers use the *release-export.tgz* bundle.

5. Reboot the router to activate the junos-jseries software:

```
user@host> request system reboot
Reboot the system ? [yes,no] (no) yes
Shutdown NOW!
```

All the software is activated when you issue the **reboot** command.

The router then reboots from the primary boot device on which you just installed the software. When the reboot is complete, the router displays the login prompt.

6. If your compact flash is running out of space and you do not wish to downgrade the software to a previous version, you can recover up to 30 MB of space by using the **request system software delete-backup** CLI command. This command deletes the backup software package.

Downgrade Instructions

This section contains the following topics:

- Downgrading the Software with the J-Web Interface on page 11
- Downgrading the Software with the CLI on page 12

Downgrading the Software with the J-Web Interface

You can downgrade the software using the J-Web interface. When you downgrade the software to a previous version, the software version that is saved in *junos.old* is the version of JUNOS that your router is downgraded to. For your changes to take effect, you must reboot the router.

1. Go to **Manage > Software > Downgrade**. The previous version (if any) is displayed on this page.



NOTE: After you perform this operation, you cannot undo it.

2. Select **Downgrade** to downgrade to the previous version of the software or **Cancel** to cancel the downgrade process.
3. When the downgrade process is complete, for the new software to take effect, click **Manage > Reboot** to reboot the router.

Downgrading the Software with the CLI

You can revert to the previous set of software using the `request system software rollback` command in the CLI. Rollback fails if the `junos-jseries` software bundle cannot be found in `/var/sw/pkg`.

You can roll back only to the software release that was installed on the Services Router before the current release. Once you issue the `request system software rollback` command, the old release is loaded and you can not reload it again. Issuing the `request system software rollback` command again results in an error.

To downgrade to an earlier version of software, follow the procedure for upgrading, using the `junos-jseries` software bundle labeled for the appropriate release.

Related Juniper Networks Documentation

Table 4 lists and describes the publications for the J-series Services Routers, the JUNOS CLI, the JUNOScript application programming interface (API), and the JUNOScope network management software.

Table 4: Juniper Networks Technical Documentation

Title	Description
J-series Guides	
<i>J-series Services Router Getting Started Guide</i>	Provides an overview, basic instructions, and specifications for J-series Services Routers. The guide explains how to prepare your site for installation, unpack and install the router and its components, install licenses, and establish basic connectivity.
<i>J-series Services Router Configuration Guide</i>	Explains how to configure the interfaces on J-series Services Routers for basic IP routing with standard routing protocols. The guide also shows how to configure virtual private networks (VPNs), configure and manage multicast networks, and apply routing techniques such as policies, firewall filters, IP Security (IPSec) tunnels, and service classification for safer, more efficient routing.
<i>J-series Services Router Administration Guide</i>	Shows how to manage users and operations, monitor network performance, upgrade software, and diagnose common problems on J-series Services Routers.
JUNOS Configuration Guides	
<i>JUNOS Feature Guide</i>	Provides a detailed explanation and configuration examples for several of the most complex features in the JUNOS software.
<i>JUNOS System Basics Configuration Guide</i>	Provides an overview of the JUNOS software and describes how to install and upgrade the software. This manual also describes how to configure system management functions and how to configure the chassis, including user accounts, passwords, and redundancy.
<i>JUNOS Network Interfaces and Class of Service Configuration Guide</i>	Provides an overview of the network interface and class-of-service functions of the JUNOS Internet software and describes how to configure the network interfaces on the router.
<i>JUNOS Multicast Protocols Configuration Guide</i>	Provides an overview of multicast concepts and describes how to configure multicast routing protocols.
<i>JUNOS Network Management Configuration Guide</i>	Provides an overview of network management concepts and describes how to configure various network management features, such as SNMP and accounting options.
<i>JUNOS Policy Framework Configuration Guide</i>	Provides an overview of policy concepts and describes how to configure routing policy, firewall filters, and forwarding options.
<i>JUNOS Routing Protocols Configuration Guide</i>	Provides an overview of routing concepts and describes how to configure routing, routing instances, and unicast routing protocols.
<i>JUNOS Services Interfaces Configuration Guide</i>	Provides an overview of the services interfaces functions of the JUNOS software and describes how to configure the services interfaces on the router.
JUNOS References	
<i>JUNOS Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot interfaces.

Title	Description
<i>JUNOS Routing Protocols and Policies Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot routing policies and protocols, including firewall filters.
<i>JUNOS System Basics and Services Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot system basics, including commands for real-time monitoring and route (or path) tracing, system software management, and chassis management. Also describes commands for monitoring and troubleshooting services such as class of service (CoS), IP Security (IPSec), stateful firewalls, flow collection, and monitoring.
<i>JUNOS System Log Messages Reference</i>	Describes how to access and interpret system log messages generated by JUNOS software modules and provides a reference page for each message.
JUNOScript API Documentation	
<i>JUNOScript API Guide</i>	Describes how to use the JUNOScript application programming interface (API) to monitor and configure Juniper Networks routers.
<i>JUNOScript API Configuration Reference</i>	Provides a reference page for the configuration tags in the JUNOScript API.
<i>JUNOScript API Operational Reference</i>	Provides a reference page for the operational tags in the JUNOScript API.
JUNOS Comprehensive Index and Glossary	
<i>JUNOS Comprehensive Index and Glossary</i>	Provides a complete index of all JUNOS Internet software books and the <i>JUNOScript API Guide</i> . Also provides a comprehensive glossary.
JUNOScope Software Documentation	
<i>JUNOScope Software User Guide</i>	Describes the JUNOScope software graphical user interface (GUI), how to install and administer the software, and how to use the software to manage router configuration files and monitor router operations.
Release Notes	
<i>J-series Services Router Release Notes</i>	Summarize new features, identify hardware problems, provide information omitted from the manual, and contain upgrade and downgrade instructions.
<i>JUNOS Internet Software Release Notes</i>	Provide a summary of new features for a particular software release. Software release notes also contain corrections and updates to published JUNOS and JUNOScript manuals, provide information that might have been omitted from the manuals, and describe upgrade and downgrade procedures.
<i>JUNOScope Software Release Notes</i>	Contain corrections and updates to the published JUNOScope manual, provide information that might have been omitted from the manual, and describe upgrade and downgrade procedures.

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 <http://www.juniper.net/techpubs/docbug/docbugreport.html>. If you are using e-mail, be sure to include the following information with your comments:

- Document name
- Document part number
- Page number
- Software release version

Requesting Support

For technical support, open a support case with the Case Manager link at <http://www.juniper.net/support/> or call 1-888-314-JTAC (from the United States, Canada, or Mexico) or 1-408-745-9500 (from elsewhere).

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

```
user@host> request support information | save filename
```

To provide a core file to Juniper Networks for analysis, compress the file with the `gzip` utility, rename the file to include your company name, and copy it to [ftp.juniper.net:pub/incoming](ftp://ftp.juniper.net/pub/incoming). Then send the filename, along with software version information (the output of the `show version` command) and the configuration, to support@juniper.net. For documentation issues, fill out the bug report form located at <http://www.juniper.net/techpubs/docbug/docbugreport.html>.

Revision History

19 May 2006—Revision 3.

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