

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 7.4R4 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/>.

Contents

J-series Services Router Features	2
Outstanding J-series Services Router Issues	3
Resolved Issues	4
Errata	5
Supported Third-Party Hardware	5
J-series Upgrade and Downgrade Instructions	5
Upgrade Instructions	6
Before You Begin	6
About the junos-jservices Package	6
Installing Software Upgrades with the J-Web Interface	7
Installing Software Upgrades from a Remote Server	7
Installing Software Upgrades by Uploading Files	8
Installing Software Upgrades with the CLI	9
Downgrade Instructions	9
Downgrading the Software with the J-Web Interface	10
Downgrading the Software with the CLI	10
Related Juniper Networks Documentation	10
Documentation Feedback	13
Requesting Support	13
Revision History	14

J-series Services Router Features

This section describes the new J-series Services Routers features, available with the JUNOS 7.4R4 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

J4300 and J6300 Services Routers now support a 2-port symmetric high-speed digital subscriber line (G.SHDSL) Physical Interface Module (PIM) that can be configured in 2-port two-wire G.SHDSL Annex A or Annex B mode.

The PIM allows you to configure an Asynchronous Transfer Mode (ATM) interface over G.SHDSL to send network traffic through a point-to-point connection to a DSL access multiplexer (DSLAM). G.SHDSL interfaces are not supported on J2300 Services Routers.

The G.SHDSL interface supports ITU-T G.991.2 (G.SHDSL specifications), ITU-T 994.1 (G.HS specifications), and ITU-T 997.1 (Physical layer management). To configure an ATM-over-SHDSL interface:

1. Navigate to **Interfaces**, add an *at-pim /0/ port* interface, and assign ATM physical properties.
2. Set the ATM-over-SHDSL annex type (Annex A or Annex B), and configure other ATM-over-SHDSL physical properties.
3. Assign ATM logical interface properties.

You can also use the CLI to configure the ATM-over-SHDSL interface by identifying the chassis slot and mode at the `[edit chassis fpc]` hierarchy level and then configuring ATM-over-SHDSL properties at the `[edit interfaces at-pim /0/ port]` hierarchy level. For more information, see the *J-series Services Router Configuration Guide*.

Services Router User Interface and Configuration

The J-Web graphical user interface provides new Quick Configuration pages that allow you to configure stateless firewall filters for IPv4 and IPv6, and apply them to configured interfaces. To configure stateless firewall filters using Quick Configuration, navigate to **Configuration > Quick Configuration > Firewall Filters**.

For more information about this J-Web feature, see the *J-series Services Router Configuration Guide*.

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 logical tunnel (lt) interfaces, if you configure IPv6 addresses and an interior gateway protocol (IGP) between peering lt 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]
- For ISDN dialer interfaces, when you configure the `no-keepalives` statement at the `[edit interfaces dlo unit logical-unit-number]` hierarchy level and you issue the `show interfaces dlo` command, 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, the IPSec service might not reset correctly. As a workaround, either issue the `deactivate services` command followed by the `activate services` command, or issue the `request chassis pic offline fpc-slot pim-slot pic-slot 0` command followed by the `request chassis pic online fpc-slot pim-slot pic-slot 0` command. [PR/58522]
- When you issue the `show dialer interfaces` command, IPv6 prefixes are not displayed. [PR/59143]
- If you take an ISDN interface offline, the LEDs on the ISDN PIM might not turn off. [PR/59536]
- For ISDN interfaces, if you configure the `vrf-table-label` statement at the `[edit interfaces routing-instances routing-instance-name]` hierarchy level, packets might be dropped from the connection. [PR/59718]
- For ISDN dialer interfaces, if you configure the `minimum-links` statement at the `[edit interfaces dlo unit unit-logical-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]
- For ISDN dialer interfaces, when you configure the `load-threshold 100` statement at the `[edit interfaces dlo unit logical-unit-number dialer-options]` hierarchy level and the 56-Kbps threshold is exceeded, the interface does not support additional network traffic and might not activate another BRI interface. [PR/60045]
- If you oversubscribe an E1 interface, latency on the high-priority queue might be higher than expected. As a workaround, configure a shaping rate on the E1 interface that is equal to the line rate minus the E1 framing overhead. [PR/60595]

- If you are using a G.SHDSL interface in two-wire mode with an ADTRAN DSLAM, the 320-Kbps line rate might not work. [PR/62177, PR/64727]
- On J4300 and J6300 Services Routers, a G.SHDSL interface configured in two-wire mode with an ADTRAN DSLAM might show considerable packet loss if the line rate is configured at 448 Kbps. [PR/62179]
- A Services Router that is configured to synchronize with an NTP server and then restarted might not synchronize correctly with the server after the reboot. [PR/62621]
- On J2300 Services Routers with G.SHDSL interfaces installed, the 440-Kbps line rate might not work with an ADTRAN DSLAM. [PR/64729]
- If an ISDN dialer interface is configured as a dialer watch interface and is deactivated and configured as a backup interface, the dialer interface does not dial out when the primary interface becomes unavailable. As a workaround, disable the primary interface and commit the configuration, then enable the primary interface and commit the configuration. [PR/67355]

Resolved Issues

The following section describes resolved issues since JUNOS Release 7.4R1. The identifier following the description is the tracking number in the bug database.

- The largest ping packet allowed between two T1 interfaces is 28400 bytes. [PR/46120: This issue has been resolved.]
- A G.SHDSL interface configured in two-wire mode with the 2304-Kbps line rate does not support the full line rate for upstream traffic. [PR/62429: This issue has been resolved.]
- When tested for 0% packet loss, a G.SHDSL interface configured in two-wire mode with the 2304-Kbps line rate does not achieve the expected throughput. [PR/62461: This issue has been resolved.]
- On an ADSL PIM, the zero packet loss rate for 64-byte, 128-byte, and 256-byte packets is less than the expected rate. [PR/63744: This issue has been resolved.]
- If you configure the Fast Ethernet interfaces for autonegotiation while the peer is configured for full-duplex operation, the Fast Ethernet interface might stop receiving traffic. As a workaround, explicitly set the duplex mode to either half or full on both peers. [PR/69576: This issue has been resolved.]

Errata

On a G.SHDSL PIM on a J4300 or J6300 Services Router:

- Only 2-port two-wire mode is supported, and it is enabled by default. 1-port, 4-wire mode is not supported.
- Payload loopback functionality is not supported on ATM-over-SHDSL interfaces.

The *J-series Services Router Configuration Guide* incorrectly states that you can use the J-Web interface to configure a discard accounting action for IPv6 firewall filters. You can configure the discard accounting action only for IPv4 (not IPv6) firewall filters.

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	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.

J-series Upgrade and Downgrade Instructions

This section contains the following topics:

- Upgrade Instructions on page 6
- Downgrade Instructions on page 9

Upgrade Instructions

This section contains the following topics:

- Before You Begin on page 6
- About the junos-jseries Package on page 6
- Installing Software Upgrades with the J-Web Interface on page 7
- Installing Software Upgrades with the CLI on page 9

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. The backup device must have a storage capacity of at least 256 MB.

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
```

Before installing the software upgrade, issue the following command, which frees storage by rotating noncurrent log files in /var/log, deleting files in /var/tmp that have not been modified in two days, and deleting all crash files in /var/crash:

```
user@host> request system storage cleanup
```

Before deleting the files, you can view the files to be deleted by issuing the following command:

```
user@host> request system storage cleanup dry-run
```

About the junos-jseries Package

All junos-jseries software is delivered in signed packages that contain digital signatures. A package is installed only if the digital signature within it matches the signature recorded in its corresponding .sig file. (For example, -export.tgz contains -export.tgz and -export.tgz.sig. The junos-jseries-release-export.tgz package is installed only if the digital signatures match in the two -export.tgz.sig files.)

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

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



NOTE: If the router is running a software version previous to JUNOS Release 7.2R3 or 7.3R2, you might need to upgrade to one of these interim software releases before you can upgrade to JUNOS Release 7.4R4.

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)	Specifies the FTP or HTTP server, file path, and software package name location.	Type the full address of the software package location on the FTP or HTTP server.

Field	Function	Your Action
User	Specifies the username, if the server requires one.	Type the username.
Password	Specifies 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:

- 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/>
- Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
- Download the software to your local host or internal software distribution site.
- In the J-Web interface, select **Manage > Software > Upload Package**.
- On the Upload Package Quick Configuration page, enter information into the fields described in Table 3.
- 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)	Specifies 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

To install software upgrades on a router 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 router:

```
user@host> request system software add validate unlink reboot source
```

Replace *source* with one of the following:

- */pathname/package-name* —For a software package that is installed from a local directory on the router.
- For software packages that are downloaded and installed from a remote location:
 - *ftp://hostname/pathname/package-name*
 - *http://hostname/pathname/package-name*

The **validate** option validates the software package against the current configuration as a prerequisite to adding the software package to ensure that the router reboots successfully. This is the default behavior when the software package being added is a different release.

The **unlink** option removes the package at the earliest opportunity in order to make room to complete the installation.

Adding the **reboot** command reboots the router after the upgrade is validated and installed. When the reboot is complete, the router displays the login prompt.

Rebooting occurs only if the upgrade is successful.

Downgrade Instructions

This section contains the following topics:

- Downgrading the Software with the J-Web Interface on page 10
- Downgrading the Software with the CLI on page 10



NOTE: You cannot downgrade more than three releases. For example, if your routing platform is running JUNOS Release 7.5, you can downgrade the software to Release 7.2 directly, but not to Release 7.1. As a workaround, first downgrade to Release 7.2 and then downgrade to Release 7.1.

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 the JUNOS software 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.

You can issue the `request system software rollback` command only once. 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 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, configure data link switching (DLSw) services, and apply routing techniques such as policies, firewall filters, IP Security (IPSec) tunnels, and class-of-service (CoS) 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 Class of Service Configuration Guide</i>	Provides an overview of the class-of-service (CoS) functions of the JUNOS software and describes how to configure CoS features, including configuring multiple forwarding classes for transmitting packets, defining which packets are placed into each output queue, scheduling the transmission service level for each queue, and managing congestion through the random early detection (RED) algorithm.
<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 Configuration Guide</i>	Provides an overview of the network interface functions of the JUNOS Internet software and describes how to configure the network interfaces on the routing platform.
<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, forwarding options, and cflowd.
<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.

Title	Description
<i>JUNOS VPNs Configuration Guide</i>	Provides an overview and describes how to configure Layer 2 and Layer 3 virtual private networks (VPNs), virtual private LAN service (VPLS), and Layer 2 circuits. Provides configuration examples.
JUNOS References	
<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. This guide also describes commands for monitoring and troubleshooting services such as class of service (CoS), IP Security (IPSec), stateful firewalls, flow collection, and flow monitoring.
<i>JUNOS Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot interfaces.
<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 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 and Scripting 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.
<i>JUNOS Configuration Scripting Guide</i>	Provides an overview, instructions for using, and examples of the commit script feature of the JUNOS software. This guide explains how to enforce custom configuration rules defined in scripts that run at commit time. This guide also explains how to use commit script macros to provide simplified aliases for frequently used configuration statements.
JUNOS Comprehensive Index and Glossary	
<i>JUNOS Internet Software 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.

Title	Description
<i>JUNOS Release Notes</i>	Summarize new features for a particular software release, provide 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 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

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23 May 2006—Revision 4, JUNOS Release 7.4R3.4

1 May 2006—Revision 3, JUNOS Release 7.4R3

20 January 2006—Revision 2, JUNOS Release 7.4R2

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