

# J-series Services Router Release Notes

**Release 7.2R1**  
**13 April 2005**  
**Part No: 530-013508-01**  
**Revision 1**

These release notes introduce the newest release of Juniper Networks J-series Services Routers. They briefly describe J-series features, identify known firmware and hardware problems, and explain how to upgrade and downgrade the JUNOS Internet software on a Services Router. For information about software problems, see the *JUNOS Release Notes*.

You can find all release notes on the Juniper Networks Technical Publications Web page, which is located at <http://www.juniper.net/>.

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## J-series Features

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J-series Services Routers have the following new features, available with the JUNOS 7.2R1 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.

### Services Router Hardware

J4300 and J6300 Services Routers now support the following single-port asymmetrical digital subscriber line (ADSL) Physical Interface Module (PIMs):

- ADSL Annex A PIM—Supports the standards ANSI T1.413 Issue 2 and ITU G.992.1 for ADSL operation with analog telephone service.
- ADSL Annex B PIM—Supports the ITU G.992.1 (G.DMT) standard, for ADSL operation with digital telephone service.



**NOTE:** The ADSL2 DMT (ITU G992.3) and ADSL2 + (ITU G.992.5) modes are not supported in the current release.

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### Services Router User Interface and Configuration

**Alarms**—The J-Web graphical user interface provides a page that displays a summary of all alarms generated by the Services Router. To view the alarm summary, select **Alarms** from the task bar. The time, severity, and subject of each alarm is displayed. You can click an alarm's subject to display more details about the alarm. For more information, see the *J-series Services Router Administration Guide*.

## Routing and Protocols

- Internet Protocol version 6 (IPv6)—J-series Services Routers support the routing and forwarding features of IPv6. IPv6 improves the addressing, configuration, maintenance, and security features of IPv4 with the following benefits:
  - Expanded addressing capabilities—IPv6 uses 128-bit addresses, instead of the IPv4 32-bit addresses. IPv6 addresses also contain a scope field that identifies the types of applications suitable for the address.
  - Header format simplification—The IPv6 packet header length is fixed at 40 bytes, divided into 8 fields.
  - Improved support for extensions and options—Extension headers carry Internet-layer information and have a standard size and structure.
  - Flow labeling capability—Flow labels ensure consistent handling of packets belonging to the same flow.
  - Improved privacy and security—IPv6 supports extensions for authentication and data integrity that enhance privacy and security.
- Dynamic Host Configuration Protocol (DHCP)—You can configure the Services Router to operate as a DHCP server and perform two primary functions:
  - Allocate temporary or permanent IP addresses to clients.
  - Store, manage, and provide client configuration parameters.

As a DHCP server, a Services Router can provide temporary IP addresses from an IP address pool to all clients on a specified subnet, a process known as dynamic binding. Services Routers can also perform static binding, assigning permanent IP addresses to specific clients based on their media access control (MAC) addresses. Static bindings take precedence over dynamic bindings.

You can also configure the Services Router to send configuration parameters like the following to clients through DHCP:

- IP address of the DHCP server (Services Router)
- List of Domain Name System (DNS) and NetBIOS servers
- List of gateway routers
- IP address of the boot server and the filename of the boot file to use
- DHCP options defined in RFC 2132, *DHCP Options and BOOTP Vendor Extensions*

To configure all DHCP features, navigate to **System > Services > Dhcp** in the J-Web configuration editor, or to the [edit system services dhcp-server] hierarchy level in the command-line interface (CLI) configuration editor. To set an

RFC 2132 option, add a new option or use the `option` statement. For more information, see the *J-series Services Router Administration Guide*

### Services Router Interfaces and Chassis

PPPoE over ATM for ADSL—The ADSL Annex A and Annex B PIMs support Point-to-Point Protocol over Ethernet (PPPoE) on an Asynchronous Transfer Mode (ATM) interface. J4300 and J6300 Services Routers can transmit PPPoE over ATM traffic through a point-to-point connection to a DSL access multiplexer (DSLAM). PPPoE packets are encapsulated in ATM Adaptation Layer 5 (AAL5) frames that flow through the Services Router's ADSL interface. You configure the underlying ADSL interface as an ATM interface, with an interface name of `at-fpc/0/port`.

Multiple encapsulation types are supported on both the physical and logical ATM-for-ADSL interface.

To configure an ATM-for-ADSL interface for PPPoE, navigate to **Interfaces** in the J-Web configuration editor, or to the `[edit interfaces at-fpc/0/port]` hierarchy level in the CLI configuration editor. Add the ATM and DSL options, select encapsulation types, and add a new logical unit in the J-Web editor, or add the `atm-options` and `dsl-options` statements and include the `encapsulation` and `unit logical-unit-number` statements in the CLI.

To display information about an ATM-for-ADSL interface that carries PPPoE traffic, issue the commands `show interfaces at-fpc/0/port <extensive>`, `show interfaces pp0`, and `show pppoe interfaces`. For more information, see the *J-series Services Router Configuration Guide*



**NOTE:** If you are using a ZyXEL DSLAM, verify that the DSLAM chassis is properly grounded. An ungrounded ZyXEL DSLAM and a Services Router might have interoperability problems.

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### Outstanding 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.

- The CONFIG button can get stuck when you press it. If the button is stuck in the down position for longer than 15 seconds, the current committed configuration

and all previous revisions of the router's configuration are deleted, and the factory default configuration is loaded and committed. [PR/47985]

- When you change the ADSL operating mode on an ADSL Annex A or Annex B PIM interface, the interface can require between 1 and 2 minutes to negotiate the new ADSL mode.
- ADSL Annex A and Annex B PIMs currently support only fast-path latency.
- ADSL Annex A and Annex B PIMs currently support only reduced overhead framing in G.DMT framing mode.
- When the power is disconnected from an ADSL Annex A or Annex B PIM, notification that the connection no longer exists is delayed to the DSLAM. The delay might prevent proper interoperation between the Services Router and the DSLAM. (PR/56385)
- On a Services Router operating as an ADSL transmission unit-remote (ATU-R) connected to a ZyXEL DSLAM operating as an ADSL transmission unit-central office (ATU-C), the following combinations of ADSL operating modes do not currently work:
  - ansi-dmt on the ATU-R and the ATU-C
  - auto on the ATU-R and ansi-dmt on the ATU-C
  - ansi-dmt on the ATU-R and auto on the ATU-C

(PR/56778)

## 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

Manufacturer	Storage Capacity	Part Number
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 10

### Upgrade Instructions

This section contains the following topics:

- Before You Begin on page 6
- 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 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.

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 **OK**. The software is activated after the router has rebooted.

**Table 2: Install Remote Quick Configuration Field Descriptions**

<b>Field</b>	<b>Function</b>	<b>Your Action</b>
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 **OK**. 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 <b>Browse</b> 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 with 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 pathname 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.

## 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

### 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.

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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
<b>J-series Guides</b>	
<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.
<b>JUNOS Configuration Guides</b>	
<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.

<b>Title</b>	<b>Description</b>
<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.
<b>JUNOS References</b>	
<i>JUNOS Network and Services Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot network and services interfaces on Juniper Networks routers.
<i>JUNOS Protocols, Class of Service, and System Basics Command Reference</i>	Describes the JUNOS Internet software operational mode commands you use to monitor and troubleshoot most aspects of Juniper Networks routers.
<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.
<b>JUNOScript API Documentation</b>	
<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
<b>JUNOS Comprehensive Index and Glossary</b>	
<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.
<b>JUNOScope Software Documentation</b>	
<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.
<b>Release Notes</b>	
<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](mailto: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

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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](mailto:support@juniper.net).

## Revision History

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13 April 2005—Revision 1.

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