

# Juniper Networks JUNOS 7.6 J-series Features

## Overview

JUNOS 7.6 offers a number of software feature enhancements to Juniper J-series routers. These features include:

### Licensing

- Firewall, IPSec, and port licensing removal

### High Availability

- Bi-Directional Forwarding Detection (BFD) for MPLS LSPs

### Routing and Signaling

- Hitless Authentication Key Rollover (HAKR)
- Multicast Bootstrap Router (BSR) for IPv6
- Configurable RIP timers
- Support for 4-wire G.SHDSL interfaces

### Scaling

- Filtering of PIM Multicast Register messages

## Security

- Enforced replacement of the default password
- Encrypted configuration file storage
- Advanced Encryption Standard (AES) support
- NAT Enhancements

## CPE

- Standard DLSw MIB (RFC 2024)

## Network Management

- J-Web Event Viewer
- J-Web links to Web-based documentation
- J-Web infrastructure changes for dynamic menus
- JUNOScript Diagnostic Scripts

## New J-series Features in JUNOS 7.6

Licensing Feature	Description
<b>Firewall, IPSec, and port licensing removal</b>	<p>IPSec and Stateful Firewall licenses are available at no charge as of JUNOS 7.6. Full port licenses are also available with PIMs and on J2300 models at no charge as of JUNOS 7.6. Users running JUNOS 7.5, or a previous release, can acquire the IPSec, stateful firewall, and port licenses at no charge by upgrading to JUNOS 7.6.</p> <p>The following software licenses have been eliminated in JUNOS 7.6:</p> <ul style="list-style-type: none"> <li>• IPSec License for J2300 (J2300-IPSEC-LTU)</li> <li>• IPSec License for J4300 (J4300-IPSEC-LTU)</li> <li>• IPSec License for J6300 (J6300-IPSEC-LTU)</li> <li>• Stateful Firewall License for J2300 (J2300-SFW-LTU)</li> <li>• Stateful Firewall License for J4300 (J4300-SFW-LTU)</li> <li>• Stateful Firewall License for J6300 (J6300-SFW-LTU)</li> </ul> <p>The following port licenses have been eliminate in JUNOS 7.6:</p> <ul style="list-style-type: none"> <li>• One port E1 License (JX-1E1-LTU)</li> <li>• One port Ethernet License (JX-1FE-LTU)</li> <li>• One port Serial License (JX-1Serial-LTU)</li> <li>• One port T1 License (JX-1T1-LTU)</li> </ul> <p>The following products include full port licenses with JUNOS 7.6:</p> <ul style="list-style-type: none"> <li>• 2xT1 PIM (JX-2T1-RJ48-S)</li> <li>• 2xE1 PIM (JX-2E1-RJ48-S)</li> <li>• 2xSerial PIM (JX-2Serial-S)</li> <li>• 2xFE PIM (JX-2FE-TX-S)</li> <li>• J2300 E1 fixed form-factor (J2300-1E2FEL-S-ACEU/IT/UK/TAA)</li> <li>• J2300 E1 fixed form-factor with integrated ISDN BRI-S/T backup (J2300-1E2FE1BL-S-ACAU/EU/IT/UK)</li> <li>• J2300 DC E1 fixed form-factor (J2300-1E2FEL-S-DC-TAA)</li> <li>• J2300 Serial fixed form-factor (J2300-1S2FEL-S-ACAU/CH/EU/IT/JA/UK/US/TAA)</li> <li>• J2300 Serial fixed form-factor with integrated ISDN BRIS/T backup (J2300-1S2FE1BL-S-ACAU/CH/EU/IT/JA/UK)</li> <li>• J2300 Serial fixed form-factor with integrated ISDN BRIU backup (J2300-1S2FE1BL-S-AC-US)</li> <li>• J2300 DC serial fixed form-factor (J2300-1S2FEL-S-DC-TAA)</li> <li>• J2300 T1 fixed form-factor (J2300-1T2FEL-S-ACAU/CH/JA/US/TAA)</li> <li>• J2300 T1 fixed form-factor with integrated ISDN BRI-U backup (J2300-1T2FE1BL-S-AC-US)</li> <li>• J2300 DC T1 fixed form-factor (J2300-1T2FEL-S-DC-TAA)</li> </ul>

High Availability Feature	Description
<b>Bi-directional Forwarding Detection (BFD) for MPLS LSPs</b>	Provides low-overhead, short-duration detection between adjacent forwarding engines and on any type of path between systems including virtual circuits and tunnels. Failure detection timers for BFD have shorter time limits than those of OSPF, so detection is faster; however, the timers are adaptive and can be adjusted to be more or less aggressive.

  

Routing and Signaling Features	Description
<b>MD5 Hitless Authentication Key Rollover (HAKR) for BGP and LDP</b>	Applies to BGP and LDP, and allows MD5 hitless authentication key rollover similar to that provided for OSPF and RSVP.
<b>Multicast Bootstrap Router (BSR) for IPv6</b>	Enables routers to dynamically learn multicast-group-to-rendezvous-point (RP) mappings, and is supported for both IPv4 and IPv6 network deployments. This feature simplifies operations for service providers by eliminating the need to statically configure RPs within Protocol Independent Multicast (PIM) domains.
<b>Configurable RIP Timers</b>	Improves route convergence times by allowing RIP timers to be fine-tuned. This feature is particularly helpful to service providers offering IP-VPN managed services where RIP is used between the Provider Edge (PE) and Customer Edge (CE). The feature allows users to configure the following parameters on a per neighbor or per group basis: <ul style="list-style-type: none"> <li>• Update timer</li> <li>• Invalid timer</li> <li>• Holddown</li> <li>• Flush timer</li> </ul>
<b>Support for 4-wire G.SHDSL interfaces</b>	Allows J-series G.SHDSL physical interface modules (PIMs) or J2300 G.SHDSL models to be configured as either two ports of 2-wire, or one port of 4-wire. This feature affects the following products: <ul style="list-style-type: none"> <li>• J2300-2SD2FEL-S-AC (J2300 G.SHDSL)</li> <li>• J2300-2SD2FE1BL-S-AC-EU (J2300 G.SHDSL with IDSN S/T)</li> <li>• JX-2SHDSL-S (G.SHDSL PIM for J4300 and J6300 routers)</li> </ul>

  

Scaling Feature	Description
<b>Filtering of PIM Multicast Register Messages</b>	Requires incoming register messages to be filtered at a Rendezvous Point (RP) by Rendezvous Point Discovery (RPD) before being accepted. Outgoing register messages can also be filtered at the designated router (DR) using firewall filtering. Limits can be specified for source or group addresses, where the RP should not learn certain sources.

  

Security Feature	Description
<b>Enforced Replacement of the Default Password</b>	Enforces the setting of a “root” password at the next “commit”. Currently JUNOS has no pre-assigned password, and initial assignment is optional. This feature helps the user remember to configure such a password, thus limiting unwanted access to the “root” account.
<b>Encrypted Configuration File Storage</b>	Allows encrypted configuration data to be stored on the flash disk of J-series routers, and the encryption key to be stored in a non-removable area of the system.
<b>Advanced Encryption Standard (AES) support</b>	Enables support for Advanced Encryption Standard (AES) on J-series routers. This encryption algorithm supports 128-bit, 192-bit, or 256-bit keys.
<b>NAT Enhancements</b>	Offers the following enhancements to NAT on J-series routers: <ul style="list-style-type: none"> <li>• Ability to statically assign NAT addresses from dynamic NAT pool—Customers can statically assign addresses from the NAT pool, which is used for dynamic NAT. The statically assigned addresses should not be reused for dynamic assignment. Allows the advertisement of one subnet representing the NAT pool.</li> <li>• Support for host-to-host static NAT—Eases configuration for Biz-Biz deployments that utilize static translations by allowing the user to directly specify a translated address without having to define an address pool.</li> <li>• Oversubscribed NAT pool with fall back to PAT when the address pool is exhausted.</li> </ul>

CPE Feature	Description
<b>Standard DLSw MIB (RFC 2024)</b>	Implements the DLSw standard MIB RFC 2024 on J-series routers for accessing DLSw through SNMP. Data Link Switching (DLSw) protocol is a way of tunneling System Network Architecture (SNA) and NetBIOS traffic over an IP network. DLSw provides a better alternative to source route bridging, especially for the WAN.
Network Management Features	Description
<b>J-Web Event Viewer</b>	Provides an intuitive web-based interface to monitor events occurring on the router, such as SNMP traps and syslog messages. Events and messages can be filtered and sorted by: <ul style="list-style-type: none"> <li>• Syslog file name</li> <li>• Partial or full Event ID</li> <li>• Daemon name</li> <li>• Pattern</li> <li>• Date</li> </ul>
<b>J-Web links to Web-based Documentation</b>	Provides links to the most up-to-date J-Web user documentation located on <a href="http://www.juniper.net">www.juniper.net</a> .
<b>J-Web Infrastructure Changes for Dynamic Menus</b>	Features multi-tiered context sensitive menus that dynamically appear when users mouse over “bread crumbs”. This simplifies user interaction and greatly reduces the time and number of mouse clicks needed to navigate around J-Web, thereby increasing productivity.
<b>JUNOScript Diagnostic Scripts</b>	Enables user-defined, self-diagnostic CLI scripts that are successors to JUNOScript Commit Scripts. The diagnostic Scripts can perform the following functions: <ul style="list-style-type: none"> <li>• Run a command (via JUNOScript)</li> <li>• Receive output in XML</li> <li>• Inspect output data</li> <li>• Determine next appropriate action</li> <li>• Repeat until source of problem is known</li> <li>• Problem can be reported to user via the CLI</li> </ul>

### Availability

The aforementioned features are available worldwide on all Juniper J-series routers in JUNOS 7.6. If you have any questions on this topic, please contact Sanjay Kalra ([skalra@juniper.net](mailto:skalra@juniper.net))



CORPORATE HEADQUARTERS  
AND SALES HEADQUARTERS  
FOR NORTH AND SOUTH AMERICA  
Juniper Networks, Inc.  
1194 North Mathilda Avenue  
Sunnyvale, CA 94089 USA  
Phone: 888-JUNIPER (888-586-4737)  
or 408-745-2000  
Fax: 408-745-2100  
[www.juniper.net](http://www.juniper.net)

EAST COAST OFFICE  
Juniper Networks, Inc.  
10 Technology Park Drive  
Westford, MA 01886-3146 USA  
Phone: 978-589-5800  
Fax: 978-589-0800

ASIA PACIFIC REGIONAL  
SALES HEADQUARTERS  
Juniper Networks (Hong Kong) Ltd.  
Suite 2507-11, Asia Pacific Finance Tower  
Citibank Plaza, 3 Garden Road  
Central, Hong Kong  
Phone: 852-2332-3636  
Fax: 852-2574-7803

EUROPE, MIDDLE EAST, AFRICA  
REGIONAL SALES HEADQUARTERS  
Juniper Networks (UK) Limited  
Juniper House  
Guildford Road  
Leatherhead  
Surrey, KT22 9JH, U. K.  
Phone: 44(0)1372-385500  
Fax: 44(0)1372-385501

Copyright © 2006, Juniper Networks, Inc. All rights reserved. Juniper Networks and the Juniper Networks logo are registered trademarks of Juniper Networks, Inc. in the United States and other countries. All other trademarks, service marks, registered trademarks, or registered service marks in this document are the property of Juniper Networks or their respective owners. All specifications are subject to change without notice. Juniper Networks assumes no responsibility for any inaccuracies in this document or for any obligation to update information in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.