

Juniper Networks JWOS 6.1 Release Notes

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Revision 1

These release notes accompany Release 6.1 of the JWOS software. They describe how to install the new release and known problems with the software. JWOS software runs on the WXC3400, WXC2600, and WXC590.

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New Features in JWOS 6.1

JWOS Release 6.1 includes the following new features:

- **Scalability enhancements**—The JWOS-compatible WXC Series gateways now support up to 1000 Junos Pulse clients, as shown below, and the user interface has been enhanced so that long lists are easier to view and navigate.

WXC Series Gateway	Junos Pulse Clients
WXC3400	1000
WXC2600	250
WXC590	100

- **Junos Pulse Client**—The WX Client has been replaced by the integrated Junos Pulse client for Application Acceleration services. The Junos Pulse client also includes secure network access services, and can be downloaded from a WXC Series gateway, an IC Series gateway, or an SA Series gateway. The Pulse client includes the following enhancements:
 - Support for Windows 7, Windows Vista, and Windows XP (Windows 2000 is no longer supported)
 - Changes to acceleration policies on the WXC Series gateway are propagated to the Junos Pulse clients when a new connection (adjacency) is established.
 - Nonadministrative users can install Junos Pulse if the Juniper Installation Service (JIS) is installed on their Windows system (available from IC Series and SA Series gateways).

Junos Pulse is NOT a feature-for-feature replacement for the WX Client. Please refer to the *Junos Pulse Client Migration Guide* for feature comparisons between Junos Pulse and the legacy WX Client. For more information about Junos Pulse 1.0, see the *Junos Pulse Release Notes* and the *Junos Pulse Administration Guide*.

- **LZ compression**—Memory-based Lev-Zempel (LZ) compression provides first pass performance improvements through reduced bandwidth utilization - critical for mobile users.
- **Compatibility with previous releases**— Any WXC590, WXC2600, or WXC3400 that has WXOS 5.6.5 or higher can be upgraded to JWOS 6.1. However, traffic can be accelerated only between Junos Pulse clients and a WXC Series gateway running JWOS 6.1 or higher. The Junos Pulse clients cannot form adjacencies with WXC Series gateways that have JWOS 6.0 or any version of WXOS.

To upgrade from JWOS 6.0 to JWOS 6.1, you must first downgrade to WXOS (see “Upgrading a WXC Series Gateway from JWOS 6.0 to JWOS 6.1” on page 4).

Upgrade Instructions

Before You Begin

To ensure proper installation for a WXC Series gateway, refer to the Quick Start card for the gateway. For more information about configuring a WXC gateway, refer to the *Application Acceleration Administration Guide*, which can be downloaded from:

<http://www.juniper.net/techpubs/hardware/wx/>



NOTE: For an inline installation where the WXC gateway is installed in the data path, it is strongly recommended that you verify connectivity across the gateway before connecting the power cord.

One method of checking connectivity is to ping a host on the remote side of the WXC gateway from a host on the local side of the gateway. Verifying connectivity before attaching the power cable ensures that the switch-to-wire capability will work properly in the event of a power loss.

Obtaining a License Key

Each WXC gateway requires a JWOS license key for operation (WXOS and JWOS license keys are not compatible). The license key is based on the gateway serial number, which is shown in the License Key page and on the back of the gateway. Initially, each WXC gateway has a 30-day evaluation license with access to all features. When the temporary license expires, all traffic is passed through without any processing.

If you have purchased the WXC gateway, you can obtain a permanent license key at https://www.juniper.net/generate_license, or by calling Juniper Customer Care. To call from the United States, Canada, or Mexico, dial 1-888-314-JTAC. To call from other locations, check the list of local support centers at <http://www.juniper.net/support/requesting-support.html> or dial 1-408-745-9500.

Choosing a JWOS Boot Image

Boot images are packaged in .zip format. Use the file jwos6110.zip to upgrade to JWOS 6.1. The ZIP file is self-extracting (do not unzip).

Configuring Firewalls Between WXC Gateways and Junos Pulse Clients

On all firewall and antivirus software between the WXC gateways and Junos Pulse clients, note the following:

- TCP/UDP ports 3577 and 3578 and UDP port 3579 must be open. For example, if Kaspersky software is installed on a Pulse client, it must be configured to allow traffic on UDP port 3578.
- If the WXC is installed in the DMZ, and you plan to upgrade the JWOS software using FTP, you must open an FTP port in the firewall between the DMZ and the intranet.
- TCP options must NOT be stripped from SYN or SYN-ACK packets. TCP options are required to form adjacencies between the WXC and the Pulse clients.



NOTE: WXC gateways do not support Network Address Translation (NAT). If NAT is enabled on the local firewall, all traffic is passed through without any processing.

Upgrading a WXC Series Gateway from JWOS 6.0 to JWOS 6.1

A WXC Series gateway running JWOS 6.0 must be downgraded to WXOS, and then upgraded to JWOS 6.1.

To upgrade from JWOS 6.0 to JWOS 6.1:

1. Use a Web browser to log in to the WXC Series gateway to be upgraded, and select **Help > About** to verify that JWOS 6.0 is running.
2. If you have a permanent JWOS license, select **Setup > Basic > License Key** and copy the value in the Current License Key field to a text file in an external location. You will need to reapply the license key after you complete the upgrade to JWOS 6.1.
3. Save the current WXC gateway configuration in case you need to reload JWOS 6.0. Select **Admin > Maintenance > Save Configuration**, specify an external location (Local disk, TFTP server, or FTP server), and click **Save**. Note that the JWOS 6.0 configuration cannot be applied to JWOS 6.1.
4. Obtain the WXOS version that was running when the WXC gateway was upgraded to JWOS 6.0. If you are not sure which WXOS version was upgraded to JWOS, contact Technical Support. You can download the WXOS version from the following website to a local disk or an FTP or TFTP server in your network.

<http://www.juniper.net/customers/csc/software>
5. Click **Admin > Maintenance > Load Software Package**, select the source of the WXOS software package (Local disk, TFTP server, or FTP server), and specify the software location and file name. Select the **Allow downgrade to version 5.6 or higher** check box, and click **Load**. Loading the software may take several minutes.
6. After WXOS is loaded successfully, select **Admin > Maintenance > Reboot**, and click **Reboot**.

7. Allow about five minutes for the WXC gateway to reboot, and then log in using **admin** and **juniper** for the user name and password.
8. Click **Next** on the Quick Setup page. Change the default settings, as needed, and click **Finish**.
9. You can now upgrade to JWOS 6.1 (see “Upgrading a WXC Series Gateway from WXOS to JWOS 6.1” on page 5).
10. After the upgrade to JWOS 6.1 is complete, select **Setup > Basic > License Key**, copy the license key you saved in Step 2 into the Enter License Key field, and click **Submit**.
11. Change the default JWOS 6.1 configuration to match your JWOS 6.0 settings, as needed. For example, select **Setup > Basic > Time** to set the time manually or specify an NTP server, and select **Acceleration** to change the application policies or add application definitions.

Upgrading a WXC Series Gateway from WXOS to JWOS 6.1

A WXC590, WXC2600, and WXC3400 gateway running WXOS 5.6.5 (or higher) can be upgraded to JWOS 6.1. If a WXC gateway is running JWOS 6.0, you must downgrade to WXOS before upgrading to JWOS 6.1 (see “Upgrading a WXC Series Gateway from JWOS 6.0 to JWOS 6.1” on page 4).

To upgrade from WXOS to JWOS 6.1:

1. Use a Web browser to log in to the WXC Series gateway to be upgraded, and select **Help > About** to verify that WXOS 5.6.5 or higher is running.
2. If you have a permanent WXOS license, select **Device Setup > Basic > License Key** and copy the value in the License Key field to a text file in an external location. You will need the license key if you decide to reload WXOS.
3. Save the current WXC gateway configuration in case you need to reload WXOS. Select **Admin > Maintenance > Save Configuration**, specify an external location (Local disk, TFTP server, or FTP server), and click **Save**.
4. Select **Admin > Tools > Diagnostics File**, click **Download**, and save the diagnostic file to an external location. The diagnostic file will be useful to Technical Support if any problems occur during the upgrade.
5. Download the JWOS 6.1 software image from the following website to a local disk or on an FTP server in your network. Do NOT load the image on a TFTP server
<http://www.juniper.net/customers/csc/software>
6. Click **Admin > Maintenance > Load Boot Image**, select the source of the JWOS 6.1 image (Local disk or FTP server), specify the location and file name, and click **Load**. Loading the JWOS image may take several minutes.



NOTE: The message **ACPI: Unable to locate RSDP** is displayed for a few minutes and can be ignored. Do NOT power off or restart the gateway while JWOS is loading.

7. After the JWOS image has loaded successfully, select **Admin > Maintenance > Reboot**, and click **Reboot**.
8. Allow about five minutes for the WXC gateway to reboot, and then log in using **admin** and **juniper** for the user name and password.
9. Click **Next** on the Welcome page of the Quick Setup Wizard.
10. Change the interface settings, if needed, and click **Finish**. Note that the bridge interface connects the Local LAN-side interface to the Remote WAN-side interface. You can configure the management interface to manage the gateway (see the *Application Acceleration Administration Guide*), or simply use the bridge interface.

Downgrading from JWOS 6.1 to JWOS 6.0

If you upgrade to JWOS 6.1, and later downgrade to JWOS 6.0, NSC compression will be disabled for all applications. To re-enable NSC, select **Acceleration > Policies > Applications**, select the **NSC** check box at the top of the application list, and then select specific applications or the **Select All/Clear** box at the bottom of the list.

Installing the Junos Pulse Client

The following sections describe the Junos Pulse client hardware and software requirements, and how to install and uninstall the Junos Pulse client on a Windows system:

- Junos Pulse Client Hardware and Software Requirements on page 6
- Installing the Junos Pulse Client on page 7

Junos Pulse Client Hardware and Software Requirements

The following table lists the hardware and software requirements of the Junos Pulse client.

Operating System	<ul style="list-style-type: none">• Windows 7 Enterprise Edition (64 bit)• Windows Vista SP2 Enterprise Edition (32 bit)• Windows XP Professional SP3 (32 bit) <p>NOTE: The above versions have been qualified (tested extensively). Windows 7 (32 bit) and Windows Vista (64 bit) are compatible in that they have received less testing, but are fully supported. For a complete list of qualified and compatible platforms, see <i>Junos Pulse Supported Platforms</i>.</p>
CPU	500 MHz
Memory	512 MB of RAM
Available disk space	400 MB
Browser	<ul style="list-style-type: none">• Internet Explorer 7.0 or 8.0• Firefox 3.0, 3.5, or 3.6

Java

JRE-6u17-windows-i586

Installing the Junos Pulse Client

The following procedure describes how to download the Junos Pulse client from a WXC Series gateway. To distribute the Junos Pulse client from a version 6.5 or 6.3 SA Series gateway or a Microsoft System Management Server (SMS), see the *Application Acceleration Administration Guide*.

To distribute the Junos Pulse client from a version 7.0 or higher SA Series gateway or a 4.0 version or higher IC Series gateway, see the *Junos Pulse Administration Guide*.

To download the Junos Pulse client from a WXC Series gateway:

1. On the WXC gateway, select **Junos Pulse > Load Client Configuration**, and click **Load** to generate a client configuration based on the gateway startup configuration.
2. On a Windows 7, Windows Vista, or Windows XP workstation where you want to install the Pulse client, do the following:
 - a. If the WX Client is installed, uninstall the WX Client by selecting **Start > All Programs > Juniper Networks > WX Client > Uninstall**. The WX Client supports only JWOS 6.0 and is not compatible with the Pulse client.
 - b. Enter the following URL in a supported Web browser:
`https://WXC IP address/client`
 - c. Enter the username and password, if needed, and click **Login**.
 - d. Select **Install Now**, and, if necessary, click **Install** in the Security Warning dialog box. Note the following:
 - If the Windows Firewall is enabled, click **Unblock** when prompted to allow the client to accept external connections.
 - If you are prompted to stop the Network Connect client, click **OK** and restart the Network Connect client after the Junos Pulse client is installed.
 - e. If the Junos Pulse client is installed over a dial-up modem, you are prompted to reboot the system; otherwise, the Junos Pulse client starts automatically, and the Junos Pulse icon is shown in the system tray in the lower-right corner of the Windows desktop. Application Acceleration starts automatically when remote WXC Series gateways are discovered. No additional configuration is necessary.

To uninstall the Junos Pulse client, select **Start > All Programs > Juniper Networks > Junos Pulse > Uninstall** or run the following program (if necessary, change C: to the drive where Windows is installed):

C:\Program Files\Juniper Networks\Junos Pulse\Uninstall.exe

Operational Notes for JWOS 6.1

This section covers important operational notes for a WXC Series gateway running JWOS 6.1. For more information, refer to the *Application Acceleration Administration Guide* posted at:

<http://www.juniper.net/techpubs/hardware/wx/>

Supported Browsers and Required Settings

WXC Series gateways can be administered through the Web interface using Microsoft Internet Explorer version 7.0 or 8.0, or Firefox 3.0, 3.5, or 3.6. Verify that the browser accepts cookies (required to log in), and that the server is always checked for the latest configuration information. Privacy and security settings should be medium or lower.

On Windows Server 2003, the browser's default Security setting is High, which will prevent you from logging in to the Web interface.

Secure Shell (SSH) Support

JWOS 6.1 uses SSH version 4.1 with DES/3DES encryption, and supports both SSHv1 and SSHv2 (up to four concurrent sessions). Multiple channels, port forwarding, and X11 forwarding are not supported.

Monitor Display Settings for Viewing Web Interface Information

The JWOS Web interface is designed for a display of 1024 x 768 pixels. Verify your monitor's display settings are at least 1024 x 768 before using the Web interface.

Replacing Disk Drives on WXC Series Gateways

If a disk drive fails on a WXC Series gateway, always disconnect the power before replacing the drive. If you attempt to swap out a drive while the gateway is running, new traffic flows through the gateway will be blocked.

Outstanding Issues in JWOS Release 6.1

The following are outstanding issues in JWOS Release 6.1. The identifier following the description is the tracking number in our bug database.

WXC Series Gateways

- When a WXC gateway has 1000 active Pulse clients and 4400 traffic flows, the SvcP process may fail, causing the WXC to reboot. [PR 529490, 529742, 529754 and 530308]
- In some cases, the **show adjacency peer-address** CLI command may show Pulse clients in the Connecting state even though the clients are connected and traffic is being accelerated. [PR 530029].
- If you change the community name, Pulse clients that are reinstalled to use the new community will be unable to form adjacencies if they previously had formed an

adjacency under the old community name. To correct this problem, reboot the WXC gateway. [PR 530714]

- If the host name of a Junos Pulse client is changed, the new name is shown correctly on the Junos Pulse Status page the next time an adjacency is formed, but the old name is displayed on the Compression by Endpoint report. [PR 469963]

Junos Pulse Clients

- If you change the default community string on the WXC gateway, and then export a Host Checker package for distribution through an SA Series gateway, acceleration may not be enabled on the Pulse client. To correct this problem: [PR 527411, 528670]
 1. On the Pulse client, open the file `\Program Files\Common Files\Juniper Networks\WX Client\Configurations\config_system.ini` with a text editor and change **default** in the following line to the correct community name:
`DNGTCCC_System_COMMUNITY = default`
 2. Select **Start > Control Panel > Administrative Tools > Services**, right-click on **Juniper Unified Network Service**, and click **Restart**.
 3. Reboot the WXC gateway.
- If the Junos Pulse client is installed without application acceleration, you cannot install application acceleration through Host Checker after logging in through the Pulse client. [PR 504952]

Resolved Issues in JWOS Release 6.1

The following issues have been resolved since JWOS Release 6.0. The identifier following the description is the tracking number in our bug database.

- When hundreds of concurrent CIFS traffic flows are active for several hours, the services process (SvcP) may be reset. In this case, traffic on the clients is passed through until JWOS restarts the process. [PR 414776]
- If only the management interface is configured during the initial setup, you cannot configure the bridge interface over the Web interface. In this case, use the CLI interface to configure the bridge interface. [PR 452294]
- If you enable CIFS acceleration for a non-CIFS application definition, traffic flows may be reset when the WXC attempts to apply CIFS acceleration to the application's traffic. [PR 450060]
- The config set interface command lets you assign the same IP address to the bridge and management interfaces if one of the interfaces is down. [PR 449829]
- If you configure a user account to apply SMB signing for the servers that require it, CIFS acceleration is NOT applied if you include a Windows domain for the account. The domain is required if the WXC must log in to a Windows domain controller. [PR 447786]
- The WXC may reboot if you display flow diagnostics 20 times or more in a five-minute period (select **Admin > Tools > Flow Diagnostics** and click **Go**). [PR 442628]

- A client adjacency may be disconnected if CIFS acceleration or NSC compression is applied to the same traffic flows for several hours or more. The error CCC TEARDOWN_CONF_NOT_RECEIVED is written to the log. [PR 437716]
- If diagnostic files are generated frequently on the WXC3400, the flash memory may become full, and the WXC gateway will become inaccessible. To repair the flash memory, see “Repairing the Flash Memory on the WXC3400” on page 8. [PR 447556]
- If both disk drives fail on the WXC3400, monitoring data will eventually fill the flash memory, and the WXC gateway will become inaccessible. [PR 447693]
- When many adjacencies are being connected and disconnected on the WXC, an adjacency disconnected on the WXC may remain in the connected state on the client. In this case, traffic is passed through until the client is restarted or the inactivity timer (15 minutes) expires on the client. [PR 451087]
- If you add an application definition on the WXC with a single rule that specifies only the protocol, the matching traffic will be passed through without any processing. [PR 439294]

JWOS Documentation and Release Notes

For a list of related JWOS documentation, see
<http://www.juniper.net/techpubs/hardware/wx/>.

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

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

Requesting Technical Support

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

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at
<http://www.juniper.net/customers/support/downloads/710059.pdf>.
- Product warranties—For product warranty information, visit
<http://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

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

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

Opening a Case with JTAC

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

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

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

If you are reporting a hardware or software problem, download a diagnostic file and flow diagnostics from the Web interface before contacting support:

1. Select **Admin > Tools > Diagnostic File**.
2. Click **Submit** to generate the diagnostic file, and then click **Save** and specify a filename and location.
3. Select **Admin > Tools > Flow Diagnostics**.
4. Click **Download** to export the diagnostics for the 50 most recent traffic flows to a file in CSV format, and then click **Save** and specify a filename and location.

Please upload these files to your case note, along with the source/destination IP addresses and port numbers that are experiencing problems. Note that a reboot erases all of the important information. Please download the diagnostic files before rebooting the system.

For documentation issues, fill out the bug report form located at
<https://www.juniper.net/cgi-bin/docbugreport/>.

Revision History

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