



# Release Notes for RingMaster Version 9.0.1.1

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We recommend that you familiarize yourself with release notes and the Juniper Networks RingMaster Quick Start Guide before installing RingMaster 9.0. For additional product information, refer to the following documents:

- *RingMaster Quick Start Guide Version 9.0*
- *RingMaster Planning Guide Version 9.0*
- *RingMaster Configuration Guide Version 9.0*
- *RingMaster Management and Monitoring Guide Version 9.0*

Open issues with WLC1200-UMSP are also tracked in this document.



## Informational Note:

Please note that the tracking numbers for issues open and resolved have changed to reflect the Juniper Networks tracking system.

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## Product Name Changes

Please note that the former Trapeze products now reflect the Juniper Networks product names.

Former Trapeze Name	Current Juniper Product Name
MXR-2	WLC2
MX-8	WLC8
MX-200	WLC200
MX-800	WLC800

Former Trapeze Name	Current Juniper Product Name
MX-2800	WLC2800
MP-522	WLA522
MP-632	WLA632

## Feedback and Support

Juniper Networks encourages you to provide feedback about your experiences installing and using the product to the [Juniper Networks Customer Assistance Center \(TAC\)](#).

## What's New in RingMaster Version 9.0

RingMaster 9.0 has the following enhancements:

- JunosV Wireless LAN Controller (JunosV WLC)—The next-generation wireless LAN controller is a virtual controller using a cloud-based architecture with physical access points. The current functionality of a physical controller is available on the virtual controller, and the virtual controller can support up to 256 access points. The virtual controller runs on a virtual machine (VM) environment that support operating systems and execute applications.
- Support for the WLC100—The RingMaster version 9.0 supports Juniper's next-generation WLAN controller, the WLC100, that cost-effectively enables WLAN services in small to medium-sized branches and schools, small offices, and retail stores. WLC100 will replace WLC2 and WLC8.
- Hot Spot 2.0 Support—The Juniper wireless LAN (WLAN) solution supports Hot Spot requirements and can seamlessly onboard Wi-Fi client devices at Hot Spot deployments that enables both mobile operators and Multiple System Operators (MSOs) to offload mobile data traffic onto Wi-Fi Hot Spots. The access points— WLA321, WLA322, WLA522, WLA532, and WLA632 have passed the Hot Spot 2.0 certification.
- Access Point Power Policy (Replaces Auto-tune)—This feature replaces the auto-tune power feature in earlier versions of RingMaster, and addresses customer issues with the previous implementation. A mechanism is required, particularly in dense deployments, for setting the transmit power levels of access point radios, to facilitate good roaming decisions by setting very similar power levels between WLAN radios.
- Enhancements to VLAN Pooling—The primary goal of configuring VLAN pooling is to load balance sessions evenly across the VLANs in the pool. RingMaster 9.0 supports two options: MAC Address Hashing and Load-balancing. For both the options, a VLAN is selected only if it has not reached the configured cap of sessions per VLAN.
- Extended character support—With RingMaster 9.0, the supported character length for the names of radio profiles, port groups, and WLAs is 32 characters.
- Enhancements to RingMaster Reporting Feature—In RingMaster 9.0 the Client Summary reports and Top WLAs reports are modified to better display the labels from the charts legends and tables.

## Version Compatibility

- This version of RingMaster has been verified against MSS Version 9.0.
- Network plans created with RingMaster 7.1 and later are compatible with this version of RingMaster. If you want to use network plans created with previous versions of RingMaster, make sure the option to delete the network plans directory is not checked when you uninstall.
- If you are installing for the first time, you will need to install and activate licenses before using RingMaster. If you are upgrading from a previous licensed version, you do not need to reinstall your licenses.
- If you are upgrading from 7.0 or earlier, we recommend that you upgrade to 7.4 first, then upgrade to 7.5, and then to 7.6. Once you've installed the latest version of 7.6, you can upgrade to 7.7.

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## Licensing for RingMaster Version 9.0

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### Licensing Overview

Juniper sends two kinds of tokens electronically, in e-mail, in response to ordered licenses: Software Serial Numbers, and Authorization Codes. Software Serial numbers are sent when you order a base system (e.g., WLM-RTMS). Authorization Codes ("AuthCodes") are sent when an additional capacity or feature is ordered. Both token types are transacted at the Juniper Networks License Management System (LMS) to provide license key to the customer. The Software Serial Number is also used to gain access to Juniper's software download center. Included in the email are "next steps" instructions that you can follow to complete the process. These instructions also are found on Juniper Licensing page ([https://www.juniper.net/generate\\_license/](https://www.juniper.net/generate_license/)) under the headings **Download and Activate Your Software** and **Activate Your Software Capacity and/or Features**.

### Software Licensing

1. To get your keys after on receiving the base serial number or AuthCode, go to the generate license keys page (<https://www.juniper.net/lcrs/license.do>). Enter your support login information and follow the instructions. Access to the licensing server requires your Juniper Networks Customer Support Center (CSC) login ID.
2. Once you have the license keys, you can activate them online or offline at <https://www.juniper.net/lcrs/wlmSelectAuthCodeLicenseType.do> and follow the instructions for the "Offline Activation" option.



#### Informational Note:

For Base licenses (WLM-RMTS and WLM-SP-GA-BASE, WLM-RMTS-GLOBAL) the serial number is sufficient to generate a key, an AuthCode is not necessary. The e-mail containing base license serial number may not have an authcode to generate the license key.

Authcodes are present for only advanced licenses and are required with the serial number of the advanced license to generate the license key.

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### Appliance Licensing

1. Once you receive your appliance, enter the serial number of the appliance in the "WLM Hardware Devices" option on the license generation page <https://www.juniper.net/lcrs/wlmSelectAuthCodeLicenseType.do>. You can now access the license information, serial number and license keys, for all licenses that shipped with the appliance.
2. Once you have the license keys, you can perform either an online or offline activation. To activate licenses offline, go to <https://www.juniper.net/lcrs/wlmSelectAuthCodeLicenseType.do> and follow the "Offline Activation" instructions.
3. Additional licenses, ordered for additional capacity, are considered software licenses and must be activated using the software licensing procedure.



**Informational Note:** There are no AuthCodes generated or required for the products that ship with the appliance; eg. WLM-1200-RMTS ships with WLM-RMTS and WLM-RMTS-250. These licenses are included in the BOM, so they do not require any authcodes and are displayed when you enter the serial number of the appliance.

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### License Types

Please consult with your sales representative about *RingMaster* license types. Ringmaster has several licensing levels (SKU):

- **EVAL** — Evaluation license is valid for 90 days and enables support for up to 50 APs, unlimited switches, and planning.
- **WLM-RMTS** — RingMaster Tool Suite (RMTS) license enables support for up to 5 WLAs and one WLC.

- **WLM-RMTS-10** — Enables support for up to 10 additional WLAs. Requires WLM-RMTS.
- **WLM-RMTS-50** — Enables support for up to 50 additional WLAs.
- **WLM-RMTS-100** — Enables support for up to 100 additional WLAs.
- **WLM-RMTS-250** — Enables support for up to 250 additional WLAs.
- **WLM-RMTS-500** — Enables support for up to 500 additional WLAs.
- **WLM-RMTS-1000** — Enables support for up to 1000 additional WLAs. Available for RM Versions 6.3 and later.
- **WLM-RMTS-PLAN** — Enables RF planning.
- **WLM-RMTS-AGENT** — Enables RM Agent and supports REST-based API. Requires the purchase of WLM-RMTS.

## License Violations

When a *RingMaster* network plan exceeds the limit of WLAs allowed by installed licenses, *RingMaster* enters a grace period. This grace period lasts for 60 days where *RingMaster* runs normally with the additional WLCs and/or WLAs. Appropriate licenses should be purchased and installed during this time. If new licenses are not installed to cover the extra management, *RingMaster* will automatically begin unmanaging WLAs in the network plan until the licensing situation is corrected.

## License Help

For assistance with evaluation licenses, please contact a sales representative. For assistance with purchased licenses, please contact JTAC. When requesting assistance, please have the output of the *hostname* command ready and have all license serial numbers and keys available. Screenshots of any errors are also appreciated.

## Supported Platforms

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- Microsoft Windows Server 2003 and 2008, Microsoft Windows XP with Service Pack 1 or higher, Microsoft Windows 2000 with Service Pack 4, Microsoft Windows 7, or Microsoft Vista Enterprise.
- SUSE Linux 10.2 and Red Hat WS ES5
- Apple MacOS Version 10.4.x. with Java 1.5.
- VMWare ESXi Version 4.1 with 64-bit Centos OS

## Upgrading from RingMaster Version 7.7

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You can install the new version of RingMaster on top of the previously installed one. You do not need to uninstall the previous version. However, you should backup your current network plan in case you have upgrade issues. You can use the backup data to restore your network plan.



When upgrading from RingMaster version 7.0 MR3 (7.0.6.7.0) to RingMaster version 8.0, please upgrade to 7.3 MR2 before upgrading to RingMaster 7.6. The upgrade path is 7.0 MR3 --> 7.0 MR5--> 7.1 MR3 --> 7.3 MR2 --> 7.5 MR1 --> 7.6 MR1 --> 7.7-->8.0-->9.0.



### Warning:

Before upgrading to RingMaster Version 9.0, please read the [Known Issues for RingMaster](#) on page 6.

## Upgrading to MSS Version 9.0

In addition to upgrading to RingMaster Version 9.0, you should be aware of the following issues with upgrading to Mobility System Software (MSS) Version 9.0 as well:



**Warning:** This release of MSS software no longer supports older MXR-2, MX-8, and MX-8R WLAN controller platforms that were initially built with 32MB of flash. Newer models support 128MB or 256MB. The best method for determining if your controller can support MSS 9.0 is by checking the revision label on the unit:

- Models MX-8 and MX-8R controller - Revision "P" and above
- Model MXR-2 controller - Revision "N" and above
- All Juniper-branded equivalents will support MSS 9.0.

**Warning:**

The following MPs are no longer supported in this version of MSS:

- MP-71
- MP-371
- MP-372 (all models)

## Downgrading to a Previous RingMaster Version

If you need to downgrade from a RingMaster 9.0.x version to a previous 7.x.x or 8.x.x version, use the following procedure:

1. Uninstall the current RingMaster installation. Select to delete all but the license and the network plans.
2. Install the earlier Ringmaster software version.
3. After installation, use the Restore feature using the backup data you created before upgrading to the next version.

When you start the downgrade version of RingMaster, it opens the Default network plan.

If you need to downgrade the WLCs managed by RingMaster, you can do so before or after the RingMaster downgrade.



We recommend that you do not downgrade to previous RingMaster versions. Database files saved in RingMaster Version 7.0 or higher are converted to the newer version and are not compatible with earlier RingMaster Versions. In addition, MSS features that are new in MSS Version 7.6 are not supported in previous versions of RingMaster. You may also lose Monitoring data and plans may not convert fully to the previous version.

## JRE 1.6 and RingMaster Java Web Start Client

If you are using Java Runtime Environment (JRE) 1.6.0\_12 when trying to remotely connect to a server with RingMaster software may experience issues with Java WebStart client failing to start due to the following Java bug:

[http://bugs.sun.com/bugdatabase/view\\_bug.do?bug\\_id=6808031](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6808031)

This issue potentially affects remote clients on all operating systems with JRE 1.6.0\_12 or higher. When starting the Java WebStart client from the desktop icon, an error message is displayed: "Unable to start application" and a set of Java exceptions are thrown.

Customers that encounter this issue must downgrade the Java environment by uninstalling the JRE 1.6.0\_12 and creating a fresh install of JRE 1.6.0\_11.

If you do not want to downgrade your JRE installation, you can click on the RM Client icon on the RingMaster server page to launch the client.

## Known Issues for RingMaster

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- RingMaster does not configure hostname on Linux CentOS/Scientific Linux 64-bit. [PR 743396]
  - Description** — RingMaster is unable to properly configure the hostname parameter and hence any license that requires activation does not work.
  - Workaround** — Edit the `/etc/hosts` file and add a line: `127.0.1.1 hostname`, where `hostname` should be replaced with the actual hostname of the machine.
- The RingMaster Client does not launch when you click Launch Client in the interface. [PR811825]
  - Description** — When you go to the RingMaster Services Web page, and click Launch Client under Java Web Start Client, the RM Client does not start.
  - Workaround** — Clear the Web browser cache and relaunch the RingMaster Client.
- You cannot connect more than 15 clients to a RingMaster server. [PR802273]
  - Description** — If you attempt to connect more than 15 RingMaster clients to a RingMaster server, RingMaster returns the error message that it cannot accept additional client connections. Previously connected RingMaster clients are disconnected to allow the additional clients to connect to the RingMaster server.
  - Workaround** — Connect no more than 15 RingMaster clients to a RingMaster server at any time.
- Using the RingMaster Java client to connect to a remote server fails to complete the connection process. [PR791864]
  - Description** — If you have upgraded your Java runtime environment to Java 7, the RingMaster client cannot complete the connection to a remote server when the remote server is on a different Java version.
  - Workaround** — Be sure that the Java runtime environment is version 1.6 on the client and server platform. Other versions are not supported by RingMaster in this release.
- Adding a wireless client to the Watched Client list may take up to 30 minutes to complete the process. [PR777425]
  - Description** — If the RingMaster monitoring database is very large, it may take 20-30 minutes to update with the additional watched clients.
  - Workaround** — Limit the number of watched clients to five wireless clients.
- If you configure a VLAN pool and assign it to a policy on a WLC, the VLAN pool is not applied. [PR742130]
  - Description** — When you configure an Open Service Profile and add a VLAN pool to it, the VLAN pool is not added to the Service Profile.
  - Workaround** — You must reapply the changes to the WLC to add the VLAN pool to the service profile.
- Enabling Spectral Mode on a WLA in a Mesh configuration interrupts the services on the WLA. [PR693425]
  - Description** - When a WLA is part of a Mesh configuration, you can enable Spectral mode on it. This causes the radios to go out of service and disrupts the Mesh Services.
  - Workaround** - Best practices indicate that you should not enable Spectral Mode on a WLA configured for Mesh Services. A warning message is now displayed in RingMaster when you attempt to enable Spectral Mode on a Mesh WLA.
- If the computer monitor screen resolution is too low, the Spectrogram feature may not display properly. [PR692826]
  - Description** — The Spectrogram for Spectrum Analysis appears to be too large to display on the monitor screen.
  - Workaround** — Be sure that your monitor screen resolution is set to one of the following values:
    - 1680 x 1050 pixels
    - 1440 x 900 pixels
    - 1280 x 1024 pixels
- In some cases, the Events panel does not refresh properly and displays erroneous information. [PR676029]

**Description** — When selecting an event on the Events panel, the panel appears frozen and does not display the selected event.

**Workaround** — You can perform one of the following options:

1. Re-size the event panel manually.
  2. Selecting any task in Alarms or Manage task groups also refreshes the UI.
  3. Clicking on the search text box at the top right of the alarms details panel also causes the panel to refresh.
  4. Select another event in the Events table and then return to the event that was not displayed.
- When importing large network plans into RingMaster, error messages are displayed and the import process does not finish. [PR675226]

**Description** — The RingMaster Import feature cannot import large network plans for use with the application. The Import feature is designed to import incremental changes to network plans.

**Workaround** — N/A

- When merging large network plans into RingMaster, error messages are displayed and the merge process does not finish. [PR675287]

**Description** — The RingMaster Import feature cannot merge large network plans for use with the application. The Import feature is designed to merge incremental changes to network plans.

**Workaround** — N/A

- When you make changes to a radio profile and then deploy the changes, RingMaster does not update as expected. [PR652753]

**Description** — When you click **Apply**, the **Apply** button remains active in the interface.

**Workaround** — Click **Apply** until the button becomes grey (disabled).

- Because of a limitation in Windows XP that allows no more than 10 half-open connections, running RingMaster services on Windows XP is not recommended if your network plan contains more than 10 devices. If 10 devices in your network plan were unreachable or not responding, Windows XP would exceed its half-open connection limit, and connection attempts to reachable devices might time out as a result.

**Workaround**— If your network plan contains more than 10 devices, and you want to run RingMaster services on a Windows system, use a server OS, such as Windows 2000 or Windows 2003, instead of Windows XP.

## Open Issues with WLM1200-UMSP

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- After upgrading the Location Appliance image from version 7.6 to version 7.7, the software images displays the upgraded version as 7.6 instead of 7.7. [753769]

## Documentation Improvements

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- The RingMaster Quick Start Guide now includes a procedure for adding a single WLC to RingMaster.
- The RingMaster Configuration Guide now includes a “You are Here” orientation for each section. This will assist with understanding where, in the interface, you are configuring certain features.
- KB article 24512 addressing RADIUS configuration in RingMaster is now included in the RingMaster Configuration Guide.

## Submitting Problem Reports

RingMaster can send problem reports to the Juniper Networks TAC (JTAC) team directly when it encounters a problem. You can also send a problem report at any time by selecting Help > Report Problem in RingMaster.

If a problem occurs, the Internal Application Error dialog box appears.

To submit a problem report:

1. Do one of the following:
  - In the Internal Application Error dialog box, click Report Problem.
  - Select Help > Report Problem.

The Report Problem to Juniper Networks dialog box appears.

2. Fill out the information in the dialog box.
 

Provide your name, and enter as much detail as possible about the task you were performing when the problem occurred. You must provide the name of your company. The information goes to [nms-support@juniper.net](mailto:nms-support@juniper.net).
3. Click Send Now.
4. If network access for the email report is not available from the RingMaster host, click Save to store the problem report on the RingMaster host.

The problem report is saved as a directory with a name containing the timestamp of the problem report (for example, Thu-Aug-19-13-04-11-PDT-2004). This directory is located in C:\Documents and Settings\user\_home\_directory\Juniper\.RingMaster\bugs, where user\_home\_directory is the home directory of the user that is running RingMaster at the time the problem report is generated.

To send the problem report to Juniper Networks, create a zip archive of the problem report directory and send the archive as an attachment to [nms-support@juniper.net](mailto:nms-support@juniper.net).