



## Product Overview

With mobility on the increase, wireless LAN (WLAN) management is becoming more important, as it allows network administrators to better manage assets, reduce losses, improve workplace safety and security, and streamline workflows.

As a performance optimized, hardened device, the Juniper Networks WLM1200 Wireless LAN Management Appliance allows for full life-cycle management for WLAN infrastructure, security and mobility services on a single platform.

## Product Description

Juniper Networks® WLM1200 Wireless LAN Management Appliance is a scalable, rack-mountable management platform for enterprise WLANs. It comes preconfigured with one of three configurations. It is available as a Mobility Services Appliance (WLM1200-UMSP), or as a Location Appliance (WLM1200-LA) or as a RingMaster Appliance (WLM1200-RMTS).

### Mobility Services Appliance

The Juniper Networks Mobility Services Appliance (WLM1200-UMSP), provides a scalable, open platform which allows infrastructure management, security and multiple mobility services software components to be unified within a common framework. The unification of mobility services provides the ability to share and correlate the collective intelligence about the network, users and sessions. The result is dramatically improved services and infrastructure management visibility and control of network resources which provides a foundation for offering and enforcing service level guarantees in future.

The current services in the Juniper Networks Mobility Services suite includes guest access, voice, video, context awareness, real-time location tracking, advanced security and spectrum analysis. Application programming interfaces (APIs) enable third-party partners to integrate a growing ecosystem of value-added services and applications.

### Location Appliance

The Juniper Networks Location Appliance (WLM1200-LA) provides fast, and reliable real-time location services for tracking devices on wireless LANs. It enables enterprises to implement location-based security, improve asset utilization, and augment identity-based security policies. The Location Appliance also accurately defines physical boundaries, distinguishing between perimeters such as indoors and out, and it enables location awareness to existing applications via SOAP/XML application programming interfaces (APIs).

### RingMaster Appliance

The Juniper Networks RingMaster Appliance (WLM1200-RMTS), which comes configured with the Juniper Networks **RingMaster Software**, provides full lifecycle enterprise wireless LAN management, including the planning, configuring, deploying, monitoring, and optimizing of WLANs. The RingMaster Appliance has fully redundant dual RAID storage and supports up to 5,000 indoor and outdoor access points.

## Architecture and Key Components

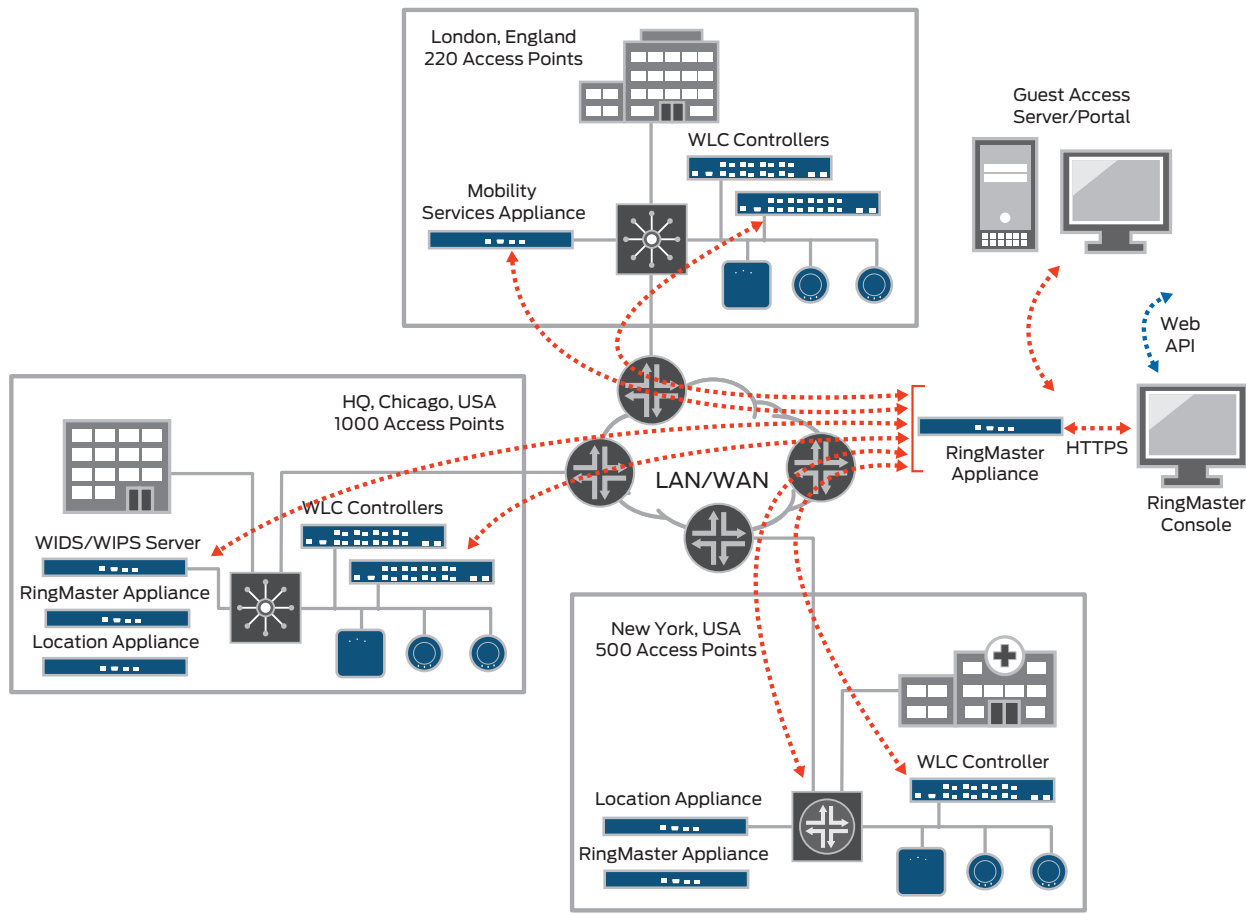


Figure1. Multiple site network with integrated location and management

### Features and Benefits of the Mobility Services Appliance

The Mobility Services Appliance combines the server components of RingMaster, SmartPass, the Location Appliance and other Mobility Services on a common platform to reduce the number of wireless LAN management servers or appliances required to manage, secure and troubleshoot wireless LANs.

By combining multiple functions on one appliance, enterprises can deploy and optimize wireless LANs more easily and more quickly, without sacrificing long term scalability of these management functions. This delivers substantial CapEX and OpEX savings over deploying and managing multiple single-function appliances or servers.

The Mobility Services Appliance is targeted at medium-sized wireless networks or individual sites up to 250 access points. As the enterprise grows and expands, individual management functions can be migrated from the combined platform and implemented each, on their own dedicated appliance. This preserves the integration and data correlation between the various management modules while increasing overall management scalability.

### Key Mobility Services Appliance Features

- Single box management solution for mid-sized businesses, and for mid-sized individual sites
- Supports up to 250 access points
- Provides easy scaling for growing networks
- Supports location tracking for 2,000 tracked devices
- Provides low maintenance, out-of-the box operation
- Substantial CapEX and OpEX savings

### Features and Benefits of the Location Appliance

The Location Appliance enables enterprises to quickly and accurately find, track, and secure highly mobile people, devices and valuable assets in real time over existing Wi-Fi networks. The Location Appliance provides extremely precise location awareness for thousands of devices over a wireless LAN, and it enables a host of mobile enterprise applications with location awareness.

## Reliable and Accurate Detection

The Location Appliance delivers high-performance location tracking with rapid response times and breakthrough levels of accuracy and precision. Because no additional client software is required, the WLM1200 can track any 802.11 device on any band, including 802.11n. And, unlike other location tracking systems which require constant recalibration, the Location Appliance is not affected by changes in the transmit power settings of access points collecting positioning data, ensuring higher accuracy and reliability.

The Location Appliance accurately recognizes physical boundaries such as indoors versus out, and offers excellent 3D resolution in multi-floor facilities or multi-tenant buildings.

## Location Tracking Performance

The Location Appliance uses patented, server-side, received signal strength indicator (RSSI) pattern matching techniques that enable the tracking of up to 4,000 devices with speed, accuracy, and greater precision than other typical Wi-Fi positioning methods.

- 99% accuracy at 10 meters
- 97% accuracy at 5 meters
- 95% accuracy at 3 meters
- 30 second average seek time
- 10 second minimum seek time

## Visual Display of Device Location

The Location Appliance is tightly integrated with RingMaster, allowing device locations to be displayed through a graphic dashboard, with visual floor plans that identify the real-time location of all Wi-Fi devices, asset tags, and access points. The dashboard also shows associations between devices and access points to assist IT help desk personnel with troubleshooting issues.

## Application Programming Interfaces

As a foundation for advanced real-time location services over wireless LANs, this appliance can add location context via SOAP and XML APIs to existing applications such as asset tracking and management, location-based security, and content delivery.

## Advanced Real-Time Location Services

With Juniper Networks SmartPass, the Location Appliance allows enterprises to augment identity-based security policies with location awareness in order to dynamically adjust user and guest access privileges based on the current location of the user. In addition, geo-fencing capabilities allow enterprises to implement a perimeter radio-frequency (RF) firewall to lock down unauthorized access attempts from outside the premises.

## Key Location Appliance Features

- Simultaneously locates and tracks up to 4,000 wireless devices in real time
- Does not require custom protocols, specialized hardware, or any special software on tracked devices
- Provides precise and accurate location information for tracking all Wi-Fi enabled devices such as laptops, PDAs, asset tags, access points, VoWi-Fi phones, smartphones, tablets and Wi-Fi enabled medical devices
- Locates and tracks devices to room level in seconds with proven accuracy of greater than 99%
- Accurately detects building perimeters as well as which floor a device is on in multistory buildings
- Provides views of location and real-time movement of tracked devices via a graphical dashboard
- Powers and integrates location information via SOAP and XML APIs in a wide range of enterprise applications running over WLANs
- Lowers total cost of ownership by eliminating the need for proprietary readers, chokepoints, and dedicated sensors



## Features and Benefits of the RingMaster Appliance

The RingMaster Appliance is a highly scalable, rack-mounted management platform which enables rapid deployment with minimal configuration.

As a full turnkey solution, this appliance includes the RingMaster wireless LAN management software preconfigured on an enterprise-class hardened appliance with an optimized Linux-based operating system. Because of these optimizations, the RingMaster Appliance is virtually maintenance free and dramatically reduces operational cost.

## Unprecedented Scalability

Initially equipped with support for 250 access points, the RingMaster Appliance scales to support as many as 5,000 indoor or outdoor access points, including 802.11n access points. For maximum flexibility, additional licenses are available in increments ranging from 10 to 1,000 access points. With fully redundant dual RAID storage, the RingMaster Appliance offers ample capacity to support over twelve months of history, as well as daily backups of the configuration.

## Flexible Remote Management

The RingMaster Appliance supports standard management information bases (MIBs) to allow remote management of the appliance through third-party element managers such as HP OpenView or IBM Tivoli. In addition, the Webstart client feature lets network managers remotely download a RingMaster client and instantly begin managing the network from any location. The RingMaster Appliance also allows network managers to control wireless networks at multiple sites through a single RingMaster remote console. Alternatively, these networks can also be securely controlled by multiple network managers through multiple consoles simultaneously.

## WLAN Lifecycle Management

The RingMaster Appliance goes far beyond basic configuration and monitoring, extending to full lifecycle enterprise WLAN management. It enables network managers to plan, configure, deploy, monitor, and optimize the wireless LAN infrastructure, as well as its security and mobility services. RingMaster's intuitive interface and easy-to-use wizards provide extensive monitoring and reporting of activities at the device, user, and network levels. Its unique 3D predictive RF planning module calculates the optimal number, placement, and settings of access points based on the capacity requirements and application demands of the enterprise.

## Key RingMaster Appliance Features

- Simultaneously manages up to 5,000 access points
- Provides low maintenance and out-of-the-box operation with an optimized Linux-based operating system
- Supports Juniper Networks RF Planning module, with 3D predictive planning for indoor and outdoor areas
- Supports Juniper Networks access points and has unique 802.11n hot-spot and zone planning capabilities
- Enables up to a year of history and mobility trending data with high capacity dual RAID HDDs
- Integrates with leading wireless intrusion detection and prevention systems (WIDS/WIPS) for enhanced security analysis and reporting (optional)
- Easily upgrades from a base license with 250 access points in increments of 10, 50, 100, 250, 500, or 1,000 access points
- Integrated spectrum analysis with visualization and of reporting of interference sources and overall RF health
- Complete integration of SmartPass guest access, subscriber management and security features under the same management console

**Note:** For more information about the comprehensive features of RingMaster, please refer to the RingMaster datasheet.

## WLM1200 Hardware Specifications

### Dimensions (W x D x H)

16.8 x 25.6 x 1.7 in (42.6 x 65.0 x 4.3 cm)

### Weight

40.0 lbs (18.1 kg)

### Interfaces

- 2 x 10/100/1000BASE-T ports
- 1 serial console port

### Environmental

- Operating temperature: 50° to 95° F (10° to 35° C)
- Storage temperature: -40° to 158° F (-40° to 70° C)
- Humidity: 8% to 90% (noncondensing)

### Power

- 100-240 VAC, 50/60 Hz
- 520 watts power supply
- Maximum amperage draw: 7.0 A at 100 V, 3.0 A at 240 V

### Regulatory Safety

- UL 60950-1:2003, CSA 60950-1:2003, EN 60950, IEC 60590, CE Mark-EU Directive 73/23/EEC

### EMI/EMC

- FCC PART 15 Class A
- ICES 003 Class A
- VCCI Class A
- EN 55022 Class A, EN 55024, CE Mark (EU Directive 89/336/EEC)
- CISPR 22 Class A

### IEEE Standards

- 802.3: 100BASE-T
- 802.3u: 1000BASE-TX Gigabit Ethernet

## Juniper Networks Service and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit [www.juniper.net/us/en/products-services](http://www.juniper.net/us/en/products-services).

## Ordering Information

MODEL NUMBER	DESCRIPTION
<b>Mobility Services Appliance</b>	
WLM1200-UMSP-B1	Mobility Services Appliance with virtualized RingMaster and SmartPass. Includes WLM-RMTS, WLM-RMTS-50, WLM-SP-GA-BASE. Extensible to support up to 250 AP deployments.
WLM1200-UMSP-B2	Mobility Services Appliance with virtualized RingMaster, Location Engine and SmartPass. Includes WLM-RMTS-USMBASIC, WLM-RMTS, WLM-RMTS-50, WLM-SP-GA-BASE, WLM-SP-SM-50, WLM-SP-Security. Extensible to support up to 250 AP deployments.

### Location Appliance

WLM1200-LA	Location Appliance with 2 x 1000BASE-T ports.
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### Ringmaster Appliance

WLM1200-RMTS	RingMaster Appliance with 2 x 1000BASE-T ports—includes WLM-RMTS base license and WLM-RMTS-250 license to support 250 access points.
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### RingMaster Licenses

WLM-RMTS-10	RingMaster license supporting an additional 10 managed access points.
WLM-RMTS-50	RingMaster license supporting an additional 50 managed access points.
WLM-RMTS-100	RingMaster license supporting an additional 100 managed access points.
WLM-RMTS-250	RingMaster license supporting an additional 250 managed access points.
WLM-RMTS-500	RingMaster license supporting an additional 500 managed access points.
WLM-RMTS-1000	RingMaster license supporting an additional 1,000 managed access points.
WLM-RMTS-EVAL	RingMaster 90 day evaluation license supporting RF planning and 50 managed access points.
WLM-RMTS-PLAN	RingMaster license supporting RF planning.
WLM-RMTS-USM-BASIC	RingMaster license bundle for Unified Services Mgmt. Includes WLM-RMTS-USM-LOCATION, WLM-RMTS-USM-MONITORING-ADV, and WLMRMTS-USM-SECURITY license keys. Requires license for a minimum of 50 managed access points.
WLM-RMTS-AGENT	RingMaster Agent license required to support RingMaster's REST-based API.

## About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at [www.juniper.net](http://www.juniper.net).

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