

BROCADE MOBILITY RFS6000 CONTROLLER



CAMPUS NETWORK

Enabling a Secure and Reliable Wireless Enterprise in Medium to Large Deployments

HIGHLIGHTS

- Provides a reliable, high-performance wireless LAN switching and voice communications platform for enterprise environments
- Helps reduce costs through centralized management
- Delivers enterprise-class performance and network resiliency
- Eliminates security gaps in wireless enterprises
- Enables toll-quality voice in wireless enterprises
- Utilizes Adaptive Mode for access points to increase network flexibility and site survivability
- Enhances end-to-end Quality of Service (QoS)

The Brocade® Mobility RFS6000 Controller enables wireless enterprises by providing an integrated communications platform that delivers secure and reliable voice, video, and data applications in Wireless LAN (WLAN) environments. Based on an innovative architecture, the Brocade Mobility RFS6000 provides:

- Wired and wireless networking services
- Multiple locating technologies such as Wi-Fi and RFID
- Resiliency via 3G/4G wireless broadband backhaul
- High performance with 802.11n networks

The enterprise-class Brocade Mobility RFS6000 provides best-in-class performance, security, scalability, and manageability to meet the

needs of demanding mission-critical business applications. It also provides the tools to simplify and minimize the costs associated with day-to-day management of mobility solutions. The underlying architecture helps unify management of network hardware, software configuration, and network policies—complete with built-in process monitors and troubleshooting tools.

HIGH PERFORMANCE AND RESILIENCY

The Brocade Mobility RFS6000 features a multicore, multithreaded architecture capable of supporting from 2000 to 20,000 mobile devices and up to 48 dual-radio 802.11 a/b/g access points or 256 adaptive access points (Brocade Mobility 5181 a/b/g or Brocade Mobility 7131 a/b/g/n) per controller.



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Innovative clustering technology provides a 12X capacity increase, and smart licensing enables efficient, scalable network expansion.

The result is a platform purpose-built to deliver high availability and scalability. In addition, a user-accessible ExpressCard slot is capable of hosting a broadband card (3G/4G) for a redundant wireless WAN backhaul connection, enabling a truly self-sustainable wireless enterprise.

ENTERPRISE-GRADE SECURITY

Comprehensive network security features keep wireless transmissions secure and provide compliance for HIPAA and PCI. The Brocade Mobility RFS6000 provides gap-free security for WLAN networks, following a tiered approach to protect data at every point in the network—wired or wireless.

This complete solution includes a wired/wireless firewall, an integrated IPsec VPN gateway, AAA Radius Server, and Secure Guest Access with a captive Web portal, reducing the need to purchase and manage additional infrastructure. Other security features include MAC-based authentication, comprehensive integrated IDS/IPS, anomaly analysis, and more.

TOLL-QUALITY VOICE FOR THE WIRELESS ENTERPRISE

Support for Voice over WLAN (VoWLAN) provides cost-effective voice services throughout the wireless enterprise, enabling push-to-talk and other capabilities for employees inside the building as well as in outside areas. The rich feature set provides granular control over the many wireless networking functions required to deliver high-performance, persistent, clear connections with toll-quality voice.

Quality of Service (QoS) provides superior performance for voice and video services. WMM Admission Control—including TSPEC and SIP Call Admission Control—helps ensure dedicated bandwidth for voice calls as well as better control over active voice calls for a variety of VoIP handsets. In addition, the Fixed Mobile Convergence (FMC)-ready Brocade Mobility RFS6000 supports future services, including the extension of desk phones to mobile devices over the WLAN and WWAN.

NETWORK FLEXIBILITY AND SITE SURVIVABILITY

The Brocade Mobility RFS6000 simplifies and reduces the cost of extending mobility to remote and branch offices as well as telecommuters. Organizations can deploy Brocade independent mesh access points (the Brocade Mobility 5181 a/b/g and Brocade Mobility 7131 a/b/g/n) at remote locations yet centrally manage them in the Network Operations Center (NOC) through the Brocade Mobility RFS6000 (single controller or a cluster for scalability).

An IPsec VPN tunnel secures all traffic between the access points and the controller. Moreover, Remote Site Survivability (RSS) mesh access points provide secure uninterrupted wireless service—delivering unparalleled resiliency that survives a WAN link outage.

The architecture includes SMART RF Management, which provides the dynamic RF tuning required for optimal network performance. This feature takes self-healing to the next level, dramatically reducing network monitoring costs by enabling WLANs to intelligently adapt to the ever-changing RF environment.

The ability to dynamically adjust the power and channels on any access point automatically eliminates the gaps in coverage that occur when an access point fails or there is a change in the environment—such as the introduction of an increased volume of liquid or metal—all without any physical intervention. This feature protects against under- or over-powering—scenarios that could reduce performance and network availability. And adjustments are completely transparent—there is no impact on voice calls and data sessions in progress—protecting the quality of service and user experience.

A FAST ROI

Enterprise-class services such as security, voice, performance, and resiliency are built into the modular operating system for the Brocade Mobility RFS6000. These comprehensive services come at no additional cost and are packaged together to make mobility work even better.

SERVICES FOR AN END-TO-END SOLUTION

Brocade Global Services offers comprehensive customer support for Brocade enterprise wireless LAN products, including hardware and 24×7 software support, along with software updates and new releases.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include education, support, and services. For more information, contact a Brocade sales partner or visit www.brocade.com.

BROCADE MOBILITY RFS6000 SPECIFICATIONS

Packet forwarding		Anomaly analysis	Source Media Access Control (MAC) = Dest MAC; illegal frame sizes; source MAC is multicast; TKIP countermeasures; all zero addresses
802.1D–1999 Ethernet bridging; 802.11–802.3 bridging; 802.1Q VLAN tagging and trunking; proxy ARP; IP packet steering redirection		Authentication	Access Control Lists (ACLs); Pre-Shared Key (PSK); 802.1x/EAP–Transport Layer Security (TLS), Tunnelled Transport Layer Security (TTLS), Protected EAP (PEAP); Kerberos integrated AAA/RADIUS server with native support for EAP-TTLS, EAP-PEAP (includes a built-in user name/password database; supports LDAP), and EAP-SIM
Wireless networking		Transport encryption	WEP 40/128 (RC4), KeyGuard, WPA-TKIP, WPA2-CCMP (AES), WPA2-TKIP
Wireless LAN	Supports 32 WLANs; multi-ESSID/BSSID traffic segmentation; VLAN-to-ESSID mapping; auto assignment of VLANs (on RADIUS authentication); power save protocol polling; pre-emptive roaming; VLAN pooling and dynamic VLAN adjustment; IGMP snooping; Layer 3 mobility (inter-subnet roaming); Radio frequency Automatic Channel Select (ACS); Transmit Power Control (TPC) management; country code-based RF configuration; 802.11b, 802.11g, 802.11a, and 802.11n	IPsec VPN gateway	Supports DES, 3DES, and AES-128 and AES-256 encryption, with site-to-site and client-to-site VPN capabilities; supports 1024 concurrent IPsec tunnels per controller—12,288 per cluster
Bandwidth management	Congestion control per WLAN; per user based on user count or bandwidth utilization; dynamic load balancing of Brocade Mobility 300 access points and adaptive access points in a cluster	Secure guest access (hotspot provisioning)	Local Web authentication; URL redirection for user login; customizable login/welcome pages; support for external authentication/billing systems
Access points	Supports 1 to 48 “thin” 802.11a/b/g Brocade Mobility 300 access points for Layer 2 or 3 deployment per controller and 576 802.11a/b/g Brocade Mobility 300s per cluster; IPv6 client support	Wireless RADIUS support	User-based VLANs (standard); MAC-based authentication (standard); user-based QoS; location-based authentication; allowed ESSIDs
Adaptive access points	Supports adoption of 256 Brocade Mobility 5181 802.11a/b/g and Brocade Mobility 7131 802.11a/b/g/n access points in Adaptive Mode per controller and 3072 per cluster; multiple country configuration support	NAC support	Integration with third-party systems from Microsoft and Symantec
Power over Ethernet (PoE)	Integrated; up to 29.7 watts per Ethernet port, up to a maximum of 180 watts for simultaneous operation	Real-Time Locationing System (RTLS)	
Network security		RSSI-based triangulation for Wi-Fi assets	
Features	Role-based wired/wireless firewall (Layer 2–7) with stateful inspection for wired and wireless traffic; active firewall sessions—100,000 per controller and 1,200,000 per cluster; protects against IP spoofing and ARP cache poisoning	Tags supported: Ekahau, Aeroscout, Newbury, Gen 2 tags	
Access Control Lists (ACLs)	Layer 2/3/4 ACLs	RFID support: Compliant with LLRP protocol	
Wireless IDS/IPS	Multi-mode rogue AP detection, rogue AP containment, 802.11n rogue detection, ad-hoc network detection, Denial of Service (DoS) protection against wireless attacks, client blacklisting, and excessive authentication/association; excessive probes; excessive disassociation/de-authentication; excessive decryption errors; excessive authentication failures; excessive 802.11 replay; excessive crypto IV failures (TKIP/CCMP replay)	Built-in support for the following Motorola RFID readers: fixed (XR440, XR450, XR480); mobile (RD5000) and handheld (MC9090-G RFID)	
Geofencing	Add location of users as a parameter that defines access control to the network	Optimized wireless QoS	
WIPS sensor conversion	Supported on the Brocade Mobility 300 and the Brocade Mobility 5181 and Brocade Mobility 7131 access points in Adaptive Mode	RF priority	802.11 traffic prioritization and precedence
		Wi-Fi Multimedia (WMM) extensions	WMM-power save with TSPEC Admission Control; WMM U-APSD
		IGMP snooping	Optimizes network performance by preventing flooding of the broadcast domain
		SIP call admission control	Controls the number of active SIP sessions initiated by a wireless VoIP phone
		Classification and marking	Layer 1–4 packet classification; 802.1p VLAN priority; DiffServ/TOS
System resiliency and redundancy			
Active:Standby; Active:Active and N+1 redundancy with access point and MU load balancing; critical resource monitoring			
SMART RF: Network optimization to help ensure user quality of experience by dynamic adjustments to channel and power (on detection of RF interference or loss of RF coverage/neighbor recovery)			
Dual-firmware bank supports image failover capability			

BROCADE MOBILITY RFS6000 SPECIFICATIONS (CONTINUED)

System extensibility		Product safety	UL/cUL 60950-1, IEC/EN60950-1
Optional EVDO/HSPDA ExpressCard Slot available for Broadband Backhaul Services in the future; PCI-X interface		EMC compliance	FCC (USA), Industry Canada, CE (Europe), VCCI (Japan), C-Tick (Australia/New Zealand)
Management			
Features	Command line interface (serial, telnet, SSH); secure Web-based GUI (SSL) for the wireless controller and the cluster; SNMP v1/v2/v3; SNMP traps—40+ user-configurable options; Syslog; TFTP Client; Secure Network Time Protocol (SNTP); text-based controller configuration files; DHCP (client/server/relay), controller auto-configuration and firmware updates with DHCP options; multiple user roles (for controller access); MIBs (MIB-II, Etherstats, wireless controller-specific monitoring, and configuration); e-mail notifications for critical alarms; MU naming capability		
Physical characteristics			
Form factor	1U rack mount		
Dimensions	1.75 in. H × 17.32 in. W × 15.39 in. D (44.45 mm × 440.00 mm × 390.80 mm)		
Weight	14.0 lbs. (6.4 kg)		
Physical interfaces	One uplink port: 10/100/1000 Cu/Gigabit SFP interface Eight 10/100/1000 Cu Ethernet ports with 29.7 watts PoE, 802.3af and 802.3at Draft One 10/100 Management Interface (OOB port) One USB 2.0 host One ExpressCard slot (in USB mode) One PCI-X interface One serial port (RJ45 style)		
MTBF	Greater than 65,000 hours		
Power requirements			
AC input voltage	90 to 264 VAC 50/60Hz		
Maximum AC input current	6 A at 115 VAC, 3 A at 230 VAC		
Input frequency	47 Hz to 63 Hz		
Environmental			
Temperature	Operating: 32° F to 104° F (0° C to 40° C) Non-operating: -40° F to 158° F (-40° C to 70° C)		
Humidity	Operating: 5% to 85% (without condensation) Non-operating: 5% to 85% (without condensation)		
Heat dissipation	665 BTU per hour		
Regulatory			

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