WS5100

High performance wireless switch for mid to large Wireless Enterprises

FEATURES

Adaptive AP: extending the enterprise
Enables centralized management of mesh access points at remote sites including automatic firmware upgrades as well as site survivability of those remote locations

Centralized Wi-NG architecture
A single point of entry that can be centrally managed and easily secured; lowers the overall cost of deployment and management

Comprehensive layered security
Exceptional level of data and network protection without sacrificing fast roaming, including: WPA2-CCMP (with 802.11i fast roaming options); Stateful Firewall, integrated RADIUS Server; IPSec VPN Gateway; Secure Guest Access Provisioning; and 24x7 dedicated security via Motorola's Wireless IPS, providing the advanced technology required to detect any rogue network, including 802.11n

L2 and L3 roaming
Seamless roaming of mobile clients even across complex distributed networks

Moving at the speed of business

The WS5100 Wireless Switch from Motorola provides enhanced support for enterprise mobility and multimedia applications, as well as increased security and manageability. Based on Motorola's landmark Wi-NG (Wireless Next Generation) architecture, the WS5100 enables seamless campus-wide roaming, more robust failover capabilities, enhanced security, improved mobile client battery life, and increased voice capacity. Robust security features include integrated IDS/IPS, Stateful Firewall, an IPSec VPN gateway and secure guest access provisioning. Automatic configuration and firmware updates, built-in process monitors, troubleshooting tools and a simple user interface make network deployment and management easy.

Robust enterprise mobility

Business needs should dictate network coverage, not the other way around. That's why the Motorola WS5100 allows you to deploy "thin" access ports in Layer 3 network designs, and enables campus-wide roaming of mobile clients across Layer 3 boundaries — without requiring additional client software or hardware. Used in concert with Motorola handheld devices, the WS5100 further enhances the fast roaming capabilities and extends client battery life. WMM (Wi-Fi Multimedia) with "power save" extensions also provides additional voice capacity. Supporting mobile workers has never been so easy. With the adaptive AP support, Enterprise Mobility is taken a step further, providing capabilities to extend the enterprise to remote/branch locations with the advantages of centralized manageability. And SMART RF Management takes self-healing to the next level, dramatically reducing network monitoring requirements by enabling the WLAN to intelligently adapt to the ever-changing RF environment. The ability to dynamically adjust the power and channels on any access port automatically eliminates the gaps in coverage that occur when an AP fails or there is a change in your environment — for example, the introduction of an increased volume of liquid or metal — all without any physical intervention.

End-to-end layered security

The WS5100's comprehensive security includes integrated features such as intrusion detection, an IPSec VPN gateway, AAA/Radius server (for WPA/WPA2 termination on the box) and "hotspot" provisioning capabilities for secure guest access. The stateful packet inspection firewall offers protection against denial of service attacks while optimizing network traffic. With support for the wireless security standards of today and the ability to easily upgrade to tomorrow's standards, the WS5100 delivers true value.

Simplified, centralized management

The WS5100 provides unified management of network hardware, software configuration, and network policies, and has built-in process monitors and troubleshooting tools. RF Management Suite (sold separately) provides centralized management of the WS5100 infrastructure in distributed locations. With active/active failover and clustering capabilities, as well as mobile unit load balancing, the WS5100 maximizes network uptime while minimizing network latency. Each WS5100 supports up to 48 access ports and 32 WLANs.

For more information, visit us on the web at www.motorola.com/ws5100 or access our global contact directory at: www.motorola.com/enterprisemobility/contactus

SMART RF Management
Next generation self-healing: enables the WLAN to automatically and intelligently adapt to changes in the RF environment to eliminate unforeseen gaps in coverage

Real Time Locationing System (RTLS)
Provides rich locationing services to enable real-time enterprise asset-tracking through support for 802.11, RFID and third party locationing solutions — including industry leaders AeroScout, Ekahau, and Newbury Networks. Standards-based support for EPC Global ALE interface for processing and filtering data from all active and passive tags; and EPC Global LLRP interface for passive RFID tag support

Clustering and failover features
Supports multiple levels of redundancy and failover capabilities to ensure network availability

Enhanced End-to-End Quality of Service (QoS)
Enhances voice and video capabilities; prioritizes network traffic to minimize latency and provide optimal responsiveness to all users; improves battery life and capacity; enables granular control of bandwidth at the mobile device level; TSPEC Admission Control ensures ample bandwidth and a superior user experience for VoIP calls

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WS5100 Specifications

Packet Forwarding
802.1D-1999 Ethernet bridging; 802.11-.802.3 bridging; 802.1Q VLAN tagging & trunking; proxy ARP; IP packet steering-redirection

Wireless Networking	
Wireless LAN: Supports 32 WLANs; multi-ESS/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 assignment	
Bandwidth management: Congestion control per WLAN; per user based on user count or bandwidth utilization; dynamic load balancing of AP300s in a cluster	
Access ports: Supports 1-48 "thin" access ports; automatic access port adoption with ACLs; access port load balancing; direct sequence access point-to-access port conversion	
Adaptive AP: Supports 1-48 adoption of the Independent Motorola AP-51X1 Access Point in Adaptive Mode for remote site and branch office solutions	
Layer 2 or Layer 3 deployment of access ports	
IPv6 client support	
Layer 3 mobility (inter-subnet roaming)	
Supported access ports and access points:	Access ports – AP100 (802.11b) (L2 deployment only); AP300 (802.11a/b/g ready) (L2 or L3 deployments) with Static IP support Access points – AP-51X1 – Adaptive AP mode; AP-4131 (L2 deployments only)

Network Security	
Layer 3 Stateful Inspection Firewall	
Access Control Lists (ACLs):	L2/L3/L4 ACLs
Wireless IDS/IPS:	Multi-mode rogue AP detection, Rogue AP Containment, 802.11n Rogue Detection, Ad-Hoc Network Detection, client blacklisting, excessive authentication/association; excessive probes; excessive disassociation/deauthentication; excessive decryption errors; excessive authentication failures; excessive 802.11 replay; excessive crypto IV failures (TKIP/CCMP replay)
WIPS sensor conversion:	Supported on the Adaptive AP-5131 and AP300
Anomaly Analysis:	Source Media Access Control (MAC) = Dest MAC; Illegal frame sizes; Source MAC is multicast; TKIP countermeasures; all zero addresses
Authentication:	Access Control Lists (ACLS); pre-shared keys (PSK); 802.1x/EAP—transport layer security (TLS), tunneled 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
Transport encryption:	WEP 40/128 (RC4), KeyGuard, WPA—TKIP, WPA2-CCMP (AES), WPA2-TKIP
IPSec VPN gateway:	Supports DES, 3DES and AES-128 and AES-256 encryption; supports site-to-site and client-to-site VPN capabilities
Secure guest access (Hotspot provisioning):	Local Web based authentication; URL redirection for user login; customizable login/welcome pages; support for external authentication/billing systems
Wireless RADIUS Support (Standard and Motorola Vendor Specific Attributes):	User Based VLANs (Standard) MAC Based Authentication (Standard) User Based QoS (Motorola VSA) Location Based Authentication (Motorola VSA) Allowed ESSIDs (Motorola VSA)
NAC support with third party systems from Microsoft and Symantec	

Real Time Locationing System (RTLS)
RSSI based triangulation for Wi-Fi assets
Tags supported: Ekahau, Aeroscout, Newbury, Gen 2 Tags
RFID support: Compliant with LLRP protocol; built-in support for the following Motorola RFID readers — fixed (XR440, XR450, XR480; mobile (RD5000); and handheld (MC9090-G RFID)

Optimized Wireless QoS	
RF priority:	802.11 traffic prioritization and precedence
Wi-Fi Multimedia extensions:	WMM-power save with TSPEC admission control
Classification and marking:	Layer 1-4 packet classification; 802.1p VLAN priority; DiffServ/TOS

System Resiliency & Redundancy
Active:Standby; Active:Active and N+1 redundancy with access port and MU load balancing; self healing; critical resource monitoring
SMART RF: Network optimization to ensure user quality of experience at all times by dynamic adjustments to channel and power (on detection of RF interference or loss of RF coverage/neighbor recovery)

Management
Command line interface (serial, telnet, SSH); secure Web-based GUI (SSL); SNMP v1/v2/v3; SNMP traps-40+ user configurable options; Syslog; TFTP Client; secure network time protocol (SNTP); text-based switch configuration files; DHCP (client/server/relay), switch auto-configuration and firmware updates with DHCP options; multiple user roles (for switch access); MIBs (MIB-II, Etherstats, wireless switch specific monitoring and configuration); Email notifications for critical alarms; MU naming capability

Physical Characteristics	
Form factor:	Standard 1RU
Dimensions:	1.73 in. H x 16.89 in. W x 15.93 in. D 43.9 mm H x 429 mm W x 404.6 mm D
Weight:	13.75 lbs./6.25 kg
Physical interfaces:	RS232 serial console port; 10/100/1000 Ethernet ports
MTBF:	>75,000 Hours

Power Requirements	
AC input voltage:	100-240 VAC
Max AC input current:	6A@115 VAC, 3A@230 VAC
Max power consumption:	100-240 VAC, 50/60 Hz, 3A, 240 VAC, 50/60 Hz, 1.5A
Input frequency:	47 Hz to 63 Hz

User Environment	
Operating temperature:	50° F to 95° F/10° C to 35° C
Storage temperature:	40° F to 149° F/-40° C to 65° C
Operating humidity:	5%-85% (w/o condensation)
Storage humidity:	5%-95% (w/o condensation)
Operating altitude:	50 ft. to 10,000 ft./16 m to 3,048 m
Storage altitude:	50 ft. to 35,000 ft./16 m to 10,600 m

Regulatory	
Safety certifications:	FCC (Art.15, part B), Industry Canada, CE, VCCI, C-Tick, BSMI
EMI compliance:	UL 1950, cUL (Canada), VDE GS, DENAN (Japan), CB Cert

Part Numbers	
WS-5100-06-WWR	6 Port WS5100 Wireless Switch
WS-5100-12-WWR	12 Port WS5100 Wireless Switch
WS-5100-18-WWR	18 Port WS5100 Wireless Switch
WS-5100-24-WWR	24 Port WS5100 Wireless Switch
WS-5100-30-WWR	30 Port WS5100 Wireless Switch
WS-5100-36-WWR	36 Port WS5100 Wireless Switch
WS-5100-42-WWR	42 Port WS5100 Wireless Switch
WS-5100-48-WWR	48 Port WS5100 Wireless Switch
WS-5100-RS-WWR	Redundant WS5100 Wireless Switch
WS-5100-UC-WW	6 Port Upgrade