




WIRELESS SWITCH WS5100

High Performance Overlay Wireless Switch

TECHNICAL BRIEF





The WS5100 redefines the standard for enterprise class wireless networks, delivering extensive functionality, security, scalability and management at a much lower total cost of ownership than first-generation access point-based wireless networks.

Next-Generation Switch-Based Wireless LANs: The Power of Centralized Intelligence

The Wireless Switch WS5100 delivers on Symbol's SMART promise:

Security and Scalability **M**anageability **A**vailability **R**eliability **T**CO Savings

The Wireless Switch WS5100 redefines the standard for enterprise class wireless networks, delivering extensive functionality, security, scalability and management at a much lower total cost of ownership than first-generation access point-based networks. By centralizing intelligence that was previously distributed throughout a wireless network via access points, this second generation wireless switch architecture delivers an unparalleled level of wireless LAN control, performance and management simplicity.

End-to-end layered security

Our comprehensive suite of security mechanisms—including access-control, authentication, and encryption—can be deployed at various locations in the enterprise network: the perimeter, the network, the servers, and client devices. The result is a layered security model that delivers robust end-to-end security. With support for the wireless security standards of today, and the ability to easily upgrade to tomorrow's standards, the WS5100 is the wireless gatekeeper for your enterprise network.

Centralized management

The WS5100 simplifies day-to-day operations with unified management of hardware, software configuration, and network policies. Centralized management also enables the automatic distribution of configurations to all Access Ports—eliminating the need and the associated costs to configure and manage each access point.

Scales and grows easily

Adding capacity and new functionality is easier and less expensive than an access point-based wireless LAN. The WS5100 enables your wireless network to scale easily as your company grows, with a slim 1RU form factor that fits easily into any standard network equipment rack. Each WS5100 supports up to 48 Access Ports and 32 WLANs.

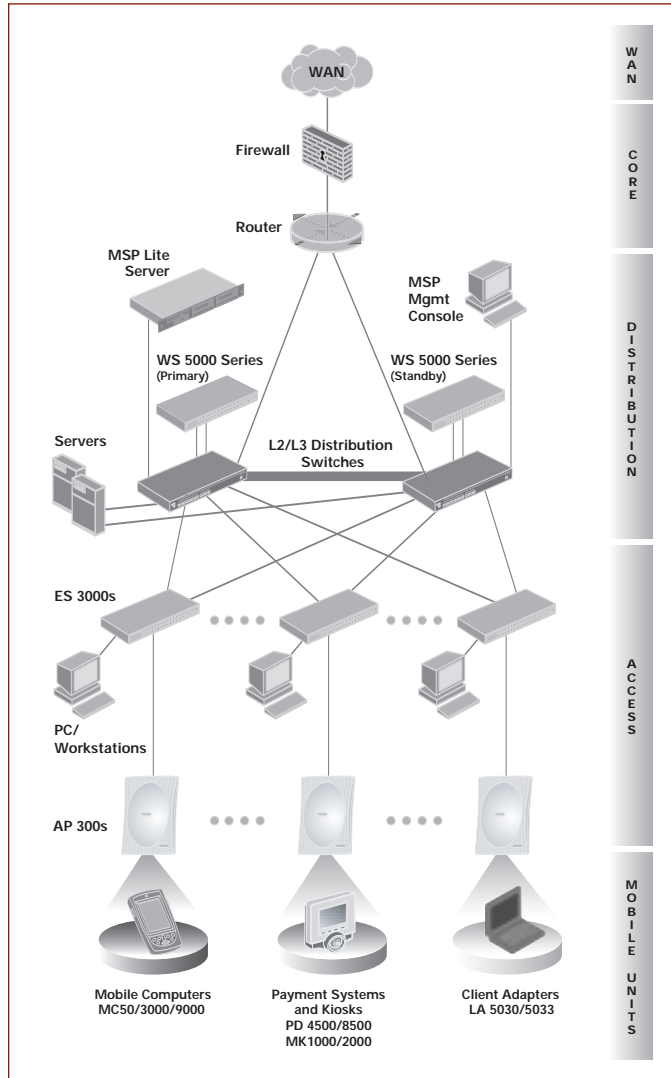
Reliability

The low risk and high business value of multi-layer network designs is extended to wireless networks with the flexible overlay architecture of Symbol's Wireless Switch WS5100. The WS5100 is designed to be integrated with the reliable approach of multi-layer networking to enable predictable and high performance wireless networks, while preserving network integrity. In addition, the WS5100 can be implemented using the standard networking best practices of modularity. This provides a repeatable approach in design for easy scaling, consistency and deterministic traffic patterns.

Lower Total Cost of Ownership—Outstanding Investment Protection

The WS5100 removes the overhead and complexity of first-generation access point-based wireless LANs, delivering a wireless network that is less expensive to implement and manage. The extensive functionality, expandability, and centralized management eliminate the time and management costs associated with access point-based solutions, providing a lower total cost of ownership. And with the flexibility to support the standards of today and tomorrow, as well as the legacy wireless networks of yesterday, the WS5100 provides outstanding investment protection.

Next Generation Wireless Switch Reference Architecture



Extensive WLAN Functionality

The comprehensive feature set of the WS5100 provides full control over wireless LAN traffic to provide peak performance. Extensive wireless LAN functionality enables you to maximize bandwidth and throughput, prioritize critical traffic, conserve power on mobile devices, and provide dependable connection speeds for users in challenging wireless environments.

Scalable Radio Architecture

Each WS5100 supports up to 48 single or dual-band Access Port radios, easily accommodates new coverage, radio types, channels, and spectrum—offering the broadest radio technology support in the industry. The WS5100 provides support across the 900 MHz, 2.4 GHz and 5 GHz frequencies with frequency hopping, direct sequence, and OFDM encoding techniques, as well as 802.11a, 802.11b, 802.11g, FH, and DS radio operations.

Access Ports: Next-Generation Access Points

Access Ports bring a new level of simplicity to wireless network implementation and management, as well as an unprecedented upgrade capability. The innovative design removes duplicate computing components and management requirements associated with using access points throughout a wireless LAN. Access Ports are easily upgraded with new features and functionality via the WS5100, providing excellent investment protection. A wide range of 802.11a and 802.11b external antenna options enables the design of coverage patterns for the most challenging environments.



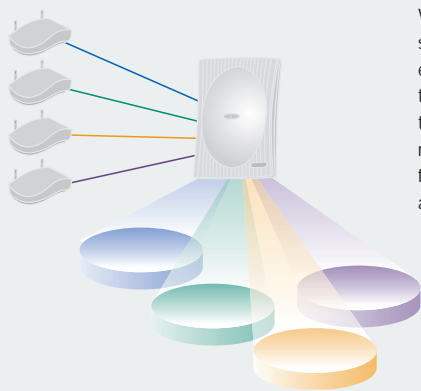
The flexible overlay architecture extends the reliability of multi-layer networks, delivering a predictable high-performance wireless network—while preserving network integrity.



Extensive functionality provides full control of the WLAN, giving you the power to achieve peak and consistent wireless network performance.

Virtual AP: The functionality of Four Access Points in One Access Port

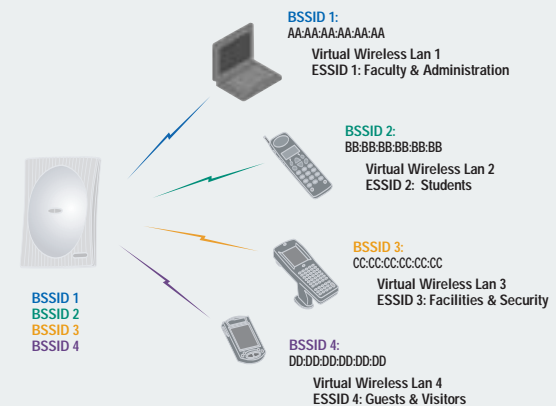
Access Ports with Virtual AP (One Access Port Supports Four Virtual LANs)



Virtual AP enables Access Ports to support up to four virtual LANs, enabling granular segmentation of the wireless network to best meet the needs of the enterprise. The result is more control, more functionality—with less capital and management expense.

Access Port VLAN Architecture: Multiple BSSID VLAN (Improved Performance and Security)

Virtual AP provides support for multiple BSSIDs, enabling the creation of true wireless VLANs. Broadcast traffic is sent only to recipients within a specific wireless VLAN (ESSID), improving overall battery life of client devices and network throughput, and ensuring security and confidentiality for broadcast traffic.



Per Device QoS with Bandwidth-Weighted Fair Queuing

The WS5100 controls Quality of Service (QoS) for each mobile device by guaranteeing bandwidth for specific traffic classes during periods of network congestion. With support for layer 2/3/4 classification, DiffServ, and 802.1p, packets are assigned into a bandwidth-weighted fair queuing scheduler that allocates a percentage of available bandwidth to each class queue. In addition, the Power Save Protocol (PSP) provides per device sleep-stage queues that maintain application performance for devices in sleep mode.

Power Saving for Client Devices

The Power Save Protocol (PSP) polling feature provides two modes (doze and sleep) that enable devices to maximize battery life and maintain application performance. Doze mode enables devices to conserve power between wireless transmissions, while sleep mode ensures that packets are stored and reliably delivered when the device awakens.

Virtual AP Enables True Virtual LANS (VLANs)

Virtual AP enables the wireless LAN to be segmented into true multiple broadcast domains—the wireless equivalent of Ethernet VLANs—providing the ability to map multiple ESSIDs (Extended Service Set Identifiers) to multiple BSSIDs (Basic Service Set Identifiers). Wireless traffic engineering capabilities control client to-client visibility, broadcast/multicast/unicast packet forwarding behavior, and security policies.

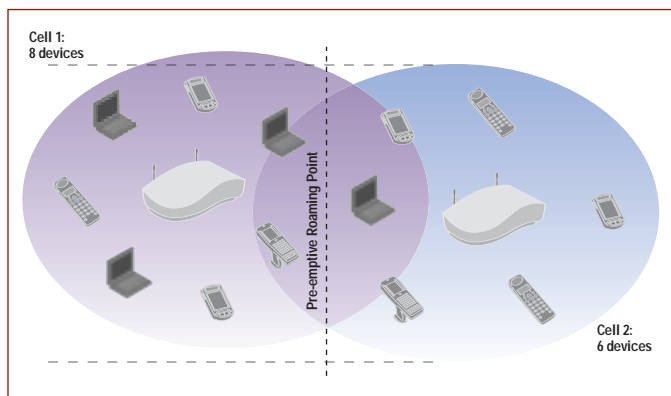
Virtual AP provides complete control over broadcast traffic, which is associated with a BSSID. Control of broadcast traffic, including network level messages, is extremely important because of its potential negative effect on performance.

Intelligent control of broadcast forwarding through proxy ARP and other mechanisms ensures that only by the intended recipients receive broadcast traffic. The resulting reduction in traffic maximizes bandwidth and network throughput; device battery life and overall performance are improved with the elimination of the processing of messages intended for other recipients; and the possible compromise in confidentiality and security of messages is eliminated since broadcast messages can no longer reach the wrong recipients.

Load Balancing and Pre-emptive Roaming

Normal roaming does not occur until the device connection has reached a minimum connection speed of 1 Mbps—normally well beyond the boundaries of a cell and approximately halfway through an adjacent cell. Two features, client load balancing and pre-emptive

Pre-emptive Roaming Results in Even Load Balancing and Higher Connection Speeds



Pre-emptive roaming occurs close to the cell 'edges', ensuring that the load on any given access point is limited to those devices within the actual cell. Users experience higher and more consistent connection speeds, resulting in smoother running of applications.

roaming, work hand-in-hand to ensure that devices roam before the connection quality erodes, providing users with more consistent connection speeds for smooth application performance.

Automatic Channel Selection

The degradation of RF performance due to environmental factors is eliminated with Automatic Channel Select (ACS). ACS optimizes radio channel planning and installation, scanning and selecting the best channel for each Access Point based on noise and signal properties. A complete set of configuration controls provides time, mode of operation and Access Point exclusion lists.


Transmit Power Control

Transmit Power Control minimizes radio interference for sites that require a very dense population of radios (Access Ports) to support bandwidth requirements. Configured from within the WS5100, this can also be part of a group policy.

End-to-End Layered Security

There is no element of networking—wired or wireless—more important than security. As a pioneer and leader in wireless LANs, Symbol has implemented a complete end-to-end layered security model that includes support for all of today's wireless security standards, and is easily upgradeable to support the standards of tomorrow. Policy-based classes enable the organization of security requirements in groups—public, low, medium, and high. Policies are then configured to specify the correct level of control for users, applications, and devices within those groups.

The complete
end-to-end
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model delivers
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support for
today's standards
and the ability
to upgrade
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standards of
tomorrow.



Symbol's mobility features combine with support for new wireless security standards to offer the highest levels of protection for your data—without sacrificing wireless network performance.

Network Access Control

Access Control Lists (ACLs)

Layer 2/3/4 Access Control Lists provide filtering for advanced network traffic control, enabling administrators to forward, drop or redirect packets based on application type, protocol, IP Address, MAC Address and more.

Authentication

Authentication ensures that only authorized users and devices can access your network. The WS5100 provides a comprehensive set of authentication mechanisms to support a variety of security requirements:

Pre-shared keys

Simple shared authentication through non-wireless distribution of authentication keys ensures secure key management.

802.1x/Extensible Authentication Protocol (EAP)

802.1X and Extensible Authentication Protocol (EAP) work hand-in-hand, providing the infrastructure for robust authentication and dynamic key rotation and distribution. EAP provides a means for mutual authentication. Authorized users identify themselves to the wireless network, and the wireless network identifies itself to the user—ensuring that unauthorized users cannot access your network, and authorized users do not inadvertently join a rogue network. A wide variety of authentication types can be used—from user name and password to voice signatures, public keys and biometrics, with the ability to upgrade to support future authentication types. And dynamic key rotation and distribution provides a new encryption key per user per session, greatly increasing the strength of the chosen encryption algorithm (WEP, TKIP or AES) used to encode data. The WS5100 supports a variety of EAP methods, including Microsoft®—TLS, Funk Software®—TTLS, and WPA—PEAP.

Kerberos

The industry-standard Kerberos v5 protocol meets all of the requirements for scalable, effective security in a mobile environment. Kerberos features mutual authentication and end-to-end encryption. All traffic is encrypted and security keys are generated on a per-client basis, keys are never shared or reused, and are automatically distributed in a secure manner. The Kerberos ticket-based security mechanism enables fast roaming, even with the highest levels of security.

Certificate Based Public Key Infrastructure (PKI)

PKI, used in conjunction with the AES-based VPN transport, uses secure digital certificates to provide robust authentication capabilities including verification of identity as well as integrity of data (ensuring that tampering or corruption has not occurred), and authorization for network access.

WPA2/802.11i + Mobility

Support for new wireless security standards, coupled with Symbol's mobility features, offers the highest levels of protection for your data and networks—without sacrificing performance. Features include stronger data encryption through the Advanced Encryption Standard (AES), the standard encryption used by the U.S. government. Message Integrity Check (MIC) improves the detection and elimination of data that was tampered or corrupted while in transit. And Symbol's mobility features ensure peak performance of the wireless network. For example, fast seamless roaming (less than 50ms) provides continuity of the wireless connection and application access for mobile users.

Encryption

Encryption ensures that data privacy is maintained while in transmission. As a rule of thumb, the stronger the encryption, the more complex and expensive it is to implement and manage. The WS5100 supports a range of encryption options that provide basic to strong encryption techniques, providing the flexibility to select the right level for your data.

Automatic Encryption Standard (AES)

Support for 802.11i AES (often referred to as CCMP for wireless) offers higher levels of security and performance through a variety of features, including Robust Security Network Associations (RSNA); AES Counter Mode with CBC-MAC (CCMP) mode; interoperability with all wireless devices that support the RSNA standard (including non-Symbol Mobile Units (MU) and Access Points); Pairwise Master Key (PMK) caching and fast roaming and more.

Wired Equivalent Privacy (WEP)

The 802.11 Wired Equivalent Privacy (WEP) provides static key encryption—a single key is distributed to all users for encryption and decryption of data. WEP generates either a 40- or 128-bit key using the widely used RC-4 encryption algorithm. WEP allows full interoperability with legacy clients and provides basic over-the-air security in less-critical environments, such as an open public-access application.

WPA—Temporal Key Integrity Protocol (TKIP)

WPA-TKIP addresses well-known vulnerabilities in WEP encryption. TKIP provides key rotation on a per-packet basis along with Michael message integrity check (MIC), which determines if data has been tampered or corrupted while in transit. This robust method of encryption provides a higher level of protection for your data and protects your network from a variety of types of attacks.

KeyGuard™—MCM

This implementation of TKIP is based on the IEEE 802.11i draft security standards. Like WECA's version of TKIP, KeyGuard provides a different key for every packet of data, but uses a different version of message integrity check (MIC) to determine if data has been tampered or corrupted during transmission.

WTLS Advanced Encryption Standard (AES) Virtual Private Networking (VPN)

Symbol's AirBEAM® Safe VPN server provides a complete end-to-end VPN, ensuring the privacy, integrity and authentication of your wireless communications. The AES encryption algorithm provides a very high-level of security between clients and the VPN server.



A comprehensive suite of encryption and authentication mechanisms—from basic to strong—provides the flexibility to select the right level of security for your data.





The WS5100 simplifies and reduces the cost of day-to-day management.

Ease of Management

Management is intuitive and secure, and can be accessed via our command line interfaces (telnet, serial), embedded web-based java applet, and standard Simple Network Management Protocol (SNMP).

Policy-Based Management

Policy-based management enables the creation of user, application, and device groups with specific resource and network access configurations, including physical layer attributes, WLAN topologies, forwarding rules, and security components. A wide variety of parameters can be configured for each group for up to 32 WLANs, either manually or via easy-to-use wizards, such as radio settings, service definitions, Quality of Service (QoS), virtual LANs, ESS/BSSID domains, Layer 2/3 filtering, DHCP, NAT, and more.

Management Interfaces

Three interfaces provide flexibility for managing the WS5100:

- The Command Line Interface (CLI) is designed with well-known industry semantics and provides complete baseline management through Telnet or Serial interfaces.
- Web-based management provides secure, anytime-anywhere management with an intuitive, web-based GUI that supports step-by-step software-based wizards that enable easy configuration of a wide variety features.
- SNMP, combined with our extensive Management Information Base (MIB) support, allows you to manage wireless functionality with common Network Management Station (NMS) tool sets, including Mobility Services Platform (MSP), Symbol's Enterprise Mobility Manager (SEMM) and Wavelink's Mobile Manager.

Automatic Access Port Management

The WS5100 automatically provides the latest firmware to Access Ports upon installation, ensuring all components in the wireless LAN are always up-to-date. Management is simplified because there is no longer a need to configure and load firmware on each access point.

Mobility Services

The Mobility Services Platform (MSP) provides a single unified monitoring point for the WS5100 and all associated mobile devices, providing information on system functions and variables including RF signal strength, CPU usage, software inventory and battery level. MSP discovers all wireless infrastructures deployed within defined Internet protocol (IP) address ranges and enables configuration templates to be predefined and applied to groups, greatly simplifying the task of managing your enterprise mobility solution.

Scalability

The WS5100 Wireless Switch System is designed to grow and adapt to changing network and organizational needs. Adding additional network capacity is much easier and less expensive than traditional WLAN solutions: each WS5100 enables the addition of up to 48 Access Ports and 32 WLANs. The plug-and-play Access Ports are ready to install right out of the box—just attach to your layer 2 LAN with Power-over-Ethernet and the network is immediately operational. LAN network integration is transparent. The result is a highly scalable wireless network architecture that eliminates the complexities associated with the management of a traditional access point-based infrastructure.

System Redundancy

The WS5100 supports redundant warm-standby switch configuration. Designed for parallel use with an active WS5100, the WS5100-RS unit provides complete redundancy. Less expensive than the WS5100, this secondary device exchanges the system configuration and a simple heartbeat message with the primary WS5100 switch. In the event of a hardware or software failure, the redundant switch takes control of the wireless infrastructure ensuring consistency of operations and continuity of service.

Room to Expand

The WS5100 allows for easy coverage and capacity simply by adding Access Ports. Multiple WS5100s may be added to the same network, each with up to 48 Access Ports. Virtual AP enables users to add wireless and mobile applications.

Symbol—Your Complete Wireless Mobility Provider

Symbol Technologies is the industry leader in wireless solutions, providing everything you need to put wireless mobility to work in

your business. In addition to the Wireless Switch System, Symbol Technologies offers a broad range of wireless LAN clients and technology. CompactFlash™, PC and PCI-format cards enable PDA, laptop and desktop connectivity. Design-in solutions enable integration of our award-winning technology into original designs. Voice-over-IP appliances bring the power of voice communications to your data network. Rugged and sealed mobile computers—from handhelds to tablets in a wide range of form factors with popular operating systems—integrate data capture and wireless LAN/WAN communications.


Our extensive partner network delivers application software strategic to your initiatives, allowing you to gain greater value and advantage from your wireless mobile technology. And Symbol Services provide you with expertise required to maximize system performance and realize the full potential of the Wireless System. Symbol's total solution approach ensures smooth implementation and ongoing 24/7 support.

Symbol Technologies. From wireless innovation and expertise to the most complete range of products, services and solutions, to value and ROI—no other company compares.


For more information, call any of our convenience locations or visit us at www.symbol.com/wireless

Symbol Enterprise Mobility Services

Symbol's Global Services Division offers services designed to maximize uptime and meet the support requirements of mobile products in the enterprise. Services programs developed to meet the specific needs of the WS5100 in an enterprise setting include an Advanced Exchange program for timely, next-day replacement and an On-site program that provides technical expertise and support at the customer's site.



The WS5100
scales easily as
your company
grows and
needs change—
capacity and
new functionality
can be added
quickly,
easily, and
cost-effectively.





Symbol Technologies is the industry leader in wireless solutions, providing everything you need to put wireless mobility to work in your business.

FEATURES	BENEFITS
Security	
Secure network architecture	Provides a single point of entry that can be easily secured versus the need to secure each and every access point in first generation wireless LANs
Security with mobility - 801.11i	Protects data and networks with the highest levels of security without sacrificing mobility (fast roaming times)
Support for WEP, WPA-TKIP, KeyGuard™ MCM, WPA2, WTLS VPN	Provides the flexibility to select from a complete security suite of encryption mechanisms to ensure privacy VPN of data during transmission
Access Control Lists (ACLs), 802.1X, Kerberos and Certificate Based Public Key Infrastructure (PKI)	Provides the flexibility to select from a complete security suite of authentication mechanisms to validate user identity and authorize network access
Manageability	
Ability to upgrade Access Ports	Cost-effective implementation of the latest features, ensuring that the WLAN can always take advantage of new features and functionality as developed
Automatic Channel Selection	Reduces cost of installation by eliminating the need for manual configuration of Access Port channels
RF Monitoring	Enables maintenance and troubleshooting of RF medium and wireless connections
Policy-based management	Simplifies management by enabling a pre-defined set of policies to be assigned to a selected group of users, applications and device groups
Centralized management of Access Ports	Eliminates the need to configure and manage each device, dramatically reducing the time and costs previously associated with wireless LAN management
Support for Command Line Interface (CLI), web-based interface and Simple Network Management Protocol (SNMP)	Support for multiple management protocols provides flexible anytime anywhere management; supports Symbol's Enterprise Mobility Manager (SEMM) and Wavelink's Mobile Manager
Availability	
Load Balancing and Pre-emptive Roaming	Ensures that devices roam before connection speed degrades; loads are always balanced between Access Ports, ensuring quality of application performance
Per Device, Bandwidth Allocation-Weighted Fair Queuing	Enables multiple mobile and wireless applications with quality of service during periods of network congestion
Transmit Power Control	Minimizes interference between wireless devices in networks where a dense population of Access Ports are required to meet bandwidth needs
True Virtual LAN support for wireless Virtual AP (segmentation of the wireless LAN)	Ensures broadcast traffic reaches only intended devices; protects against broadcast storms; maximizes battery life for mobile devices by eliminating processing of unnecessary messages; increases security by eliminating the possibility that broadcast messages could reach unintended recipients
Power Save Protocol	Maximizes battery life of devices and ensures continual application performance for users
Reliability	
Flexible software architecture	Supports a heterogenous device environment by providing application-specific wireless network access that is secure with quality of service
Redundant wireless switching	Warm stand-by wireless switch provides instant recovery from unforeseen network outages
Total Cost of Ownership	
802.3af compatibility	Eliminates the need to run expensive power lines and install outlets to provide power to Access Ports
Overlay network architecture	Simplifies network integration tasks by fitting in the distribution layer of an existing and trusted network
Supports 2.4 GHz/5 GHz frequencies with frequency hopping, direct sequence, OFDM encoding techniques, 802.11a/b/g,	The broadest and most flexible radio technology support in the industry, with the ability to accommodate new coverage, radio types, channels, and spectrum; ensures maximum flexibility in wireless network design, enables the use of the right protocols to support specific applications for maximum cost-efficiencies
Thin AP architecture	Removes complexity above the ceiling
Upgradeable to support future 802.11 standards	Delivers outstanding investment protection—no forklift upgrade required to implement new standards and expanding infrastructure requirements

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; Power Save Protocol Polling; Pre-emptive Roaming; Congestion control with bandwidth allocation

Access Port Radios: Supports 1-48 Access Ports; Automatic Access Port Adoption with ACLs; Access Port Load Balancing; Frequency Hopping Access Point-to-Access Port Conversion; Direct Sequence Access Point-to-Access Port Conversion

Supported Access Ports and Access Points: Access Ports - AP100 (802.11b); AP200 (802.11a/b); AP300 (802.11a/b/g ready)
Access Points - AP 3021; AP 4121

Radio & Frequency Management: Automatic Channel Select (ACS), Transmit Power Control (TPC), Country Code based RF Configuration, 802.11b—3 Non-overlapping channels, 802.11a—11 Non-overlapping channels, 802.11g—3 Non-overlapping channels (ready)

Network Security

Packet Filtering: L2/3/4 Stateful Packet Analysis; Network Address Translation

Authentication Mechanisms: Access Control Lists (ACLs); Pre-Shared Keys (PSK); 802.1x/EAP, Transport Layer Security (TLS), Tunneled Transport Layer Security (TTLS), Protected EAP (PEAP); Kerberos; PKI Certificates

Transport Encryption: WEP 40/128 (RC4); KeyGuard; WPA—TKIP; WPA2—AES

Key Exchange and Management: Extensible Authentication Protocol (EAP), Kerberos

Optimized Wireless QoS

Per Device Weighted Fair Queuing: 8 queues per device; Bandwidth management controls; Power Save Protocol (PSP) integration

RF Priority: 802.11 traffic prioritization and precedence

Classification & Marking: Layer 1-4 Packet Classification; 802.1p VLAN Priority; DiffServ/TOS

System Resiliency & Redundancy

Redundant Warm-Standby Switch; Access Port Load Balancing; Hardware based watchdog timer

Management

Command Line Interface (Serial, Telnet); Secure Web Based GUI (SSL); Telnet Server; SNMP v1/v2; SNMP Traps—40+ user configurable options; Syslog; TFTP Client; Simple Network Time Protocol (SNTP); Text-Based Switch Configuration Files; DHCP (Client/Server/ Relay, Switch Auto Configuration with DHCP options); Authentication (Radius Client, Kerberos Authentication Server); MIBs (MIB-II, Etherstats, Wireless Switch specific monitoring and configuration)

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-R140-06-WW	6 Port WS5100 Wireless Switch
WS-5100-R140-12-WW	12 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-R140-18-WW	18 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-R140-24-WW	24 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-R140-30-WW	30 Port WS5100 Wireless Switch (Z-Pak)
WS-5100-R140-RS-WW	Redundant WS5100 Wireless Switch
WS-5100-UC-WW	6 Port Upgrade

Comprehensive support and technical expertise for designing, deploying and maintaining successful mobility solutions is available from Symbol Enterprise Mobility Services.

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About Symbol Technologies

Symbol Technologies, Inc., The Enterprise Mobility Company™, is a recognized worldwide leader in enterprise mobility, delivering products and solutions that capture, move and manage information in real time to and from the point of business activity. Symbol enterprise mobility solutions integrate advanced data capture products, radio frequency identification technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs under the Symbol Enterprise Mobility Services brand. Symbol enterprise mobility products and solutions are proven to increase workforce productivity, reduce operating costs, drive operational efficiencies and realize competitive advantages for the world's leading companies. More information is available at www.symbol.com

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