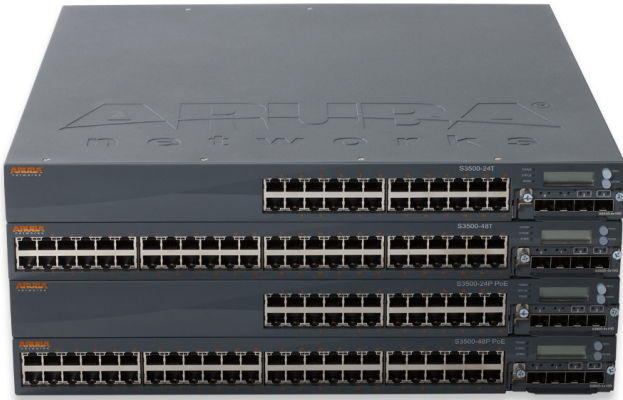


ARUBA S3500 MOBILITY ACCESS SWITCH



The Aruba Networks™ S3500 Mobility Access Switch is a new class of product that brings user role-based access to wired networks. Like other Mobility Access Switches, the S3500 is an integral part of the Aruba Mobile Virtual Enterprise (MOVE) architecture, which delivers secure virtualized access services to users, independent of their location, access method, device or application.

The S3500 Mobility Access Switch is available in four models with 24 or 48 10/100/1000BASE-T ports and an optional uplink module with an additional four fixed Gigabit Ethernet/10 Gigabit Ethernet uplink and stacking ports. Power-over-Ethernet (PoE) models are available supporting up to 30 watts per port based on the IEEE 802.3af (PoE) and IEEE 802.3at (PoE+) on all ports simultaneously.

The S3500 connects up to 384 Gigabit Ethernet devices such as virtual desktops, IP phones, videophones, classroom peripherals, medical devices, point-of-sale devices and security cameras as well as any 802.11n Wi-Fi access point (AP). Its redundant power supply and modular, hot-swappable components make it ideal for high-density, high-availability wiring closets.

FLEXIBLE WIRED ACCESS DEPLOYMENTS

What makes Aruba Mobility Access Switches unique is their ability to easily provision role-based access for wired users. Any port may be configured to tunnel traffic to an Aruba Mobility Controller, which manages network access and policy enforcement via an ICSA certified firewall. When tunneling traffic to a Mobility Controller, a Mobility Access Switch operates as a wired AP, identical to Aruba 802.11n wireless APs.

As a wired AP, users and devices are authenticated and assigned a role by the Mobility Controller. A single role is defined based on user, device and application and is enforced by Layer 2-7 policies in the Mobility Controller whether the user is connected to the network via a wireless 802.11n AP or a port on a Mobility Access Switch.

*Roadmap item

As a result, security policies are consistently applied to users and devices whether they use a wired port in one building, move to another wired location or access the network through an Aruba wireless LAN (WLAN) AP. The result is control and visibility of all users and devices in the access network as well as a reduction in time spent configuring user additions and changes.

Mobility Access Switches also support Layer 2 protocols and ports can be configured for local forwarding. Access control lists (ACLs) enable policy enforcement of bridged and routed traffic.

Local forwarding as well as tunneled traffic may be configured on a port-by-port or per-user* basis. Depending on requirements, some traffic may be sent to the controller for role-based policy enforcement, while other traffic is bridged and enforced locally on an Aruba Mobility Access Switch.

In addition to network access security, the Mobility Access Switches support data encryption via IEEE 802.1AE Media Access Control Security (MACsec).* MACsec provides connectionless data confidentiality between MACsec-enabled devices, such as between the Mobility Access Switch and Aruba AP-130 series 802.11n wireless APs.

Mobility Access Switches may also be configured as a controller* to manage wireless AP tunnel termination, user authentication and policy enforcement. This allows for Mobility Access Switches to serve as a local Mobility Controller in large campuses and branch locations.

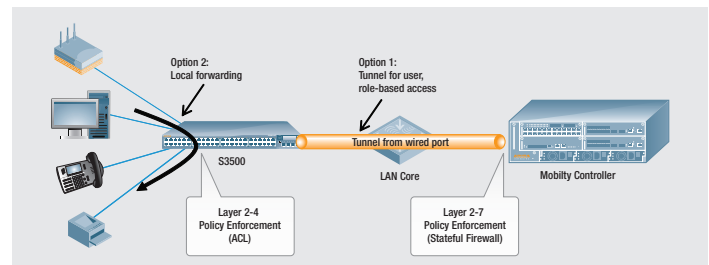


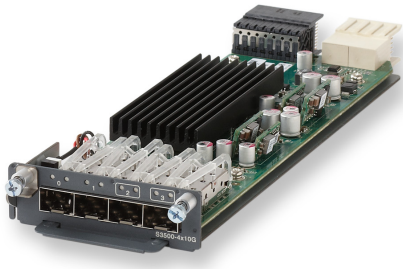
Figure 1: Flexible Wired Access

ARUBASTACK™ EXTENDS BEYOND THE WIRING CLOSET

With ArubaStack, Mobility Access Switches enable new opportunities for network access designs. ArubaStack allows up to eight S2500s or S3500s to be interconnected and managed as a single logical device with one IP address and one configuration file. Each S3500 supports an optional four-port 10 Gigabit Ethernet uplink module to enable stacking.

In a typical configuration, two 10 Gigabit Ethernet ports are used for the ArubaStack, creating a stack with 40 Gbps bandwidth. The remaining two ports can be used for uplink connections to the LAN core. The S3500 supports a variety of 1 Gbps or 10 Gbps optics that can be used to connect to other Mobility Access Switches across wiring closets or even buildings separated by several kilometers.

By interconnecting multiple wiring closets into a single ArubaStack, the Mobility Access Switch reduces uplinks and expensive routed ports in the LAN core, simplifies LAN topologies, and reduces capital and operating costs by up to 30% over legacy wiring closet designs.



FREE IT STAFF FROM TEDIOUS NETWORK CONFIGURATION

Unlike legacy switches, Mobility Access Switches support zero-touch configuration and simplify upgrades for greater ease and efficiency. Once connected to the network, the S3500 receives its configuration information from the Mobility Controller.

Configuration profiles and groups on the Mobility Controller simplify the configuration of all networked Mobility Access Switches in a manner similar to Aruba wireless APs. Automated downloads to each Mobility Access Switch ensure fast and simple deployment with no manual configuration. Subsequent configuration changes and upgrades are performed once within the Mobility Controller and are automatically pushed to each Mobility Access Switch.

Additionally, when configured as a wired AP, the Mobility Access Switch frees network administrators from the need to configure virtual LANs (VLANs), ACLs and quality-of-service (QoS) policies at each device in the network access layer, significantly reducing the cost and complexity of administering user additions, moves and changes.

No special VLANs are required at the access layer as VLAN trunks are configured on the Mobility Controller, and traffic is routed to the correct VLAN in the core. Likewise, security and QoS are enforced at the Mobility Controller employing user role-based policies.

ARCHITECTED FOR HIGH AVAILABILITY

The S3500 includes a number of features making it ideal for deployment in customer locations requiring maximum availability:

- Redundant power supplies: The S3500 supports dual internal, field-replaceable redundant power supplies to maintain uninterrupted network operations.
- Hot-swappable fan tray with multiple fans: The S3500 includes a field-replaceable fan tray with multiple fans, providing sufficient cooling and rapid time to repair.
- ArubaStack link aggregation: ArubaStack link aggregation allows redundant link aggregation connections across multiple devices in a single ArubaStack configuration, providing an additional level of reliability and maximum availability.

PHYSICAL SPECIFICATIONS

- 24 10/100/1000BASE-T RJ-45
- 48 10/100/1000BASE-T RJ-45
- Auto MDI/MDIX support
- LCD display
- Console port (RS-232)
- 10/100/1000BASE-T RJ-45 management port
- USB interface for image and configuration file storage
- Performance:
 - S3500-24P/T: 128 Gbps
 - S3500-48P/T: 176 Gbps

UPLINK MODULE (OPTIONAL)

- Four 1000BASE-X/10GBASE-X SFP/SFP+ (optics not included)

UPLINK PLUGGABLE TRANSCEIVERS

- 10GBASE-LR 1310-nm SFP+ optic for up to 10 kilometers over SMF (LC)
- 10GBASE-SR 850nm SFP+ optic for up to 300 meters over MMF (LC)
- 1000BASE-LX, SFP (LC) up to 10 kilometers
- 1000BASE-SX, SFP (LC) up to 550 meters
- 1000BASE-T, SFP (RJ-45) up to 100 meters

POWER OPTIONS

- Dual internal, load-sharing hot-swappable redundant power supplies
- Autosensing 100-240 VAC, 600-watt or 1,050-watt (for PoE models)
- Autosensing 100-240 VAC, 350-watt (for non-PoE models)
- PoE budget:
 - 600-watt single: 400 watts
 - 600-watt redundant: 400 watts
 - 600-watts load-sharing: 660 watts
 - 1,050-watt single: 850 watts
 - 1,050-watt redundant: 850 watts
 - 1,050-watt load-sharing: 1,415 watts
- IEEE 802.3af: PoE (15.4 watts)
- IEEE 802.3at: PoE Plus (30 watts)
- IEEE 802.az: Energy efficient Ethernet capable
- Support for time-based PoE

DIMENSIONS

- (H) 4.4 cm x (W) 44.5 cm x (D) 44.5 cm (1.75" x 17.5" x 17.5")
- Weight:
 - S3500-24T: 15.4 lbs (7.0 kg)
 - S3500-24P: 16.8 lbs (7.6 kg)
 - S3500-48T: 15.9 lbs (7.2 kg)
 - S3500-48P: 17.5 lbs (8.0 kg)



ENVIRONMENTAL

- Operating temperature: 0o C to 45o C
- Storage temperature: -4 o C to 70 o C
- Operating humidity: 5% to 95% non-condensing
- Storage humidity: 5% to 95%, non-condensing
- Operating altitude: 10,000 feet
- Acoustic noise: 48 dB with AC power supply

LAYER 2 AND LAYER 3 FEATURES

- MAC addresses per system: 12,000
- Jumbo frames: 9,216 bytes
- Number of VLANs: 4,094
- Port-and MAC-based VLAN
- IEEE 802.1AB: Link-layer discovery protocol (LLDP)
- LLDP-MED with voice-over-IP integration
- Cisco Discovery Protocol (CDP) Fingerprinting
- Voice VLANs
- IEEE 802.1D: Spanning tree protocol (STP)
- IEEE 802.1w: Rapid spanning tree protocol (RSTP)
- IEEE 802.1s: Multiple spanning tree protocol (MSTP)
- Maximum number of supported instances: 64
- Spanning tree root guard, loop guard
- Loop Protect
- IEEE 802.1Q: VLAN tagging
- IEEE 802.1p: Class-of-service (CoS) prioritization
- IEEE 802.3ad: Link-aggregation control protocol (LACP)
- Number of link aggregation groups: 64
- Number of ports per aggregation group: 8
- Hot standby link (HSL): Link failover without STP
- Auto-negotiation
- IEEE 802.3: 10BASE-T
- IEEE 802.3u: 100BASE-T
- IEEE 802.3ab: 1000BASE-T
- IEEE 802.3z: 1000BASE-X
- IEEE 802.3ae: 10 Gigabit Ethernet
- PVST+ compatible
- Routed VLAN interface (RVI)
- Static routing
- Dynamic routing: OSPF (MD5)
- Routing entries: 8,000
- DHCP server
- DHCP relay
- Time Domain Reflectometry (TDR)

SECURITY

- RA Guard
- DHCP Guard
- IEEE 802.1X authentication for port-based network access control
- MAC authentication
- MAC limiting
- IEEE 802.1AE: MACsec capable
- Storm control
- IPv6 security (roadmap)

MULTICAST

- IGMP v1, v2
- IGMP snooping
- PIM-SM
- Multicast routes in hardware: 2,000

QUALITY OF SERVICE (QoS)

- ACL-based QoS applicable to users, VLANs and ports
- 802.1P: Class-of-service (CoS) prioritization
- Trust 802.1p/DSCP/IP precedence
- Strict priority queuing/low-latency queuing (LLQ) – egress
- Eight queues per port

MANAGEMENT

- RMON
- AirWave management and monitoring
- Out-of-band console and Ethernet ports management: RS-232 serial port and 10/100/1000BASE-T port
- LCD management
- SNMP v1, v2c, v3
- Network time protocol (NTP)
- DHCP client and DHCP proxy
- RADIUS
- TACACS+
- SSH2
- HTTP/HTTPS
- IPv6 management

WARRANTY AND SUPPORT

Aruba Mobility Access Switches include a Limited Lifetime warranty that provides for return to factory switch replacement as long as the original purchaser owns the product. Warranty includes next business day ship of RMA units after processing, and 24x7 access to Aruba's industry leading Technical Assistance Center (TAC) for 90 days after the purchase date. Power supply and fans are covered for five years from initial purchase. Aruba also provides additional product support options directly through ArubaCare or via an authorized Aruba Reseller. For more details, visit <http://www.arubanetworks.com/support-services/lifetime-warranty>.

SAFETY CERTIFICATIONS

- UL-UL60950-1 (second edition)
- C-UL to CAN/CSA 22.2 No.60950-1 (second edition)
- TUV/GS to EN 60950-1, Amendment A1-A4, A11
- CB-IEC60950-1, all country deviations

ELECTROMAGNETIC COMPATIBILITY CERTIFICATIONS

- FCC 47CFR Part 15, Class A
- EN 55022 Class A
- ICES-003 Class A
- VCCI Class A
- AS/NZS CISPR 22 Class A
- CISPR 22 Class A
- EN 55024

ENVIRONMENTAL CERTIFICATIONS

- Reduction of Hazardous Substances 5 (RoHS-5)

Ordering Information	
Part Number	Description
S3500-24T	S3500-24T, 24 10/100/1000BASE-T, one 350-watt AC power supply.
S3500-24P	S3500-24P, 24 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; unrestricted regulatory.
S3500-24P-US	S3500-24P, 24 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; restricted regulatory – United States.
S3500-24P-IL	S3500-24P, 24 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; restricted regulatory – Israel.
S3500-48PF	Aruba S3500-48P, 48x 10/100/1000BASE-T PoE, one 1,050-watt AC power supply, controller capable; unrestricted regulatory. These products should be considered as rest-of-world products and must not be used for deployments in the United States or Israel.
S3500-48PF-US	Aruba S3500-48P, 48x 10/100/1000BASE-T PoE, one 1,050-watt AC power supply, controller capable; restricted regulatory – United States.
S3500-48PF-IL	Aruba S3500-48P, 48x 10/100/1000BASE-T PoE, one 1,050-watt AC power supply, controller capable; restricted regulatory - Israel.
S3500-48T	S3500-48T, 48 10/100/1000BASE-T, one 350-watt AC power supply.
S3500-48P	S3500-48P, 48 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; unrestricted regulatory.
S3500-48P-US	S3500-48P, 48 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; restricted regulatory – United States.
S3500-48P-IL	S3500-48P, 48 10/100/1000BASE-T PoE, one 600-watt AC power supply, controller capable; restricted regulatory – Israel.
S3500-4x10G	S3500 uplink and ArubaStack interconnect module, four 10 Gigabit Ethernet SFP+, ports also used for ArubaStack (optics not included).
PSU-350-AC	Field-replaceable power supply – 350-watt
PSU-600-AC	Field-replaceable power supply – 600-watt
PSU-1050-AC	Field Replaceable Power Supply – 1,050 watt
SPR-FAN-14	Field-replaceable fan tray for S3500
DAC-SFP-10GE-50CM	50-cm direct attach cable; 10G SFP+ (stacking and passive optics)
DAC-SFP-10GE-1M	1-meter direct attach cable; 10G SFP+ (stacking and passive optics)
DAC-SFP-10GE-3M	3-meter direct attach cable; 10G SFP+ (stacking and passive optics)
DAC-SFP-10GE-5M	5-meter direct attach cable; 10G SFP+ (stacking and passive optics)
DAC-SFP-10GE-7M	7-meter direct attach cable; 10G SFP+ (stacking and passive optics)
SFP-10GE-SR	Aruba SFP+ 10GBASE-SR 850-nm serial pluggable SFP+ optic (LC), target range 300 meters over MMF, LC connector
SFP-10GE-LR	Aruba SFP+ 10GBASE-LR 1,310-nm serial pluggable SFP+ optic (LC) for up to 10 km over SMF, LC connector
SFP-LX	Aruba SFP – 1000BASE-LX, LC connector
SFP-SX	Aruba SFP - 1000BASE-SX, LC Connector
SFP-TX	Aruba SFP - 1000BASE-T, RJ-45
SPR-RK-MNT	Aruba S3500 rack-mount spare; switch ships with a pair of rack mounts
SPR-4RK-MNT	Aruba S3500 four-corner rack mount
SPR-WL-MNT	Aruba S3500 wall-mount kit



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