DATA SHEET

ARUBA S2500 MOBILITY ACCESS SWITCH

The S2500 Mobility Access Switch from Aruba Networks® extends role-based user access, security and operational simplicity to wired networks.

A vital part of Aruba Mobility-Defined Networks™, the S2500 delivers secure, virtualized access services to users, regardless of their location, access method, device or applications.

The S2500 is available in three models, with 24 or 48 10/100/1000BASE-T ports and power-over Ethernet (PoE) options.

Each model includes four fixed Gigabit Ethernet/10 Gigabit Ethernet uplink ports. Power-over-Ethernet (PoE) is available with up to 30 watts per port based on the IEEE 802.3af PoE and 802.3at PoE+ standards.

Mobility Access Switches can be interconnected to form an ArubaStack™. This provides connectivity for APs, virtual desktops, IP phones, videophones, classroom peripherals, medical devices, point-of-sale devices and security cameras.

The feature richness of the S2500, along with its compact form factor and quiet operation, make it ideal for branch office and small office deployments.

FLEXIBLE AND SECURE ACCESS DEPLOYMENTS

What makes Aruba Mobility Access Switches unique is their ability to apply role-based policies to wired users and devices. User roles can represent specific users or groups of users with defined names such as employees or guests. They can be defined with VLAN-IDs, QoS policies, VoIP policies or even ACLs.

Dynamic policy enforcement with ClearPass

When deployed with Aruba ClearPass, which provides user and device authentication, user roles may be automatically downloaded and applied to the Mobility Access Switch.

If a user's authorization parameters change – for example, if user access extends outside time-of-day parameters or disabling a firewall violates device health check policies – ClearPass can signal Mobility Access Switches to change the user role associated with the client.

The integration and automation of policy management capabilities significantly reduces IT overhead by eliminating the need to manually configure policies on every Mobility Access Switch.

Wired AP with Mobility Controllers

Mobility Access Switches support a unique per-port Tunneled Node capability that enables policy enforcement by an ICSA-certified stateful firewall resident in Aruba Mobility Controllers. A Tunneled Node port essentially operates as a wired AP, identical to Aruba 802.11ac APs.

Ports in shared locations such as conference rooms and common areas can be configured so that traffic is enforced by the Mobility Controller firewall, while other ports perform local forwarding.

Configured as a wired AP, Mobility Access Switches free network administrators from the need to configure VLANs, ACLs and QoS policies at each switch in the access layer. Policies for users, devices and applications are defined and enforced by Mobility Controllers across wired and wireless networks.

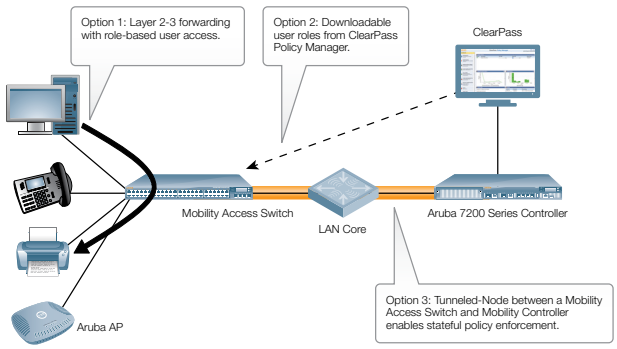


Figure 1. Flexible secure wired access deployments

ARUBASTACK EXTENDS BEYOND THE WIRING CLOSET

With ArubaStack, Mobility Access Switches provide the opportunity to optimize network access design. Up to eight S2500 or S3500 Mobility Access Switches can be interconnected and managed as a single logical device with one IP address and one configuration file.

Each S2500 includes four integrated Gigabit Ethernet/10 Gigabit Ethernet ports to enable stacking.

With ArubaStack, 1000BASE-X/10GBASE-X ports are used for the stack interconnects. Each S2500 uplink module comes with a 50-cm direct-attach copper cable used to create an ArubaStack in the wiring closet.

Extending the ArubaStack to other Mobility Access Switches across closets or buildings can be achieved using both fiber and copper interfaces (see Figure 2).

Interconnecting multiple wiring closets into a single ArubaStack reduces uplinks and expensive routed ports in the LAN core, simplifies LAN topologies, and reduces capital and operating costs compared to legacy wiring closet designs.

The S2500 provides a compact, quiet and economical solution for deployments in traditional intermediate distribution frame (IDF) locations and in open areas like classrooms and conference rooms. For smaller network environments, pairing the S2500 with the S3500-24F provides a robust low-cost solution.

FREE IT STAFF FROM TEDIOUS NETWORK CONFIGURATION

Mobility Access Switches support several features that reduce the cost, complexity and time to perform configurations and upgrades.

Utilizing port-profiles ensures that ports are configured correctly the first time and simplifies configuration compliance with additional port configuration changes.

When used with Aruba Instant™ APs, Mobility Access Switches automatically learn VLANs configured in the Instant cluster.

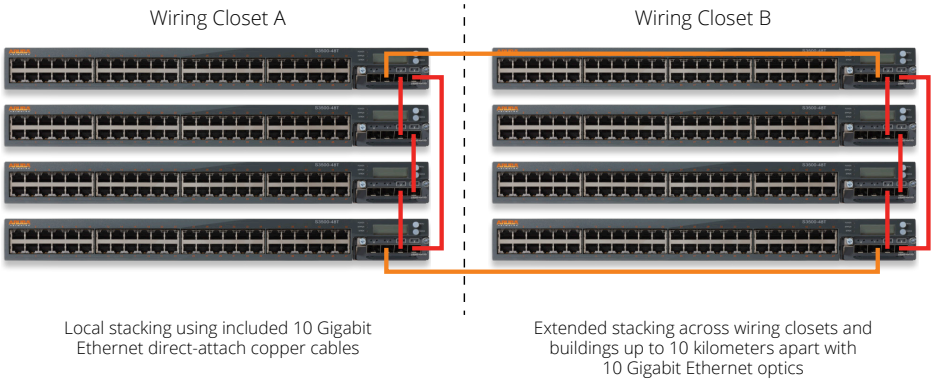
Mobility Access Switches additionally modify the port PoE priority as a business-critical resource, reserving power for APs in the event of loss of budgeted PoE power. They can also shut down a port classified as a rogue AP by an Aruba Instant AP.

The automation with Aruba Instant, and integration with ClearPass and Mobility Controllers, eliminates traditional IT overhead that comes from manually configuring parameters and policies on every legacy switch in the access network.

Mobility Access Switches can also utilize the Aruba Activate™ zero-touch provisioning service, which enables customers to efficiently deploy and maintain Aruba devices across a distributed enterprise.

Customers that subscribe to Aruba Central cloud-based network management can also leverage Aruba Activate to categorize and set specific provisioning parameters that enable Aruba devices to automatically obtain their configurations. The benefits of the combined Aruba Central and Aruba Activate integration include:

- Asset tracking and device categorization within the customer organization.
- Reduced time-to-deploy across a large number of locations.
- Automated software-update notifications and simplified upgrades.



Note: ArubaStack members may be any combination of S2500 or S3500 models

Figure 2. ArubaStack options

HIGH AVAILABILITY FEATURES

The S2500 includes a number of features that make it ideal to deploy in networks that require maximum availability.

- Distributed link aggregation: Link aggregation groups (LAG) with physical ports may be shared across members of an ArubaStack. This distribution of a LAG across the ArubaStack allows load-sharing and redundant connections across multiple devices, providing an additional level of reliability and maximum availability.
- PoE priority: ArubaOS PoE priority classifies attached PoE devices with a priority level, ensuring no loss of power for business-critical devices like APs, security cameras and red phones.
- Hot Standby Link (HSL): ArubaOS HSL provides a simplified link failover mechanism without configuring and running the spanning-tree protocol. A port or group of ports may be configured as redundant for another port or group of ports.
- ArubaStack with S3500: All S2500 models may be a member of an ArubaStack concurrently with S3500 models. The S3500, with its redundant power and field-replaceable fan tray, provides an added level of hardware availability for network- critical devices.

PHYSICAL INTERFACES

- S2500-24P: 24x10/100/1000BASE-T PoE RJ-45 + 4xSFP/SFP+
- S2500-48T: 48x10/100/1000BASE-T RJ-45 + 4xSFP/SFP+
- S2500-48P: 48x10/100/1000BASE-T PoE RJ-45 + 4xSFP/SFP+
- Common interface feature support (all models)
  - Diagnostic LEDs (link/admin/duplex/PoE/speed/fault)
  - Auto-negotiation and auto-MDI/MDIX support
  - Time domain reflectometry on 10/100/1000BASE-T models only
- PoE feature support (P models)
  - IEEE 802.3af: PoE (15.4 watts)
  - IEEE 802.3at: PoE+ (30 watts)
  - Pre-standard/Legacy PoE
  - Aruba efficient PoE (priority, guard-band and time range)
- LCD management display
- RJ-45/mUSB console port (RS-232)
- Out-of-band 10/100/1000BASE-T management port
- USB interface for software/configuration files

UPLINK INTERFACES

- Fixed 4x1000BASE-X/10GBASE-X SFP/SFP+ (SFP/SFP+ purchased separately)
- Supported SFP/SFP+ transceivers
  - 10GBASE-LR 1310-nm SFP+ (LC) for up to 10 kilometers over SMF
  - 10GBASE-SR 850-nm SFP+ (LC) for up to 300 meters over MMF (OM3)
  - 10GBASE-LRM 1310-nm SFP+ (LC) for up to 220 meters over MMF (OM2)
  - 1000BASE-LX 1310-nm SFP (LC) up to 10 kilometers over SMF
  - 1000BASE-SX 850-nm SFP (LC) up to 550 meters over MMF (OM2)
  - 1000BASE-T SFP (RJ-45) up to 100 meters (CAT5)
  - Direct-attach cable – Twinax (50 cm, 1 m, 3 m or 7 m lengths)

PERFORMANCE

- S2500-24P: 128 Gbps/95 Mpps
- S2500-48P/48T: 176 Gbps/131 Mpps

POWER OPTIONS

- Integrated power supply
- Autosensing 100-240 VAC, 150 watts (T models)
- Autosensing 100-240 VAC, 580 watts (P models)
- PoE budget: 400 watts

LAYER 2 FEATURES AND SCALING

- 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)
  - Device discovery and advertisement
  - Voice VLAN support using LLDP-MED
- Cisco discovery protocol (CDP)
  - Device discovery
  - Voice VLAN support
- IEEE 802.1Q: VLAN tagging
- GARP VLAN Registration Protocol (GVRP)
- IEEE 802.1D: Spanning tree protocol (STP)
- IEEE 802.1w: Rapid reconfiguration of spanning tree protocol (RSTP)
- IEEE 802.1s: Multiple spanning trees protocol (MSTP)
  - Maximum number of supported instances: 64

- Rapid per-VLAN spanning tree plus (PVST+)
- Spanning tree protocol features:
  - Portfast
  - Root guard
  - Loop guard
  - BPDU guard
- Aruba loop protect
- Link aggregation groups
  - Static
  - IEEE 802.3ad: Link-aggregation control protocol (LACP)
  - Number of link aggregation groups: 64
  - Number of ports per aggregation group: 8
- Aruba Hot Standby Link (HSL)
- IEEE 802.3ah: Ethernet operations, administration and maintenance (OAM)
- Layer 2 Generic Routing Encapsulation (GRE)
- Aruba AirGroup

LAYER 3 FEATURES AND SCALING

- Unicast routes: 8000
- Routed VLAN Interface (RVI)
- Loopback interface
- Multinetting
- Static routing
- Open shortest path first (OSPF) v2
- Equal cost multi-path
- Route filtering
- DHCP server/client
- DHCP relay (including Option 82)
- Network time protocol (NTP)
- Network address translation
- IP directed broadcast

SECURITY

- 802.1X
- MAC authentication
- Captive portal
- RADIUS (device management, 802.1X, accounting)
- RADIUS fail open
- TACACS+ (device management, accounting)
- LDAP (802.1X)
- Digital certificates
- Internal user database
- Aruba ClearPass Policy Manager downloadable roles
- Aruba Tunneled Node
- Access control lists (ACLs)
- Storm control
- IPv6 router-advertisement (RA) guard
- DHCP guard
- MAC limiting
- Site-to-site IPSEC VPN

MULTICAST FEATURES AND SCALING

- Multicast routes: 2,000
- PIM sparse mode (PIM-SM)
- IGMP v1/v2
- IGMP snooping
- Multicast listener discovery (MLD) v1

QUALITY OF SERVICE

- 802.1p
- DSCP
- IP precedence
- QoS trust (802.1p/DSCP/auto)
- QoS classification by ACL (L3/L4), user and interface
- Policer classification by ACL (L3/L4), user and interface
- Egress strict priority queuing
- Eight hardware queues per port

MANAGEMENT AND MONITORING

- Command line interface (serial, telnet, SSHv2)
- Graphical user interface (HTTP/HTTPs)
- Aruba Central cloud-based network management
- AirWave network management
- DHCP auto-configuration
- SNMP v1, v2c, v3
- IPv6 management
- Port mirroring (single destination)
- Remote monitoring (RMON)

PHYSICAL SPECIFICATIONS

- Dimensions:
  - H x W x D: 1.75" x 17.5" x 12.5" (4.4 cm x 44.5 cm x 30.5 cm)
- Weight:
  - S2500-24P: 12.1 lbs (5.5 kg)
  - S2500-48T: 10.9 lbs (4.96 kg)
  - S2500-48P: 13.3 lbs (6.2 kg)

ENVIRONMENTAL

- Operating temperature: 32°F to 122°F (0°C to 50°C)
- Storage temperature: -40°F to 158°F (-40°C to 70°C)
- Operating humidity: 5% to 95% non-condensing
- Operating altitude: 10,000 feet (3,048 meters)
- Acoustic noise: 42 dB with AC power supply

WARRANTY AND SUPPORT

- Limited lifetime warranty (all models) includes:
  - Return-to-factory hardware replacement with following business day shipment of failed product
  - 24x7 access to Aruba's Technical Assistance Center (TAC) for 90 days after the purchase date
  - Warranty coverage as long as the original purchaser owns the product
- ArubaCare Support provides additional product support options directly through Aruba or via an authorized Aruba Reseller. Click here for more details.

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
Switch Models	
S2500-24P	S2500-24P Mobility Access Switch with 24 10/100/1000BASE-T IEEE 802.3af PoE/802.3at PoE+ ports plus 4 Gigabit Ethernet/10 Gigabit Ethernet SFP/SFP+ (optics ordered separately). Integrated AC power supply. Includes one 50 cm direct-attach cable (DAC) for ArubaStack. For deployments worldwide (check regulatory status).
S2500-48P	S2500-48P Mobility Access Switch with 48 10/100/1000BASE-T IEEE 802.3af PoE/802.3at PoE+ ports plus 4 Gigabit Ethernet/10 Gigabit Ethernet SFP/SFP+ (optics ordered separately). Integrated AC power supply. Includes one 50 cm direct-attach cable (DAC) for ArubaStack. For deployments worldwide (check regulatory status).
S2500-48T	S2500-48T Mobility Access Switch with 48 10/100/1000BASE-T ports plus 4 Gigabit Ethernet/10 Gigabit Ethernet SFP/SFP+ (optics ordered separately). Integrated AC power supply. Includes one 50 cm direct-attach cable (DAC) for ArubaStack.

ORDERING INFORMATION

Part Number	Description
Pluggable Transceivers	
SFP-10GE-LRM	10GBASE-LRM SFP+; 1,310 nm pluggable 10 Gigabit Ethernet optic; LC connector; up to 220 meters over multimode fiber (Type OM2)
SFP-10GE-SR	10GBASE-SR SFP+; 850 nm pluggable 10 Gigabit Ethernet optic; LC connector; up to 300 meters over multimode fiber (Type OM3)
SFP-10GE-LR	10GBASE-LR SFP+; 1,310 nm pluggable 10 Gigabit Ethernet optic; LC connector; up to 10,000 meters over single-mode fiber
DAC-SFP-10GE-50CM	50cm length, 10GbE SFP+ direct attach cable (DAC); copper Twinax connectors on both ends for ArubaStack or interconnect between devices. For use with 7200, S2500 and S3500 10GbE ports only.
DAC-SFP-10GE-1M	1m length, 10GbE SFP+ direct attach cable (DAC); copper Twinax connectors on both ends for ArubaStack or interconnect between devices. For use with 7200, S2500 and S3500 10GbE ports only.
DAC-SFP-10GE-3M	3m length, 10GbE SFP+ direct attach cable (DAC); copper Twinax connectors on both ends for ArubaStack or interconnect between devices. For use with 7200, S2500 and S3500 10GbE ports only.
DAC-SFP-10GE-5M	5m length, 10GbE SFP+ direct attach cable (DAC); copper Twinax connectors on both ends for ArubaStack or interconnect between devices. For use with 7200, S2500 and S3500 10GbE ports only.
DAC-SFP-10GE-7M	7m length, 10GbE SFP+ direct attach cable (DAC); copper Twinax connectors on both ends for ArubaStack or interconnect between devices. For use with 7200, S2500 and S3500 10GbE ports only.
SFP-SX	1000BASE-SX SFP; 850 nm pluggable Gigabit Ethernet optic; LC connector; up to 300 meters over multimode fiber (Type OM2)
SFP-LX	1000BASE-LX SFP; 1,310 nm pluggable Gigabit Ethernet optic; LC connector; up to 10,000 meters over single-mode fiber
SFP-TX	1000BASE-T SFP; copper Gigabit Ethernet pluggable; RJ-45 connector; up to 100 meters over Category-5, 5e, 6 and 6a unshielded twisted-pair cable
Spares and Accessories	
SPR-RK-MNT	7200 Series or S3500 Spare Rack-Mount Kit. Used to front-mount or mid-mount the 7200 Series or S3500 to a 19" rack. May also be used to front-mount (only) the S1500-24/48 or S2500 to 19" rack.
SPR-WL2-MNT	S1500-24/48 or S2500 Rack or Wall Mount Kit. Used for wall mounting of S1500-24/48 or S2500. May also be used for front- and mid-mounting of S1500-24/48 or S2500 to 19" rack.

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