Hewlett Packard Enterprise

Aruba 2930F TAA-compliant Switch Series

Key features

- Aruba Basic Layer 3 switch series with VSF stacking, Static, RIP and Access OSPF routing, ACLs, and robust QoS

- Consistent wired wireless experience with Aruba AirWave and Aruba ClearPass Policy Manager

- Convenient built-in 1GbE or 10GbE uplinks and up to 370 W PoE+

- Ready for innovative SDN applications with OpenFlow support

- Simple deployment with Zero Touch Provisioning and cloud-based Aruba Central support

Product overview

The Aruba 2930F TAA-compliant Switch Series is designed for customers creating digital workplaces that are optimized for mobile users with an integrated wired and wireless approach. These basic Layer 3 access switches are easy to deploy and manage with advanced security and network management tools like Aruba ClearPass Policy Manager and Aruba AirWave. With support from Aruba Central, you can quickly set up remote branch sites with little or no IT support. A powerful Aruba ProVision ASIC delivers performance and value with support of the latest SDN apps with future proof programmability for tomorrow's applications. Stacking with Virtual Switching Framework (VSF) provides simplicity and scalability. The 2930F supports built-in 1GbE or 10GbE uplinks, PoE+, Access OSPF routing, Tunnel node, robust QoS, RIP routing, and IPv6 with no software licensing required.

The Aruba 2930F TAA-compliant Switch Series provides a convenient and cost-effective access switch solution that can be quickly set up with Zero Touch Provisioning and built-in 10GbE uplinks. The robust basic Layer 3 feature set includes a limited lifetime warranty.

Features and benefits

Software-defined networking

- OpenFlow
  Supports OpenFlow 1.0 and 1.3 specifications to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths

Unified wired and wireless

- ClearPass Policy Manager support
  Unified wired and wireless policies using Aruba ClearPass Policy Manager

- Switch auto-configuration
  Automatically configures switch for different settings such as VLAN, CoS, PoE max. power, and PoE priority when an Aruba access point is detected

- Local user role
  Defines a set of switch-based policies in areas such as security, authentication, and QoS. A user role can be assigned to a group of users or devices, using switch configuration or ClearPass

- Per-port tunneled node
  Provides a secured tunnel to transport network traffic on a per-port basis to an Aruba Controller. Authentication and network policies will be applied and enforced at the controller

- HTTP redirect function
  Supports HPE Intelligent Management Center (IMC) bring your own device (BYOD) solution

- **New** Static IP Visibility
  Allows ClearPass to perform accounting for clients with static IP address

Quality of Service (QoS)
- Traffic prioritization (IEEE 802.1p)
  Allows real-time traffic classification into eight priority levels mapped to eight queues

- Layer 4 prioritization
  Enables prioritization based on TCP/UDP port numbers

- Class of Service (CoS)
  Sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

- Rate limiting
  Sets per-port ingress enforced maximums and per-port, per-queue minimums

- Large buffers
  Provide graceful congestion management

Connectivity
- Flexible 10 Gbps Ethernet connectivity
  Four fixed 10 Gigabit ports (SFP+) available

- Auto-MDIX
  Provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

- IEEE 802.3at Power over Ethernet (PoE+)
  Provides up to 30 W per port that allows support of the latest PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af-compliant end device; eliminates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments

- Pre-standard PoE support
  Detects and provides power to pre-standard PoE devices

- IPv6
  – IPv6 host
    Enables switches to be managed in an IPv6 network

  – Dual stack (IPv4 and IPv6)
    Transitions from IPv4 to IPv6, supporting connectivity for both protocols

  – MLD Snooping
    Forwards IPv6 multicast traffic to the appropriate interface

  – IPv6 ACL/QoS
    Supports ACL and QoS for IPv6 network traffic

  – IPv6 routing
    Supports static and RIPng protocols

  – Security
    Provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping

Performance
- Energy-efficient design

  – 80 PLUS Silver Certified power supply
    Increases power efficiency and savings

  – Energy-efficient Ethernet (EEE) support
    Reduces power consumption in accordance with IEEE 802.3az

- HPE/Aruba ASIC architecture
  Is designed with the latest HPE/Aruba ASIC, providing very low latency, increased packet buffering, and adaptive power consumption

- Selectable queue configurations
  Allows for increased performance by selecting the number of queues and associated memory buffering that best meet the requirements of the network applications

Convergence

- **New** IP multicast routing
Includes PIM Sparse and Dense modes to route IP multicast traffic (limited to 16 interfaces)

- IP multicast snooping and data-driven IGMP
Automatically prevent flooding of IP multicast traffic

- LLDP-MED (Media Endpoint Discovery)
Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
Facilitates easy mapping using network management applications with LLDP automated device discovery protocol

- PoE and PoE+ allocations
Support multiple methods (automatic, IEEE 802.3at dynamic, LLDP-MED fine grain, IEEE 802.3af device class, or user-specified) to allocate and manage PoE/PoE+ power for more efficient energy savings

- Local MAC Authentication
Assigns attributes such as VLAN and QoS using locally configured profile that can be a list of MAC prefixes

Resiliency and high availability

- **New** Virtual Switching Framework (VSF)
Creates one virtual resilient switch from up to four switches; servers or switches can be attached using standard LACP for automatic load balancing and high availability; simplify network operation by reducing the need for complex protocols like Spanning Tree Protocol (STP), Equal-Cost Multipath (ECMP), and VRRP

- IEEE 802.1s Multiple Spanning Tree
Provides high link availability in multiple VLAN environments by allowing Multiple Spanning Trees; provides legacy support for IEEE 802.1d and IEEE 802.1w

- IEEE 802.3ad link aggregation control protocol (LACP) and port trunking Support up to 26 static, dynamic, or distributed trunks with each trunk having up to eight links (ports) per static trunk

- SmartLink
Provides easy-to-configure link redundancy of active and standby links

- **New** Virtual Router Redundancy Protocol (VRRP)
Allows groups of two routers to dynamically back each other up to create highly available routed environments for IPv4 and IPv6 networks (limited to 128 VRs)

Management

- SNMPv1, v2, and v3
Provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption

- Zero Touch Provisioning (ZTP)
Simplifies installation of the switch infrastructure using the Aruba Activate-based or a DHCP-based process with AirWave Network Management

Manageability

- Dual flash images
Provide independent primary and secondary operating system files for backup while upgrading

- Friendly port names
Allow assignment of descriptive names to ports

- Find-Fix-Inform
Finds and fixes common network problems automatically, then informs administrator

- Multiple configuration files
Allow multiple configuration files to be stored to a flash image

- Software updates
Free downloads from the Web

- RMON, XRMON, and sFlow®
Provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- Troubleshooting
Ingress and egress port monitoring enables network problem solving

- Unidirectional link detection (UDLD)
Monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices

- **New** IP SLA for Voice
  Monitor quality of the voice traffic using UDP Jitter and UDP Jitter for VoIP tests

Layer 2 switching
- VLAN support and tagging
  Support IEEE 802.1Q (4,094 VLAN IDs) and 2K VLANs simultaneously

- Jumbo packet support
  Improves the performance of large data transfers; supports frame size of up to 9,220 bytes

- IEEE 802.1v protocol VLANs
  Isolate select non-IPv4 protocols automatically into their own VLANs

- Rapid Per-VLAN Spanning Tree (RPVST+)
  Allows each VLAN to build a separate spanning tree to improve link bandwidth usage; is compatible with PVST+

- GVRP and MVRP
  Allows automatic learning and dynamic assignment of VLANs

- VxLAN
  Encapsulation (tunneling) protocol for overlay network that enables a more scalable virtual network deployment

Layer 3 services
- DHCP server
  Centralizes and reduces the cost of IPv4 address management

Layer 3 routing
- Static IP routing
  Provides manually configured routing; includes ECMP capability

- 256 static and 10,000 RIP routes
  Facilitate segregation of user data, without adding external hardware

- Routing Information Protocol (RIP)
  Provides RIPv1, RIPv2, and RIPng routing

- Access OSPF
  Provides OSPFv2 and OSPFv3 protocols for routing between access and the next layer on the LAN. Only one OSPF area and up to 8 interfaces are supported.

- **New** Policy-based routing
  Uses a classifier to select traffic that can be forwarded based on policy set by the network administrator (limited to 16 next hop routes)

Security
- Multiple user authentication methods

  – IEEE 802.1X
    Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards

  – Web-based authentication
    Provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support the IEEE 802.1X supplicant

  – MAC-based authentication
    Authenticates the client with the RADIUS server based on the client's MAC address

- Authentication flexibility

  – Multiple IEEE 802.1X users per port
    Provides authentication of multiple IEEE 802.1X users per port; prevents a user from "piggybacking" on another user's IEEE 802.1X authentication

  – Concurrent IEEE 802.1X, Web, and MAC Authentication schemes per port
    Switch port will accept up to 32 sessions of IEEE 802.1X, Web, and MAC Authentications

- Access control lists (ACLs)
  Provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number

- Source-port filtering
  Allows only specified ports to communicate with each other

- RADIUS/TACACS+
  Eases switch management security administration by using a password authentication server

- IEEE 802.1X, MAC, or Web authentication
  Provides concurrent network access control and Web authentication of up to 24 clients per port

- Secure shell
  Encrypts all transmitted data for secure remote CLI access over IP networks

- Secure Sockets Layer (SSL)
  Encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch

- Port security
  Allows access only to specified MAC addresses, which can be learned or specified by the administrator

- MAC address lockout
  Prevents particular configured MAC addresses from connecting to the network

- Secure FTP
  Allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file

- Switch management logon security
  Helps secure switch CLI logon by optionally requiring either RADIUS or TACACS+ authentication

- Custom banner
  Displays security policy when users log in to the switch

- STP BPDU port protection
  Blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

- DHCP protection
  Blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- Dynamic ARP protection
  Blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data

- STP root guard
  Protects the root bridge from malicious attacks or configuration mistakes

- Identity-driven ACL
  Enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user

- Per-port broadcast throttling
  Configures broadcast control selectively on heavy traffic port uplinks

- Private VLAN
  Provides network security by restricting peer-to-peer communication to prevent a variety of malicious attacks; typically a switch port can only communicate with other ports in the same community and/ or an uplink port, regardless of VLAN ID or destination MAC address

Monitor and diagnostics

- Digital optical monitoring of SFP+ and 1000BASE-T transceivers
  Allows detailed monitoring of the transceiver settings and parameters

Warranty and support

- Limited Lifetime Warranty
  See **hpe.com/networking/ warrantysummary** for warranty and support information included with your product purchase

- Software releases
  To find software for your product, refer to **hpe.com/networking/support**; for details on the software releases available with your product purchase, refer to **hpe.com/ networking/warrantysummary**

Aruba 2930F TAA-compliant Switch Series

Specifications

	Aruba 2930F 24G PoE+ 4SFP+ TAA-compliant Switch (JL263A)	Aruba 2930F 48G PoE+ 4SFP+ TAA-compliant Switch (JL264A)
I/O ports and slots	24 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 SFP+ 1/10GbE ports; PHY-less	48 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 SFP+ 1/10GbE ports; PHY-less
Additional ports and slots	1 dual-personality (RJ-45 or USB micro-B) serial console port	1 dual-personality (RJ-45 or USB micro-B) serial console port
Physical characteristics		
Dimensions	17.42(w) x 11.98(d) x 1.73(h) in. (44.25 x 30.42 x 4.39 cm) (1U height)	17.42(w) x 11.98(d) x 1.73(h) in. (44.25 x 30.42 x 4.39 cm) (1U height)
Weight	8.6 lb (3.9 kg)	9.83 lb (4.46 kg)
Memory and processor	Dual Core ARM® Cortex A9 @ 1016 MHz, 1 GB DDR3 SDRAM; Packet buffer size: 12.38 MB; 4.5 MB Ingress/7.785 MB Egress, 4 GB eMMC	Dual Core ARM Cortex @ 1016 MHz, 1 GB DDR3 SDRAM; Packet buffer size: 12.38 MB; 4.5 MB Ingress/7.875 MB Egress, 4 GB eMMC
Performance		
1000 Mb Latency	< 3.8 µs (64-byte packets)	< 3.8 µs (64-byte packets)
10 Gbps Latency	< 1.6 µs (64-byte packets)	< 1.6 µs (64-byte packets)
Throughput	Up to 95.2 Mpps	Up to 112.0 Mpps
Switching capacity	128 Gbps	176 Gbps
Routing table size	10000 entries (IPv4), 5000 entries (IPv6)	10000 entries (IPv4), 5000 entries (IPv6)
MAC address table size	32768 entries	32768 entries
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C); up to 5000 Feet, -0°C to 40°C (32°F to 104°F) up to 10000 Feet	32°F to 113°F (0°C to 45°C); up to 5000 feet, -0°C to 40°C (32°F to 104°F) up to 10000 Feet
Operating relative humidity	15% to 95% @ 104°F (40°C), noncondensing	15% to 95% @ 104°F (40°C), noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C); up to 15000 Feet	-40°F to 158°F (-40°C to 70°C); up to 15000 Feet
Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C)	15% to 95% @ 149°F (65°C)
Acoustic	Power: 54.1 dB, Pressure: 40.6 dB	Power: 55.7 dB, Pressure: 41.7 dB
Airflow direction	Side-to-side	Side-to-side
Electrical characteristics		
Frequency	50/60 Hz	50/60 Hz
80plus.org Certification	Silver	Silver
Maximum heat dissipation	1518 BTU/hr (1601.49 kJ/hr)	1566 BTU/hr (1652.13 kJ/hr)
Voltage	100-127/200-240 VAC, rated	100-127/200-240 VAC, rated
Current	4.9/2.4 A	5.1/2.5 A
Maximum power rating	445 W	459 W
Idle power	36.8 W	48.6 W
PoE power	370 W PoE+	370 W PoE+
Notes	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.

Aruba 2930F TAA-compliant Switch Series

Specifications (continued)

	Aruba 2930F 24G PoE+ 4SFP+ TAA-compliant Switch (JL263A)	Aruba 2930F 48G PoE+ 4SFP+ TAA-compliant Switch (JL264A)
Safety	UL 69050-1: 2nd Edition; EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; CSA 22.2 No. 60950-1-07 2nd; EN 60825-1:2007/ IEC 60825-1:2007 Class 1	UL 69050-1: 2nd Edition; EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011+A2:2013; IEC 60950-1:2005 +A1:2009 +A2:2013; CSA 22.2 No. 60950-1-07 2nd; EN 60825-1:2007/ IEC 60825-1:2007 Class 1
Emissions	EN 55022:2010/CISPR 22 Class A; FCC CFR 47 Part 15 Class A; VCCI Class A; ICES-003 Class A; CNS 13438	EN 55022:2010/CISPR 22 Class A; FCC CFR 47 Part 15 Class A; VCCI Class A; ICES-003 Class A; CNS 13438
Immunity Generic ESD Radiated EFT/Burst Surge Conducted Power frequency magnetic field Voltage dips and Interruptions Harmonics Flicker	EN 55024:2010/CISPR 24 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 IEC/EN 61000-3-2 IEC/EN 61000-3-3	EN 55024:2010/CISPR 24 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 IEC/EN 61000-3-2 IEC/EN 61000-3-3
Management	Aruba AirWave Network Management; IMC—Intelligent Management Center; Command-line interface; Web browser; Configuration menu; SNMP manager; Telnet; RMON1; FTP; Out-of-band management (serial RS-232C or micro USB)	Aruba AirWave Network Management; IMC—Intelligent Management Center; Command-line interface; Web browser; Configuration menu; SNMP manager; Telnet; RMON1; FTP; Out-of-band management (serial RS-232C or micro USB)
Services	Refer to the Hewlett Packard Enterprise website at **hpe.com/ networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/ networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Standards and Protocols
(applies to all products in series)

Denial of service protection		CPU DoS Protection	
Device management	RFC 1155 Structure and Management Information (SMIv1) RFC 1157 SNMPv1/v2c RFC 1591 DNS (client) RFC 1901 (Community based SNMPv2) RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II RFC 1908 (SNMPv1/v2 Coexistence) RFC 2576 (Coexistence between SNMPv1, v2, v3)	RFC 2578-2580 SMIv2 RFC 2579 (SMIv2 Text Conventions) RFC 2580 (SMIv2 Conformance) RFC 2819 (RMON groups Alarm, Event, History, and Statistics only) RFC 3416 (SNMP Protocol Operations v2) RFC 3417 (SNMP Transport Mappings) HTML and Telnet management	HTTP, SSHv1, and Telnet Multiple Configuration Files Multiple Software Images SNMPv3 and RMON RFC support SSHv1/SSHv2 Secure Shell TACACS/TACACS+ Web UI
General protocols	IEEE 802.1AX-2008 Link Aggregation IEEE 802.1d MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees IEEE 802.1v VLAN classification by Protocol and Port IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ab 1000BASE-T IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3af Power over Ethernet IEEE 802.3at PoE+ IEEE 802.3az Energy Efficient Ethernet IEEE 802.3x Flow Control RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET	RFC 868 Time Protocol RFC 951 BOOTP RFC 1058 RIPv1 RFC 1256 ICMP Router Discovery Protocol (IRDP) RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1542 BOOTP Extensions RFC 1918 Address Allocation for Private Internet RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 2131 DHCP RFC 2236 IGMP Snooping RFC 2453 RIPv2 RFC 2865 Remote Authentication Dial In User Service (RADIUS) RFC 2866 RADIUS Accounting RFC 3046 DHCP Relay Agent Information Option RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	RFC 3413 Simple Network Management Protocol (SNMP) Applications RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP) RFC 3416 Protocol Operations for SNMP RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 3575 IANA Considerations for RADIUS RFC 3576 Ext to RADIUS (CoA only) RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches RFC 4675 RADIUS VLAN & Priority RFC 4861 Neighbor Discovery for IP version 6 (IPv6) RFC 4862 IPv6 Stateless Address Autoconfiguration RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification UDLD (Unidirectional Link Detection)
IP multicast	RFC 1112 IGMP RFC 2236 IGMPv2	RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 3376 IGMPv3	RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
IPv6	RFC 1981 IPv6 Path MTU Discovery RFC 2080 RIPng for IPv6 Protocol Applicability Statement RFC 2082 RIP-2 MD5 RFC 2460 IPv6 Specification RFC 2464 Transmission of IPv6 over Ethernet Networks RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 2925 Remote Operations MIB (Ping only) RFC 3019 MLDv1 MIB	RFC 3315 DHCPv6 (client and relay) RFC 3484 Default Address Selection for IPv6 RFC 3513 IPv6 Addressing Architecture RFC 3596 DNS Extension for IPv6 RFC 3810 MLDv2 for IPv6 RFC 4022 MIB for TCP RFC 4113 MIB for UDP RFC 4251 SSHv6 Architecture RFC 4252 SSHv6 Authentication RFC 4253 SSHv6 Transport Layer RFC 4254 SSHv6 Connection	RFC 4291 IP Version 6 Addressing Architecture RFC 4293 MIB for IP RFC 2081 RIPng RFC 4419 Key Exchange for SSH RFC 4443 ICMPv6 RFC 4541 IGMP & MLD Snooping Switch RFC 4861 IPv6 Neighbor Discovery RFC 4862 IPv6 Stateless Address Auto-configuration RFC 5095 Deprecation of Type 0 Routing Headers in IPv6 RFC 6620 FCFS SAVI draft-ietf-savi-mix

Standards and Protocols (continued)
(applies to all products in series)

MIBs	IEEE 802.1ap (MSTP and STP MIB's only) IEEE 8021-Bridge-MIB (2008) IEEE 8021-Q-Bridge-MIB (2008) RFC 1155 Structure & ID of Management Information for TCP/IP Internets RFC 1156 (TCP/IP MIB) RFC 1157 A Simple Network Management Protocol (SNMP) RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1724 RIPv2 MIB RFC 2021 RMONv2 MIB	RFC 2578 Structure of Management Information Version 2 (SMIv2) RFC 2579 Textual Conventions for SMIv2 RFC 2580 Conformance Statements for SMIv2 RFC 2613 SMON MIB RFC 2618 RADIUS Client MIB RFC 2620 RADIUS Accounting MIB RFC 2665 Ethernet-Like-MIB RFC 2668 802.3 MAU MIB RFC 2674 802.1p and IEEE 802.1Q Bridge MIB RFC 2737 Entity MIB (version 2)	RFC 2819 RMON MIB RFC 2863 The Interfaces Group MIB RFC 2925 Ping MIB RFC 2932 IP (Multicast Routing MIB) RFC 2933 IGMP MIB RFC 3414 SNMP-User based-SM MIB RFC 3415 SNMP-View based-ACM MIB RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks RFC 3418 MIB for SNMPv3 RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)
Network management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP) RFC 1155 Structure of Management Information RFC 1157 SNMPv1 RFC 2021 Remote Network Monitoring Management Information Base version 2 using SMIv2 RFC 2576 Coexistence between SNMP versions RFC 2578 Structure of Management Information Version 2 (SMIv2) RFC 2579 Textual Conventions for SMIv2 RFC 2580 Conformance Statements for SMIv2 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)	RFC 2819 Remote Network Monitoring Management Information Base RFC 2856 Textual Conventions for Additional High Capacity Data Types RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations RFC 3164 BSD syslog Protocol RFC 3176 sFlow RFC 3411 SNMP Management Frameworks RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP) RFC 3412 SNMPv3 Message Processing	RFC 3413 Simple Network Management Protocol (SNMP) Applications RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 5424 Syslog Protocol ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3 XRMON
QoS/CoS	IEEE 802.1p (CoS) Ingress Rate Limiting	RFC 2474 DiffServ Precedence, including 8 queues/port RFC 2475 DiffServ Architecture	RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF)
Security	IEEE 802.1X Port Based Network Access Control Guest VLAN for 802.1X MAC Authentication MAC Lockdown MAC Lockout Port Security RFC 1321 The MD5 Message-Digest Algorithm RFC 1334 PPP Authentication Protocols (PAP) RFC 1492 An Access Control Protocol, Sometimes Called TACACS RFC 1492 TACACS+ RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP) RFC 2082 RIP-2 MD5 Authentication RFC 2104 Keyed-Hashing for Message Authentication	RFC 2138 RADIUS Authentication RFC 2139 RADIUS Accounting RFC 2246 Transport Layer Security (TLS) RFC 2548 Microsoft® Vendor-specific RADIUS Attributes RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB RFC 2716 PPP EAP TLS Authentication Protocol RFC 2818 HTTP Over TLS RFC 2865 RADIUS (client only) RFC 2865 RADIUS Authentication RFC 2866 RADIUS Accounting RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support RFC 2868 RADIUS Attributes for Tunnel Protocol Support RFC 2869 RADIUS Extensions	RFC 2882 NAS Requirements: Extended RADIUS Practices RFC 3162 RADIUS and IPv6 RFC 3576 Dynamic Authorization Extensions to RADIUS RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP) RFC 3580 IEEE 802.1X RADIUS RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines RFC 4576 RADIUS Attributes Access Control Lists (ACLs) Secure Sockets Layer (SSL) SSHv2 Secure Shell Web Authentication draft-grant-tacacs-02 (TACACS)

Aruba 2930F TAA-compliant Switch Series accessories

Transceivers	HPE X111 100M SFP LC FX Transceiver (J9054C) HPE X121 1G SFP LC SX Transceiver (J4858C) HPE X121 1G SFP LC LX Transceiver (J4859C) HPE X121 1G SFP LC LH Transceiver (J4860C) HPE X121 1G SFP RJ45 T Transceiver (J8177C) HPE X132 10G SFP+ LC SR Transceiver (J9150A) HPE X132 10G SFP+ LC LR Transceiver (J9151A) HPE X132 10G SFP+ LC ER Transceiver (J9153A) HPE X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (J9281B) HPE X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (J9283B)
Cables	HPE 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A) HPE 1 m Multimode OM3 LC/LC Optical Cable (AJ834A) HPE 2 m Multimode OM3 LC/LC Optical Cable (AJ835A) HPE 5 m Multimode OM3 LC/LC Optical Cable (AJ836A) HPE 15 m Multimode OM3 LC/LC Optical Cable (AJ837A) HPE 30 m Multimode OM3 LC/LC Optical Cable (AJ838A) HPE 50 m Multimode OM3 LC/LC Optical Cable (AJ839A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A)
Aruba 2930F 24G PoE+ 4SFP+ TAA-compliant Switch (JL263A)	HPE X410 1U Universal 4-post Rack Mounting Kit (J9583A)
Aruba 2930F 48G PoE+ 4SFP+ TAA-compliant Switch (JL264A)	HPE X410 1U Universal 4-post Rack Mounting Kit (J9583A)

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