Hewlett Packard Enterprise

Data sheet

HPE 2915 Switch Series

Product overview

The HPE 2915 Switch Series is a family of fully managed 8-port 10/100/1000 switches, each with two an additional dual-personality gigabit Ethernet ports for copper or SFP connectivity. Bringing together static and RIP IPv4 routing, robust security and management, enterprise class features, Limited Lifetime Warranty, software updates included, these PoE switches deliver a comprehensive and cost-effective solution.

The 2915 Switch Series has a fan-less design for quiet operation, making it suitable for deployments in open spaces. In addition, its compact form factor allows for flexible deployments—including wall, surface, or rack mounting. These switches can be deployed at the enterprise edge and remote branch offices, as well as on converged networks.

A summary of the highlights of the 2915 Switch Series:

- Scalable 10/100/1000 connectivity
- L2 and L3 switching capabilities
- sFlow, ACLs, and rate limiting
- Energy-efficient design and quiet operation
- Rack-mountable, compact form factor

Features and benefits

Quality of service (QoS)

- Selectable queue configuration

  Performance and/or traffic reliability can be increased by selecting the number of queues that best meet the requirements of the network applications; the switch will map eight priorities to either two or four queues

- Class of service (CoS)

  Sets the IEEE 802.1p priority tag—based on the IP address, IP type of service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ

- L4 prioritization

  Enables prioritization, based on the TCP/UDP port numbers

- Traffic prioritization using IEEE 802.1p

  Allows real-time traffic classification—into eight priority levels, mapped to four queues

- Rate limiting

  Facilitates per-port ingress-enforced maximums

- Flow control

  Helps ensure reliable communications during full-duplex operation

- ToS

  - IP precedence

    Honors IP precedence bits and allows mapping to a priority queue

  - Differentiated services code point (DSCP) values

    Recognizes DSCP bits and allows mapping to a priority queue

Management

- Choice of management interfaces

  - Easy-to-use Web graphical user interface (GUI)

    Allows configuration of the switch from any Web browser

  - Robust command-line interface (CLI)

    Provides advanced configuration and diagnostics

  - Simple network management protocol (SNMPv2c/SNMPv3)

    Allows switch to be managed with a variety of third-party network management applications

- Multiple configuration file management tools

  Allow up to three configuration files to be managed and stored on the switch

- Dual flash images

  Provide independent primary and secondary operating system files for backup while upgrading

- Command authorization

  Leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; also provides an audit trail

- Front-panel LEDs

  - Locator LED

    Allows users to set the locator LED on a specific switch to turn on, blink, or turn off; and simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches

  - Per-port LEDs

    Provides an at-a-glance view of the status, activity, speed, and full-duplex operation

  - Power and fault LEDs

    Display issues, if any

- Network management

  HPE Intelligent Management Center (IMC) centrally configures, updates, monitors, and troubleshoots

- Comware CLI

  - Comware-compatible CLI

    Bridges the experience of Hewlett Packard Enterprise Comware CLI users who are using the Hewlett Packard Enterprise ProVision software CLI

  - Display and fundamental Comware CLI commands

    Are embedded in the switch CLI as native commands; display output is formatted as on Comware-based switches, and fundamental commands provide a Comware-familiar initial switch setup

  - Configuration Comware CLI commands

    When Comware commands are entered, CLI help is elicited to formulate the correct ProVision software CLI command

Connectivity

- Dual-personality functionality

  Two 10/100/1000 ports or SFP slots provide optional fiber connectivity, such as Gigabit-SX, -LX, -LH, 100-FX, 100-BX, and 1000-BX

- IEEE 802.3af PoE

  Provides up to 15.4 W per port to IEEE 802.3af-compliant PoE-powered devices, such as IP phones, wireless access points, and security cameras (refer to the product specifications for the total PoE availability)

- Auto-MDIX

  Adjusts automatically for straight-through or crossover cables on all 10/100 ports

- RJ-45 serial console port

  Provides easy accessibility from the front of the unit to the switch CLI

- IPv6
  - IPv6 host

    Enables the switches to be managed and deployed at the edge of IPv6 networks
  - Dual stack (IPv4/IPv6)

    Provides transition mechanism from IPv4 to IPv6; and supports connectivity for both protocols
  - Security

    RA Guard, DHCPv6 Protection
- Single IP address management

  Facilitates single IP-address management for a virtual stack of up to 16 switches

Resiliency and high availability

- Multiple spanning tree protocol (STP) and IEEE 802.1s

  Provides high link availability in multiple VLAN environments by allowing multiple spanning trees; and provides legacy support for IEEE 802.1d and IEEE 802.1w
- Port trunking and link aggregation
  - Trunking

    Supports up to eight links per trunk to increase bandwidth and create redundant connections
  - IEEE 802.3ad link aggregation control protocol (LACP)

    Eases configuration of trunks through automatic configuration
- SmartLink

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

L2 switching

- GARP VLAN registration protocol

  Allows automatic learning and dynamic assignment of VLANs
- VLAN support and tagging

  Supports IEEE 802.1Q (4,094 VLAN IDs) and 256 VLANs simultaneously
- Per-VLAN spanning tree plus (PVST+)

  Allows each VLAN to build a separate spanning tree to improve link bandwidth usage in network environments with multiple VLANs

L 3 routing

- Static IP routing

  Enables manually configured routing; includes the ECMP capability
- Routing information protocol (RIP)

  Facilitates RIPv1 and RIPv2 routing

Security

- Access control lists (ACLs)

  Provide IP L3 filtering, based on the source/destination IP address/subnet and source/destination TCP/UDP port number

- Identity-driven ACL

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

- 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

- Secure protocols for encryption of management traffic

  - Secure shell (SSHv2)

    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

  - Secure FTP (SFTP)

    Encrypts uploads and downloads of configuration files

- Port security

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

- Dynamic IP lockdown

  Works with dynamic-host-configuration-protocol (DHCP) protection to block traffic from unauthorized hosts, helping prevent IP source address spoofing

- DHCP protection

  Blocks DHCP packets from unauthorized DHCP servers, helping prevent denial-of-service attacks

- Dynamic ARP protection

  Blocks ARP broadcasts from unauthorized hosts, helping prevent eavesdropping or theft of network data

- MAC address lockout

  Helps prevent particular configured MAC addresses from connecting to the network

- MAC address lockdown

  Allows only specified MAC addresses access to the network on a specified port

- 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—2 IEEE 802.1X

  Provides authentication of multiple IEEE 802.1X users per port; helps prevent user "piggybacking" on another user's IEEE 802.1X authentication

- Protected ports

  Helps prevent designated ports from communicating with each other while allowing access to unprotected ports

- Per-port broadcast throttling

  Configures broadcast control on heavy traffic port uplinks selectively

- Physical security

  – Front-panel buttons

  Provides the capability to disable, reset, and clear buttons on the front panel for added security

  – Kensington-lock slot

  Includes a Kensington-lock slot for securing the switches in open-space deployments

- STP root guard

  Protects the root bridge from malicious attacks or configuration mistakes, when running the STP

- STP bridge-protocol data unit (BPDU) port protection

  Blocks BPDUs on ports that do not require BPDUs, helping prevent forged BPDU attacks

Convergence

- IP multicast snooping and data-driven IGMP

  Mitigates flooding of IP multicast traffic automatically

- Media endpoint discovery (MED) enabled by the link-layer discovery protocol (LLDP)

  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 LLDP

  Facilitates easy mapping using network management applications, with the LLDP and automated device discovery protocol

- PoE allocations

  Supports multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE 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 Unified Wired and Wireless

- HTTP redirect function

  Supports HPE Intelligent Management Center (IMC) bring your own device (BYOD) solution

Monitoring and diagnostics

- Port mirroring

  Enables traffic on a port to be simultaneously sent to a network analyzer for monitoring

- Network tools

  Includes telnet client, ping, traceroute, and L2 link test tools for diagnostics as part of CLI

- Logging

  Enables local and remote logging of events via SNMP (v2c and v3) and syslog

- Troubleshooting

  Facilitates ingress and egress port monitoring for network problem solving

- Uni-directional link detection (UDLD)

  Monitors a 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

- Find-fix-inform

  Finds and fixes common network problems automatically; and then informs the administrator

- RMON, XRMON, sFlow, and SMON

  Provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- Port monitoring for network threats

  Provides sampled port traffic, using sFlow technology, to the HPE Network Immunity Manager application for network-behavior-anomaly-detection (NBAD) analysis—to detect and mitigate threats at the port where they originated

Flexibility

- Flexible mounting
  - Rack mountable

    Allows the switch to be mounted on a standard 19-inch rack, with the hardware included
  - Wall mountable

    Allows the switch to be mounted on a wall, using the hardware included
  - Surface mountable

    Allows the switch to be mounted above or below a surface (such as a desk or table), using the hardware included
- Compact size

  Reduces space requirements (refer to the product specifications for the exact dimensions)
- Power supply clip

  Provides the ability to attach or detach the power supply to the device, allowing for either an integrated solution or a separate one, depending on deployment requirements

Product architecture

- Energy-efficient design
  - Fan-less design

    Helps reduce power consumption
  - Port link and activity LEDs

    Can be turned off to conserve energy
  - Port low-power mode option

    Enables the port to automatically go into the low-power mode to conserve energy, when no link is detected on a port

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**

HPE 2915 Switch Series

SPECIFICATIONS	HPE 2915-8G-PoE Switch (J9562A)
Included accessories	1 HPE X520 1U Power Adapter Shelf (J9701A)
Ports	8 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 802.3af PoE); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10BASE-T; an IEEE 802.3u Type 100BASE-TX; an IEEE 802.3ab 1000BASE-T Gigabit Ethernet); or an SFP slot (for use with SFP transceivers) 1 RJ-45 serial console port
Physical characteristics	10(w) x 6.28(d) x 1.75(h) in (25.4 x 15.95 x 4.45 cm) (1U height) Weight 3.66 lb (1.66 kg) including power adapter and power cord
Memory and processor	Processor Freescale PowerPC 8313 @ 333 MHz, 32 MB flash, 128 MB DDR2 SDRAM; packet buffer size: 512 KB dynamically allocated
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet; horizontal surface mounting, wall mounting
Performance	100 Mb Latency < 5.3 µs (LIFO 64-byte packets) 1000 Mb Latency < 2.7 µs (LIFO 64-byte packets) Throughput 14.8 million pps Switching capacity 20 Gb/s MAC address table size 8000 entries
Environment	Operating temperature 32°F to 113°F (0°C to 45°C) Operating relative humidity 15% to 95% @ 104°F (40°C), noncondensing Nonoperating/Storage temperature -40°F to 158°F (-40°C to 70°C) Nonoperating/Storage relative humidity 15% to 95% @ 149°F (65°C), noncondensing Altitude up to 10,000 ft (3 km) Acoustic Power: 0 dB, Pressure: 0 dB
Electrical characteristics	Description Use only the external power adapter module (5070-6082, PA1 AC adapter) supplied with this product. Maximum heat dissipation 89 BTU/hr (93.9 kJ/hr) Voltage 100-240 VAC Current 1.5 A Maximum power rating 86 W Idle power 11 W PoE power 67 W Frequency 50/60 Hz 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. PoE power is the total power budget available to all PoE ports.
Safety	cUL (CSA 22.2 No. 60950); CE Labeled; UL 60950-1; UL Listed; CAN/CSA 22.2 No. 60950; EN 60825; AS/NZS 60950; IEC 60950-1; EN 60950-1
Emissions	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 (Canada); AS/NZS CISPR 22; IEC/EN 61000-3-2; IEC/EN 61000-3-3; IEC 61000:4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11

SPECIFICATIONS	HPE 2915-8G-PoE Switch (J9562A)
Immunity	Generic EN 55024, CISPR 24 EN EN 55024, CISPR 24 ESD IEC 61000-4-2 Radiated IEC 61000-4-3 EFT/Burst IEC 61000-4-4 Surge IEC 61000-4-5 Conducted IEC 61000-4-6 Power frequency magnetic field IEC 61000-4-8 Voltage dips and interruptions IEC 61000-4-11 Harmonics EN 61000-3-2, IEC 61000-3-2 Flicker EN 61000-3-3, IEC 61000-3-3
Management	HPE PCM+; CLI; Web browser; configuration menu; out-of-band management (serial RS-232C); IEEE 802.3 Ethernet MIB; Repeater MIB; Ethernet Interface MIB
	Notes When using mini-GBICs with this product, mini-GBICs with revision "B" or later (product number ends with the letter "B" or later, e.g., J4858B, J4859C) are required. This product comes with a power supply clip adapter. The adapter dimensions are 1.7(d) x 10.7(w) x 3.8(h) in. (4.35 x 27.25 x 9.6 cm). The weight of the power supply clip adapter is .31 lb (.14 kg).
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.

STANDARDS AND PROTOCOLS
(applies to all products in series)

Denial of service protection	Automatic Filtering of well known Denial of Service Packets		
Device management	RFC 1591 DNS (client)	Multiple Configuration Files Multiple Software Images	SSHv1/SSHv2 TACACS/TACACS+
General protocols	IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3 Type 10BASE-T IEEE 802.3ab 1000BASE-T IEEE 802.3ad LACP IEEE 802.3af Power over Ethernet	IEEE 802.3u 100BASE-X 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 1350 TFTP Protocol (revision 2) RFC 1723 RIP v2 RFC 1812 IPv4 Routing RFC 1918 Address Allocation for Private Internet RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 2131 DHCP RFC 2453 RIPv2
IP multicast	RFC 3376 IGMPv3 (host joins only)		
IPv6	RFC 1981 IPv6 Path MTU Discovery RFC 2460 IPv6 Specification RFC 2464 Transmission of IPv6 over Ethernet Networks RFC 2925 Remote Operations MIB (Ping only) RFC 3315 DHCPv6 (client only) RFC 3484 Default Address Selection for IPv6	RFC 3513 IPv6 Addressing Architecture RFC 3596 DNS Extension for IPv6 RFC 3810 Multicast Listener Discovery Version 2 (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 4291 IP Version 6 Addressing Architecture RFC 4293 MIB for IP RFC 4419 Key Exchange for SSH RFC 4443 ICMPv6 RFC 4861 IPv6 Neighbor Discovery RFC 4862 IPv6 Stateless Address Auto-configuration
MIBs	RFC 1155 Structure & ID of Mgmt Info for TCP/IP Internets RFC 1213 MIB II RFC 1493 Bridge MIB RFC 2021 RMONv2 MIB	RFC 2578 Structure of Management Information Version 2 (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 2863 The Interfaces Group MIB RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)
Network management	IEEE 802.1AB LLDP	RFC 1098 A (SNMP) RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)	RFC 3176 sFlow RFC 5424 Syslog Protocol SNMPv1/v2c/v3
QoS/CoS	RFC 2474 DiffServ precedence, with 4 queues per port RFC 2475 DiffServ Architecture RFC 2598 DiffServ Expedited Forwarding (EF) RFC 2597 DiffServ Assured Forwarding (AF) Ingress Rate Limiting		
Security	IEEE 802.1X Port Based Network Access Control RFC 2866 RADIUS Accounting MAC Lockout RFC 1492 TACACS+ ACLs Port Security RFC 2138 RADIUS Authentication MAC Authentication SSL MAC Lockdown Web Authentication		

HPE 2915 Switch Series accessories

HPE 2915-8G-PoE Switch (J9562A)	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 X111 100M SFP LC FX Transceiver (J9054C) HPE X112 100M SFP LC BX-D Transceiver (J9099B) HPE X112 100M SFP LC BX-U Transceiver (J9100B) HPE X122 1G SFP LC BX-D Transceiver (J9142B) HPE X122 1G SFP LC BX-U Transceiver (J9143B) HPE 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A) 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) HPE X510 1U Cable Guard (J9700A) HPE X520 1U Power Adapter Shelf (J9701A)

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4AA4-9530ENN, February 2016, Rev. 2