Overview

Aruba 5400R zl2 Switch Series

Models

HP 5406R zl2 Switch	J9821A
HP 5412R zl2 Switch	J9822A
HP 5406R-44G-PoE+/2SFP+ (No PSU) v2 zl2 Switch	J9823A
HP 5412R-92G-PoE+/2SFP+ (No PSU) v2 zl2 Switch	J9825A
HP 5406R-44G-PoE+/4SFP (No PSU) v2 zl2 Switch	J9824A
HP 5412R-92G-PoE+/4SFP (No PSU) v2 zl2 Switch	J9826A
HP 5406R-8XGT/8SFP+ (No PSU) v2 zl2 Switch	J9868A
HP 5412R 92GT PoE+ and 4-port SFP+ (No PSU) v3 zl2 Switch	JL001A
HP 5406R 8-port 1/2.5/5/10GBASE-T PoE+ / 8-port SFP+ (No PSU) v3 zl2 Switch	JL002A
HP 5406R 44GT PoE+ and 4-port SFP+ (No PSU) v3 zl2 Switch	JL003A
HP 5406R 16-port SFP+ (No PSU) v3 zl2 Switch	JL095A

Key Features

- Powerful Aruba Layer 3 modular switch series delivers high-performance, low latency and resiliency.
- HPE Smart Rate for high speed multi gigabit bandwidth and PoE+ power.
- Scalable line rate 40GbE for wireless traffic aggregation.
- Ready for innovative SDN applications with OpenFlow support.
- Supports ClearPass Policy Manager and Airwave Network Management.

Product overview

The Aruba 5400R zl2 Switch Series is an industry-leading mobile campus access solution with HPE Smart Rate multi-gigabit ports for high-speed connectivity and bandwidth for next wave 802.11ac devices. It brings enterprise-class resiliency and innovative flexibility and scalability to mobile-first networks. The Aruba 5400R delivers robust virtualization with AllianceOne solutions, hitless failover, enhanced QoS, and security with advanced Layer 3 features with no add-on software licensing required.

Based on the 6th generation ProVision ASIC, the Aruba 5400R zl2 Switch Series has a high-speed, high-capacity architecture with 2 Tbps crossbar switching fabric with low 2.1μ latency, unprecedented programmability, and leading edge SDN applications. This series offers flexible connectivity options with 6 or 12 slot compact chassis, line rate 40 GbE, up to 96 line rate 10GbE ports and up to 288 ports of PoE+. The Aruba 5400R is SDN ready with OpenFlow support and provides a consistent wired/wireless user experience with ClearPass Policy Manager and Airwave Network Management.

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
- **Fully flexible OpenFlow**
  creates custom OpenFlow pipelines (processing stages) on-demand to support new SDN applications (requires v3

Overview

modules)

Unified Wired and Wireless

- **ClearPass Policy Manager support**
  unified wired and wireless policies using Aruba ClearPass Policy Manager
- **HTTP redirect function**
  supports HPE Intelligent Management Center (IMC) bring your own device (BYOD) solution
- **Switch auto-configuration**
  automatically configures switch for rogue AP detection, add VLAN, and set PoE priority when Aruba AP is detected

Quality of Service (QoS)

- **Advanced classifier-based QoS**
  classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- **Traffic prioritization**
  allows real-time traffic classification into eight priority levels mapped to eight queues
- **Bandwidth shaping**
  - **Port-based rate limiting**
    provides per-port ingress-/egress-enforced increased bandwidth
  - **Classifier-based rate limiting**
    uses an access control list (ACL) to enforce increased bandwidth for ingress traffic on each port
  - **Reduced bandwidth**
    provides per-port, per-queue egress-based reduced bandwidth
- **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

Management

- **Remote intelligent mirroring**
  mirrors selected ingress/egress traffic based on ACL, port, MAC address, or VLAN to a local or remote HPE 8200 zl, 6600, 6200 yl, 5400 zl, 5400R, 3500, or 3800 Switch located anywhere on the network
- **RMON, XRMON, and sFlow v5**
  provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**
  advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
- **Management simplicity**
  provides common software features and CLI implementation across all HPE ProVision-based switches (including the zl and yl switches)
- **Command authorization**
  leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Friendly port names**
  allow assignment of descriptive names to ports
- **Dual flash images**
  provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files**

Overview

stores easily to the flash image

- **Comware CLI**
    - **Comware-compatible CLI**
      bridges the experience of Hewlett Packard Enterprise Comware CLI users who are using the ProVision CLI
    - **Display and fundamental Comware CLI commands**
      are natively embedded in the switch CLI; display output is formatted as on Comware-based switches; fundamental commands provide 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
- **Unidirectional Link Detection (UDLD)**
  support HPE UDLD and DLDP protocols to monitor a cable between two switches and shut down the ports on both ends if a broken link is detected, preventing network problems such as loops
- **Zero-Touch ProVisioning (ZTP)**
  uses settings in DHCP to enable ZTP with Aruba AirWave Network Management

Connectivity

- **IEEE 802.3az Energy Efficient Ethernet**
  lowers power consumption in periods of low link usage (supported on v2 and higher 10/100/1000 and 10/100 modules)
- **IEEE 802.3af Power over Ethernet (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
- **IEEE 802.3at Power over Ethernet Plus**
  provides up to 30 W per port, for up to 288 ports simultaneously, for PoE- and PoE+-powered devices, such as video IP phones, IEEE 802.11n wireless access points, and advanced pan/zoom/tilt security cameras
- **Prestandard PoE support**
  detects and provides power to prestandard PoE devices; see the list of supported devices in the product FAQ at:
  http://www.hp.com/networking
- **High-density port connectivity**
  provides up to 12 interface module slots and up to 288 wire-speed 10/100/1000 PoE-enabled ports or 96 10-GbE ports per system
- **Jumbo frames**
  on Gigabit Ethernet and 10-Gigabit Ethernet ports, jumbo frames allow high-performance remote backup and disaster-recovery services
- **Auto-MDIX**
  provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- **IPv6**
    - **IPv6 host**
      enables switch management in an IPv6 network
    - **Dual stack (IPv4 and IPv6)**
      transitions 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 traffic
    - **IPv6 routing**
      supports static, RIPng, OSPFv3 routing protocols
    - **6in4 tunneling**
      supports encapsulation of IPv6 traffic in IPv4 packets

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- **Security**
  provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping

Performance

- **High-speed, high-capacity architecture**
  2 Tbps crossbar switching fabric provides intra-module and inter-module switching with 785.7 million pps throughput on the purpose-built ProVision ASICs
- **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

Resiliency and high availability

- **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
- **Nonstop switching**
  improves network availability to better support critical applications such as unified communication and mobility; interface and fabric modules continue switching traffic during failover from active to standby management module
- **Nonstop routing**
  enhances Layer 3 high availability; OSPFv2/v3 and VRRP will continue to operate and route network traffic during failover from an active to a standby management module
- **Redundant management and power**
  provide enhanced system availability and continuity of operations
- **IEEE 802.1s Multiple Spanning Tree Protocol**
  provides high link availability in multiple VLAN environments by allowing multiple spanning trees; encompasses IEEE 802.1D Spanning Tree Protocol and IEEE 802.1w Rapid Spanning Tree Protocol
- **IEEE 802.3ad Link Aggregation Control Protocol (LACP) and Hewlett Packard Enterprise port trunking**
  support up to 144 trunks, each with up to eight links (ports) per trunk
- **Distributed trunking**
  enables loop-free and redundant network topology without using Spanning Tree Protocol; allows a server or switch to connect to two switches using one logical trunk for redundancy and load sharing
- **Optional redundant power supply**
  provides uninterrupted power and allows hot-swapping of the redundant power supplies when installed
- **Hot-swappable modules**
  allows dissimilar modules, and power supplies in a redundant power supply configuration to be added or swapped without interrupting the network
- **Sparing simplicity**
  HPE zl-common accessories (interface modules and power supplies)
- **Uplink Failure Detection**
  provides active-standby network path redundancy for servers that are configured for active-standby NIC teaming
- **SmartLink**
  provides easy-to-configure link redundancy of active and standby links

Layer 2 switching

- **IEEE 802.1v protocol VLANs**
  isolate select non-IPv4 protocols automatically into their own VLANs
- **IEEE 802.1ad Q-in-Q**

Overview

increases the scalability of an Ethernet network by providing a hierarchical structure; connects multiple LANs on a high-speed campus or metro network

- **MAC-based VLAN**
  provides granular control and security; uses RADIUS to map a MAC address/user to specific VLANs (requires v2 modules)
- **Rapid Per-VLAN Spanning Tree (RPVST+)**
  allows each VLAN to build a separate spanning tree to improve link bandwidth usage; is compatible with PVST+
- **Hewlett Packard Enterprise switch meshing**
  dynamically load balances across multiple active redundant links to increase available aggregate bandwidth; allows concurrent Layer 3 routing with v2 or higher modules
- **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 (requires v3 modules)
- **VLAN support and tagging**
  supports the IEEE 802.1Q standard and 4096 VLANs simultaneously

Layer 3 services

- **User Datagram Protocol (UDP) helper function**
  allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- **Loopback interface address**
  defines an address in Routing Information Protocol (RIP) and Open Standard Path First (OSPF), improving diagnostic capability
- **Route maps**
  provide more control during route redistribution; allow filtering and altering of route metrics
- **DHCP server**
  centralizes and reduces the cost of IPv4 address management
- **Bidirectional Forwarding Detection (BFD)**
  monitor link connectivity and reduces network convergence time for OSPFv2, and VRRP (requires v3 modules)

Layer 3 routing

- **Static IP routing**
  provides manually configured routing for both IPv4 and IPv6 networks
- **OSPF**
  provides OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing
- **Policy-based routing**
  uses a classifier to select traffic that can be forwarded based on policy set by the network administrator (requires v2 or higher modules)
- **Border Gateway Protocol (BGP)**
  provides IPv4 Border Gateway Protocol routing, which is scalable, robust, and flexible
- **Routing Information Protocol (RIP)**
  provides RIPv1, RIPv2, and RIPng routing

Security

- **Access control lists (ACLs)**
  provide filtering based on the IP field, source/destination IP address/subnet, and source/destination TCP/UDP port

Overview

number on per-VLAN or per-port basis

- **Multiple user authentication methods**
    - **IEEE 802.1X users per port**
      provides authentication of multiple IEEE 802.1X users per port
    - **Web-based authentication**
      authenticates from a Web browser for clients that do not support IEEE 802.1X supplicant
    - **MAC-based authentication**
      client is authenticated with the RADIUS server based on the client's MAC address
    - **Concurrent IEEE 802.1X, Web, and MAC authentication schemes per port**
      switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
- **Virus throttling**
  detects traffic patterns typical of worm-type viruses and either throttles or entirely prevents the virus from spreading across the routed VLANs or bridged interfaces without requiring external appliances
- **DHCP protection**
  blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Secure management access**
  delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- **Switch CPU protection**
  provides automatic protection against malicious network traffic trying to shut down the switch
- **ICMP throttling**
  defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic
- **STP BPDU port protection**
  blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- **Dynamic IP lockdown**
  works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
- **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
- **Detection of malicious attacks**
  monitors 10 types of network traffic and sends a warning when an anomaly that potentially can be caused by malicious attacks is detected
- **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
- **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 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
- **Secure FTP**
  allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- **Management Interface Wizard**
  helps secure management interfaces such as SNMP, telnet, SSH, SSL, Web, and USB at the desired level
- **Switch management logon security**

Overview

helps secure switch CLI logon by optionally requiring either RADIUS or TACACS+ authentication

- **Security banner**
  displays a customized security policy when users log in to the switch
- **IEEE 802.1AE MACsec**
  provides security on a link between two switch ports (1Gbps or 10Gbps) using standard encryption and authentication based on pre-shared key. MACsec software support not yet available for modules with Smart Rate ports (requires v3 modules)
- **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

Convergence

- **IP multicast routing**
  includes PIM Sparse and Dense modes to route IP multicast traffic
- **IP multicast snooping** (data-driven IGMP)
  automatically prevents flooding of IP multicast traffic
- **LLDP-MED (Media Endpoint Discovery)**
  is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **PoE allocations**
  support multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings
- **Auto VLAN configuration for voice**
    - RADIUS VLAN: uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones
    - CDPv2: uses CDPv2 to configure legacy IP phones
- **Local MAC Authentication**
  assigns attributes such as VLAN and QoS using locally configured profile that can be a list of MAC prefixes

Warranty and support

- **Limited Lifetime Warranty**
  see **http://www.hp.com/networking/warrantysummary** for warranty and support information included with your product purchase.
- **Software releases**
  to find software for your product, refer to **http://www.hp.com/networking/support;** for details on the software releases available with your product purchase, refer to **http://www.hp.com/networking/warrantysummary**

Configuration

Build To Order:
BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

HP 5406R zl2 Switch   **J9821A**

- 1 Power Supply required
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-8XGT/8SFP+ v2 zl2 Swch   **J9868A**

- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE ports   **NOTE:** 1
- 1 - J9546A HP 8-port 10GBASE-T v2 zl Module included
- 1 - J9538A HP 8-port 10GbE SFP+ v2 zl Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 8XGT PoE+ / 8SFP+ v3 zl2 Swch   **JL002A**

- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE PoE+ ports   **NOTE:** 1
- 1 - J9995A HP 8p 1/2.5/5/XGT PoE+ v3 zl2l Module included
- 1 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 16SFP+ v3 zl2 Swch   **JL095A**

- 1 Power Supply required   See Configuration
- 2 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Modules included (min=0 \ max=16 SFP+ Transceivers)   **NOTE:** 1
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-Gig-T-PoE+/SFP+ v2 zl2 Swch   **J9823A**

- 1 Power Supply required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2 SFP+ Transceivers)   **NOTE:** 1
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port

Configuration

- 4U - Height

HP 5406R-Gig-T-PoE+/SFP v2 zl2 Swch J9824A
- 1 Power Supply required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2
  Transceivers)
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 44GT PoE+ / 4SFP+ v3 zl2 Swch J L003A
- 1 Power Supply required   See Configuration
- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2
- 1 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5412R zl2 Switch J9822A
- 2 Power Supplies required
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP+ v2 zl2 Swch J9825A
- 2 Power Supplies required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2   **NOTE:** 1
  SFP+ Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP v2 zl2 Swch J9826A
- 2 Power Supplies required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2
  Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R 92GT PoE+ / 4SFP+ v3 zl2 Swch J L001A
- 2 Power Supplies required   See Configuration

Configuration

- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2
- 3 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Modules included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

Configuration Rules:

NOTE 1   The following Transceivers install into this Chassis :
J4858C - HP X121 1G SFP LC SX Transceiver
J4859C - HP X121 1G SFP LC LX Transceiver
J4860C - HP X121 1G SFP LC LH Transceiver
J8177C -HP X121 1G SFP RJ45 T Transceiver
J9142B - HP X122 1G SFP LC BX-D Transceiver
J9143B - HP X122 1G SFP LC BX-U Transceiver
J9153A - HP X132 10G SFP+ LC ER Transceiver
J9151A - HP X132 10G SFP+ LC LR Transceiver
J9152A - HP X132 10G SFP+ LC LRM Transceiver
J9150A - HP X132 10G SFP+ LC SR Transceiver
J9281B - HP X242 SFP+ SFP+ 1m Direct Attach Cable
J9283B - HP X242 SFP+ SFP+ 3m Direct Attach Cable
J9285B - HP X242 SFP+ SFP+ 7m Direct Attach Cable
J9300A - HP X244 XFP SFP+ 1m Direct Attach Cable
J9301A - HP X244 XFP SFP+ 3m Direct Attach Cable
J9302A - HP X244 XFP SFP+ 5m Direct Attach Cable

NOTE 2   The following Transceivers install into this switch:
J4858C - HP X121 1G SFP LC SX Transceiver
J4859C - HP X121 1G SFP LC LX Transceiver
J4860C - HP X121 1G SFP LC LH Transceiver
J8177C -HP X121 1G SFP RJ45 T Transceiver
J9142B - HP X122 1G SFP LC BX-D Transceiver
J9143B - HP X122 1G SFP LC BX-U Transceiver
J9054C - HP X111 100M SFP LC FX Transceiver

Box Level Integration CTO Models

CTO Solution Sku

HP 54xx CTO Switch Solution   J9809A
SSP trigger sku

CTO Switch Chassis

HP 5406R zl2 Switch   J9821A
- 1 Power Supply required   See Configuration
- 1 Fan Tray Included   **NOTE:** 10

Configuration

- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-8XGT/8SFP+ v2 zl2 Swch   **J9868A**

- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE ports   **NOTE:** 1, 10
- 1 - J9546A HP 8-port 10GBASE-T v2 zl Module included
- 1 - J9538A HP 8-port 10GbE SFP+ v2 zl Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 8XGT PoE+ / 8SFP+ v3 zl2 Swch   **JL002A**

- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE PoE+ ports   **NOTE:** 1, 10
- 1 - J9995A HP 8p 1/2.5/5/XGT PoE+ v3 zl2l Module included
- 1 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 16SFP+ v3 zl2 Swch   **JL095A**

- 1 Power Supply required   See Configuration
- 2 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Modules included (min=0 \ max=16 SFP+ Transceivers)   **NOTE:** 1, 10
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-Gig-T-PoE+/SFP+ v2 zl2 Swch   **J9823A**

- 1 Power Supply required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2   **NOTE:** 1, 10
  SFP+ Transceivers)
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-Gig-T-PoE+/SFP v2 zl2 Swch   **J9824A**

- 1 Power Supply required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2, 10
  Transceivers)
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port

Configuration

- 4U - Height

HP 5406R 44GT PoE+ / 4SFP+ v3 zl2 Swch   JL003A
- 1 Power Supply required   See Configuration
- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2, 10
- 1 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5412R zl2 Switch   J9822A
- 2 Power Supplies required   See Configuration
- 1 Fan Tray Included   **NOTE:** 10
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP+ v2 zl2 Swch   J9825A
- 2 Power Supplies required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2   **NOTE:** 1, 10
  SFP+ Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP v2 zl2 Swch   J9826A
- 2 Power Supplies required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2, 10
  Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R 92GT PoE+ / 4SFP+ v3 zl2 Swch   JL001A
- 2 Power Supplies required   See Configuration
- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2, 10
- 3 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Modules included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

Configuration Rules:

NOTE 1   The following Transceivers install into this Chassis : (Use #0D1 or #B01 if switch is CTO)

Configuration

- if applicable

J4858C - HP X121 1G SFP LC SX Transceiver
J4859C - HP X121 1G SFP LC LX Transceiver
J4860C - HP X121 1G SFP LC LH Transceiver
J8177C -HP X121 1G SFP RJ45 T Transceiver
J9142B - HP X122 1G SFP LC BX-D Transceiver
J9143B - HP X122 1G SFP LC BX-U Transceiver
J9153A - HP X132 10G SFP+ LC ER Transceiver
J9151A - HP X132 10G SFP+ LC LR Transceiver
J9152A - HP X132 10G SFP+ LC LRM Transceiver
J9150A - HP X132 10G SFP+ LC SR Transceiver
J9281B - HP X242 SFP+ SFP+ 1m Direct Attach Cable
J9283B - HP X242 SFP+ SFP+ 3m Direct Attach Cable
J9285B - HP X242 SFP+ SFP+ 7m Direct Attach Cable
J9300A - HP X244 XFP SFP+ 1m Direct Attach Cable
J9301A - HP X244 XFP SFP+ 3m Direct Attach Cable
J9302A - HP X244 XFP SFP+ 5m Direct Attach Cable

NOTE 2   **The following Transceivers install into this Chassis : (Use #0D1 if switch is CTO) - if applicable**

J4858C - HP X121 1G SFP LC SX Transceiver
J4859C - HP X121 1G SFP LC LX Transceiver
J4860C - HP X121 1G SFP LC LH Transceiver
J8177C -HP X121 1G SFP RJ45 T Transceiver
J9142B - HP X122 1G SFP LC BX-D Transceiver
J9143B - HP X122 1G SFP LC BX-U Transceiver
J9054C - HP X111 100M SFP LC FX Transceiver

NOTE 10   **If the Switch Chassis is to be Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis and integrated to the J9809A - HP 5400 CTO Enablement. (Min 1/Max 1 Switch per SSP)**

Rack Level Integration CTO Models

CTO Switch Chassis

HP 5406R zl2 Switch   J9821A
- 1 Power Supply required   See Configuration
- 1 Fan Tray Included   **NOTE:** 11
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U – Height

HP 5406R-8XGT/8SFP+ v2 zl2 Swch   J9868A
- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE ports   **NOTE:** 1, 11
- 1 - J9546A HP 8-port 10GBASE-T v2 zl Module included
- 1 - J9538A HP 8-port 10GbE SFP+ v2 zl Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included

Configuration

- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 8XGT PoE+ / 8SFP+ v3 zl2 Swch   JL002A
- 1 Power Supply required   See Configuration
- 8 RJ-45 10GbE PoE+ ports   **NOTE:** 1, 11
- 1 - J9995A HP 8p 1/2.5/5/XGT PoE+ v3 zl2l Module included
- 1 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Module included (min=0 \ max=8 SFP+ Transceivers)
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 16SFP+ v3 zl2 Swch   JL095A
- 1 Power Supply required   See Configuration
- 2 - J9993A HP 8p 1G/10GbE SFP+ v3 zl2 Modules included (min=0 \ max=16 SFP+ Transceivers)   **NOTE:** 1, 11
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-Gig-T-PoE+/SFP+ v2 zl2 Swch   J9823A
- 1 Power Supply required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2   **NOTE:** 1, 11
  SFP+ Transceivers)
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R-Gig-T-PoE+/SFP v2 zl2 Swch   J9824A
- 1 Power Supply required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2, 11
  Transceivers)
- 1 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

HP 5406R 44GT PoE+ / 4SFP+ v3 zl2 Swch   JL003A
- 1 Power Supply required   See Configuration
- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2, 11
- 1 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 4U - Height

Configuration

HP 5412R zl2 Switch   J9822A
- 2 Power Supplies required   See Configuration
- 1 Fan Tray Included   **NOTE:** 11
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP+ v2 zl2 Swch   J9825A
- 2 Power Supplies required   See Configuration
- 1 - J9536A HP 20-port Gig-T PoE+ / 2-port 10-GbE SFP+ v2 zl Module included(min=0 \ max=2   **NOTE:** 1, 11
  SFP+ Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R-Gig-T-PoE+/SFP v2 zl2 Swch   J9826A
- 2 Power Supplies required   See Configuration
- 1 - J9535A HP 20-port Gig-T PoE+ / 4-port SFP v2 zl Module included (min=0 \ max=4 SFP   **NOTE:** 2, 11
  Transceivers)
- 3 - J9534A HP 24-port Gig-T PoE+ v2 zl Module included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

HP 5412R 92GT PoE+ / 4SFP+ v3 zl2 Swch   JL001A
- 2 Power Supplies required   See Configuration
- 1 - J9990A HP 20p PoE+ / 4p SFP+ v3 zl2 Module included (min=0 \ max=4 SFP Transceivers)   **NOTE:** 2, 11
- 3 - J9986A HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Modules included
- 1 Fan Tray Included
- 1 Management module included
- 1 RJ-45 out-of-band management port
- 7U - Height

Configuration Rules:

NOTE 1   The following Transceivers install into this Chassis : (Use #0D1 or #B01 if switch is CTO)
            - if applicable
            J4858C - HP X121 1G SFP LC SX Transceiver
            J4859C - HP X121 1G SFP LC LX Transceiver
            J4860C - HP X121 1G SFP LC LH Transceiver
            J8177C -HP X121 1G SFP RJ45 T Transceiver
            J9142B - HP X122 1G SFP LC BX-D Transceiver
            J9143B - HP X122 1G SFP LC BX-U Transceiver
            J9153A - HP X132 10G SFP+ LC ER Transceiver
            J9151A - HP X132 10G SFP+ LC LR Transceiver
            J9152A - HP X132 10G SFP+ LC LRM Transceiver
            J9150A - HP X132 10G SFP+ LC SR Transceiver

Configuration

J9281B - HP X242 SFP+ SFP+ 1m Direct Attach Cable
J9283B - HP X242 SFP+ SFP+ 3m Direct Attach Cable
J9285B - HP X242 SFP+ SFP+ 7m Direct Attach Cable
J9300A - HP X244 XFP SFP+ 1m Direct Attach Cable
J9301A - HP X244 XFP SFP+ 3m Direct Attach Cable
J9302A - HP X244 XFP SFP+ 5m Direct Attach Cable

NOTE 2 **The following Transceivers install into this Chassis : (Use #0D1 if switch is CTO) - if applicable**
J4858C - HP X121 1G SFP LC SX Transceiver
J4859C - HP X121 1G SFP LC LX Transceiver
J4860C - HP X121 1G SFP LC LH Transceiver
J8177C -HP X121 1G SFP RJ45 T Transceiver
J9142B - HP X122 1G SFP LC BX-D Transceiver
J9143B - HP X122 1G SFP LC BX-U Transceiver
J9054C - HP X111 100M SFP LC FX Transceiver

NOTE 11 **If the CTO Switch Chassis needs to be racked, Then the CTO Base Model needs to integrate (with #0D1) to the HP Rack.**

Enter the following menu selections as integrated to the CTO Model X server above if order is factory built.

Modules

Management Modules

(J9821A, J9868A, JL002A, JL095A, J9823A, J9824A, JL003A, J9822A, J9825A, J9826A, JL001A) System (std 1 // max 2) User Selection (min 0 / max 1)

HP 5400R zl2 Management Module   J9827A
- No Transceivers

I/O Modules

J9821A only - System (std 0 // max=6) User Selection (min 0 / max=6) per Chassis

J9822A only - System (std 0 // max=12) User Selection (min 0 / max=12) per Chassis

J9868A, J9823A, J9824A, JL002A, JL095A, JL003A only - System (std 2 // max=6) User Selection (min 0 / max=4) per Chassis

J9825A, J9826A, JL001A only - System (std 4 // max=12) User Selection (min 0 / max=8) per Chassis

HP 20-port GT PoE+/4-port SFP v2 zl Mod   J9535A
- min=0 \ max=4 SFP Transceivers   See Configuration
                                                                              NOTE: 1

HP 20p PoE+ / 4p 1/2.5/5/XGT v3 zl2 Mod   J9991A

Configuration

- No Transceivers

HP 20p PoE+ / 1p 40GbE QSFP+ v3 zl2 Mod   J9992A
- min=0 \ max=1 QSFP+ Transceiver   See Configuration
                                                                                                NOTE: 6

HP 24-port SFP v2 zl Module   J9537A
- min=0 \ max=24 SFP Transceivers   See Configuration
                                                                                                NOTE: 1

HP 24p 1GbE SFP v3 zl2 Mod   J9988A
- min=0 \ max=24 SFP Transceivers   See Configuration
                                                                                                NOTE: 1

HP 12p Gig-T PoE+/12p SFP v2 zl Mod   J9637A
- min=0 \ max=12 SFP Transceivers   See Configuration
                                                                                                NOTE: 1

HP 12p PoE+ / 12p 1GbE SFP v3 zl2 Mod   J9989A
- min=0 \ max=12 SFP Transceivers   See Configuration
                                                                                                NOTE: 1

HP 20-port Gig-T / 4-port SFP v2 zl Mod   J9549A
- min=0 \ max=4 SFP Transceivers   See Configuration
                                                                                                NOTE: 1

HP 8-port 10 GbE SFP+ v2 zl Module   J9538A
- min=0 \ max=8 SFP+ Transceivers   See Configuration
                                                                                                NOTE: 5

HP 8p 1G/10GbE SFP+ v3 zl2 Mod   J9993A
- min=0 \ max=8 SFP+ Transceivers   See Configuration
                                                                                                NOTE: 5

HP 20p GT PoE+ / 2p SFP+ v2 zl Module   J9536A
- min=0 \ max=2 SFP+ Transceivers   See Configuration
                                                                                                NOTE: 5

HP 20p PoE+ / 4p SFP+ v3 zl2 Mod   J9990A
- min=0 \ max=4 SFP+ Transceivers   See Configuration
                                                                                                NOTE: 5

HP 20-port Gig-T / 2-port SFP+ v2 zl Mod   J9548A
- min=0 \ max=2 SFP+ Transceivers   See Configuration
                                                                                                NOTE: 5

HP 8-port 10GBase-T v2 zl Module   J9546A
- No Transceivers

Configuration

HP 8p 1/2.5/5/XGT PoE+ v3 zl2 Mod	J9995A
• No Transceivers	
HP 24-port Gig-T PoE+ v2 zl Module	J9534A
• No Transceivers	
HP 24p 10/100/1000BASE-T PoE+ v3 zl2 Mod	J9986A
• No Transceivers	
HP 24-port 10/100 PoE+ v2 zl Module	J9547A
• No Transceivers	
HP 24-port Gig-T v2 zl Module	J9550A
• No Transceivers	
HP 24p 10/100/1000BASE-T v3 zl2 Mod	J9987A
• No Transceivers	

HP 2p 40GbE QSFP+ v3 zl2 Mod   J9996A
     • min=0 \ max=2 QSFP+ Transceivers   See Configuration
                                                               NOTE: 6

HP MSM775 zl Premium Controller Module   J9840A
     • No Transceivers   See Configuration
                                                               NOTE: 10

HP Advanced Services v2 zl Module w/ HDD   J9857A
     • No Transceivers   See Configuration
                                                               NOTE: 11

HP Advanced Services v2 zl Module w/ SSD   J9858A
     • No Transceivers   See Configuration
                                                               NOTE: 11

Configuration Rules:

NOTE 1   The following Transceivers install into this Module: (Use #0D1 if switch is CTO) - if
                 applicable
                 J9054C - HP X111 100M SFP LC FX Transceiver
                 J4860C - HP X121 1G SFP LC LH Transceiver
                 J4858C - HP X121 1G SFP LC SX Transceiver
                 J4859C - HP X121 1G SFP LC LX Transceiver
                 J9142B - HP X122 1G SFP LC BX-D Transceiver
                 J9143B - HP X122 1G SFP LC BX-U Transceiver
                 J8177C - HP X121 1G SFP RJ45 T Transceiver

NOTE 5   The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO) -

Configuration

> **if applicable**
> J4860C - HP X121 1G SFP LC LH Transceiver
> J4858C - HP X121 1G SFP LC SX Transceiver
> J4859C - HP X121 1G SFP LC LX Transceiver
> J9142B - HP X122 1G SFP LC BX-D Transceiver
> J9143B - HP X122 1G SFP LC BX-U Transceiver
> J8177C - HP X121 1G SFP RJ45 T Transceiver
> J9153A - HP X132 10G SFP+ LC ER Transceiver
> J9151A - HP X132 10G SFP+ LC LR Transceiver
> J9152A - HP X132 10G SFP+ LC LRM Transceiver
> J9150A - HP X132 10G SFP+ LC SR Transceiver
> J9281B - HP X242 SFP+ SFP+ 1m Direct Attach Cable
> J9283B - HP X242 SFP+ SFP+ 3m Direct Attach Cable
> J9285B - HP X242 SFP+ SFP+ 7m Direct Attach Cable
> J9300A - HP X244 XFP SFP+ 1m Direct Attach Cable
> J9301A - HP X244 XFP SFP+ 3m Direct Attach Cable
> J9302A - HP X244 XFP SFP+ 5m Direct Attach Cable

NOTE 6   The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO) - if applicable
> JH231A - HP X142 40G QSFP+ MPO SR4 Transceiver
> JH232A - HP X142 40G QSFP+ LC LR4 SM Transceiver
> JH233A - HP X142 40G QSFP+ MPO CSR4 300M XCVR
> JH234A - HP X242 40G QSFP+ to QSFP+ 1m DAC Cable
> JH235A - HP X242 40G QSFP+ to QSFP+ 3m DAC Cable
> JH236A - HP X242 40G QSFP+ to QSFP+ 5m DAC Cable

NOTE 10   Maximum of this Module per Chassis:
> J9821A, J9868A, JL002A, JL095A, J9823A, J9824A, JL003A min=0\max=4 per Chassis
> J9822A, J9825A, J9826A, JL001A min=0\max=6 per Chassis
> There are no restrictions on which slots these modules may go in.

NOTE 11   Maximum of this Module per Chassis:
> J9821A,J9868A, JL002A, JL095A, J9823A, J9824A, JL003A min=0\max=4 per Chassis
> J9822A, J9825A, J9826A, JL001A min=0\max=6 per Chassis
> There are no restrictions on which slots these modules may go in.

Transceivers

SFP Transceivers

HP X111 100M SFP LC FX Transceiver	J9054C
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X121 1G SFP RJ45 T Transceiver	J8177C

SFP+ Transceivers

Configuration

HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X242 10G SFP+ SFP+ 1m DAC Cable	J9281B#B01
HP X242 10G SFP+ SFP+ 3m DAC Cable	J9283B#B01
HP X242 10G SFP+ SFP+ 7m DAC Cable	J9285B#B01
HP X244 10G XFP SFP+ 1m DAC Cable	J9300A#B01
HP X244 10G XFP SFP+ 3m DAC Cable	J9301A#B01
HP X244 10G XFP SFP+ 5m DAC Cable	J9302A#B01

QSFP+ Transceivers

HP X142 40G QSFP+ MPO SR4 Transceiver	JH231A
HP X142 40G QSFP+ LC LR4 SM Transceiver	JH232A
HP X142 40G QSFP+ MPO eSR4 300M XCVR	JH233A
HP X242 40G QSFP+ to QSFP+ 1m DAC Cable	JH234A#B01
HP X242 40G QSFP+ to QSFP+ 3m DAC Cable	JH235A#B01
HP X242 40G QSFP+ to QSFP+ 5m DAC Cable	JH236A#B01

Internal Power Supplies

(J9821A, J9868A, JL002A, JL095A, J9823A, J9824A, JL003A) System (std 0 // max 2) User Selection (min 1 / max 2)

(J9822A, J9825A, J9826A, JL001A) System (std 0 // max 4) User Selection (min 2 / max 4)

HP 5400R 700W PoE+ zl2 Power Supply	J9828A
• includes 1 x c13, 700w	See Configuration
	NOTE: 2, 4, 6, 7
PDU Cable NA/MEX/TW/JP	J9828A#B2B
• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
PDU Cable ROW	J9828A#B2C
• C15 PDU Jumper Cord (ROW)	
High Volt Switch to Wall Power Cord	J9828A#B2E
• NEMA L6-20P Cord (NA/MEX/JP/TW)	
HP 5400R 1100W PoE+ zl2 Power Supply	J9829A
• includes 1 x c15, 1100w	See Configuration
	NOTE: 2, 4, 6, 7
PDU Cable NA/MEX/TW/JP	J9829A#B2B
• C15 PDU Jumper Cord (NA/MEX/TW/JP)	

Configuration

PDU Cable ROW	J9829A#B2C

- C15 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord	J9829A#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

HP 5400R 2750W PoE+ zl2 Power Supply	J9830A

- includes 2 x c19, 2750w

See Configuration
NOTE: 2, 4, 6, 7

PDU Cable NA/MEX/TW/JP	J9830A#B2B

- C19 PDU Jumper Cord (NA/MEX/TW/JP)

PDU Cable ROW	J9830A#B2C

- C19 PDU Jumper Cord (ROW)

High Volt Switch to Wall Power Cord	J9830A#B2E

- NEMA L6-20P Cord (NA/MEX/JP/TW)

Configuration Rules:

NOTE 2   Localization required on orders without #B2B, #B2C or #B2E options.

NOTE 4   This power supply is ONLY supported on the J9821A, J9868A, JL002A, JL095A, J9823A, J9824A, JL003A, J9822A, J9825A, JL001A and J9826A switches.

NOTE 6   If #B2E is selected Then replace Localized option with #B2E for power supply and with #B2E for switch.   (Offered only in NA, Mexico, Taiwan, and Japan)

NOTE 7   Power Supplies can be mixed for a switch enclosure

Remarks: For J9828A, J9829A, J9830A: Power Supplies can be mixed for a switch enclosure. However, the three different power supplies each require different power cords, and the wall plug that is needed for J9830A is different from the wall plug that is needed for J9828A and J9829A. Moreover, full redundancy and N+1 redundancy are only supported with like power supplies.

Drop down under power supply should offer the following options and results:
Switch/Router/Power Supply to PDU Power Cord - #B2B in North America, Mexico, Taiwan, and Japan or #B2C ROW. (Watson Default B2B or B2C for Rack Level CTO)
Switch/Router/Power Supply to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO)
High Volt Switch/Router/Power Supply to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)

Cables

Configuration

Multi-Mode Cables

HP .5m Multi-mode OM3 LC/LC FC Cable	AJ833A
HP 1m Multi-mode OM3 LC/LC FC Cable	AJ834A
HP 2 m Multimode OM3 LC/LC FC Cable	AJ835A
HP 5 m Multimode OM3 LC/LC FC Cable	AJ836A
HP 15 m Multimode OM3 LC/LC FC Cable	AJ837A
HP 30 m Multimode OM3 LC/LC FC Cable	AJ838A
HP 50 m Multimode OM3 LC/LC FC Cable	AJ839A
HP Premier Flex LC/LC OM4 2f 1m Cbl	QK732A
HP Premier Flex LC/LC OM4 2f 2m Cbl	QK733A
HP Premier Flex LC/LC OM4 2f 5m Cbl	QK734A
HP Premier Flex LC/LC OM4 2f 15m Cbl	QK735A
HP Premier Flex LC/LC OM4 2f 30m Cbl	QK736A
HP Premier Flex LC/LC OM4 2f 50m Cbl	QK737A

Switch Enclosure Options

Fan Trays

HP 5406R zl2 Switch Fan Tray   J9831A
- Spare Only

HP 5412R zl2 Switch Fan Tray   J9832A
- Spare Only

Mounting Kit

HP X450 4U/7U Univ 4-Post Rack Mnt Kit   J9852A
See Configuration
NOTE: 1, 2

Configuration Rules:

NOTE 1   If this Mounting Kit is ordered with #0D1 then it integrates to the HPE Universal Rack.
(not the switch)

NOTE 2   If switches J9821A, J9868A, JL002A, JL095A, J9823A, J9824A, JL003A, J9822A, J9825A,
JL001A and J9826A are installed into a rack, Then this Rack Mounting kit is required.

Technical Specifications

HP 5406R zl2 Switch (J9821A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A)	
	I/O ports and slots	6 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination	
	Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
	Fan tray	includes: 1 x J9831A 1 fan tray slot	
	Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)
		Weight	24.5 lb (11.11 kg)
	Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 MB internal
		v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
		v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 μs (FIFO 64-byte packets)
		10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
		Throughput	up to 571.4 Mpps
		Routing/Switching capacity	960 Gbps
		Switch fabric speed	1015 Gbps
		Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
		MAC address table size	64000 entries
	Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
		Operating relative humidity	15% to 95% @ 113°F (45°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)

Technical Specifications

	Nonoperating/Storage relative humidity	15% to 95% @ 149°F (65°C), noncondensing
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	NOTES	**Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.**
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
Emissions		FCC part 15 Class A; EN 55022/CISPR 22 Class A
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
NOTES		**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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

Technical Specifications

sales office.

HP 5412R zl2 Switch (J9822A)	Included accessories	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A)	
	I/O ports and slots	12 open module slots Supports a maximum of 288 autosensing 10/100/1000 ports or 288 SFP ports or 96 SFP+ ports or 96 HPE Smart Rate Multi-Gigabit or 24 40GbE ports, or a combination	
	Power supplies	4 power supply slots 2 minimum power supplies required (ordered separately)	
	Fan tray	includes: 1 x J9832A 1 fan tray slot	
	Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 12.1(h) in (44.45 x 45.09 x 30.73 cm) (7U height)
		Weight	38.1 lb (17.28 kg)
	Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 MB internal
		v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
		v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 µs (FIFO 64-byte packets)
		10 Gbps Latency	< 1.8 µs (FIFO 64-byte packets)
		Throughput	up to 1142.8 Mpps
		Routing/Switching capacity	1920 Gbps
		Switch fabric speed	2030 Gbps
		Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
		MAC address table size	64000 entries
	Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
		Operating relative humidity	15% to 95% @ 113°F (45°C), noncondensing
		Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
		Nonoperating/Storage	15% to 95% @ 149°F (65°C), noncondensing

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		relative humidity
	Altitude	up to 10,000 ft (3 km)
	Acoustic	Power: 49 dB, Pressure: 35.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	4900 BTU/hr (5169 kJ/hr), (max. non-PoE); 7400 BTU/hr (7,807 kJ/hr) (max. using PoE)
	Voltage	100 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	NOTES	**Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. When more than four power cords are installed in a 5412R zl2 switch chassis, additional installation requirements are needed. Refer to the HPE 5400R zl2 Switches Quick Setup Guide and Safety/Regulatory Information manual for details.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)	
NOTES	**Supported 1G SFP transceivers are revision "B" or later (product number**	

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		ends with the letter "B" or later; for example, J9142B, J8177C).
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.

HP 5406R-44G PoE+/2SFP+ (No PSU) v2 zl2 Switch (J9823A)	**Included accessories**		1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 1 HP 24-port Gig-T PoE+ v2 zl Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)
	I/O ports and slots		44 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+); Media Type: Auto MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 open 10GbE SFP+ transceiver slots 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
	Power supplies		2 power supply slots 1 minimum power supply required (ordered separately)
	Fan tray		includes: 1 x J9831A 1 fan tray slot
	Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)
		Weight	28.11 lb (12.75 kg)
	Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 MB internal
		v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
		v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
		Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 μs (FIFO 64-byte packets)
		10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
		Throughput	up to 571.4 Mpps
		Routing/Switching capacity	960 Gbps

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	Switch fabric speed	1015 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	215 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz

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	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
NOTES		**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.

HP 5412R-92G-PoE+/2SFP+ (No PSU) v2 zl2 Switch (J9825A)		
	Included accessories	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5412R zl2 Switch Fan Tray (J9832A) 3 HP 24-port Gig-T PoE+ v2 zl Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)
	I/O ports and slots	92 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+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 open 10GbE SFP+ transceiver slots 8 open module slots Supports a maximum of 288 autosensing 10/100/1000 ports or 288 SFP ports or 96 SFP+ ports or 96 HPE Smart Rate Multi-Gigabit or 24 40GbE ports, or a combination
	Power supplies	4 power supply slots 2 minimum power supplies required (ordered separately)
	Fan tray	includes: 1 x J9832A 1 fan tray slot
	Physical characteristics **Dimensions**	17.5(w) x 17.75(d) x 12.1(h) in (44.45 x 45.09 x 30.73 cm) (7U height)
	Weight	45.19 lb (20.5 kg)
	Memory and processor **v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 Mb internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB

Technical Specifications

		flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 μs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
	Throughput	up to 1142.8 Mpps
	Routing/Switching capacity	1920 Gbps
	Switch fabric speed	2030 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 49 dB, Pressure: 35.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	4900 BTU/hr (5169 kJ/hr), (max. non-PoE); 7400 BTU/hr (7,807 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	312 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. When more than four power cords are installed in a 5412R zl2 switch chassis, additional installation requirements are needed. Refer to the HPE 5400R zl2 Switches Quick Setup Guide and Safety/Regulatory Information manual for details.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	

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	Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
	Immunity	**EN**	EN 55024, CISPR 24
		ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
		Radiated	IEC 61000-4-3; 3 V/m
		EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
		Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
		Conducted	IEC 61000-4-6; 3 Vrms
		Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
		Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
		Harmonics	EN 61000-3-2, IEC 61000-3-2
		Flicker	EN 61000-3-3, IEC 61000-3-3
	Management	Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)	
	NOTES	**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**	
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.	

HP 5406R-44G-PoE+/4SFP (No PSU) v2 zl2 Switch (J9824A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 1 HP 24-port Gig-T PoE+ v2 zl Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)	
	I/O ports and slots	44 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+); Media Type: Auto MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 open SFP transceiver slots 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination	
	Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
	Fan tray	includes: 1 x J9831A 1 fan tray slot	
	Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)

Technical Specifications

	Weight	26.19 lb (11.88 kg)
Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 Mb internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 µs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 µs (FIFO 64-byte packets)
	Throughput	up to 571.4 Mpps
	Routing/Switching capacity	960 Gbps
	Switch fabric speed	1015 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated

Technical Specifications

		(depending on power supply chosen)
	Idle power	215 W
	NOTES	Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
Emissions		FCC part 15 Class A; EN 55022/CISPR 22 Class A
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
NOTES		**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.

HP 5412R-92G-PoE+/4SFP (No PSU) v2 zl2 Switch (J9826A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5412R zl2 Switch Fan Tray (J9832A) 3 HP 24-port Gig-T PoE+ v2 zl Module (J9534A) 1 HP 20-port Gig-T PoE+ / 2-port 10GbE SFP+ v2 zl Module (J9536A)
	I/O ports and slots	92 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+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 open SFP transceiver slots 8 open module slots

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		Supports a maximum of 288 autosensing 10/100/1000 ports or 288 SFP ports or 96 SFP+ ports or 96 HPE Smart Rate Multi-Gigabit or 24 40GbE ports, or a combination
Power supplies		4 power supply slots 2 minimum power supplies required (ordered separately)
Fan tray		includes: 1 x J9832A 1 fan tray slot
Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 12.1(h) in (44.45 x 45.09 x 30.73 cm) (7U height)
	Weight	45.4 lb (20.5 kg)
Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 Mb internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only
Performance IPv6 Ready Certified	**1000 Mb Latency**	< 2.8 μs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
	Throughput	up to 1142.8 Mpps
	Routing/Switching capacity	1920 Gbps
	Switch fabric speed	2030 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 49 dB, Pressure: 35.7 dB ISO 7779, ISO 9296

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Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Four power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	4900 BTU/hr (5169 kJ/hr), (max. non-PoE); 7400 BTU/hr (7,807 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	312 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. When more than four power cords are installed in a 5412R zl2 switch chassis, additional installation requirements are needed. Refer to the HPE 5400R zl2 Switches Quick Setup Guide and Safety/Regulatory Information manual for details.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)	
NOTES	**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**	
Services	Refer to the Hewlett Packard Enterprise website at	

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http://www.hp.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.

HP 5406R-8XGT/8SFP+ (No PSU) v2 zl2 Switch (J9868A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 1 HP 8-port 10GbE SFP+ v2 zl Module (J9538A) 1 HP 8-port 10GBASE-T v2 zl Module (J9546A)
	I/O ports and slots	8 RJ-45 10GbE ports (IEEE 802.3an-2006 Type 10GBASE-T) 8 open 10GbE SFP+ transceiver slots 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
	Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)
	Fan tray	includes: 1 x J9831A 1 fan tray slot
	Physical characteristics **Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)
	Weight	28.11 lb (12.75 kg)
	Memory and processor **v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 Mb internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB Internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); horizontal surface mounting only
	Performance IPv6 Ready Certified **1000 Mb Latency**	< 2.8 µs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 µs (FIFO 64-byte packets)
	Throughput	up to 571.4 Mpps
	Routing/Switching capacity	960 Gbps
	Switch fabric speed	1015 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
	Environment **Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with

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		FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	215 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.**
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
Emissions		FCC part 15 Class A; EN 55022/CISPR 22 Class A
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-

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		band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
	NOTES	**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.
HP 5412R 92GT PoE+ / 4SFP+ (No PSU) v3 zl2 Switch (JL001A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5412R zl2 Switch Fan Tray (J9832A) 3 HP 24-port 10/100/1000BASE-T PoE+ MACsec v3 zl2 Module (J9986A) 1 HP 20-port 10/100/1000BASE-T PoE+ / 4-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9990A)
	I/O ports and slots	92 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+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 open 10GbE SFP+ transceiver slots 8 open module slots Supports a maximum of 288 autosensing 10/100/1000 ports or 288 SFP ports or 96 SFP+ ports or 96 HPE Smart Rate Multi-Gigabit or 24 40GbE ports, or a combination
	Power supplies	4 power supply slots 2 minimum power supplies required (ordered separately)
	Fan tray	includes: 1 x J9832A 1 fan tray slot
	Physical characteristics	**Dimensions** 17.5(w) x 17.75(d) x 12.1(h) in (44.45 x 45.09 x 30.73 cm) (7U height)
		Weight 45.19 lb (20.5 kg)
	Memory and processor	**v3 Gigabit module** Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
		v2 Gigabit module ARM11 @ 450 MHz; Packet buffer size: 18 Mb internal
		v3 10G module Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
		v2 10G module ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
		v3 40G module Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
		Management Module Freescale P2020 dual core @ 1.2 MHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); Horizontal surface mounting only
	Performance	**1000 Mb Latency** < 2.8 μs (FIFO 64-byte packets)

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	10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
	40 Gbps Latency	< 1.5 μs (FIFO 64-byte packets)
	Throughput	up to 1142.8 Mpps
	Routing/Switching capacity	1920 Gbps
	Switch fabric speed	2030 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 49 dB, Pressure: 35.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Four open power supply slots are available; three different power supplies are available. See power supply products for additional specifications
	Maximum heat dissipation	4900 BTU/hr (5169.5 kJ/hr), (max. non-PoE); 7400 BTU/hr (7807 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	312 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves. When more than four power cords are installed in a 5412R zl2 switch chassis, additional installation requirements are needed. Refer to the HPE 5400R zl2 Switches Quick Setup Guide and Safety/Regulatory Information manual for details.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24

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	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
NOTES		**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; for example, J9142B, J8177C).**
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.

HP 5406R 8-port 1/2.5/5/10GBASE-T PoE+ / 8-port SFP+ (No PSU) v3 zl2 Switch (JL002A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 1 HP 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9993A) 1 HP 8-port 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module (J9995A)
	I/O ports and slots	8 RJ-45 HPE Smart Rate Multi-Gigabit ports 8 open 10GbE SFP+ transceiver slots 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
	Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)
	Fan tray	includes: 1 x J9831A 1 fan tray slot
	Physical characteristics **Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm)
	Weight	(4U height)
	Memory and processor **v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	v2 Gigabit module	ARM 11 @ 450 MHz; Packet buffer size: 18 MB

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		internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); Horizontal surface mounting only
Performance	**1000 Mb Latency**	< 2.8 μs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 μs (FIFO 64-byte packets)
	40 Gbps Latency	< 1.5 μs (FIFO 64-byte packets)
	Throughput	up to 571.4 Mpps
	Routing/Switching capacity	960 Gbps
	Switch fabric speed	1015 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	215 W
	NOTES	**Idle power is the actual power consumption**

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			of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions		FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24	
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002	
	Radiated	IEC 61000-4-3; 3 V/m	
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)	
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC	
	Conducted	IEC 61000-4-6; 3 Vrms	
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz	
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods	
	Harmonics	EN 61000-3-2, IEC 61000-3-2	
	Flicker	EN 61000-3-3, IEC 61000-3-3	
Management		Aruba AirWave Network Management; IMC – Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)	
NOTES		Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; For example, J9142B, J8177C). HPE Smart Rate Multi-Gigabit Cabling; 1000BASE-T, 2.5 Gigabit, and 5 Gigabit Ethernet: Category 5e or better UTP or STP; 10GBASE-T: Category 6 or better (CAT6A recommended) UTP or STP	
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.	

HP 5406R 44GT PoE+ / 4SFP+ (No PSU) v3 zl2 Switch (JL003A)	**Included accessories**	1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 1 HP 24-port 10/100/1000BASE-T PoE+ MACsec v3 zl2 Module (J9986A) 1 HP 20-port 10/100/1000BASE-T PoE+ / 4-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9990A)
	I/O ports and slots	44 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+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 open 10GbE SFP+ transceiver slots 4 open module slots

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		Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
Power supplies		2 power supply slots 1 minimum power supply required (ordered separately)
Fan tray		includes: 1 x J9831A 1 fan tray slot
Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)
	Weight	28.11 lb (12.75 kg)
Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	v2 Gigabit module	ARM11 @ 450 MHz; Packet buffer size: 18 MB internal
	v3 10G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
	v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
	Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); Horizontal surface mounting only
Performance	**1000 Mb Latency**	< 2.8 µs (FIFO 64-byte packets)
	10 Gbps Latency	< 1.8 µs (FIFO 64-byte packets)
	40 Gbps Latency	< 1.5 µs (FIFO 64-byte packets)
	Throughput	up to 571.4 Mpps
	Routing/Switching capacity	960 Gbps
	Switch fabric speed	1015 Gbps
	Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
	MAC address table size	64000 entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
	Operating relative humidity	15% to 95% @ 113°F (45°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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO

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		9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	215 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.**
Safety		CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950
Emissions		FCC part 15 Class A; EN 55022/CISPR 22 Class A
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DCIEC 61000-4-6; 3 Vrms
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management		Aruba AirWave Network Management; IMC - Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)
NOTES		**Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; For example, J9142B, J8177C).**
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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.

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HP 5406R 16-port SFP+ (No PSU) v3 zl2 Switch (JL095A)	**Included accessories**		1 HP 5400R zl2 Management Module (J9827A) 1 HP 5406R zl2 Switch Fan Tray (J9831A) 2 HP 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module (J9993A)
	I/O ports and slots		16 open 10GbE SFP+ transceiver slots 4 open module slots Supports a maximum of 144 autosensing 10/100/1000 ports or 144 SFP ports or 48 SFP+ ports or 48 HPE Smart Rate Multi-Gigabit or 12 40GbE ports, or a combination
	Power supplies		2 power supply slots 1 minimum power supply required (ordered separately)
	Fan tray		includes: 1 x J9831A 1 fan tray slot
	Physical characteristics	**Dimensions**	17.5(w) x 17.75(d) x 6.9(h) in (44.45 x 45.09 x 17.53 cm) (4U height)
		Weight	28.11 lb (12.75 kg)
	Memory and processor	**v3 Gigabit module**	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
		v2 Gigabit module	ARM 11 @ 450 MHz; Packet buffer size: 18 MB internal
		v3 10G module	Dual ARM Coretex A9 @ 1; Packet buffer size: 13.5 MB internal
		v2 10G module	ARM11 @ 550 MHz; Packet buffer size: 18 MB internal
		v3 40G module	Dual ARM Coretex A9 @ 1 GHz; Packet buffer size: 13.5 MB internal
		Management Module	Freescale P2020 dual core @ 1.2 GHz, 16 MB flash, 1 GB SD Card, 4 GB DDR3 SODIMM
	Mounting and enclosure		Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included); Horizontal surface mounting only
	Performance	**1000 Mb Latency**	< 2.8 µs (FIFO 64-byte packets)
		10 Gbps Latency	< 1.8 µs (FIFO 64-byte packets)
		40 Gbps Latency	< 1.5 µs (FIFO 64-byte packets)
		Throughput	up to 571.4 Mpps
		Routing/Switching capacity	960 Gbps
		Switch fabric speed	1015 Gbps
		Routing table size	10000 entries (IPv4), 5000 entries (IPv6)
		MAC address table size	64000 entries
	Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C); 0°C to 40°C with J8177C transceiver installed, 0°C to 35°C with FIPS Opacity Shield installed
		Operating relative humidity	15% to 95% @ 113°F (45°C), noncondensing

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	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: 44 dB, Pressure: 31.7 dB ISO 7779, ISO 9296
Electrical characteristics	**Frequency**	50/60 Hz
	80plus.org Certification	Gold
	Description	Does not come with power supply. Two open power supply slots are available; three different power supplies are available. See power supply products for additional specifications.
	Maximum heat dissipation	2450 BTU/hr (2584.75 kJ/hr), (max. non-PoE); 3700 BTU/hr (3903 kJ/hr) (max. using PoE)
	Voltage	110 - 127 / 200 - 240 VAC, rated (depending on power supply chosen)
	Idle power	215 W
	NOTES	**Idle power is the actual power consumption of the device with no ports connected. Heat dissipation does not include heat dissipated by the PoE-powered devices themselves.**
Safety	CSA 22.2 No. 60950; UL 60950; IEC 60950; EN 60950	
Emissions	FCC part 15 Class A; EN 55022/CISPR 22 Class A	
Immunity	**EN**	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD; HP ENV. 765.002
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC, 1kV signal, 0.5 kV DC
	Conducted	IEC 61000-4-6; 3 Vrms
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Aruba AirWave Network Management; IMC - Intelligent Management Center; Command-line interface; Web browser; Configuration menu; Out-of-band management (RJ-45 Ethernet); SNMP manager; Out-of-band management (serial RS-232c or micro usb)	

Technical Specifications

NOTES		Supported 1G SFP transceivers are revision "B" or later (product number ends with the letter "B" or later; For example, J9142B, J8177C).
Services		Refer to the Hewlett Packard Enterprise website at **http://www.hp.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)	**BGP**	RFC 1997 BGP Communities Attribute RFC 2918 Route Refresh Capability RFC 4271 A Border Gateway Protocol 4 (BGP-4) RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) RFC 5492 Capabilities Advertisement with BGP-4
	Device Management	RFC 1591 DNS (client) HTML and telnet management
	General Protocols	IEEE 802.1ad Q-in-Q 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 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3af Power over 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 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 2453 RIPv2 RFC 2548 (MS-RAS-Vendor only) RFC 3046 DHCP Relay Agent Information

Technical Specifications

		Option
		RFC 3576 Ext to RADIUS (CoA only)
		RFC 3768 VRRP
		RFC 4675 RADIUS VLAN & Priority
		RFC 5880 Bidirectional Forwarding Detection
		RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification
		UDLD (Uni-directional Link Detection)
	IP Multicast	RFC 3376 IGMPv3
		RFC 3973 PIM Dense Mode
		RFC 4601 PIM Sparse Mode
	IPv6	RFC 1981 IPv6 Path MTU Discovery
		RFC 2080 RIPng for IPv6
		RFC 2081 RIPng Protocol Applicability Statement
		RFC 2082 RIP-2 MD5
		RFC 2375 IPv6 Multicast Address Assignments
		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 3019 MLDv1 MIB
		RFC 3315 DHCPv6 (client and relay)
		RFC 3484 Default Address Selection for IPv6
		RFC 3587 IPv6 Global Unicast Address Format
		RFC 3596 DNS Extension for IPv6
		RFC 3810 MLDv2 for IPv6
		RFC 4022 MIB for TCP
		RFC 4087 IP Tunnel MIB
		RFC 4113 MIB for UDP
		RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
		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 4294 IPv6 Node Requirements
		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

Technical Specifications

		RFC 5340 OSPFv3 for IPv6
		RFC 5453 Reserved IPv6 Interface Identifiers
		RFC 5519 Multicast Group Membership Discovery MIB (MLDv2 only)
		RFC 5722 Handling of Overlapping IPv6 Fragments
		RFC 6620 FCFS SAVI
		draft-ietf-savi-mix
	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 Mgmt Info for TCP/IP Internets
		RFC 1213 MIB II
		RFC 1493 Bridge MIB
		RFC 1724 RIPv2 MIB
		RFC 1850 OSPFv2 MIB
		RFC 2021 RMONv2 MIB
		RFC 2096 IP Forwarding Table 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 2787 VRRP MIB
		RFC 2863 The Interfaces Group MIB
		RFC 2925 Ping MIB
		RFC 2932 IP (Multicast Routing MIB)
		RFC 2933 IGMP MIB
		RFC 4292 IP Forwarding Table MIB
		RFC 4836 Managed Objects for 802.3 Medium Attachment Units (MAU)
		RFC 7331 BFD MIB
	Network Management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
		RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
		RFC 3176 sFlow
		RFC 5424 Syslog Protocol
		ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
		SNMPv1/v2c/v3
		XRMON
	OSPF	RFC 2328 OSPFv2
		RFC 3101 OSPF NSSA
		RFC 5340 OSPFv3 for IPv6

Technical Specifications

	QoS/CoS	RFC 2474 DiffServ Precedence, including 8 queues/port RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF)
	Security	IEEE 802.1AE MAC Security Standard (MACSec) IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 2865 RADIUS (client only) RFC 2866 RADIUS Accounting RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP) Secure Sockets Layer (SSL) SSHv2 Secure Shell

Accessories

Aruba 5400R zl2 Switch Series accessories

Modules

HP 8-port 10GBASE-T v2 zl Module	J9546A
HP 8-port 10GbE SFP+ v2 zl Module	J9538A
HP 20p GT PoE+ / 2p SFP+ v2 zl Module	J9536A
HP 20-port GT PoE+/4-port SFP v2 zl Mod	J9535A
HP 24-port SFP v2 zl Module	J9537A
HP 12-port Gig-T PoE+ / 12-port SFP v2 zl Module	J9637A
HP 24-port Gig-T PoE+ v2 zl Module	J9534A
HP 24-port 10/100 PoE+ v2 zl Module	J9547A
HP 24-port Gig-T v2 zl Module	J9550A
HP 20-port Gig-T / 4-port SFP v2 zl Mod	J9549A
HP 20-port Gig-T / 2-port SFP+ v2 zl Mod	J9548A
HP Advanced Services v2 zl Module with HDD	J9857A
HP Advanced Services v2 zl Module with SSD	J9858A
HP 5400R zl2 Management Module	J9827A
HP 24-port 10/100/1000BASE-T PoE+ MACsec v3 zl2 Module	J9986A
HP 24-port 10/100/1000BASE-T MACsec v3 zl2 Module	J9987A
HP 24-port 1GbE SFP MACsec v3 zl2 Module	J9988A
HP 12-port 10/100/1000BASE-T PoE+ / 12-port 1GbE SFP MACsec v3 zl2 Module	J9989A
HP 20-port 10/100/1000BASE-T PoE+ / 4-port 1G/10GbE SFP+ MACsec v3 zl2 Module	J9990A
HP 20-port 10/100/1000BASE-T PoE+ / 4-port 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module	J9991A
HP 20-port 10/100/1000BASE-T PoE+ MACsec / 1-port 40GbE QSFP+ v3 zl2 Module	J9992A
HP 8-port 1G/10GbE SFP+ MACsec v3 zl2 Module	J9993A
HP 8-port 1/2.5/5/10GBASE-T PoE+ MACsec v3 zl2 Module	J9995A
HP 2-port 40GbE QSFP+ v3 zl2 Module	J9996A

Transceivers

HP X131 10G X2 SC ER Transceiver	J8438A
HP X131 10G X2 SC SR Transceiver	J8436A
HP X131 10G X2 CX4 Transceiver	J8440C
HP X111 100M SFP LC FX Transceiver	J9054C
HP X131 10G X2 SC LR Transceiver	J8437A
HP X131 10G X2 SC LRM Transceiver	J9144A
HP X132 10G SFP+ LC SR Transceiver	J9150A
HP X132 10G SFP+ LC LR Transceiver	J9151A
HP X132 10G SFP+ LC LRM Transceiver	J9152A

Accessories

HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X121 1G SFP RJ45 T Transceiver	J8177C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
HP X132 10G SFP+ LC ER Transceiver	J9153A
HP X142 40G QSFP+ MPO SR4 Transceiver	JH231A
HP X142 40G QSFP+ LC LR4 SM Transceiver	JH232A
HP X142 40G QSFP+ MPO eSR4 300M XCVR	JH233A

Cables

HP X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable	J9281B
HP X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	J9283B
HP X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable	J9285B
HP X244 10G XFP to SFP+ 1m Direct Attach Copper Cable	J9300A
HP 10G X244 XFP to SFP+ 3m Direct Attach Copper Cable	J9301A
HP 10G X244 XFP to SFP+ 5m Direct Attach Copper Cable	J9302A
HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
HP LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable	AJ835A
HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
HP X242 40G QSFP+ to QSFP+ 1m Direct Attach Copper Cable	JH234A
HP X242 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable	JH235A
HP X242 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable	JH236A

Power Supply

HP 5400R 700W PoE+ zl2 Power Supply	J9828A
HP 5400R 1100W PoE+ zl2 Power Supply	J9829A
HP 5400R 2750W PoE+ zl2 Power Supply	J9830A

Mounting Kit

HP X450 4U/7U Universal 4-Post Rack Mounting Kit	J9852A

Accessories

License

HP MSM Additional 40 Access Point E-LTU   J9371AAE

WLAN

HP MSM775 zl Premium Controller Module   J9840A

HP 5406R zl2 Switch_PL (J9821A)

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5412R zl2 Switch_PL (J9822A)

HP 5412R zl2 Switch Fan Tray   J9832A

HP 5406R-44G-PoE+/2SFP+ (No PSU) v2 zl2 Switch_PL (J9823A)

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5412R-92G-PoE+/2SFP+ (No PSU) v2 zl2 Switch_PL (J9825A)

HP 5412R zl2 Switch Fan Tray   J9832A

HP 5406R-44G-PoE+/4SFP (No PSU) v2 zl2 Switch_PL (J9824A)

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5412R-92G-PoE+/4SFP (No PSU) v2 zl2 Switch_PL (J9826A)

HP 5412R zl2 Switch Fan Tray   J9832A

HP 5406R-8XGT/8SFP+ (No PSU) v2 zl2 Switch_PL (J9868A)

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5412R 92GT PoE+ / 4SFP+ (No PSU) v3 zl2 Switch (JL001A)

HP 5412R zl2 Switch Fan Tray   J9832A

**HP 5406R 8-port 1/2.5/5/10GBASE-T PoE+ / 8-port SFP+ (No PSU) v3 zl2
Switch (JL002A)**

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5406R 44GT PoE+ / 4SFP+ (No PSU) v3 zl2 Switch (JL003A)

HP 5406R zl2 Switch Fan Tray   J9831A

HP 5406R 16-port SFP+ (No PSU) v3 zl2 Switch (JL095A)

HP 5406R zl2 Switch Fan Tray   J9831A

Accessories

Summary of Changes

Date	Version History	Action	Description of Change	
01-Dec-2015	From Version 8 to 9	Changed	QuickSpecs name changed to Aruba 5400R zl2 Switch Series Product overview, Features and benefits, Technical Specifications and Accessories updated.	
27-April-2015	From Version 7 to 8	Added	Accessories added: J9986A, J9987A, J9988A, J9989A, J9990A, J9991A, J9992A, J9993A, J9995A, J9996A, JH231A, JH232A, JH233A, JH234A, JH235A, JH236A	Models added: JL001A, JL002A, JL003A, JL095A
		Changed	Overview and Technical Specifications were updated	
20-Mar-2015	From Version 6 to 7	Changed	Configuration menu for 5400zl split in to 2 menus: 5400 zl, and 5400R zl2	
17-Feb-2015	From Version 5 to 6	Changed	SKUs descriptions and Configuration menu updated	
01-Dec-2014	From Version 4 to 5	Changed	Changes were made on the entire document	
05-Sep-2014	From Version 3 to 4	Changed	Updated Configuration Menu	
14-July-2014	From Version 2 to 3	Changed	Updated Overview section and Technical Specifications	
17-June-2014	From Version 1 to 2	Changed	Updated I/O ports and slots in several models and also added the WLAN section to Accessories.	

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