Overview

HPE FlexNetwork 10500 Switch Series

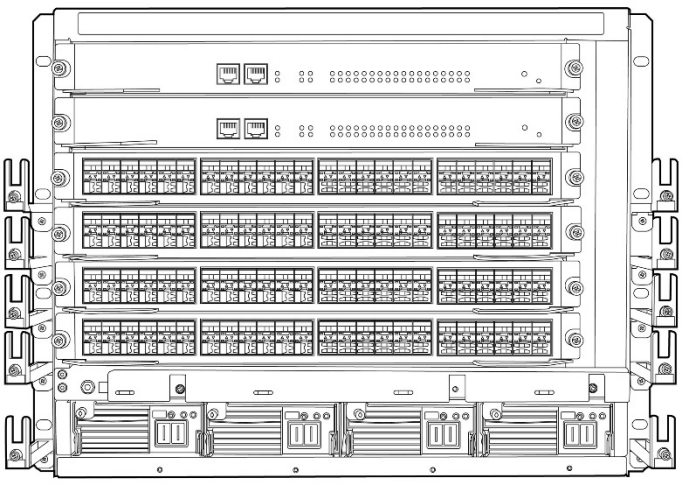
Models

HPE FlexNetwork 10504 Switch Chassis	JC613A
HPE FlexNetwork 10508 Switch Chassis	JC612A
HPE FlexNetwork 10508-V Switch Chassis	JC611A
HPE FlexNetwork 10512 Switch Chassis	JC748A

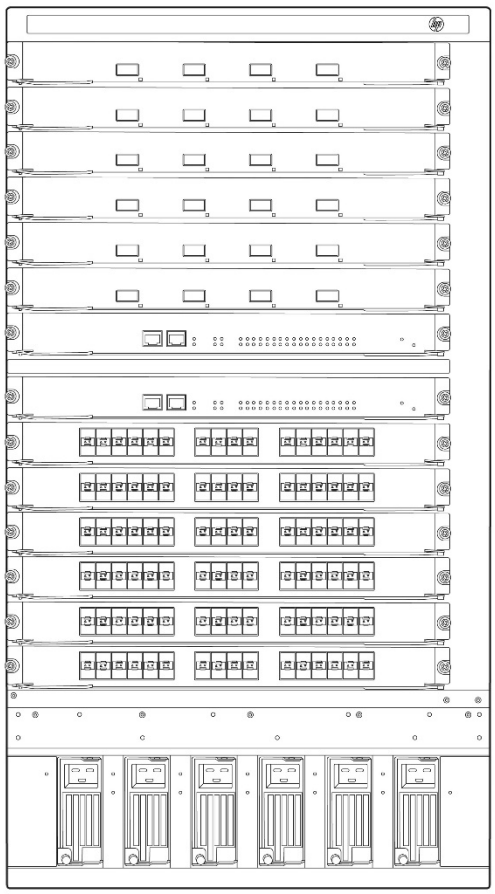
Product overview

The HPE FlexNetwork 10500 Switch Series sets a new benchmark for performance, reliability, and scalability with next-generation Clos architecture. Designed for enterprise campus core networks, the 10500 Switch Series enables a cloud-connected and rich-media-capable infrastructure. The switch series provides 1/10/40 GbE port density, 3-microsecond latency, and very low energy consumption.

With Hewlett Packard Enterprise Intelligent Resilient Fabric (IRF) technology, the scalability and resiliency of the 10500 switch series can be extended and virtualized across up to four chassis with a single management interface—enabling flatter, more agile networks. This switch series, along with the entire Hewlett Packard Enterprise FlexNetwork architecture, can be seamlessly managed through the HPE Intelligent Management Center (IMC), which provides a single-pane-of-glass management view of the infrastructure.

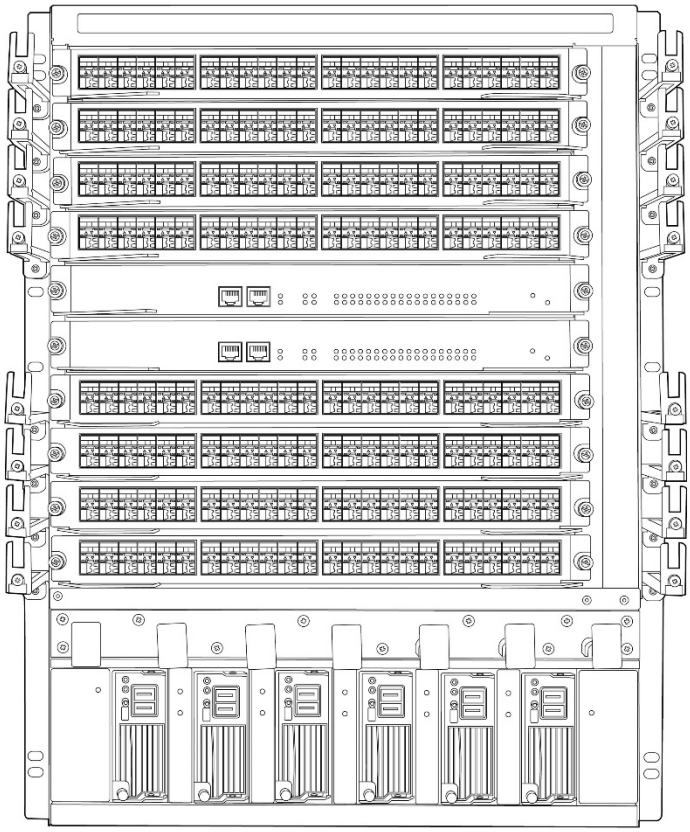


HPE FlexNetwork 10504 Switch Chassis

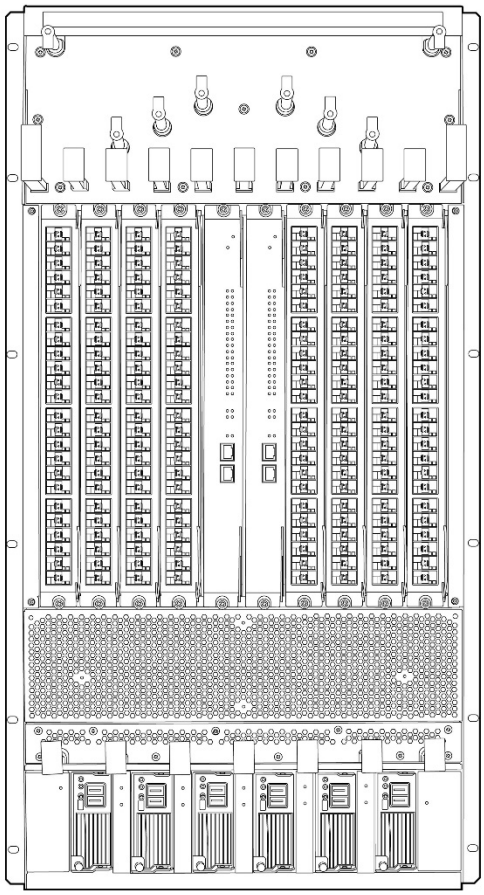


HPE FlexNetwork 10512 Switch Chassis

Overview



HPE FlexNetwork 10508 Switch Chassis



HPE FlexNetwork 10508-V Switch Chassis

Key features

- Advanced, next-generation Clos architecture
- More than 11 terabits-per-second switching capacity
- Feature-rich switch with IPv6 and MPLS functionality
- IRF technology virtualizes up to four chassis
- Ultra-high 1/10/40 GbE density, including wire-speed on all ports

Features and benefits

Product architecture

- **Advanced Comware modular operating system**
  brings native high stability, independent process monitoring, and restart through the modular design and multiple processes of Hewlett Packard Enterprise (HPE) Comware v7 software; allows individual software modules to be upgraded for higher availability and supports enhanced serviceability functions
- **Distributed architecture with separation of data and control planes**
  Delivers enhanced fault tolerance and facilitates continuous operation and zero service disruption during planned or unplanned control-plane events
- **Multitenant Device Context (MDC)**
  Virtualizes a physical switch into multiple logical devices, with each logical switch having its own processes, configuration, and administration

Overview

Performance

- **High-speed fully distributed architecture**
  provides up to 11.52 Tb/s switching capacity with released line cards and up to 13.72 Tb/s switching fabric capacity with Type D fabric; modules provide nonblocking wirespeed 10GbE and 40GbE performance; with four fabrics, the switch delivers up to 8.571 billion pps throughput; all switching and routing is performed in the I/O modules; meets the demand of bandwidth-intensive applications today and in the future
- **Scalable system design**
  provides investment protection to support future technologies and higher-speed connectivity, as the switch is designed for increased backplane bandwidth
- **Flexible chassis selection**
  enables you to tailor product selections to your budget with a choice of four chassis: the 10504 switch (four open module slots), 10508 switch (eight open module slots), 10508-V switch (eight vertical open module slots), and 10512 switch (12 open module slots)

Connectivity

- **High-density port connectivity**
  Offers up to 12 interface module slots; provides up to 24 100GbE, 96 40GbE, 576 10GbE ports, and 576 gigabit fiber/electrical ports per system
- **Jumbo frames**
  Allows high-performance backups and disaster-recovery systems; provide a maximum frame size of 9K bytes
- **Loopback**
  supports internal loopback testing for maintenance purposes and an increase in availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility
- **Ethernet operations, administration and maintenance (OAM):**
  detects data link layer problems that occurred in the "last mile" using the IEEE 802.3ah OAM standard; monitors the status of the link between two devices
- **Flexible port selection**
  provides a combination of fiber and copper interface modules, 100/1000BASE-X auto-speed selection, and 10/100/1000BASE-T auto-speed detection plus auto duplex and MDI/MDI-X
- **Monitor link**
  collects statistics on performance and errors on physical links, increasing system availability
- **Dual-personality functionality**
  includes four 10/100/1000 ports or SFP slots for optional fiber connectivity such as Gigabit-SX, -LX, and -LH, or 100-FX
- **Packet storm protection**
  protects against unknown broadcast, unknown multicast, or unicast storms with user-defined thresholds
- **Flow control**
  provides back pressure using standard IEEE 802.3x, reducing congestion in heavy traffic situations

Quality of Service (QoS)

- **IEEE 802.1p prioritization**
  delivers data to devices based on the priority and type of traffic
- **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
- **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

Overview

- **Reduced bandwidth**
  provides per-port, per-queue egress-based reduced bandwidth
- **Traffic policing**
  supports Committed Access Rate (CAR) and line rate
- **Weighted random early detection (WRED)/random early detection (RED)**
  delivers congestion avoidance capabilities through the use of queue management algorithm
- **Powerful QoS feature**
  supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), and WRED

Resiliency and high availability

- **Redundant/Load-sharing fabrics, management, fan assemblies, and power supplies**
  increase total performance and power available while providing hitless, stateful failover
- **All hot-swappable modules**
  allows replacement of modules without any impact on other modules
- **Separate data and control paths**
  separates control from services and keeps service processing isolated; increases security and performance
- **Passive design system**
  delivers increased system reliability as the backplane has no active components
- **Intelligent Resilient Fabric (IRF)**
  creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches do not have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using standard LACP for automatic load balancing and high availability; can eliminate the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation
- **IRF capability**
  provides single IP address management for a resilient virtual switching fabric of up to four switches
- **Ring resiliency protection protocol**
  provides standard sub-100 ms recovery for an Ethernet-based ring topology
- **Virtual Router Redundancy Protocol (VRRP)**
  allows groups of two routers to dynamically back each other up to create highly available routed environments
- **Device Link Detection Protocol (DLDP)**
  monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks
- **IEEE 802.3ad LACP**
  Supports up to 128 trunks, each with 8 links per trunk; and provides support for static or dynamic groups and a user-selectable hashing algorithm
- **Graceful restart**
  supports graceful restart for OSPF, IS-IS, BGP, LDP, and RSVP; the network remains stable during the active-standby switchover; after the switchover, the device quickly learns the network routes by communicating with adjacent routers; forwarding remains uninterrupted during the switchover to achieve nonstop forwarding (NSF)
- **Ultrafast protocol convergence (sub second) with standard-based failure detection—Bidirectional Forwarding Detection (BFD)**
  Enables link connectivity monitoring and reduces network convergence time for the routing information protocol (RIP), OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Smart link**
  allows 100 ms failover between links
- **Multiple internal power supplies**
  provides high reliability; 10504 switch provides 3+1 redundancy; 10508, 10508-V, and 10512 switches provide 5+1 redundancy
- **In-Service Software Upgrade (ISSU)**
  applies patches and new service features to be installed without restarting the system, increasing network uptime and simplifying maintenance. Requires use of IRF, and R7169P01 or later releases.

Overview

Virtual private network (VPN)

- **IPSec**
  provides secure tunneling over an untrusted network such as the Internet or a wireless network; offers data confidentiality, authenticity, and integrity between two network endpoints
- **Generic Routing Encapsulation (GRE)**
  transports Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site
- **Manual or automatic Internet Key Exchange (IKE)**
  provides both manual or automatic key exchange required for the algorithms used in encryption or authentication; auto-IKE allows automated management of the public key exchange, providing the highest levels of encryption
- **Virtual Extensible LAN (VXLAN)**
  delivers network virtualization enabling IP-based networks to support many VLAN overlays for use as private collaboration network, or a single, end-to-end VLAN for WiFi. Requires Comware v7 with specific hardware only. Refer to the hardware manuals for details.

Management

- **Management interface control**
  enables or disables each of the following interfaces depending on security preferences: console port, Telnet port, or reset button
- **Industry-standard CLI with a hierarchical structure**
  reduces training time and expenses, and increases productivity in multivendor installations
- **Management security**
  restricts access to critical configuration commands; offers multiple privilege levels with password protection; ACLs provide Telnet and SNMP access; local and remote syslog capabilities allow logging of all access
- **SNMPv1, v2, and v3**
  provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption
- **sFlow (RFC 3176)**
  provides scalable ASIC-based wirespeed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes
- **Remote monitoring (RMON)**
  uses standard SNMP to monitor essential network functions; and supports events, alarms, history, and statistics groups as well as a private alarm extension group
- **FTP, TFTP, and SFTP support**
  offers different mechanisms for configuration updates; FTP allows bidirectional transfers over a TCP/IP network; trivial FTP (TFTP) is a simpler method using User Datagram Protocol (UDP); Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security
- **Debug and sampler utility**
  supports ping and traceroute for both IPv4 and IPv6
- **Network Time Protocol (NTP)**
  synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- **Network Quality Analyzer (NQA)**
  analyzes network performance and service quality by sending test packets, and provides network performance and service quality parameters such as jitter, TCP, or FTP connection delays and file transfer rates; allows a network manager to determine overall network performance and to diagnose and locate network congestion points or failures
- **Information center**
  provides a central repository for system and network information; aggregates all logs, traps, and debugging information generated by the system and maintains them in order of severity; outputs the network information to multiple channels based on user-defined rules
- **IEEE 802.1AB Link Layer Discovery Protocol (LLDP)**
  advertises and receives management information from adjacent devices on a network, facilitating easy mapping by

Overview

network
management applications

- **Dual flash images**
  provides independent primary and secondary operating system files for backup while upgrading
- **Multiple configuration files**
  stores easily to the flash image

Layer 2 switching

- **VLAN**
  supports up to 4,096 port-based or IEEE 802.1Q-based VLANs; also supports MAC-based VLANs, protocol-based VLANs, and IP-subnet-based VLANs for added flexibility
- **Bridge Protocol Data Unit (BPDU) tunneling**
  transmits Spanning Tree Protocol BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs
- **GARP VLAN Registration Protocol**
  allows automatic learning and dynamic assignment of VLANs (Comware v5 only)
- **Port mirroring**
  duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports four mirroring groups, with an unlimited number of ports per group
- **Spanning Tree Protocol**
  supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- **Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping**
  controls and manages the flooding of multicast packets in a Layer 2 network
- **IEEE 802.1ad QinQ and selective QinQ**
  increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network
- **Per-VLAN spanning tree plus**
  allows each VLAN to build a separate spanning tree to improve link bandwidth usage in network environments with multiple VLANs
- **Isolation at data link layer with private VLANs**
  provides, through a two-tier VLAN structure, an additional layer of protection, simplifying network configuration while saving VLAN resources

Layer 3 services

- **Address Resolution Protocol (ARP)**
  determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **User Datagram Protocol (UDP) helper**
  redirects UDP broadcasts to specific IP subnets to prevent server spoofing
- **Dynamic Host Configuration Protocol (DHCP)**
  simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **Domain Name System (DNS)**
  provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

Layer 3 routing

- **Static IPv4 routing**
  provides simple manually configured IPv4 routing

Overview

- **Routing Information Protocol (RIP)**
  uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection
- **Open shortest path first (OSPF)**
  delivers faster convergence; uses this link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- **Intermediate system to intermediate system (IS-IS)**
  uses a path vector Interior Gateway Protocol (IGP), which is defined by the ISO organization for IS-IS routing and extended by IETF RFC 1195 to operate in both TCP/IP and the OSI reference model (Integrated IS-IS)
- **Border Gateway Protocol 4 (BGP-4)**
  delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks
- **Policy-based routing**
  makes routing decisions based on policies set by the network administrator
- **IP performance optimization**
  provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICNP error packets, and extensive display capabilities
- **Unicast Reverse Path Forwarding (uRPF)**
  limits erroneous or malicious traffic in accordance with RFC 3074
- **Static IPv6 routing**
  provides simple, manually configured IPv6 routing
- **Dual IP stack**
  maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design
- **Routing Information Protocol next generation (RIPng)**
  extends RIPv2 to support IPv6 addressing
- **OSPFv3**
  provides OSPF support for IPv6
- **IS-IS for IPv6**
  extends IS-IS to support IPv6 addressing
- **BGP+**
  extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **Multiprotocol Label Switching (MPLS)**
  uses BGP to advertise routes across Label Switched Paths (LSPs), but uses simple labels to forward packets from any Layer 2 or Layer 3 protocol, thus reducing complexity and increasing performance; supports graceful restart for reduced failure impact; supports LSP tunneling and multilevel stacks
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN**
  allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility
- **Multiprotocol Label Switching (MPLS) Layer 2 VPN**
  establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS Label Distribution Protocol (LDP); requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies
- **Virtual Private LAN Service (VPLS)**
  establishes point-to-multipoint Layer 2 VPNs across a provider network
- **Super VLAN**
  saves IP address space using the RFC 3069 standard (also called VLAN Aggregation)
- **Equal-Cost Multipath (ECMP)**
  enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **IPv6 tunneling**
  provides an important element for the transition from IPv4 to IPv6; allows IPv6 packets to traverse IPv4-only networks by

Overview

encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6-to-4, intra-site-automatic-tunnel-addressing-protocol (ISATAP) tunnels, and IPv6 VPN provider-edge router tunnel

Security

- **Access control list (ACL)**
  supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header; rules can be set to operate on specific dates or times
- **Remote Authentication Dial-In User Service (RADIUS)**
  eases switch security access administration by using a password authentication server
- **Terminal Access Controller Access-Control System (TACACS+)**
  delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security
- **Switch management logon security**
  helps secure switch CLI logon by optionally requiring either RADIUS or TACACS+ authentication
- **Secure shell (SSHv2)**
  uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers
- **DHCP snooping**
  helps ensure that DHCP clients receive IP addresses from authorized DHCP servers and maintain a list of DHCP entries for trusted ports; prevents reception of fake IP addresses and reduces ARP attacks, improving security
- **IP Source Guard**
  filters packets on a per-port basis, which prevents illegal packets from being forwarded
- **ARP attack protection**
  protects from attacks using a large number of ARP requests with a host-specific, user-selectable threshold
- **Port security**
  allows access only to specified MAC addresses, which can be learned or specified by the administrator
- **IEEE 802.1X**
  provides port-based user authentication with support for Extensible Authentication Protocol (EAP) MD5, TLS, TTLS, and PEAP with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point
- **Media access control (MAC) authentication**
  provides simple authentication based on a user's MAC address; supports local or RADIUS-based authentication
- **Multiple user authentication methods**
  - **IEEE 802.1X**
    uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
  - **Web-based authentication**
    provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support the IEEE 802.1X supplicant
  - **MAC-based authentication**
    authenticates the client with the RADIUS server based on the client's MAC address
- **DHCP protection**
  blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- **Endpoint Admission Defense (EAD)**
  provides security policies to users accessing a network
- **IEEE 802.1AE MACsec**
  provides switch-to-host or switch-to-switch hardware encryption and authentication. Requires Comware v7 with specific hardware only. Refer to the hardware manuals for details.

Convergence

Overview

- **LLDP-MED (Media Endpoint Discovery)**
  defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- **Protocol Independent Multicast (PIM)**
  defines modes of Internet IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information; supports PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Multicast(SSM)
- **Multicast Source Discovery Protocol (MSDP)**
  allows multiple PIM-SM domains to interoperate; is used for inter-domain multicast applications
- **Internet Group Management Protocol (IGMP)**
  utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- **Multicast Border Gateway Protocol (MBGP)**
  allows multicast traffic to be forwarded across BGP networks and kept separate from unicast traffic
- **Multicast Listener Discovery (MLD) protocol**
  establishes, maintains, and manages IPv6 multicast groups and networks; supports v1 and v2 and utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM)
- **Multicast VLAN**
  allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, lessening network bandwidth demand by reducing or eliminating multiple streams to each VLAN
- **Voice VLAN**
  automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance

Integration

- **Open Application Architecture (OAA)**
  provides high-performance application-specific modules fully integrated with the switching architecture; uses the chassis high-speed backplane to access network-related data; increases performance, reduces costs, and simplifies network management
- **VPN 20Gbps 10500 Firewall Module**
  provides enhanced stateful packet inspection and filtering; supports flexible security zones and virtual firewall containment; delivers advanced VPN services with 3DES and AES encryption at high performance and low latency; offers Web content filtering and application prioritization and optimization

Software-defined networking

- **OpenFlow 1.3**
  enables SDN to provide an end-to-end solution to automate the network, allowing for rapid application deployments (Comware v7 only)

Additional information

- **Green initiative support**
  provides support for RoHS and WEEE regulations
- **OPEX savings**
  simplifies and streamlines deployment, management, and training through the use of a common operating system, thereby cutting costs as well as reducing the risk of human errors associated with having to manage multiple operating systems across different platforms and network layers
- **Unified Hewlett Packard Enterprise Comware operating system**
  with modular architecture provides an easy-to-enhance-and-extend feature set, which doesn't require whole-scale changes; all switching, routing, and security platforms leverage the Comware OS, a common unified modular operating system

Warranty and support

Overview

- **1-year Warranty**
  See **http://www.hpe.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.hpe.com/networking/support**; for details on the software releases available with your product purchase, refer to **http://www.hpe.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.

HPE FlexNetwork 10504 Switch Chassis JC613A

- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 8U - Height

HPE FlexNetwork 10508 Switch Chassis JC612A

- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 14U - Height

HPE FlexNetwork 10508-V Switch Chassis JC611A

- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 20U - Height

HPE FlexNetwork 10512 Switch Chassis JC748A

- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 18U - Height

Configuration Rules:

Remarks:

OCA Only Model Selection Form -
HPE Offering > Aruba > Switches - FlexNetwork:
10500 Switch Series

Box Level Integration CTO Models

CTO Solution Sku

HPE FlexNetwork 105xx Configure-to-order Switch Solution JG504A

Configuration

- SSP trigger sku

CTO Switch Chassis

HPE FlexNetwork 10504 Switch Chassis — JC613A
- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 8U - Height

See Configuration **NOTE:**1, 2

HPE FlexNetwork 10508 Switch Chassis — JC612A
- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 14U - Height

See Configuration **NOTE:**1, 2

HPE FlexNetwork 10508-V Switch Chassis — JC611A
- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min 1 Power Supply
- 20U - Height

See Configuration **NOTE:**1, 2

HPE FlexNetwork 10512 Switch Chassis — JC748A
- Must select min 1 Interface Module
- Must select min 4 Fabric Modules
- Must select min 1 Management Module
- Must select min1 Power Supply
- 18U - Height

See Configuration **NOTE:**1, 2

Configuration Rules:

Note 1 If the Switch Chassis is to be Factory Integrated (CTO), Then the #0D1 is required on the Switch Chassis and integrated to the JG504A - HP 105xx CTO Enablement. (Min 1/Max 1 Switch per SSP)

Note 2 If this Switch is selected, Then a Minimum of 1 factory integrated accessory must be ordered and integrated to CTO chassis. See Menu below, option must have a #0D1 to be integrated to the CTO Chassis.

Modules

Management Modules

System (standard 0 // maximum 2) User Selection (minimum 1 // maximum 2) per enclosure

Configuration

HP A10500 Main Processing Unit	JC614A See Configuration **NOTE:**1
HPE FlexNetwork 10500 Type D with Comware v7 Operating System Main Processing Unit	JH198A See Configuration **NOTE:**1, 2, 3, 5

Configuration Rules:

Note 1 If 2 Management Module are selected, they must be the same Sku number.

Note 2 Note in Watson: This MPU supports CWv7 only and may not have some features from CWv5.

Note 3 The following Interface Modules are Not Supported with this Management Module:
HPE FlexNetwork 7500 Load Balancing Module JD252A

Note 5 This Management Module only supports Type B and D Fabric Modules.
The following Fabric Modules are Not Supported with this Management Module:
HP 10504 400Gbps Type A Fabric Module JC615A

Remarks: For Switch 10504 (JC613A), these modules can only be inserted into Slots 0 and 1. For Switches 10508 (JC612A) and 10508-V (JC611A, JG822A), these modules can only be inserted into Slots 4 and 5. For Switch 10512 (JC748A), these modules can only be inserted into Slots 6 and 7.
Management module JH198A only carries BIN executable, not IPE, upon release.

Fabric Modules

System (std 0 // max 4) User Selection (min 4 // max 4) per enclosure

HPE FlexNetwork 10504 880Gbps Type B Fabric Module • No supported Transceivers	JC751A See Configuration **NOTE:**1, 4
HPE FlexNetwork 10508/10508-V 1.04Tbps Type B Fabric Module • No supported Transceivers	JC753A See Configuration **NOTE:**2, 4
HPE FlexNetwork 10512 1.52Tbps Type B Fabric Module • No supported Transceivers	JC749A See Configuration **NOTE:**3, 4
HPE FlexNetwork 10512 3.44Tbps Type D Fabric Module • No supported Transceivers	JC750A See Configuration **NOTE:**3, 4
HPE FlexNetwork 10504 1.2Tbps Type D Fabric Module	JC752A

Configuration

- No supported Transceivers — See Configuration **NOTE:**1, 4

HPE FlexNetwork 10508/10508-V 2.32Tbps Type D Fabric Module — JC754A
- No supported Transceivers — See Configuration **NOTE:**2, 4

Configuration Rules:

Note 1 These Modules install to the following switches: (Use #0D1 if switch is CTO) - if applicable
HPE FlexNetwork 10504 Switch Chassis JC613A

Note 2 These Modules install to the following switches: (Use #0D1 if switch is CTO) - if applicable
HPE FlexNetwork 10508-V Switch Chassis JC611A
HPE FlexNetwork 10508 Switch Chassis JC612A

Note 3 These Modules install to the following switches: (Use #0D1 if switch is CTO) - if applicable
HPE FlexNetwork 10512 Switch Chassis JC748A

Note 4 If more than 1 Fabric Module is selected, they must be of the same Type. (TAA & Non TAA versions of the same module type can be mixed)

Interface Modules

(10504 Switch (JC613A) Only) System (std 0 // max 4) User Selection (min 1 // max 4) per enclosure
(10508 and 10508-V Switch (JC612A, JC611A, JG822A) Only) System (std 0 // max 8) User Selection (min 1 // max 8) per enclosure
(10512 Switch (JC748A) Only) System (std 0 // max 12) User Selection (min 1 // max 12) per enclosure

HPE FlexNetwork 10500 16-port 1/10GbE SFP+ SF Module — JH193A
- min=0 \ max=16 SFP or SFP+ Transceivers — See Configuration **NOTE:**1, 13, 14

HPE FlexNetwork 10500 44-port GbE SFP/4-port 10GbE SFP+ SE Module — JH191A
- min=0 \ max=44 SFP \ min=0 \ max=4 SFP or SFP+ Transceivers — See Configuration **NOTE:** 1, 2, 13, 14

HPE FlexNetwork 10500 24-port 1/10GBASE-T SF Module — JG394A
- No Transceivers

HPE FlexNetwork 10500 48-port 1000BASE-T SE Module — JH192A
- No Transceivers — See Configuration **NOTE:**13

HPE FlexNetwork 10500 32-port 10GbE SFP/SFP+/4-port 40GbE QSFP+ M2SG Module — JH432A
- min=0 \ max=32 SFP\SFP+ Transceivers
- min=0 \ max=4 QSFP+ Transceivers

See Configuration **NOTE:** 1, 5, 13, 14, 15

Configuration

HPE FlexNetwork 10500 48-port 1/10GbE SFP+ SG Module • min=0 \ max=48 SFP or SFP+ Transceivers	JH197A See Configuration **NOTE:**1, 13, 14
HPE FlexNetwork 10500 48-port 10GbE SFP+ SF Module • min=0 \ max=48 SFP or SFP+ Transceivers	JC756A See Configuration **NOTE:**1, 3
HPE FlexNetwork 10500 48-port 10GbE SFP/SFP+ with MACsec M2SG Module • min=0 \ max=48 SFP or SFP+ Transceivers	JH433A See Configuration **NOTE:** 1, 13, 14
HPE FlexNetwork 10500 12-port 40GbE QSFP28 M2SG Module • min=0 \ max=12 QSFP+\QSFP28(40G Only) Transceivers	JH434A See Configuration **NOTE:** 5, 13, 15

Configuration Rules:

Note 1 The following Transceivers install into this Module: (Use #0D1 if switch is CTO) - if applicable

HPE X120 1G SFP LC LH100 Transceiver	JD103A
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X120 1G SFP RJ45 T Transceiver	JD089B
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP LC BX 10-U Transceiver	JD098B
HPE X120 1G SFP LC BX 10-D Transceiver	JD099B

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

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X115 100M SFP LC BX 10-U Transceiver	JD100A
HPE X115 100M SFP LC BX 10-D Transceiver	JD101A

Note 3 The following Transceivers install into this Module (Use #0D1 or #B01 if switch is CTO) - if applicable:

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable	JH693A
HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable	JH694A
HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable	JH695A
HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable	JH696A

Configuration

Note 5 The following 40G Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO) - if applicable

HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
HPE X140 40G QSFP+ MPO SR4 Campus-Transceiver	JH679A
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Campus-Transceiver	JH681A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Campus-Transceiver	JH677A
HPE X140 40G QSFP+ LC BiDi 100m MM Campus-Transceiver	JH678A
HPE X140 40G QSFP+ LC LR4L 2km SM Campus-Transceiver	JH680A
HPE X240 40G QSFP+ to QSFP+ 1m Direct Attach Copper Campus-Cable	JH697A
HPE X240 40G QSFP+ to QSFP+ 3m Direct Attach Copper Campus-Cable	JH698A
HPE X240 40G QSFP+ to QSFP+ 5m Direct Attach Copper Campus-Cable	JH699A
HPE X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Campus-Cable	JH700A

Note 13 These modules are Only Supported with Management Modules JH198A.
They are Not Supported with Management Modules JC614A - HPE 10500 Main Processing Unit.

Note 14 The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO) - if applicable

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable	JH693A
HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable	JH694A
HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable	JH695A
HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable	JH696A

Note 15 The following 40G Transceivers install into this Module and requires Comware V7, which are only for use with the MPUs JH198A : (Use #0D1 or #B01 if switch is CTO)

HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC BiDi 100m MM Campus-Transceiver	JH678A

Configuration

Transceivers

SFP Transceivers

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X115 100M SFP LC BX 10-U Transceiver	JD100A
HPE X115 100M SFP LC BX 10-D Transceiver	JD101A
HPE X120 1G SFP RJ45 T Transceiver	JD089B
HPE X120 1G SFP LC BX 10-U Transceiver	JD098B
HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
HPE X120 1G SFP LC LH100 Transceiver	JD103A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X125 1G SFP LC LH70 Transceiver	JD063B

SFP+ Transceivers

HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
HPE FlexNetwork X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Campus-Cable	JH693A
HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Campus-Cable	JH694A
HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Campus-Cable	JH695A
HPE X240 10G SFP+ to SFP+ 7m Direct Attach Copper Campus-Cable	JH696A

QSFP+ Transceivers

HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
HPE X140 40G QSFP+ MPO SR4 Campus-Transceiver	JH679A

Configuration

HPE X140 40G QSFP+ LC LR4L 2km SM Campus-Transceiver	JH680A
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Campus-Transceiver	JH681A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Campus-Transceiver	JH677A
HPE X240 40G QSFP+ to QSFP+ 1m Direct Attach Copper Campus-Cable	JH697A
HPE X240 40G QSFP+ to QSFP+ 3m Direct Attach Copper Campus-Cable	JH698A
HPE X240 40G QSFP+ to QSFP+ 5m Direct Attach Copper Campus-Cable	JH699A
HPE X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Campus-Cable	JH700A
HPE X140 40G QSFP+ LC BiDi 100m MM Campus-Transceiver	JH678A

Internal Power Supplies

(Switch 10504, JC613A) System (std 0 // max 4) User Selection (min 1 // max 4) per switch enclosure

10504 provides 3+1 Redundancy. Select an appropriate number of power supplies based on the maximum output power of your system and redundancy requirements. For component power consumption consult the install guide

(Switch 10508 (JC612A), 10508-V (JC611A, JG822A) and 10512 (JC748A)) System (std 0 // max 6) User Selection (min 1 // max 6) per switch enclosure

10508, 10508-V and 10512 provides 5+1 Redundancy. Select an appropriate number of power supplies based on the maximum output power of your system and redundancy requirements. For component power consumption consult the install guide.

HPE FlexNetwork 10500 2500W AC Power Supply • includes 1 x c19, 2500w	JC610A See Configuration **NOTE:** 1, 2, 3
PDU Cable NA/MEX/TW/JP • C19 PDU Jumper Cord (NA/MEX/TW/JP)	JC610A#B2B
PDU Cable ROW • C19 PDU Jumper Cord (ROW)	JC610A#B2C
High Volt Switch to Wall Power Cord • NEMA L6-20P Cord (NA/MEX/JP/TW)	JC610A#B2E

Configuration Rules:

Note 1 If more than 1 power supply is selected they, must all be the same Sku number.

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

Note 3 #B2E is Offered only in NA, Mexico, Taiwan and Japan.

Remarks: 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)

Configuration

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)

Switch Enclosure Options

Mounting Kit

HPE X421 Chassis Universal 4-post Rackmount Kit	JC665A See Configuration **NOTE:**1

Configuration Rules:

Note 1 If any 10500 switch is installed into a rack, then this Rack Mounting kit is required.

Remarks: Default a quantity of 1 when Switch is selected

Fan

HPE FlexNetwork 10504 Spare Fan Assembly	JC632A
HPE FlexNetwork 10508 Spare Fan Assembly	JC633A
HPE FlexNetwork 10508-V Spare Fan Assembly	JC634A
HPE FlexNetwork 10512 Spare Top Fan Tray Assembly	JC758A
HPE FlexNetwork 10512 Spare Bottom Fan Tray Assembly	JC773A

Technical Specifications

HPE FlexNetwork 10504 Switch Chassis (JC613A)		
I/O ports and slots	4 I/O module slots Supports a maximum of 192 10GbE ports or 96 1/10GBASE-T ports or 192 Gigabit Ethernet ports or 32 40GbE ports or 8 100GbE ports or a combination	
Additional ports and slots	2 MPU (for management modules) slots 4 switch fabric slots	
Power supplies	4 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JC632A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.32(w) x 25.98(d) x 13.9(h) in (43.99 x 65.99 x 35.31 cm) (8U height)
	Weight	85.32 lb (38.7 kg)
	Full configuration weight	183.14 lb (83.07 kg)
Memory and processor	Dual Core MIPS @ 1.2 GHz, 512 MB flash, 8 GB DDR2 SDRAM	
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Reliability	**Availability**	99.999%
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 62.3 dB, High-speed fan: 75.5 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/60 A
	Power output	2500 W
	Notes	Based on common power supply 2,500 W (AC)
Safety	CAN/CSA 22.2 No. 60950-1; FCC Part 15, Subpart B; FDA 21 CFR Subchapter J; ROHS Compliance; IEC 60950-1 :Second Edition ; EN 60950-1:2006 + A11:2009; AS/NZS 60950-1; IEC 60825-1; UL 60950-1, 2nd Edition; EN60825-2:2004+A1:2007	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR22 Class A; FCC (CFR 47, Part 15) Class A; GB9254	
Immunity	**Generic**	Directive 2004/108/EC
	EN	EN 55024:1998+ A1:2001 + A2:2003; ETSI EN 300 386 V1.3.3
	ESD	EN 61000-4-2
	Radiated	EN 61000-4-3
	EFT/Burst	EN 61000-4-4
	Surge	EN 61000-4-5

Technical Specifications

	Conducted	EN 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	IMC - Intelligent Management Center; command-line interface; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Notes	RFCs supported only in Comware v7: 1541, 1542, 1981, 2080, 2460, 2464, 2473, 2474, 2545, 2711, 2863, 2868, 3315, 3413, 3416, 3484, 3575, 3736, 3810, 3956, 4123, 4271, 4291, 4292, 4293, 4443, 4552, 4607, 4659, 4798, 4861, 4862, 5080, 5095, 5340, 5492, 5905 and 6192 Throughput: up to 2.9 Bpps Type D and 1.9 Bpps Type B Fabric; switching capacity: up to 4.8 Tbps Type D and 3.5 Tbps Type B Fabric; routing table size: up to 256K/64K IPv4/IPv6 with the EC LPU; MAC address table: up to 512K with the EC LPU.	
Services	Refer to the Hewlett Packard Enterprise website at: **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE FlexNetwork 10508 Switch Chassis (JC612A)

I/O ports and slots	8 I/O module slots Supports a maximum of 384 10GbE ports or 192 1/10GBASE-T ports or 384 Gigabit Ethernet ports or 64 40GbE ports or 16 100GbE ports or a combination	
Additional ports and slots	2 MPU (for management modules) slots 4 switch fabric slots	
Power supplies	6 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JC633A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.32(w) x 25.98(d) x 24.41(h) in (43.99 x 65.99 x 62 cm) (14U height)
	Weight	125 lb (56.7 kg)
	Full configuration weight	285.34 lb (129.43 kg)
Memory and processor	Dual Core MIPS @ 1.2 GHz, 512 MB flash, 8 GB DDR2 SDRAM	
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Reliability	**Availability**	99.999%
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 63 dB, High-speed fan: 75.8 dB
Electrical characteristics	**Frequency**	50/60 Hz

Technical Specifications

	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/60 A
	Power output	2500 W
	Notes	Based on common power supply 2,500 W (AC)
Safety	CAN/CSA 22.2 No. 60950-1; FCC Part 15, Subpart B; FDA 21 CFR Subchapter J; ROHS Compliance; IEC 60950-1 :Second Edition ; EN 60950-1:2006 + A11:2009; AS/NZS 60950-1; IEC 60825-1; UL 60950-1, 2nd Edition; EN60825-2:2004+A1:2007	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR22 Class A; FCC (CFR 47, Part 15) Class A; GB9254	
Immunity	**Generic**	Directive 2004/108/EC
	EN	EN 55024:1998+ A1:2001 + A2:2003; ETSI EN 300 386 V1.3.3
	ESD	EN 61000-4-2
	Radiated	EN 61000-4-3
	EFT/Burst	EN 61000-4-4
	Surge	EN 61000-4-5
	Conducted	EN 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	IMC - Intelligent Management Center; command-line interface; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Notes	RFCs supported only in Comware v7: 1541, 1542, 1981, 2080, 2460, 2464, 2473, 2474, 2545, 2711, 2863, 2868, 3315, 3413, 3416, 3484, 3575, 3736, 3810, 3956, 4123, 4271, 4291, 4292, 4293, 4443, 4552, 4607, 4659, 4798, 4861, 4862, 5080, 5095, 5340, 5492, 5905 and 6192 Throughput: up to 5.7 Bpps Type D and 1.9 Bpps Type B Fabric; switching capacity: up to 9.3 Tbps Type D and 4.2 Tbps Type B Fabric; routing table: up to 256K/64K IPv4/IPv6 with the EC LPU; MAC address table: up to 256K with the EC LPU.	
Services	Refer to the Hewlett Packard Enterprise website at: **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE FlexNetwork 10508-V Switch Chassis (JC611A)

I/O ports and slots	8 I/O module slots Supports a maximum of 384 10GbE ports or 192 1/10GBASE-T ports or 384 Gigabit Ethernet ports or 64 40GbE ports or 16 100GbE ports or a combination	
Additional ports and slots	2 MPU (for management modules) slots 4 switch fabric slots	
Power supplies	6 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JC634A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.32(w) x 25.98(d) x 34.88(h) in (43.99 x 65.99 x 88.6 cm) (20U height)

Technical Specifications

	Weight	169.53 lb (76.9 kg)
	Full configuration weight	331.31 lb (150.28 kg)
Memory and processor	Dual Core MIPS @ 1.2 GHz, 512 MB flash, 8 GB DDR2 SDRAM	
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Reliability	**Availability**	99.999%
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 61.6 dB, High-speed fan: 72.6 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/60 A
	Power output	2500 W
	Notes	Based on common power supply 2,500 W (AC)
Safety	CAN/CSA 22.2 No. 60950-1; FCC Part 15, Subpart B; FDA 21 CFR Subchapter J; ROHS Compliance; IEC 60950-1 :Second Edition ; EN 60950-1:2006 + A11:2009; AS/NZS 60950-1; IEC 60825-1; UL 60950-1, 2nd Edition; EN60825-2:2004+A1:2007	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR22 Class A; FCC (CFR 47, Part 15) Class A; GB9254	
Immunity	**Generic**	Directive 2004/108/EC
	EN	EN 55024:1998+ A1:2001 + A2:2003; ETSI EN 300 386 V1.3.3
	ESD	EN 61000-4-2
	Radiated	EN 61000-4-3
	EFT/Burst	EN 61000-4-4
	Surge	EN 61000-4-5
	Conducted	EN 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	IMC - Intelligent Management Center; command-line interface; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Notes	RFCs supported only in Comware v7: 1541, 1542, 1981, 2080, 2460, 2464, 2473, 2474, 2545, 2711, 2863, 2868, 3315, 3413, 3416, 3484, 3575, 3736, 3810, 3956, 4123, 4271, 4291, 4292, 4293, 4443, 4552, 4607, 4659, 4798, 4861, 4862, 5080, 5095, 5340, 5492, 5905 and 6192	

Technical Specifications

	Throughput: up to 5.7 Bpps Type D and 1.9 Bpps Type B Fabric; switching capacity: up to 9.3 Tbps Type D and 4.2 Tbps Type B Fabric; routing table: up to 256K/64K IPv4/IPv6 with the EC LPU; MAC address table: up to 256K with the EC LPU
Services	Refer to the Hewlett Packard Enterprise website at: **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE FlexNetwork 10512 Switch Chassis (JC748A)		
I/O ports and slots	12 I/O module slots Supports a maximum of 576 10GbE ports or 288 1/10GBASE-T ports or 576 Gigabit Ethernet ports or 96 40GbE ports or 24 100GbE ports or a combination	
Additional ports and slots	2 MPU (for management modules) slots 4 switch fabric slots	
Power supplies	6 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JC758A, JC773A 2 fan tray slots	
Physical characteristics	**Dimensions**	17.32(w) x 25.98(d) x 31.38(h) in (44.0 x 66.0 x 79.7 cm) (18U height)
	Weight	166.23 lb (75.4 kg)
	Full configuration weight	380.95 lb (172.8 kg)
Memory and processor	Dual Core MIPS @ 1.2 GHz, 512 MB flash, 8 GB DDR2 SDRAM	
Mounting and enclosure	Mounts in an EIA standard 19-inch rack or other equipment cabinet (hardware included); Horizontal surface mounting only	
Reliability	**Availability**	99.999%
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Nonoperating/Storage relative humidity	5% to 95%, noncondensing
	Altitude	up to 13,123 ft (4 km)
	Acoustic	Low-speed fan: 66 dB, High-speed fan: 79 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/60 A
	Power output	2500 W
	Notes	Based on common power supply 2,500 W (AC)
Safety	CAN/CSA 22.2 No. 60950-1; FCC Part 15, Subpart B; FDA 21 CFR Subchapter J; ROHS Compliance; IEC 60950-1 :Second Edition ; EN 60950-1:2006 + A11:2009; AS/NZS 60950-1; IEC 60825-1; UL 60950-1, 2nd Edition; EN60825-2:2004+A1:2007	
Emissions	VCCI Class A; EN 55022 Class A; CISPR 22 Class A; IEC/EN 61000-3-2; IEC/EN 61000-3-3; ICES-003 Class A; AS/NZS CISPR22 Class A; FCC (CFR 47, Part 15) Class A; GB9254	
Immunity	**Generic**	Directive 2004/108/EC
	EN	EN 55024:1998+ A1:2001 + A2:2003; ETSI EN 300 386 V1.3.3
	ESD	EN 61000-4-2

Technical Specifications

	Radiated	EN 61000-4-3
	EFT/Burst	EN 61000-4-4
	Surge	EN 61000-4-5
	Conducted	EN 61000-4-6
	Power frequency magnetic field	IEC 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	IMC - Intelligent Management Center; command-line interface; out-of-band management (serial RS-232C); SNMP Manager; Telnet; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	
Notes	RFCs supported only in Comware v7: 1541, 1542, 1981, 2080, 2460, 2464, 2473, 2474, 2545, 2711, 2863, 2868, 3315, 3413, 3416, 3484, 3575, 3736, 3810, 3956, 4123, 4271, 4291, 4292, 4293, 4443, 4552, 4607, 4659, 4798, 4861, 4862, 5080, 5095, 5340, 5492, 5905 and 6192 Throughput: up to 8.6 Bpps Type D and 2.9 Bpps Type B Fabric; switching capacity: up to 13.8 Tbps Type D and 6.0 Tbps Type B Fabric; routing table: up to 256K/64K IPv4/IPv6 with the EC LPU; MAC address table: up to 256K with the EC LPU.	
Services	Refer to the Hewlett Packard Enterprise website at: **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	
Standards and protocols (applies to all products in series)	**BGP** RFC 1771 BGPv4 RFC 1772 Application of the BGP RFC 1997 BGP Communities Attribute RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing RFC 2385 BGP Session Protection via TCP MD5 RFC 2439 BGP Route Flap Damping RFC 2796 BGP Route Reflection RFC 2858 BGP-4 Multi-Protocol Extensions RFC 2918 Route Refresh Capability RFC 3065 Autonomous System Confederations for BGP RFC 3392 Capabilities Advertisement with BGP-4 RFC 4271 A Border Gateway Protocol 4 (BGP-4) RFC 4272 BGP Security Vulnerabilities Analysis RFC 4273 Definitions of Managed Objects for BGP-4 RFC 4274 BGP-4 Protocol Analysis RFC 4275 BGP-4 MIB Implementation Survey RFC 4276 BGP-4 Implementation Report RFC 4277 Experience with the BGP-4 Protocol RFC 4360 BGP Extended Communities Attribute RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) RFC 5291 Outbound Route Filtering Capability for BGP-4 RFC 5292 Address-Prefix-Based Outbound Route Filter for BGP-4 RFC 5492 Capabilities Advertisement with BGP-4	RFC 2464 Transmission of IPv6 over Ethernet Networks RFC 2473 Generic Packet Tunneling in IPv6 RFC 2526 Reserved IPv6 Subnet Anycast Addresses RFC 2529 Transmission of IPv6 Packets over IPv4 RFC 2545 Use of MP-BGP-4 for IPv6 RFC 2553 Basic Socket Interface Extensions for IPv6 RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2740 OSPFv3 for IPv6 RFC 2767 Dual stacks IPv46 & IPv6 RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers RFC 3056 Connection of IPv6 Domains via IPv4 Clouds RFC 3307 IPv6 Multicast Address Allocation RFC 3315 DHCPv6 (client and relay) RFC 3484 Default Address Selection for IPv6 RFC 3513 IPv6 Addressing Architecture RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6 RFC 3810 MLDv2 for IPv6 RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) RFC 4861 IPv6 Neighbor Discovery RFC 4862 IPv6 Stateless Address Auto-configuration	

Technical Specifications

Denial of service protection
RFC 2267 Network Ingress Filtering
RFC 6192: Protecting the Router Control Plane
Automatic filtering of well-known denial-of-service packets
CPU DoS Protection
Rate Limiting by ACLs

Device management
RFC 1157 SNMPv1/v2c
RFC 1305 NTPv3
RFC 1902 (SNMPv2)
RFC 2579 (SMIv2 Text Conventions)
RFC 2580 (SMIv2 Conformance)
RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
Telnet
Multiple Configuration Files
Multiple Software Images
SSHv1/SSHv2 Secure Shell
TACACS/TACACS+

General protocols
IEEE 802.1ad Q-in-Q
IEEE 802.1ag Service Layer OAM
IEEE 802.1AX-2008 Link Aggregation
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1s Multiple Spanning Trees
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.1X PAE
IEEE 802.3ab 1000BASE-T
IEEE 802.3ac (VLAN Tagging Extension)
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF
IEEE 802.3ba 40 and 100 Gigabit Ethernet Architecture
IEEE 802.3x Flow Control
IEEE 802.3z 1000BASE-X
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 894 IP over Ethernet
RFC 903 RARP
RFC 906 TFTP Bootstrap
RFC 925 Multi-LAN Address Resolution
RFC 950 Internet Standard Subnetting Procedure

MIBs
RFC 1156 (TCP/IP MIB)
RFC 1157 A Simple Network Management Protocol
(SNMP)
RFC 1215 A Convention for Defining Traps for use with the SNMP
RFC 1229 Interface MIB Extensions
RFC 1493 Bridge MIB
RFC 1573 SNMP MIB II
RFC 1643 Ethernet MIB
RFC 1657 BGP-4 MIB
RFC 1724 RIPv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP
RFC 2012 SNMPv2 MIB for TCP
RFC 2013 SNMPv2 MIB for UDP
RFC 2096 IP Forwarding Table MIB
RFC 2233 Interface MIB
RFC 2452 IPV6-TCP-MIB
RFC 2454 IPV6-UDP-MIB
RFC 2465 IPv6 MIB
RFC 2466 ICMPv6 MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2578 Structure of Management Information Version 2 (SMIv2)
RFC 2580 Conformance Statements for SMIv2
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 2787 VRRP MIB
RFC 2819 RMON MIB
RFC 2863 The Interfaces Group MIB
RFC 2925 Ping MIB
RFC 2932IP (Multicast Routing MIB)
RFC 2933 IGMP MIB
RFC 2934 Protocol Independent Multicast MIB for IPv4
RFC 3414 SNMP-User based-SM MIB
RFC 3415 SNMP-View based-ACM MIB
RFC 3417 Simple Network Management Protocol (SNMP) over IEEE 802 Networks
RFC 3418 MIB for SNMPv3
RFC 3595 Textual Conventions for IPv6 Flow Label
RFC 3621 Power Ethernet MIB
RFC 3813 MPLS LSR MIB
RFC 3814 MPLS FTN MIB
RFC 3815 MPLS LDP MIB
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)

Technical Specifications

RFC 959 File Transfer Protocol (FTP)
RFC 1027 Proxy ARP
RFC 1035 Domain Implementation and Specification
RFC 1042 IP Datagrams
RFC 1058 RIPv1
RFC 1142 OSI IS-IS Intra-domain Routing Protocol
RFC 1195 OSI ISIS for IP and Dual Environments
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
RFC 1256 ICMP Router Discovery Protocol (IRDP)
RFC 1293 Inverse Address Resolution Protocol
RFC 1305 NTPv3
RFC 1350 TFTP Protocol (revision 2)
RFC 1393 Traceroute Using an IP Option
RFC 1519 CIDR
RFC 1531 Dynamic Host Configuration Protocol
RFC 1533 DHCP Options and BOOTP Vendor Extensions
RFC 1541 DHCP
RFC 1542 BOOTP
RFC 1591 DNS (client only)
RFC 1624 Incremental Internet Checksum
RFC 1701 Generic Routing Encapsulation
RFC 1721 RIP-2 Analysis
RFC 1723 RIP v2
RFC 1812 IPv4 Routing
RFC 1981 Path MTU Discovery for IP version 6
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 2082 RIP-2 MD5 Authentication
RFC 2091 Trigger RIP
RFC 2131 DHCP
RFC 2138 Remote Authentication Dial In User Service (RADIUS)
RFC 2236 IGMP Snooping
RFC 2338 VRRP
RFC 2453 RIPv2
RFC 2460 IPv6
RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
RFC 2474 Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers
RFC 2644 Directed Broadcast Control
RFC 2711 IPv6 Router Alert Option
RFC 2763 Dynamic Name-to-System ID mapping support
RFC 2784 Generic Routing Encapsulation (GRE)
RFC 2865 Remote Authentication Dial In User Service (RADIUS)
RFC 2868 RADIUS Attributes for Tunnel Protocol Support
RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
RFC 2973 IS-IS Mesh Groups
RFC 3022 Traditional IP Network Address
RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)

MPLS
RFC 2205 Resource ReSerVation Protocol
RFC 2209 Resource ReSerVation Protocol (RSVP)
RFC 2702 Requirements for Traffic Engineering Over MPLS
RFC 2858 Multiprotocol Extensions for BGP-4
RFC 2961 RSVP Refresh Overhead Reduction Extensions
RFC 3031 Multiprotocol Label Switching Architecture
RFC 3032 MPLS Label Stack Encoding
RFC 3107 Carrying Label Information in BGP-4
RFC 3212 Constraint-Based LSP Setup using LDP
RFC 3479 Fault Tolerance for the Label Distribution
Protocol (LDP)
RFC 3487 Graceful Restart Mechanism for LDP
RFC 3564 Requirements for Support of Differentiated Service-aware MPLS Traffic Engineering
RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 4379 Detecting Multi-Protocol Label Switched
(MPLS) Data Plane Failures
RFC 4447 Pseudowire Setup and Maintenance Using LDP
RFC 4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks
RFC 4664 Framework for Layer 2 Virtual Private Networks
RFC 4665 Service Requirements for Layer 2 Provider Provisioned Virtual Private Networks
RFC 4761 Virtual Private LAN Service (VPLS) Using
BGP for Auto-Discovery and Signaling
RFC 4762 Virtual Private LAN Service (VPLS) Using
Label Distribution Protocol (LDP) Signaling
RFC 5036 LDP Specification

Network management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 1155 Structure of Management Information
RFC 1157 SNMPv1
RFC 1448 Protocol Operations for version 2 of the Simple Network Management Protocol (SNMPv2)
RFC 2211 Controlled-Load Network
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3176 sFlow

Technical Specifications

Translator (Traditional NAT)
RFC 3277 IS-IS Transient Blackhole Avoidance
RFC 3413 Simple Network Management Protocol (SNMP) Applications
RFC 3416 Protocol Operations for SNMP
RFC 3484 Default Address Selection for Internet Protocol version 6 (IPv6)
RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication
RFC 3575 IANA Considerations for RADIUS
RFC 3719 Recommendations for Interoperable Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3736 Stateless Dynamic Host Configuration Protocol (DHCP) Service for IPv6
RFC 3784 ISIS TE support
RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
RFC 3787 Recommendations for Interoperable IP Networks using Intermediate System to Intermediate System (IS-IS)
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
RFC 3847 Restart signaling for IS-IS
RFC 3956 Embedding the Rendezvous Point (RP) Address in an IPv6 Multicast Address
RFC 4123: Session Initiation Protocol (SIP)-H.323 Interworking Requirements
RFC 4251 The Secure Shell (SSH) Protocol Architecture
RFC 4271 A Border Gateway Protocol 4 (BGP-4)
RFC 4291 IP Version 6 Addressing Architecture
RFC 4292 IP Forwarding Table MIB
RFC 4293 Management Information Base for the Internet Protocol (IP)
RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification
RFC 4486 Subcodes for BGP Cease Notification Message
RFC 4552 Authentication/Confidentiality for OSPFv3
RFC 4607 Source-Specific Multicast for IP
RFC 4659 BGP-MPLS IP Virtual Private Network (VPN) Extension for IPv6 VPN
RFC 4798 Connecting IPv6 Islands over IPv4 MPLS Using IPv6 Provider Edge Routers (6PE)
RFC 4861 Neighbor Discovery for IP version 6 (IPv6)
RFC 4862 IPv6 Stateless Address Autoconfiguration
RFC 4884 Extended ICMP to Support Multi-Part Messages
RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6
RFC 5095 Deprecation of Type 0 Routing Headers
RFC 3411 SNMP Management Frameworks
RFC 3412 SNMPv3 Message Processing
RFC 3414 SNMPv3 User-based Security Model (USM)
RFC 3415 SNMPv3 View-based Access Control Model VACM)
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)

OSPF
RFC 1245 OSPF protocol analysis
RFC 1246 Experience with OSPF
RFC 1765 OSPF Database Overflow
RFC 1850 OSPFv2 Management Information Base (MIB), traps
RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)
RFC 2328 OSPFv2
RFC 2370 OSPF Opaque LSA Option
RFC 3101 OSPF NSSA
RFC 3137 OSPF Stub Router Advertisement
RFC 3623 Graceful OSPF Restart
RFC 3630 Traffic Engineering Extensions to OSPFv2
RFC 4061 Benchmarking Basic OSPF Single Router
Control Plane Convergence
RFC 4062 OSPF Benchmarking Terminology and Concepts
RFC 4063 Considerations When Using Basic OSPF Convergence Benchmarks
RFC 4222 Prioritized Treatment of Specific OSPF Version 2 Packets and Congestion Avoidance
RFC 4577 OSPF as the Provider/Customer Edge Protocol for BGP/MPLS IP Virtual Private Networks (VPNs)
RFC 4811 OSPF Out-of-Band LSDB Resynchronization
RFC 4812 OSPF Restart Signaling
RFC 4813 OSPF Link-Local Signaling
RFC 4940 IANA Considerations for OSPF

QoS/CoS
IEEE 802.1p (CoS)
RFC 1349 Type of Service in the Internet Protocol Suite
RFC 2211 Specification of the Controlled-Load Network Element Service
RFC 2212 Guaranteed Quality of Service
RFC 2474 DSCP DiffServ
RFC 2475 DiffServ Architecture
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF)

Security
IEEE 802.1X Port Based Network Access Control

Technical Specifications

in IPv6
RFC 5130 A Policy Control Mechanism in IS-IS Using Administrative Tags
RFC 5340 OSPF for IPv6
RFC 5492 Capabilities Advertisement with BGP-4
RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification

IP multicast
RFC 2236 IGMPv2
RFC 2283 Multiprotocol Extensions for BGP-4
RFC 2362 PIM Sparse Mode
RFC 3376 IGMPv3
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 3973 PIM Dense Mode
RFC 4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches
RFC 4601 PIM Sparse Mode
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4605 IGMP/MLD Proxying
RFC 4607 Source-Specific Multicast for IP
RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)

IPv6
RFC 1886 DNS Extension for IPv6
RFC 1887 IPv6 Unicast Address Allocation Architecture
RFC 1981 IPv6 Path MTU Discovery
RFC 2080 RIPng for IPv6
RFC 2081 RIPng Protocol Applicability Statement
RFC 2292 Advanced Sockets API for IPv6
RFC 2373 IPv6 Addressing Architecture
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 2462 IPv6 Stateless Address Auto-configuration
RFC 2463 ICMPv6

RFC 1321 The MD5 Message-Digest Algorithm
RFC 1334 PPP Authentication Protocols (PAP)
RFC 1492 TACACS+
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
RFC 2082 RIP-2 MD5 Authentication
RFC 2104 Keyed-Hashing for Message Authentication
RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP)
RFC 2409 The Internet Key Exchange (IKE)
RFC 2716 PPP EAP TLS Authentication Protocol
RFC 2865 RADIUS Authentication
RFC 2866 RADIUS Accounting
RFC 2868 RADIUS Attributes for Tunnel Protocol Support
RFC 2869 RADIUS Extensions
RFC 5080: Common Remote Authentication Dial In User Service (RADIUS) Implementation Issues and Suggested Fixes
Access Control Lists (ACLs)
Guest VLAN for 802.1X
MAC Authentication
Port Security
SSHv1/SSHv2 Secure Shell

VPN
RFC 2403 - HMAC-MD5-96
RFC 2404 - HMAC-SHA1-96
RFC 2405 - DES-CBC Cipher algorithm
RFC 2407 - Domain of interpretation
RFC 2547 BGP/MPLS VPNs
RFC 2917 A Core MPLS IP VPN Architecture
RFC 3947 - Negotiation of NAT-Traversal in the IKE
RFC 4302 - IP Authentication Header (AH)
RFC 4303 - IP Encapsulating Security Payload (ESP)

IPsec
RFC 1828 IP Authentication using Keyed MD5
RFC 1829 The ESP DES-CBC Transform
RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention
RFC 2401 IP Security Architecture
RFC 2402 IP Authentication Header
RFC 2406 IP Encapsulating Security Payload
RFC 2410 - The NULL Encryption Algorithm and its
use with IPsec
RFC 2411 IP Security Document Roadmap

Accessories

HPE FlexNetwork 10500 Switch Series accessories

Modules

HPE 10500 Type A Main Processing Unit with Comware v7 Operating System	JG496A
HPE FlexNetwork 10500 48-port 10GbE SFP+ SF Module	JC756A
HPE FlexNetwork 10500 24-port 1/10GBASE-T SF Module	JG394A
HPE FlexNetwork 10500 48-port 1000BASE-T SE Module	JH192A
HPE FlexNetwork 10500 16-port 1/10GbE SFP+ SF Module	JH193A
HPE FlexNetwork 10500 48-port 1/10GbE SFP+ SG Module	JH197A
HPE FlexNetwork 10500 Type D with Comware v7 Operating System Main Processing Unit	JH198A
HPE FlexNetwork 10500 44-port GbE SFP/4-port 10GbE SFP+ SE Module	JH191A
HPE FlexNetwork 10500 32-port 10GbE SFP/SFP+/4-port 40GbE QSFP+ M2SG Module	JH432A
HPE FlexNetwork 10500 48-port 10GbE SFP/SFP+ with MACsec M2SG Module	JH433A
HPE FlexNetwork 10500 12-port 40GbE QSFP28 M2SG Module	JH434A

Transceivers

HPE X115 100M SFP LC FX Transceiver	JD102B
HPE X110 100M SFP LC LX Transceiver	JD120B
HPE X110 100M SFP LC LH40 Transceiver	JD090A
HPE X110 100M SFP LC LH80 Transceiver	JD091A
HPE X115 100M SFP LC BX 10-U Transceiver	JD100A
HPE X115 100M SFP LC BX 10-D Transceiver	JD101A
HPE X120 1G SFP RJ45 T Transceiver	JD089B
HPE X120 1G SFP LC SX Transceiver	JD118B
HPE X120 1G SFP LC LX Transceiver	JD119B
HPE X125 1G SFP LC LH40 1310nm Transceiver	JD061A
HPE X120 1G SFP LC LH40 1550nm Transceiver	JD062A
HPE X125 1G SFP LC LH70 Transceiver	JD063B
HPE X120 1G SFP LC LH100 Transceiver	JD103A
HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
HPE X120 1G SFP LC BX 10-U Transceiver	JD098B
HPE X170 1G SFP LC LH70 1510 Transceiver	JD115A
HPE X170 1G SFP LC LH70 1550 Transceiver	JD109A
HPE X170 1G SFP LC LH70 1570 Transceiver	JD110A
HPE X170 1G SFP LC LH70 1590 Transceiver	JD111A
HPE X170 1G SFP LC LH70 1610 Transceiver	JD112A
HPE X130 10G SFP+ LC SR Transceiver	JD092B
HPE X130 10G SFP+ LC LRM Transceiver	JD093B
HPE X130 10G SFP+ LC LR Transceiver	JD094B
HPE X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE X130 10G SFP+ LC LH 80km Transceiver	JG915A
HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
HPE X130 10G XFP LC SR Transceiver	JD117B
HPE X130 10G XFP LC LR Single Mode 10km 1310nm Transceiver	JD108B

Accessories

HPE X135 10G XFP LC ER Transceiver	JD121A
HPE X130 10G XFP LC ZR Single Mode 80km 1550nm Transceiver	JD107A
HPE X180 10G XFP LC LH 80km 1538.98nm DWDM Transceiver	JG226A
HPE X180 10G XFP LC LH 80km 1539.77nm DWDM Transceiver	JG227A
HPE X180 10G XFP LC LH 80km 1542.94nm DWDM Transceiver	JG230A
HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
HPE X140 40G CFP LC LR4 10km SM Transceiver	JC857A
HPE X140 40G CFP LC LR4 10km SM Transceiver	JC857A
HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A

Power Supply

HPE FlexNetwork 10500 2500W AC Power Supply	JC610A
HPE FlexNetwork 10500 2400W DC Power Supply	JC747A

Mounting Kit

HPE X421 Chassis Universal 4-post Rackmount Kit	JC665A

HPE FlexNetwork 10504 Switch Chassis (JC613A)

HPE FlexNetwork 10504 880Gbps Type B Fabric Module	JC751A
HPE FlexNetwork 10504 1.2Tbps Type D Fabric Module	JC752A
HPE FlexNetwork 10504 Spare Fan Assembly	JC632A

HPE FlexNetwork 10508 Switch Chassis (JC612A)

HPE FlexNetwork 10508/10508-V 1.04Tbps Type B Fabric Module	JC753A
HPE FlexNetwork 10508/10508-V 2.32Tbps Type D Fabric Module	JC754A
HPE FlexNetwork 10508 Spare Fan Assembly	JC633A

HPE FlexNetwork 10508-V Switch Chassis (JC611A)

HPE FlexNetwork 10508/10508-V 1.04Tbps Type B Fabric Module	JC753A
HPE FlexNetwork 10508/10508-V 2.32Tbps Type D Fabric Module	JC754A
HPE FlexNetwork 10508-V Spare Fan Assembly	JC634A

HPE FlexNetwork 10512 Switch Chassis (JC748A)

HPE FlexNetwork 10512 1.52Tbps Type B Fabric Module	JC749A
HPE FlexNetwork 10512 3.44Tbps Type D Fabric Module	JC750A
HPE FlexNetwork 10512 Spare Top Fan Tray Assembly	JC758A
HPE FlexNetwork 10512 Spare Bottom Fan Tray Assembly	JC773A

Accessory Product Details

NOTE: Details are not available for all accessories. The following specifications were available at the time of publication.

Transceivers

HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A) A small form-factor pluggable SFP Gigabit LH40 transceiver that provides a full duplex Gigabit solution up to 40km on a single-mode fiber.	**Ports**	1 LC 1000Base-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
		Wavelength	1310 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance	
		Fiber type	Single Mode
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	
HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A) A small form-factor pluggable (SFP) Gigabit LH40 transceiver that provides a full-duplex Gigabit solution up to 40 km on a single mode fiber.	**Ports**	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	Connector type	LC
		Wavelength	1550 nm
	Physical characteristics	Dimensions	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	Power consumption typical	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 40km distance	
		Fiber type	Single Mode
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and	

Accessory Product Details

			response times in your area, please contact your local Hewlett Packard Enterprise sales office.
HPE X125 1G SFP LC LH70 Transceiver (JD063B) A small form-factor pluggable (SFP) Gigabit LH70 transceiver that provides a full-duplex Gigabit solution up to 70km on a single-mode fiber.	**Ports**	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	**Connector type**	LC
		Wavelength	1550 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • 70km	
		Fiber type	Single Mode
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE X120 1G SFP RJ45 T Transceiver (JD089B) A small form factor pluggable (SFP) Gigabit 1000Base-T transceiver that provides a full duplex Gigabit solution up to 100m on a Cat-5+ cable.	**Ports**	1 RJ-45 1000BASE-T port (IEEE 802.3ab Type 1000BASE-T)	
	Connectivity	**Connector type**	RJ-45
	Physical characteristics	**Dimensions**	2.71(d) x 0.54(w) x 0.55(h) in. (6.88 x 1.37 x 1.4 cm)
		Full configuration weight	0.07 lb. (0.03 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: 1000BASE-T: Category 5 (5E or better recommended), 100 Ù differential 4-pair unshielded twisted pair (UTP) or shielded twisted pair (STP) balanced, complying with IEEE 802.3ab 1000BASE-T; Maximum distance: • 100m	
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE X120 1G SFP LC BX 10-U Transceiver (JD098B)	**Ports**	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-U); Duplex: full only	
	Connectivity	**Connector type**	LC
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)

Accessory Product Details

A small form-factor pluggable (SFP) Gigabit LX-BX10-U transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.		**Full configuration weight**	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • 10km	
		Fiber type	Single Mode
	Notes	TX 1310nm RX 1490nm	
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE X120 1G SFP LC BX 10-D Transceiver (JD099B) A small form-factor pluggable (SFP) Gigabit LX-BX10-D transceiver that provides a full duplex Gigabit solution up to 10km on a single mode cable.	**Ports**	1 LC 1000BASE-BX10 port (IEEE 802.3ah Type 1000BASE-BX10-D); Duplex: full only	
	Connectivity	**Connector type**	LC
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • Up to 10km	
		Fiber type	Single Mode
	Notes	TX 1490nm RX 1310nm	
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

HPE X120 1G SFP LC LH100 Transceiver (JD103A) A small form factor pluggable (SFP) Gigabit LH100 transceiver that provides a full-duplex Gigabit solution up to 100km on a single mode fiber.	**Ports**	1 LC 1000BASE-LH port (no IEEE standard exists for 1550 nm optics)	
	Connectivity	**Connector type**	LC
		Wavelength	1550 nm
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Single-mode fiber optic, complying with ITU-T G.652; Maximum distance: • Up to 100km	
		Fiber type	Single Mode

Accessory Product Details

	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	
HPE X120 1G SFP LC SX Transceiver (JD118B) A small form-factor pluggable (SFP) Gigabit SX transceiver that provides a full-duplex Gigabit solution up to 550m on a Multimode fiber.	**Ports**	1 LC 1000BASE-SX port	
	Connectivity	**Connector type**	LC
		Wavelength	850 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Maximum distance: • FDDI Grade distance = 220m • OM1 = 275m • OM2 = 500m • OM3 = Not Specified by standard	
		Cable length	up to 550m
		Fiber type	Multi Mode
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	
HPE X120 1G SFP LC LX Transceiver (JD119B) A small form-factor pluggable (SFP) Gigabig LX transceiver that provides a full duplex Gigabit solution up to 550m on MMF or 10Km on SMF	**Ports**	1 SFP 1000BASE-LX port (IEEE 802.3z Type 1000BASE-LX)	
	Connectivity	**Connector type**	LC
		Wavelength	1300 nm
	Physical characteristics	**Dimensions**	2.17(d) x 0.6(w) x 0.46(h) in. (5.51 x 1.52 x 1.17 cm)
		Full configuration weight	0.04 lb. (0.02 kg)
	Electrical characteristics	**Power consumption typical**	0.8 W
		Power consumption maximum	1.0 W
	Cabling	Cable type: Either single mode or multimode; Maximum distance: • 550m for Multimode • 10km for Singlemode	
		Fiber type	Both
	Services	Refer to the Hewlett Packard Enterprise website at **http://www.hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and	

Accessory Product Details

response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Summary of Changes

Date	Version History	Action	Description of Change:
02-Jul-2018	Version 41	Changed	Overview, Configuration and Accessories updated
20-Jan-2017	Version 40	Changed	Minor edits made on Features and benefits and Configuration section
05-Dec-2016	Version 39	Added	SKUs added: JH432A; JH433A; JH434A
27-May-2016	Version 38	Changed	Document name changed to HPE FlexNetwork 10500 Switch Series Product description updated.
11-Mar-2016	Version 37	Changed	Overview, Features and benefits, Configuration, Technical Specifications and Accessories were updated
15-Jan-2016	Version 36	Changed	Technical Specifications and Features and Benefits updated
01-Dec-2015	Version 35	Changed	Overview and Features and Benefits updated
02-Oct-2015	Version 34	Changed	Changes made on the document
22-Sep-2015	Version 33	Changed	Changes made on Features and benefits
11-Sep-2015	Version 32	Changed	Changes made on Configuration Section
17- Aug-2015	Version 31	Added	Modules added: JH192A, JH193A, JH194A, JH195A, JH196A, JH197A, JH198A, JH191A
		Changed	Changes made on Standard Protocols and Technical Specifications
30-Mar-2015	Version 30	Added	Transceiver added: JG915A
		Changed	Technical Specification and Overview section were updated
23-Dec-2014	Version 29	Changed	Standards and protocols updated.
12-Dec-2014	Version 28	Deleted	Deleted SKU JG325A
21-Oct-2014	Version 27	Changed	Minor update made on Layer 2 switching
22-Aug-2014	Version 26	Changed	Key Features and Performance data on Technical Specifications changed.
18-Aug-2014	Version 25	Added	Added Software-defined networking on Overview section New accessory added: JG916A
15-Apr-2014	Version 24	Changed	Management Modules was revised in Configuration.
31-Mar-2014	Version 23	Changed	Transceivers were revised.
19-Mar-2014	Version 22	Changed	Transceivers were revised in Configuration.
09-Dec-2013	Version 20	Changed	Changes made in the Overview, Technical Specifications, and Accessories sections.
18-Oct-2013	Version 19	Changed	Configuration was revised.
30-Sep-2013	Version 18	Added	HP 10500/11900/7500 20Gbps VPN FW Mod was added to Interface Modules HP 10500 Type A MPU w/Comware v7 OS was added to Management Modules
09-Aug-2013	Version 17	Changed	Internal Power Supplies was revised in Configuration.
12-Jul-2013	Version 16	Changed	Modules and Internal Power Supplies were revised in Configuration.
10-Jun-2013	Version 15	Changed	Standard Switch Chassis power supply, Configuration Rules in Internal Power Supplies and Fabric Modules, and Software Licenses were revised in Configuration. HP 10508-V Switch Chassis and HP 10512 Switch Chasses were added to Box Level Integration CTO Models and HP 10500/7500 20G Unifd Wrd-WLAN TAA Mod was added to Interface Modules in Configuration
22-May-2013	Version 14	Changed	Corrections were made to the Configuration section.
20-May-2013	Version 13	Changed	Minor corrections were made to the Configuration section.

Summary of Changes

03-Apr-2013	Version 12	Removed	Removed an unsupported module spec from Accessory Product Details.
26-Mar-2013	Version 11	Changed	Corrected an image at the beginning of the document.
19-Mar-2013	Version 10	Changed	Corrected the new Configuration section.
27-Feb-2013	Version 9	Changed	The formatting of the new Configuration section was revised.
19-Feb-2013	Version 8	Added	The configuration section was added as well as several images.
		Changed	Product overview, Features and benefits, Model specifications, and Accessories were revised.
04-Dec-2012	Version 7	Changed	Changes were made throughout the document. Several new accessories were added.
30-May-2012	Version 6	Changed	Corrected the names for several of the accessories that are specific to each model.
14-May-2012	Version 5	Changed	Features and Benefits, Accessories, and the weight and dimensions for each spec were revised.
23-Mar-2012	Version 4	Changed	Removed an incorrect item from the Features and Benefits section.
13-Feb-2012	Version 3	Changed	Updated the Features and Benefits and Options sections.
14-Oct-2011	Version 2	Changed	Features and Benefits and Services were revised.
26-Sep-2011	Version 1	Created	Document creation

Summary of Changes

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