Overview

HPE FlexNetwork 7500 Switch Series

The HPE FlexNetwork 7500 Switch Series comprises modular, multilayer chassis switches that meet the evolving needs of integrated services networks. The switches can be deployed in multiple network environments, including the enterprise LAN core, aggregation layer, and wiring closet edge.

They offer 40GbE connectivity and cost-effective, wire-speed 10GbE ports to safeguard the throughput and bandwidth needed for your mission-critical data and high-speed communications. A passive backplane, support for load sharing, and redundant management and fabrics help the switch series provide high availability.

Moreover, these switches deliver wire-speed Layer 2 and Layer 3 routing services for the most demanding applications with hardware-based IPv4 and IPv6 support.

HPE FlexNetwork 7500 Switch Series

Models

HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH333A
HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH332A
HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH331A
HPE FlexNetwork 7510 Switch Chassis	JD238C
HPE FlexNetwork 7506 Switch Chassis	JD239C
HPE FlexNetwork 7503 Switch Chassis	JD240C

Key features

- Versatile, high-performance modular switches
- Enterprise LAN core, aggregation, and edge
- Extensive switching and routing, IPv6, and multiprotocol label switching (MPLS)
- Advanced functionality with service modules
- Robust network and service virtualization

Standard Features

Features and benefits

Management

- **Management interface control**
  provides management access through a modem port and terminal interface, as well as in-band and out-of-band Ethernet ports; provides access through terminal interface, Telnet, or secure shell (SSH)
- **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; supports events, alarm, history, and statistics group plus 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 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

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)

Standard Features

Resiliency and high availability

- **Redundant/load-sharing fabrics, management, fan assemblies, and power supplies**
  increase total performance and power availability while providing hitless, stateful failover
- **All hot-swappable modules**
  Allows replacement of modules without any impact on other modules
- **Dual internal power supply**
  provides high reliability
- **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
- **IEEE 802.3ad link-aggregation control protocol (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
- **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 (RRPP)**
  Provides standard sub-100 ms recovery for a ring Ethernet-based topology
- **Virtual Router Redundancy Protocol (VRRP)**
  allows a group of routers to dynamically back each other up to create highly available routed environments
- **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 with standards-based failure detection—bidirectional forwarding detection**
  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 50 ms failover between links
- **IP/LDP FRR**
  nodes are configured with backup ports, routes, and LSPs; local implementation requires no cooperation of adjacent devices, simplifying the deployment; solves the traditional convergence faults in IP forwarding and MPLS forwarding, protecting the links, nodes, and paths without establishing respective backup LSPs for them; realizes restoration within 50 ms, with the restoration time independent of the number of routes and fast link switchovers, without route convergence
- **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.

Performance

- **High-speed fully distributed architecture**
  Supports a maximum of 4,160 Gb/s switching capacity, providing enhanced performance and future expansion capability; delivers up to 2,380 Mp/s throughput with dual fabrics; performs all switching and routing functions in the I/O modules; and meets the current and future demand of an enterprise's bandwidth-intensive applications
- **Scalable system design**
  Provides investment protection to support future technologies and higher-speed connectivity with a backplane designed to accommodate bandwidth increases
- **Flexible chassis selection**
  Enables you to tailor your product selections to your budget with a choice of six chassis, ranging from a 10-slot to a 2-slot chassis

Standard Features

Layer 2 switching

- **VLAN**
  Supports up to 4,096 port-based or IEEE 802.1Q-based VLANs; and supports MAC-based VLANs, protocol-based VLANs, and
  IP-subnet-based VLANs for added flexibility
- **Port isolation**
  increases security by isolating ports within a VLAN while still allowing them to communicate with other VLANs
- **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
- **Port mirroring**
  Duplicates port traffic (ingress and egress) to a local or remote monitoring port; and supports four mirroring groups, with an unlimited number of ports per group
- **Spanning Tree Protocol (STP)**
  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
- **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 802.1ad 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
- **Super VLAN**
  Saves IP address space, using RFC 3069 standard (also called VLAN aggregation)
- **Per-VLAN Spanning Tree Plus (PVST+)**
  allows each VLAN to build a separate spanning tree to improve link bandwidth usage in network environments with multiple VLANs

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

Standard Features

Intrusion detection/prevention system (IDS/IPS)

- **Deep packet inspection**
  module supports deep packet inspection and examines the packet payload as well as the frame and packet headers; packets are dropped if attacks or intrusions are detected using signature-based or protocol anomaly-based detection
- **Signature-based detection**
  detects attacks that have known attack patterns; IPS maintains a signature database that contains the pattern definitions for known attacks that can be updated automatically using a subscription service
- **Protocol anomaly-based detection**
  detects attacks that use anomalies in application protocol payloads
- **Severity-based action policies**
  involve action taken against attacks based on their severity; available actions are "allow," "block," and "terminate connection" to provide appropriate mitigation
- **Signature update service**
  provides regular updates to the signature database, helping to ensure that the latest available signatures are installed

Connectivity

- **High-density port connectivity**
  Provides up to 10 interface module slots and up to 40 40GbE ports, 84 10GbE ports, 480 Fiber Gigabit ports, or 480 PoE-enabled ports per HPE 7500 Switch Series system
- **Jumbo frames**
  Allow high-performance remote backup and disaster-recovery systems with up to 9,216 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**
  Includes 100/1000BASE-X auto speed selection, 10/100/1000BASE-T auto speed detection, as well as auto duplex and MDI/MDI-X
- **Monitor link**
  collects statistics on performance and errors on physical links, increasing system availability
- **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
- **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
- **IEEE 802.3at Power over Ethernet (PoE+) support**
  provides up to 30 watts of power at the power sourcing equipment (PSE)

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 20 Gb/s firewall module**
  Provides enhanced stateful packet inspection and filtering; supports flexible security zones and virtual firewall containment; offers advanced VPN services with 3DES and AES encryption at high performance and low latency; facilitates Web content filtering; and enables application prioritization and optimization

Standard Features

Layer 3 routing

- **Static IPv4 routing**
  provides simple manually configured IPv4 routing
- **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; and 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
- **IPv6 tunneling**
  allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels; is an important element for the transition from IPv4 to IPv6
- **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, which reduces complexity and increases 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

Standard Features

- **Service loopback**
  allows any module to take advantage of higher-featured modules, including OAA modules, by redirecting traffic; reduces investment and enables higher bandwidth and load sharing; supports IPv6, IPv6 multicast, tunneling, and MPLS

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**
  enables DHCP clients to receive IP addresses from authorized DHCP servers and maintains a list of DHCP entries for trusted ports; prevents users from receiving fake IP addresses and reduces ARP attacks, improving security
- **IP source guard**
  filters packets on a per-port basis to prevent 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 support**
  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
- **Port isolation**
  secures and adds privacy, and prevents malicious attackers from obtaining user information
- **IEEE 802.1AE MACsec**
  provides switch-to-host with IEEE 802.1X or switch-to-switch hardware encryption, and authentication. Requires Comware v7 with specific hardware only. Refer to the hardware manuals for details.

Standard Features

Additional information

- **Green initiative support**
  provides support for RoHS and WEEE regulations
- **Low power-consumption switch**
  Is rated among the switches with the lowest power consumption in the industry by Miercom independent tests
- **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
- **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

Convergence

- **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
- **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
- **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 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

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 etwork
- **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

Standard Features

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 a 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.

Warranty and support

- **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 Information

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.

BTO Models

Rule #	Description	SKU
1, 2, 3	HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP/SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 10U - Height	JH331A
1, 2, 3	HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP/SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 13U - Height	JH332A
1, 2, 3	HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP or SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 16U - Height	JH333A
	HPE FlexNetwork 7503 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 4U - Height	JD240C
	HPE FlexNetwork 7506 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 13U - Height	JD239C
	HPE FlexNetwork 7510 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 16U - Height	JD238C
	Configuration Rules	
1	The following Transceivers install into this Module: (Use BTO only when adding to switch)	
	HPE X120 1G SFP LC LH100 Transceiver	JD103A
	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 X120 1G SFP LC BX 10-U Transceiver	JD098B
	HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
	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

Configuration Information

2	The following 40G Transceivers install into this Module: (Use BTO only when adding to switch)	
	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 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
3	The following Transceivers install into this Module: (Use BTO only when adding to switch)	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	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 X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
	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
NOTE::	BTO Model 1s should never receive a 0D1 and therefore cannot be factory integrated into a rack.	

Rack Level Integration CTO Models

Rule #	Description	SKU
2,3,4	HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP/SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 10U – Height	JH331A
2,3,4	HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP/SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 13U – Height	JH332A
3,4	HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle • Must select min 1 Power Supply • 2 - JH209A included • min=0 \ max=16 SFP or SFP + Transceivers • Min=0 \ Max = 4 QSFP Transceiver • 16U - Height	JH333A
2,3,4	HPE FlexNetwork 7503 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 10U - Height	JD240C

Configuration Information

2,3,4	HPE FlexNetwork 7506 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 13U - Height	JD239C
2,3,4	HPE FlexNetwork 7510 Switch Chassis • Must select min 1 Power Supply • Must select Min 1 Fabric Module • 16U - Height	JD238C
	Configuration Rules	
Rule #	**Description**	**SKU**
2	If this Switch Chassis is selected at least one of these Power Supplies is required: (Use #0D1 if switch is CTO)	
	HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
3	If HPE CTO Switch Chassis is selected to be Rack Level Integration, Then the CTO Switch Chassis needs to integrate (with #0D1) to the P9K48A HPE Universal Rack Only. (Default to the P9K48A)	
4	If this Switch Chassis is selected at least one of these Power Supplies is required: (Use #0D1 if switch is CTO)	
	HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
	HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
	HPE FlexNetwork 7500 2800W AC Power Supply	JD219A

Modules

Rule #	**Description**	**SKU**
	Fabric Modules	
	System (std 0 // max 2) User Selection (min 1 // max 2) per enclosure JH333A JH332A, and JH331A only System (std 2 // max 2) User Selection (min 0 // max 0) per enclosure	
15, 16, 17, 18	HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU • min=0 \ max=8 SFP/SFP + Transceivers • Min=0 \ Max = 2 QSFP Transceiver	JH209A :
15, 16	HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit • Min=0 \ Max = 2 QSFP Transceiver	JH207A
	Configuration Rules	
15	These Modules install to the following switches only: (Use #0D1 if switch is CTO)	
	HPE FlexNetwork 7503 Switch Chassis	JD240C
	HPE FlexNetwork 7506 Switch Chassis	JD239C
	HPE FlexNetwork 7510 Switch Chassis	JD238C
16	The following 40G Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)	
	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 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

Configuration Information

17	The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	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
18	The following LC Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)	
	HPE X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
	HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
NOTE::	For Switch A7503,A7506 and A7506-V, these modules can only be inserted into the Slot 0 and Slot 1. And for Switch A7510, this module can only be inserted into the Slot 5 and Slot 6. For Switch A7503-S, this module can only be inserted into the Slot 0.	

Ethernet Modules

Rule #	Description	SKU
	(Switch JD240C and JH331A) System (std 0 // max 3) User Selection (min 0 // max 3) per enclosure (Switch JD239C and JH331A) System (std 0 // max 6) User Selection (min 0 // max 6) per enclosure (Switch JD238C and JH331A) System (std 0 // max 10) User Selection (min 0 // max 10) per enclosure	
1, 3, 16, 20	HPE FlexNetwork 7500 44-port SFP/4-port SFP+ SE Module • min=0 \ max=48 SFP Transceivers or • min=0 \ max=4 SFP+ Transceivers or • min=0 \ max=48 JD102B	JH210A
1, 3, 16, 20	HPE FlexNetwork 7500 44-port GbE SFP/4-port 10GbE SFP/SFP+ with MACsec SE Module • min=0 \ max=48 SFP Transceivers or • min=0 \ max=4 SFP+ Transceivers or • min=0 \ max=48 JD102B	JH431A
1, 3, 16, 20	HPE FlexNetwork 7500 24-port SFP/4-port SFP+ SE Module • min=0 \ max=24 SFP Transceivers or • min=0 \ max=4 SFP+ Transceivers or • min=0 \ max=28 JD102B	JH211A
16, 20	HPE FlexNetwork 7500 48-port 1000BASE-T SE Module • No supported Transceivers	JH212A
1, 3, 16, 20	HPE FlexNetwork 7500 48-port 10GbE SFP/SFP+ M2RSG Module • min=0 \ max=48 SFP Transceivers or • min=0 \ max=48 SFP+ Transceivers	JH430A
16, 20	HPE FlexNetwork 7500 48-port 1000BASE-T with PoE+ SE Module • No supported Transceivers	JH213A
1, 3, 16, 20	HPE FlexNetwork 7500 16-port 1/10GbE SFP+ SF Module • min=0 \ max=16 SFP Transceivers or • min=0 \ max=16 SFP+ Transceivers or	JH214A

Configuration Information

Configuration Rules		
Rule #	**Description**	**SKU**
1	The following Transceivers install into this Module: (Use #0D1 if switch is CTO)	
	HPE X120 1G SFP LC LH100 Transceiver	JD103A
	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 X120 1G SFP LC BX 10-U Transceiver	JD098B
	HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
	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
3	The following Transceivers install into this Module: (Use #0D1 or #B01 if switch is CTO)	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	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
16	Selecting this module requires one of the following:	
	HPE FlexNetwork 7503 Switch Chassis	JD240C
	HPE FlexNetwork 7506 Switch Chassis	JD239C
	HPE FlexNetwork 7510 Switch Chassis	JD238C
	HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH331A
	HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH332A
	HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH333A
20	If this module is selected, then the following Comware V7 MPU's are compatible:	
	HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
	HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
NOTE::	JG639A and JG645A - Additional AP licenses available below in the 'Switch Enclosure Options' category.	

Switch Enclosure Options		
Remarks	**Description**	**SKU**
	Options for the SSL VPN Service Board Modules (JD253x)	
	Spare Fan Assembly	
	HPE FlexNetwork 7502 Spare Fan Assembly	JD213A
	HPE FlexNetwork 7503 Spare Fan Assembly	JD212A
	HPE FlexNetwork 7506 Spare Fan Assembly	JD214A
	HPE FlexNetwork 7510 Spare Fan Assembly	JD216A
NOTE:	These items are only used to replace the fan module. A host is delivered with the fan module.	

Configuration Information

Transceivers

Remarks	Description	SKU
	SFP+ Transceivers	
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	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 X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
	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
	SFP Transceivers	
	HPE X120 1G SFP LC LH100 Transceiver	JD103A
	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 X120 1G SFP LC BX 10-U Transceiver	JD098B
	HPE X120 1G SFP LC BX 10-D Transceiver	JD099B
	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
	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 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

Configuration Information

Internal Power Supplies

Rule #	Description	SKU
	System (std 0 // max 2) User Selection (min 1 // max 2)	
1, 4	HPE FlexNetwork 7502 300W AC Power Supply	JD226A
	• includes 1 x c13, 300w	
	HPE FlexNetwork 7502 300W AC Power Supply PDU Cable NA/JP/TW	JD226A#B2B
	• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7502 300W AC Power Supply PDU Cable ROW	JD226A#B2C
	• C15 PDU Jumper Cord (ROW)	
1, 4	HPE FlexNetwork 7500 650W AC Power Supply	JD217A
	• includes 1 x c13, 650w	
	HPE FlexNetwork 7500 650W AC Power Supply PDU Cable NA/JP/TW	JD217A#B2B
	• C15 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7500 650W AC Power Supply PDU Cable ROW	JD217A#B2C
	• C15 PDU Jumper Cord (ROW)	
2	HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
2, 4	HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
	• includes 1 x c19, 1400w	
	HPE FlexNetwork 7500 1400W AC Power Supply PDU Cable NA/JP/TW	JD218A#B2B
	• C19 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7500 1400W AC Power Supply PDU Cable ROW	JD218A#B2C
	• C19 PDU Jumper Cord (ROW)	
	HPE FlexNetwork 7500 1400W AC Power Supply 220V N.A. - English localized	JD218A#B2E
	• NEMA L6-20P Cord (NA/MEX/JP/TW)	
2, 4	HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
	• includes 2 x c19, 2800w	
	HPE FlexNetwork 7500 2800W AC Power Supply PDU Cable NA/JP/TW	JD219A#B2B
	• C19 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7500 2800W AC Power Supply PDU Cable ROW	JD219A#B2C
	• C19 PDU Jumper Cord (ROW)	
	HPE FlexNetwork 7500 2800W AC Power Supply 220V N.A. - English localized	JD219A#B2E
	• NEMA L6-20P Cord (NA/MEX/JP/TW)	
	HPE FlexNetwork 7500 6000W AC Power Supply PDU Cable NA/JP/TW	JD227A#B2B
	• C19 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7500 6000W AC Power Supply PDU Cable ROW	JD227A#B2C
	• C19 PDU Jumper Cord (ROW)	
	HPE FlexNetwork 7500 6000W AC Power Supply 220V N.A. - English localized	JD227A#B2E
	• NEMA L6-20P Cord (NA/MEX/JP/TW)	
4, 5	HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
	• includes 4 x c19, 6000w	
	HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit PDU Cable NA/JP/TW	JH215A#B2B
	• C19 PDU Jumper Cord (NA/MEX/TW/JP)	
	HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit PDU Cable ROW	JH215A#B2C
	• C19 PDU Jumper Cord (ROW)	
	HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit 220V N.A. - English localized	JH215A#B2E
	• NEMA L6-20P Cord (NA/MEX/JP/TW)	

Configuration Information

Configuration Rules		
Rule #	**Description**	**SKU**
1	Only supported on the JD242x .	
2	Only supported on the following:	
	HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH331A
	HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH332A
	HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH333A
	HPE FlexNetwork 7503 Switch Chassis	JD240C
	HPE FlexNetwork 7506 Switch Chassis	JD239C
	HPE FlexNetwork 7510 Switch Chassis	JD238C
3	If 2 power supplies are selected they must be the same Sku number.	
4	Localization (Wall Power Cord) required on orders without #B2B, #B2C (PDU Power Cord) or #B2E. (See Localization Menu) REMARK: When Switches/Routers are Factory Racked, Then #B2B, #B2C should be the Defaulted Power Cable option on the Switches/Routers.	
5	Only supported on the following:	
	HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH331A
	HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH332A
	HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle	JH333A
	HPE FlexNetwork 7503 Switch Chassis	JD240C
	HPE FlexNetwork 7506 Switch Chassis	JD239C
NOTE:	Drop down under power supply should offer the following options and results: Switch 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 to Wall Power Cord - Localized Option (Watson Default for BTO and Box Level CTO) High Volt Power Electrical Module to Wall Power Cord - #B2E Option. (Offered only in North America, Mexico, Taiwan, and Japan)	

Related Options

HPE FlexNetwork 7500 Switch Series accessories

Remarks	Description	SKU
	Modules	
	HPE FlexNetwork 7500 44-port SFP/4-port SFP+ SE Module	JH210A
	HPE FlexNetwork 7500 24-port SFP/4-port SFP+ SE Module	JH211A
	HPE FlexNetwork 7500 48-port 1000BASE-T SE Module	JH212A
	HPE FlexNetwork 7500 48-port 1000BASE-T with PoE+ SE Module	JH213A
	HPE FlexNetwork 7500 16-port 1/10GbE SFP+ SF Module	JH214A
	HPE FlexNetwork 7500 48-port 10GbE SFP/SFP+ M2RSG Module	JH430A
	HPE FlexNetwork 7500 44-port GbE SFP/4-port 10GbE SFP/SFP+ with MACsec SE Module	JH431A
	Transceivers	
	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 SX Transceiver	JD118B
	HPE X120 1G SFP LC LX Transceiver	JD119B
	HPE X115 100M SFP LC BX 10-U Transceiver	JD100A
	HPE X115 100M SFP LC BX 10-D Transceiver	JD101A
	HPE X115 100M SFP LC FX Transceiver	JD102B
	HPE X110 100M SFP LC LX Transceiver	JD120B
	HPE X130 10G SFP+ LC SR Transceiver	JD092B
	HPE X130 10G SFP+ LC LR Transceiver	JD094B
	HPE X130 10G SFP+ LC LH80 tunable Transceiver	JL250A
	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 X130 10G SFP+ LC ER 40km Transceiver	JG234A
	HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
	HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
	HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver	JG709A
	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+ LC BiDi 100m MM Transceiver	JL251A
	Mounting Kit	
	HPE X421 Chassis Universal 4-post Rackmount Kit	JC665A
	Memory	
	HPE X600 1G Compact Flash Card	JC684A

Related Options

Cables	
HPE LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
HPE LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
HPE LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
HPE LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
HPE LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable	AJ835A
HPE LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
HPE LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A
HPE FlexNetwork 7510 Switch Chassis (JD238C)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7510 Spare Fan Assembly	JD216A
HPE FlexNetwork 7506 Switch Chassis (JD239C)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
HPE FlexNetwork 7506 Spare Fan Assembly	JD214A
HPE FlexNetwork 7503 Switch Chassis (JD240C)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
HPE FlexNetwork 7503 Spare Fan Assembly	JD212A
HPE FlexNetwork 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH333A)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7510 Spare Fan Assembly	JD216A

Related Options

HPE FlexNetwork 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH332A)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
HPE FlexNetwork 7506 Spare Fan Assembly	JD214A
HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH331A)	
HPE FlexNetwork 7500 1.2Tbps Fabric with 2-port 40GbE QSFP+ for IRF-only Main Processing Unit	JH207A
HPE FlexNetwork 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ MPU	JH209A
HPE FlexNetwork 7500 1400W DC Power Supply	JD208A
HPE FlexNetwork 7500 1400W AC Power Supply	JD218A
HPE FlexNetwork 7500 2800W AC Power Supply	JD219A
HPE FlexNetwork 7503/7506/7506 V 650W AC Power Supply Unit	JH215A
HPE FlexNetwork 7503 Spare Fan Assembly	JD212A

Technical Specifications

HPE FlexNetwork 7510 Switch Chassis (JD238C)		
Included accessories	1 HP 7510 Spare Fan Assembly (JD216A)	
I/O ports and slots	10 I/O module slots Supports a maximum of 480 PoE/PoE+ Gigabit Ethernet ports or 480 autosensing 10/100/1000 ports or 480 1/10GbE ports or 480 10GbE ports or 44 40GbE ports, or a combination	
Additional ports and slots	2 switch fabric slots	
Power supplies	2 power supply slots	
	1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JD216A	
	1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 27.87(h) in (43.6 x 42.0 x 70.8 cm) (16U height)
	Weight	211 lb (95.71 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. 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
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 53.5 dB, High-speed fan: 56.7 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	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)
Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	

Technical Specifications

Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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, 460, 4659, 4798, 4861, 4862, 5080, 5095, 5340, 5492, 5905 and 6192 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A, JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 2,380 MPPS for packet performance and 4,160 Gbps for total switching capacity.	
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 7506 Switch Chassis (JD239C)

Included accessories	1 HP 7506 Spare Fan Assembly (JD214A)	
I/O ports and slots	6 I/O module slots Supports a maximum of 288 PoE/PoE+ Gigabit Ethernet ports or 288 autosensing 10/100/1000 ports or 288 1/10GbE ports or 288 10GbE ports or 28 40GbE ports, or a combination	
Additional ports and slots	2 switch fabric slots	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JD214A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 22.64(h) in (43.6 x 42.0 x 57.5 cm) (13U height)
	Weight	207 lb (93.9 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. rack or other equipment cabinet (hardware included); Horizontal surface mounting only	

Technical Specifications

Reliability	**Availability**	99.999%
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	10% to 95%, noncondensing
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 53.6 dB, High-speed fan: 57.7 dB
Electrical characteristics	**Frequency**	50/60 Hz Achieved Miercom Certified Green Award
	Description	The H3C S7506E (HPE 7606) is Certified Green in the 2009 Miercom Green Switches Industry Assessment
	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)
Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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	

Technical Specifications

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 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 1,428 MPPS for packet performance and 2,880 Gbps for total switching capacity.
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 7503 Switch Chassis (JD240C)

Included accessories	1 HP 7503 Spare Fan Assembly (JD212A)	
I/O ports and slots	3 I/O module slots Supports a maximum of 144 PoE/PoE+ Gigabit Ethernet ports or 144 autosensing 10/100/1000 ports or 144 1/10GbE ports or 144 10GbE ports or 16 40GbE ports, or a combination	
Additional ports and slots	2 switch fabric slots	
Power supplies	2 power supply slots	
	1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JD212A	
	1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 17.36(h) in (43.6 x 42.0 x 44.1 cm) (10U height)
	Weight	147 lb (66.68 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. 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
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 51.6 dB, High-speed fan: 56.1 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	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)

Technical Specifications

Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A, JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 714 MPPS for packet performance and 1,920 Gbps for total switching capacity.	
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 7510 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH333A)

Included accessories	1 HP 7510 Spare Fan Assembly (JD216A) 2 HP 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ Main Processing Unit (JH209A)
I/O ports and slots	10 I/O module slots Supports a maximum of 480 PoE/PoE+ Gigabit Ethernet ports or 480 autosensing 10/100/1000 ports or 480 1/10GbE ports or 480 10GbE ports or 44 40GbE ports, or a combination
Additional ports and slots	2 switch fabric slots
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately) includes: 1 x JD216A

Technical Specifications

Fan tray	1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 27.87(h) in (43.6 x 42.0 x 70.8 cm) (16U height)
	Weight	211 lb (95.71 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. 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
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 53.5 dB, High-speed fan: 56.7 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	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)
Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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	

Technical Specifications

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 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A, JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 2,380 MPPS for packet performance and 4,160 Gbps for total switching capacity.
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 7506 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH332A)

Included accessories	1 HP 7506 Spare Fan Assembly (JD214A) 2 HP 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ Main Processing Unit (JH209A)	
I/O ports and slots	6 I/O module slots Supports a maximum of 288 PoE/PoE+ Gigabit Ethernet ports or 288 autosensing 10/100/1000 ports or 288 1/10GbE ports or 288 10GbE ports or 28 40GbE ports, or a combination	
Additional ports and slots	2 switch fabric slots	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JD214A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 22.64(h) in (43.6 x 42.0 x 57.5 cm) (13U height)
	Weight	207 lb (93.9 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. 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
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 53.6 dB, High-speed fan: 57.7 dB

Technical Specifications

Electrical characteristics	**Frequency**	50/60 Hz Achieved Miercom Certified Green Award
	Descriptions	The H3C S7506E (HP 7506) is Certified Green in the 2009 Miercom Green Switches Industry Assessment.
	Voltage	100 - 120 / 200 - 240 VAC, rated -48 to -60 VDC, rated (depending on power supply chosen)
	Current	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)
Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	
Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A, JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 1,428 MPPS for packet performance and 2,880 Gbps for total switching capacity.	
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	

Technical Specifications

HPE FlexNetwork 7503 Switch with 2x2.4Tbps Fabric and Main Processing Unit Bundle (JH331A)

Included accessories	1 HP 7503 Spare Fan Assembly (JD212A) 2 HP 7500 2.4Tbps Fabric with 8-port 1/10GbE SFP+ and 2-port 40GbE QSFP+ Main Processing Unit (JH209A)	
I/O ports and slots	3 I/O module slots Supports a maximum of 144 PoE/PoE+ Gigabit Ethernet ports or 144 autosensing 10/100/1000 ports or 144 1/10GbE ports or 144 10GbE ports or 16 40GbE ports, or a combination	
Additional ports and slots	2 switch fabric slots	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	includes: 1 x JD212A 1 fan tray slot	
Physical characteristics	**Dimensions**	17.17(w) x 16.54(d) x 17.36(h) in (43.6 x 42.0 x 44.1 cm) (10U height)
	Weight	147 lb (66.68 kg) shipping weight
Mounting and enclosure	Mounts in an EIA-standard 19 in. 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
	Non-operating/Storage temperature	-40°F to 158°F (-40°C to 70°C)
	Non-operating/Storage relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 51.6 dB, High-speed fan: 56.1 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	16/50 A
	Power output	1400 W
	Notes	Based on a common power supply of 1400 W (AC/DC)
Safety	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11	
Emissions	VCCI Class A; EN 55022 Class A; ICES-003 Class A; ANSI C63.4 2003; AS/NZS CISPR 22 Class A; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	

Technical Specifications

Immunity	**Generic**	ETSI EN 300 386 V1.3.3
	EN	EN 61000-4-2:1995+A1:1998+A2:2001
	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; Web browser; 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 For non-TAA environments, IKE/IPSec functionality is provided by the HPE 7500/10500 20Gbps VPN Firewall Module (JG372A). Comware v7 MPUs (JH207A and JH209A) only support these LPUs: Comware v7 LPUs- JH209A, JH210A, JH211A, JH212A, JH213A, JH214A, and JH309A Comware v5 LPUs- JG663A, JD229B, JD230A, JD234A, JD237A, JD221A, JD231A, JD232A, JD233A, JD191A, JD235A, JD236A, JF290A, and JC792A Performance depends on the MPU/Fabric installed, and when installed with two (2) JH209A the performance are as follows: up to 714 MPPS for packet performance and 1,920 Gbps for total switching capacity.	
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	

Technical Specifications

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 PPP Gandalf FZA Compression Protocol
- 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

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 3209 RSVP-TE: Extensions to RSVP for LSP Tunnels
- 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

Technical Specifications

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 802.3af Power over Ethernet
- IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF
- IEEE 802.3at
- IEEE 802.3ba 40 and 100 Gigabit Ethernet Architecture
- IEEE 802.3u 100BASE-X
- 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
- RFC 951 BOOTP
- 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

Technical Specifications

- 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 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

Technical Specifications

- 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 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 Draft 10 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 4610 Anycast-RP Using Protocol Independent Multicast (PIM)
- RFC 5059 Bootstrap Router (BSR) Mechanism for Protocol Independent Multicast (PIM)

VPN

- RFC 2403 - HMAC-MD5-96
- RFC 2404 - HMAC-SHA1-96
- RFC 2405 - DES-CBC Cipher algorithm
- RFC 2407 - Domain of interpretation
- RFC 2473 Generic Packet Tunneling in IPv6 Specification
- 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)

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

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 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 Pv6
- 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

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

Technical Specifications

MIBs

- RFC 1156 (TCP/IP MIB)
- RFC 1157 A Simple Network Management Protocol (SNMP)
- RFC 1213 MIB II
- 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 1757 Remote Network Monitoring MIB
- RFC 1850 OSPFv2 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 Interfaces 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 2932 IP (Multicast Routing MIB)
- RFC 2933 IGMP MIB
- RFC 2934 Protocol Independent Multicast MIB for

Technical Specifications

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)

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)
- RFC 4444 Management Information Base for Intermediate System to Intermediate System (IS-IS)

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)
- Multiple Configuration Files
- Multiple Software Images
- SSHv1/SSHv2 Secure Shell
- TACACS/TACACS+ telnet

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
- 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)

Technical Specifications

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

Security

- IEEE 802.1X Port Based Network Access Control
- 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 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
- 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

Summary of Changes

Date	Version History	Action	Description of Change:
02-Dec-2019	Version 54	Changed	Configuration Information and Related Options sections were updated. Obsolete SKUs were removed.
04-Feb-2019	Version 53	Changed	Removing Box Level CTO section since SSP Trigger sku is Obsolete. Remove CF Card since no compatible modules.
07-Jan-2019	Version 52	Changed	Configuration section updated
02-Jul-2018	Version 51	Changed	Obsolete SKUs removed from Configuration section
25-Sep-2017	Version 50	Changed	Configuration section updated
05-Dec-2016	Version 49	Added	SKUs added: JH430A; JH431A
07-Nov-2016	Version 48	Changed	Adding #0D1 to several switches on configuration section
02-Sep-2016	Version 47	Changed	Minor changes made on Technical Specifications
26-Aug-2016	Version 46	Changed	Edits made on F&B and Technical Specifications
01-Aug-2016	Version 45	Changed	SKUs added: JL250A Technical Specifications and Accessories updated.
10-Jun-2016	Version 44	Changed	Updates on the Configuration section
06-Jun-2016	Version 43	Changed	Document name changed to HPE FlexNetwork 7500 Switch Series. Product description updated.
08-Apr-2016	Version 42	Changed	SKU descriptions updated on all document.
18-Mar-2016	Version 41	Changed	Overview, Features and Benefits, Configuration, Technical Specifications and Accessories updated.
15-Jan-2016	Version 40	Changed	Overview and Technical Specifications updated
		Removed	SKUs removed: JD238B, JD239B, JD240B, JD242B
01-Dec-2015	Version 39	Changed	Overview and Technical Specifications updated
02-Oct-2015	Version 38	Changed	Configuration section updated
28-Sep-2015	Version 37	Changed	Models added: JD238C, JD239C, JD240C, JD242C, JH331A, JH332A, JH333A Accessories section added Updates made on Overview, Features and Benefits, Configuration and Technical Specifications.
17-Feb-2015	Version 36	Changed	SKUs descriptions and Configuration menu updated.
03-Jul-2014	Version 35	Changed	Configuration menu updated.
10-Jun-2014	Version 34	Changed	Switch Enclosure Options were updated in the Configuration section.
15-Apr-2014	Version 33	Changed	Minor edit was made in Product Overview.
31-Mar-2014	Version 30	Changed	Configuration Rules was revised throughout Configuration.
19-Mar-2014	Version 29	Changed	Transceivers were revised in Configuration.
22-Nov-2013	Version 28	Changed	Box Level Integration CTO Models, Rack Level Integration CTO Models, and Internal Power Supplies were revised in Configuration.
14-Oct-2013	Version 27	Changed	Configuration was revised, including adding a new Transceiver.
30-Sep-2013	Version 26	Changed	Configuration was revised. Features and Benefits was revised. Product overview was revised.
27-Sep-2013	Version 25	Changed	Configuration was revised.
11-Sep-2013	Version 24	Changed	Minor edit was made in Configuration.
19-Aug-2013	Version 23	Changed	Box Level Integration CTO Models and Rack Level Integration CTO Models were revised in Configuration.
12-Jul-2013	Version 22	Changed	Updated the Configuration Information.
19-Jun-2013	Version 21	Changed	HP 10500/7500 20G Unified Wired-WLAN Module was added to Accessory Product Details Integration was revised in Features and Benefits
07-Jun-2013	Version 20	Changed	Updated the Direct Attach Copper Cables in the Configuration Information section.
22-May-2013	Version 19	Changed	Updated the Configuration Information.

Summary of Changes

12-Apr-2013	Version 18	Changed	Completely removed Accessories section. Accessory Product Details: Removed several sections. Configuration: Completely updated Build To Order section.
19-Mar-2013	Version 17	Changed	Corrected the new Configuration section.
01-Mar-2013	Version 16	Changed	Corrected the formatting in the new Configuration section.
19-Feb-2013	Version 15	Changed	Added the Configuration section. Changes were made to Features and Benefits. The model specifications had minor updates, as did the Accessories section.
04-Dec-2012	Version 13	Changed	Changes were made to Features and Benefits. The model specifications had minor updates, as did the Accessories section.
24-Sep-2012	Version 12	Changed	Updated Features and Benefits, Introduction, the specifications, and Accessories.
21-May-2012	Version 11	Changed	Updated the Standards and protocols section of Technical specifications.
14-May-2012	Version 10	Changed	Features and Benefits, Accessories, and the weight and dimensions for each spec were revised.
02-Apr-2012	Version 9	Changed	Part number was revised.
26-Mar-2012	Version 8	Changed	Accessories were revised.
16-Nov-2011	Version 7	Changed	Specifications were revised.
26-Sep-2011	Version 6	Changed	Models, Features and Benefits and Accessories were revised.
07-Sep-2011	Version 5	Added	Accessory Product Details was added.
07-Mar-2011	Version 4	Changed	Accessories product descriptions and notes and services in Models were revised.
18-Feb-2011	Version 3	Changed	Clarified in a couple of locations about the availability of IRF.
08-Oct-2010	Version 2	Changed	Corrected the options section.
15-Sep-2010	Version 1	New	New QuickSpecs

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