Have feedback on QuickSpecs? We're listening

HPE Networking Comware Switch Series 5945 QuickSpecs

HPE Networking Comware Switch Series 5945 is a family of high-density, ultra-low-latency, and ToR switches that is part of the HPE Networking Comware solution (from the HPE Cloud-First Reference Architecture).

Ideally suited for deployment at the aggregation or server access layer of large enterprise data centers and telecom customers. The HPE Networking Comware Switch Series 5945 is also powerful enough for deployment at the core layer of medium-sized enterprises.

Overview

With the increase in virtualized applications and server-to-server traffic, customers require spine and ToR switches that can meet their throughput requirements. With the HPE Networking Comware 5945, data centers can now support up to 100 Gb per port, allowing high-performance server connectivity and the capabilities to handle virtual environments. This is available in the low-latency HPE Networking Comware Switch Series 5945.

HPE Networking Comware 5945 48SFP28 8QSFP28 Switch (JQ074A)

HPE Networking Comware 5945 4-slot Switch (JQ076A)

Overview

HPE Networking Comware 5945 2-slot Switch (JQ075A)

HPE Networking Comware 5945 32QSFP28 Switch (JQ077A)

Models

HPE Networking Comware Switch 48SFP28 8QSFP28 5945	JQ074A
HPE Networking Comware Switch 4-slot 5945	JQ076A
HPE Networking Comware Switch 2-slot 5945	JQ075A
HPE Networking Comware Switch 32QSFP28 5945	JQ077A

Overview

Key Features

- Cut-through with ultra low latency and wirespeed
- These switches are NEBS certified making them the ideal fit for telecom customers (applicable for JQ074A and JQ077A)
- New 32G/16G FC support for storage networking and ROCE V1/V2 for RDMA High-Performance computing
- VXLAN, EVPN, MPLS, VTEP, and OVSDB support for virtualized environments
- High-density 100GbE/40GbE/25GbE/10GbE spine/top-of-rack (ToR) connectivity
- PTP 1588V2 IEEE 802.1AS support for Boundary Clock, Transparent Clock, End to End/Peer to Peer Transparent Clock.
- IPv6 support with full L2 and L3 features
- Includes Distributed Resilient Network Interconnect (DRNI) that offers high availability and resiliency by combining multiple physical switches into one virtual distributed-relay (DR) system.
- HPE IMC Orchestrator and Analyzer to simplify network management and operations
- Greater flexibility with two/four slot options for varying use cases such as MACsec 256-bit encryption, high-performance DC leaf, storage networking with FC and NVMe storage
- New made in USA TAA SKUs introduced for customers who have concerns with 'made in China' products. These SKUs are provide additional security as a combination of manual and automated source code analysis is performed to identify common programming issues and address any security weaknesses.

Standard Features

Quality of Service (QoS) Powerful QoS Features

- **Flexible queue scheduling**
  Including Strict Priority (SP), WRR, WFQ, SP+WRR, SP+WDRR, SP+WFQ, configurable buffer, time range, queue shaping, and CAR with 8 kbps granularity.
- **Packet filtering and remarking**
  Packet filtering based on packet header fields from Layer 2 through Layer 4, including source MAC, destination MAC, source IP (IPv4/IPv6), destination IP (IPv4/IPv6), port number, protocol type, and VLAN.

Data center Optimized

- **Flexible high port density**
  HPE Networking Comware Switch Series 5945 enables scaling of the server edge, with 100GbE, 40GbE. 25GbE, and 10GbE spine and leaf deployment. The HPE Networking Comware Switch Series 5945 solution includes a 48-port of 25 Gb with 8-port of , 32-port of 100 Gb and 2 modular models of respectively 1RU / 2-slot and 2RU / 4-slot
- **High-performance switching**
  Cut-through and nonblocking architecture delivers low latency (~ 1 microsecond for 100GbE) for very demanding enterprise applications; the switch delivers high-performance switching capacity and wirespeed packet forwarding
- **Higher scalability**
  HPE Intelligent Resilient Fabric (IRF) technology simplifies the architecture of server access networks; up to 10 HPE Networking Comware 5945 switches can be combined to deliver unmatched scalability of virtualized access layer switches and flatter 2-tier networks using HPE IRF, which reduces cost and complexity
- **Advanced modular operating system**
  Comware v7 software's modular design and multiple processes bring native high stability, independent process monitoring, and restart; the OS also allows individual software modules to be upgraded for higher availability and supports enhanced serviceability functions such as hitless software upgrades with HPE IRF based in-service software upgrade (ISSU)
- **Reversible airflow**
  Enhanced for data center hot-cold aisle deployment with reversible airflow—for either front-to-back or back-to-front airflow
- **Redundant fans and power supplies**
  Internal redundant and hot-pluggable power supplies and dual fan trays enhance reliability and availability
- **Lower OPEX and greener data center**
  Provides reversible airflow and advanced chassis power management
- **Data Center Bridging (DCB) protocols**
  Provides support for IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN) for converged FCoE, iSCSI, and RoCE environments
- **Jumbo frames**
  With frame sizes of up to 9416 bytes on 100GbE ports, high-performance remote backup and disaster recovery services are enabled
- **VXLAN hardware support**
  VXLAN L2/L3 gateway support for up to 4K tunnels
- **Dynamic VXLAN configuration**
  OVSDB support for dynamic VXLAN configuration

Standard Features

- **Security**
  MACsec encryption with swappable interface modules for enhanced security

Convergence

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

Manageability

- **HPE IMC Orchestrator and Analyzer**
  Offers enhanced network operations with orchestration, automation, and analytical capabilities. automated network overlay/underlay deployment enhanced visibility with application telemetry
- **AI-enabled network monitoring for faster troubleshooting**
  For more information, please refer to the HPE IMC Orchestrator and Analyzer datasheet
- **Full-featured console**
  Provides complete control of the switch with a familiar CLI
- **Troubleshooting**
  - **Ingress and egress port monitoring:** Enable network problem solving
  - **Traceroute and ping:** Enable testing of network connectivity
- **Multiple configuration files**
  Allow multiple configuration files to be stored to a flash image
- **sFlow® (RFC 3176)**
  Provides wirespeed traffic accounting and monitoring
- **SNMP v1, v2c, and v3**
  Facilitates centralized discovery, monitoring, and secure management of networking devices
- **Out-of-band interface**
  Isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane
- **Remote configuration and management**
  Delivered through a secure CLI over Telnet and SSH; role-based access control (RBAC) provides multiple levels of access; configuration rollback and multiple configurations on the flash provide ease of operation; remote visibility is provided with sFlow and SNMP v1/v2/v3, and is fully supported in HPE Intelligent Management Center (IMC)
- **ISSU and hot patching**
  Provides hitless software upgrades with IRF-based ISSU and hitless patching of the modular operating system
- **PTP and NTP support**
  Synchronizes timekeeping among distributed time servers and clients; support for Precision Time Protocol (PTP) and Network Time Protocol (NTP)

Standard Features

Layer 2 switching

- **Address Resolution Protocol (ARP)**
  Supports static, dynamic, and reverse ARP and ARP proxy
- **IEEE 802.3x Flow Control**
  Provides intelligent congestion management via PAUSE frames
- **Ethernet Link Aggregation**
  Provides IEEE 802.3ad Link Aggregation of up to 256 groups of 32 ports; support for LACP, LACP Local Forwarding First, and LACP Short-time provide a fast, resilient environment that is ideal for the data center
- **Spanning Tree Protocol**
  Supports STP (IEEE 802.1D), Rapid STP (RSTP, IEEE 802.1w), and Multiple STP (MSTP, IEEE 802.1s)
- **VLAN support**
  Provides support for 4096 VLANs based on port
- **IGMP support**
  Provides support for IGMP Snooping, fast-leave, and group policy; IPv6 IGMP Snooping provides L2 optimization of multicast traffic
- **DHCP support at L2**
  Provides full DHCP Snooping support for DHCP Snooping Option 82, DHCP Relay Option 82, DHCP Snooping Trust, and DHCP Snooping Item Backup

Resiliency and high availability

- **IRF technology**
  Enables an HPE Networking Comware switch to deliver resilient, scalable, and secured data center networks for physical and virtualized environments; groups up to 10 HPE Networking Comware 5945 switches in an HPE IRF configuration, allowing them to be configured and managed as a single switch with a single IP address; simplifies ToR deployment and management, reducing data center deployment and operating expenses
- **IEEE 802.1w Rapid Convergence Spanning Tree Protocol**
  Increases network uptime through faster recovery from failed links
- **IEEE 802.1s Multiple Spanning Tree**
  Provides high-link availability in multiple VLAN environments by allowing Multiple Spanning Trees
- **Virtual Router Redundancy Protocol (VRRP)**
  Allows groups of two routers to back each other up dynamically to create highly available routed environments
- **Hitless patch upgrades**
  Allows patches and new service features to be installed without restarting the equipment, increasing network uptime, and facilitating maintenance
- **Fast protocol convergence with standard-based failure detection-Bidirectional Forwarding Detection (BFD)**
  Enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **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
- **Graceful restart**
  Allows routers to indicate to others their capability to maintain a routing table during a temporary shutdown and significantly reduces convergence times upon recovery; supports OSPF, BGP, and IS-IS

Standard Features

Layer 3 services

- **Address Resolution Protocol**
  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 L2 network
- **Dynamic Host Configuration Protocol**
  Simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **Operations, administration, and maintenance (OAM) support**
  Provides support for Connectivity Fault Management (IEEE 802.1AG) and Ethernet in the First Mile (IEEE 802.3AH); provides additional monitoring that can be used for fast fault detection and recovery

Security

- **Access control lists**
  Provides IP L3 filtering based on source/destination IP, address/subnet, and source/destination TCP/UDP port number
- **RADIUS/TACACS+**
  Eases switch management security administration by using a password authentication server
- **Secure shell**
  Encrypts all transmitted data for secure remote CLI access over IP networks
- **IEEE 802.1X and RADIUS network logins**
  Controls port-based access for authentication and accountability
- **Port security**
- Allows access only to specified MAC addresses, which can be learned or specified by the administrator

Layer 3 routing

- **EVPN and EVPN-DCI**
  Can act as a VTEP, EVPN Gateway, or Border Gateway enabling virtual multipoint bridged connectivity between different Layer 2 domains over an IP network
- **VRRP and VRRP Extended**
  Allows quick failover of router ports
- **Policy-based routing**
  Makes routing decisions based on policies set by the network administrator
- **Equal-Cost Multipath (ECMP)**
  Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **L3 IPv4 routing**
  Provides routing of IPv4 at media speed; supports static routes, RIP and RIPv2, OSPF, BGP, and IS-IS
- **Open shortest path first**
  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

Standard Features

- **Border Gateway Protocol 4 (BGP-4)**
  Delivers an implementation of the BGP 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
- **Intermediate system to intermediate system (IS-IS)**
  Uses a path vector 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)
- **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
- **BGP+**
  Extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **IS-IS for IPv6**
  Extends IS-IS to support 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, 6 to 4, and intra-site automatic tunnel addressing protocol (ISATAP) tunnels; is an important element for the transition from IPv4 to IPv6
- **Policy routing**
  Allows custom filters for increased performance and security; supports ACLs, IP prefix, AS paths, community lists, and aggregate policies
- **Bidirectional Forwarding Detection (BFD)**
  Enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF
- **Multicast Routing PIM dense and sparse modes**
  Provides robust support of multicast protocols
- **Layer 3 IPv6 routing**
  Provides routing of IPv6 at media speed; supports static routing, RIPng, OSPFv3, BGP4+ for IPv6, and IS-ISv6.
- **Storage Network**
  32/16/8/4/2G Fiber Channel, FCoE, NVMe over FC, ROCE V1/V2. VSAN and Zoning, single and multi-hop SAN network.

Standard Features

Management

- **USB support**
  - **File copy:** Allows users to copy switch files to and from a USB flash drive
- **Multiple configuration files**
  Stores easily to the flash image
- **SNMPv1, v2c, and v3**
  Facilitates centralized discovery, monitoring, and secure management of networking devices
- **Out-of-band interface**
  Isolates management traffic from user data plane traffic for complete isolation and total reachability, no matter what happens in the data plane
- **Port mirroring**
  Enables traffic on a port to be simultaneously sent to a network analyzer for monitoring
- **Remote configuration and management**
  Is available through a CLI
- **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
- **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
- **Command authorization**
  Leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Dual flash images**
  Provides independent primary and secondary operating system files for backup while upgrading
- **Command-line interface**
  Provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **Logging**
  Provides local and remote logging of events via SNMP (v2c and v3) and syslog; provides log throttling and log filtering to reduce the number of log events generated
- **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 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
- **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
- **Network management**
  HPE IMC centrally configures, updates, monitors, and troubleshoots

Standard Features

- **Remote intelligent mirroring**
  Mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network

Additional information

- **Green IT and power**
  Improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs

Warranty and support

- **1-year warranty**
  See Warranty and support summary for details on what is 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 Warranty and support summary

Configuration Information

BTO Models

Standard Switch Enclosures

Description	SKU
HPE Networking Comware Switch 48SFP28 8QSFP28 5945	JQ074A
HPE Networking Comware Switch 2-slot 5945	JQ075A
HPE Networking Comware Switch 4-slot 5945	JQ076A
HPE Networking Comware Switch 32QSFP28 5945	JQ077A

TAA Switch Enclosures

HPE Networking Comware Switch 48p SFP28 25G 8p QSFP28 100G TAA 5945	S3K87A
HPE Networking Comware Switch 2-slot TAA 5945	S3K88A
HPE Networking Comware Switch 4-slot TAA 5945	S3K89A
HPE Networking Comware Switch 32p QSFP28 100G TAA 5945	S3K90A

Rack Level Integration CTO Models

CTO Switch Chassis

Description	SKU
HPE Networking Comware Switch 48SFP28 8QSFP28 5945	JQ074A
HPE Networking Comware Switch 2-slot 5945	JQ075A
HPE Networking Comware Switch 4-slot 5945	JQ076A
HPE Networking Comware Switch 32QSFP28 5945	JQ077A

TAA Switch Enclosures

HPE Networking Comware Switch 48p SFP28 25G 8p QSFP28 100G TAA 5945	S3K87A
HPE Networking Comware Switch 2-slot TAA 5945	S3K88A
HPE Networking Comware Switch 4-slot TAA 5945	S3K89A
HPE Networking Comware Switch 32p QSFP28 100G TAA 5945	S3K90A

Switch Options

Description	SKU
Modules	
(JQ076A) System (std 0 // max 4) User Selection (min 1 // max 4)	
HPE Networking 5930 24p SFP+ and 2p QSFP+ Module	JH180A
HPE Networking 5930 24p SFP+/2p QSFP+ w/Msec Module	JH181A
HPE Networking 5930 24p 10GBASE-T/2p MCsc QSFP+ Module	JH182A
HPE Networking 5930 8-port QSFP+ Module	JH183A
HPE Networking Comware 16-Port 16/32G FC Converged Port Interface Module	JL865A
HPE Networking 5930 24-port Converged Port and 2-port QSFP+ Module	JH184A
HPE Networking 5950 16-port QSFP+ Module	JH405A
HPE Networking 5950 8-port QSFP28 Module	JH406A
HPE Networking 5950 24p SFP28 and 2p QSFP28 Module	JH450A
HPE Networking 5950 8-port QSFP28 MACsec Module	JH957A

Configuration Information

Transceivers

Description	SKU
SFP Transceivers	
HPE Networking X115 100M SFP LC FX Transceiver	JD102B
HPE Networking X110 100M SFP LC LX Transceiver	JD120B
HPE Networking X120 1G SFP RJ45 T Transceiver	JD089B
HPE Networking X120 1G SFP LC SX Transceiver	JD118B
HPE Networking X120 1G SFP LC LX Transceiver	JD119B
HPE Networking X120 1G SFP LC LH100 Transceiver	JD103A
SFP+ Transceivers	
HPE Networking Comware 10GBASE-T SFP+ RJ45 30m Cat6A Transceiver	S2N61A
HPE Networking X130 10G SFP+ LC BiDi 10km-Uplink Transceiver	JL737A
HPE Networking X130 10G SFP+ LC BiDi 10km-Downlink Transceiver	JL738A
HPE Networking X130 10G SFP+ LC BiDi 40km-Uplink Transceiver	JL739A
HPE Networking X130 10G SFP+ LC BiDi 40km-Downlink Transceiver	JL740A
HPE Networking X130 10G SFP+ LC SR Transceiver	JD092B
HPE Networking X130 10G SFP+ LC LR Transceiver	JD094B
HPE Networking X130 10G SFP+ LC ER 40km Transceiver	JG234A
HPE Networking X130 10G SFP+ LC LH 80km Transceiver	JG915A
HPE Networking X2A0 10G SFP+ to SFP+ 7m Active Optical Cable	JL290A
HPE Networking X2A0 10G SFP+ to SFP+ 10m Active Optical Cable	JL291A
HPE Networking X2A0 10G SFP+ to SFP+ 20m Active Optical Cable	JL292A
HPE Networking X240 10G SFP+ SFP+ 0.65m DAC Cable	JD095C
HPE Networking X240 10G SFP+ SFP+ 1.2m DAC Cable	JD096C
HPE Networking X240 10G SFP+ SFP+ 3m DAC Cable	JD097C
HPE Networking X240 10G SFP+ SFP+ 5m DAC Cable	JG081C
SFP28 Transceivers	
HPE Networking Comware 25G CSR SFP28 LC 300m MM Transceiver	S4J91A
HPE Networking X190 25G SFP28 LC SR 100m MM Transceiver	JL293A
HPE Networking 25G SFP28 LC LR 10km SMF Transceiver	JL855A
HPE Networking X240 25G SFP28 to SFP28 1m DAC Cable	JL294A
HPE Networking X240 25G SFP28 to SFP28 3m DAC Cable	JL295A
HPE Networking X240 25G SFP28 to SFP28 5m DAC Cable	JL296A
HPE Networking X2A0 25G SFP28 to SFP28 3m Active Optical Cable	JH955A
HPE Networking X2A0 25G SFP28 to SFP28 5m Active Optical Cable	JH956A
HPE Networking X2A0 25G SFP28 to SFP28 7m Active Optical Cable	JL297A
HPE Networking X2A0 25G SFP28 to SFP28 10m Active Optical Cable	JL298A
HPE Networking X2A0 25G SFP28 to SFP28 20m Active Optical Cable	JL299A

Configuration Information

FC SFP+ Transceivers

HPE 32Gb SFP28 Short Wave Commercial Temperature Transceiver	P9H30A
HPE 16Gb SFP+ Short Wave 1-pack Commercial Transceiver	E7Y10A
HPE 16Gb FC/10GbE 100m SR SFP+ Transceiver	H6Z42A
HPE 8Gb Short Wave Fibre Channel SFP+ 1 Pack Transceiver	AJ718A
HPE 32Gb SFP28 Short Wave 1-pack Pull Tab Optical Transceiver	Q2P62A

QSFP+ Transceivers

HPE Networking X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE Networking X140 40G QSFP+ CSR4 300m Transceiver	JG709A
HPE Networking X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A
HPE Networking X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver	JG661A
HPE Networking X140 40G QSFP+ LC LR4L 2km SM Transceiver	JL286A
HPE Networking X140 40G QSFP+ LC ER4 40km SM Transceiver	JL306A
HPE Networking Comware 40G PLR4 QSFP+ 10km Transceiver	S4J93A
HPE Networking X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable	JL287A
HPE Networking X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable	JL288A
HPE Networking X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable	JL289A
HPE Networking Comware X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE Networking Comware X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE Networking Comware X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE Networking Comware X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE Networking Comware X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE Networking Comware X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A

QSFP28 Transceivers

HPE Networking X150 100G QSFP28 MPO SR4 100m MM Transceiver	JL274A
HPE Networking X150 100G QSFP28 LC SWDM4 100m MM Transceiver	JH419A
HPE Networking X150 100G QSFP28 LC BiDi 100m MM Transceiver	JQ344A
HPE Networking X150 100G QSFP28 eSR4 300m MM Transceiver	JH672A
HPE Networking X150 100G QSFP28 PSM4 500m SM Transceiver	JH420A
HPE Networking X150 100G QSFP28 LC LR4 10km SM Transceiver	JL275A
HPE Networking X150 100G QSFP28 CWDM4 2km SM Transceiver	JH673A
HPE Networking Comware 100G FR1 QSFP28 LC 2km SMF Transceiver	S2P29A
HPE Networking Comware 100G DR QSFP28 LC 500m SM Transceiver	S4J89A
HPE Networking X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable	JL276A
HPE Networking X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable	JL277A
HPE Networking X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable	JL278A
HPE Networking X2A0 100G QSFP28 30m Active Optical Cable	JL795A
HPE Networking X2A0 100G QSFP28 5m Active Optical Cable	JL796A
HPE Networking X240 100G QSFP28 1m DAC Cable	JL271A
HPE Networking X240 100G QSFP28 3m DAC Cable	JL272A

Configuration Information

HPE Networking X240 100G QSFP28 5m DAC Cable	JL273A
HPE Networking X240 QSFP28 4xSFP28 1m Direct Attach Copper Cable	JL282A
HPE Networking X240 QSFP28 4xSFP28 3m Direct Attach Copper Cable	JL283A
HPE Networking X240 QSFP28 4xSFP28 5m Direct Attach Copper Cable	JL284A

Internal Power Supplies

Description	SKU
HPE Networking 58x0AF 650W AC Power Supply	JC680A
HPE 58x0AF 650W AC Power Supply PDU Cable NA/JP/TW	JC680A#B2B
HPE 58x0AF 650W AC Power Supply PDU Cable ROW	JC680A#B2C
HPE A58x0AF 650W AC Power Supply	JC680A#AC3
HPE Networking SW 650W 48V NEBS DC Power Supply Unit	JH336A

Fan Trays

Description	SKU
HPE Networking X712 Bck(pwr)-Frt(prt) HV2 Fan Tray	JH389A
HPE Networking X711 Frt(prt)-Bck(pwr) HV2 Fan Tray	JH388A
HPE Networking 5930 4-slot B(Pwr) F(Prt) Fan Tray	JH185A
HPE Networking 5930 4-slot F(Prt) F(Pwr) Fan Tray	JH186A

Software

Orchestrator

Description	SKU
HPE Networking IMC Orchestrator Base License E-LTU	JL849AAE
HPE Networking IMC Orchestrator Analyzer Add-on License E-LTU	JL850AAE
HPE Networking IMC Orchestrator Network Node Add-on License E-LTU	JL851AAE
HPE Networking IMC Orchestrator Analyzer IP Host Add-on License E-LTU	JL852AAE

Technical Specifications

HPE Networking Comware 5945 48SFP28 8QSFP28 Switch (JQ074A)		
I/O ports and slots	48 x 25G SFP28 ports 8 x 100G QSFP28 ports 2 x 1G SFP ports	
	Supports 48 x 10/25GbE and 8 x 100GbE fixed ports, or up to 80 x 10GbE ports when using splitter cables	
Additional ports and slots	1 x console port 1 x mini USB port 1 x USB port 2 x out-of-band management ports (one fiber port and one copper port)	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires same-direction airflow fan trays to function properly. The system should not be operated with less than five fan trays for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.	
Physical characteristics	**Dimensions**	43.6 x 440 x 460 mm (1.72 x 17.32 x 18.11 in)
	Weight	10.10 kg (22.27 lb) shipping weight
	Full configuration weight	15 kg (33.07 lb)
Memory and processor	1 GB flash; packet buffer size: 32 MB, 8 GB SDRAM	
Performance	**Latency**	< 1 µs (64-byte packets)
	Throughput	2024 Mpps
	Routing/Switching capacity	4 Tbps
	Routing table size	324K entries (IPv4), 162K entries (IPv6)
	MAC address table size	288K entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 62.1 dB, high-speed fan: 77.9 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	1381 BTU/hr (1458 kJ/hr)
	Voltage	100 VAC to 240 VAC V rated 90 VAC to 264 VAC max –40 VDC to –60 VDC rated –40 VDC to –72 VDC max
	Maximum power rating	650 W
	Idle power	179 W
	Notes: Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated	

Technical Specifications

Safety	UL 60950-1, CAN/CSA C22.2 No 60950-1, IEC 60950-1, EN 60950-1, AS/NZS 60950-1, FDA 21 CFR Subchapter J
Emissions	FCC Part 15 (CFR 47) CLASS A, ICES-003 CLASS A, VCCI CLASS A, CISPR 32 CLASS A , EN 55032 CLASS A, AS/NZS CISPR32 CLASS A, EN 61000-3-2, EN 61000-3-3, ETSI EN 300 386
Immunity	CISPR 24, EN 55024, ETSI EN 300 386
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP
	Notes: The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 5 fan kits, as the device does not come with one.
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 Networking Comware 5945 4-slot Switch (JQ076A)

I/O ports and slots	4 module slots 2 x 1G SFP ports Type 1000BASE-LX	
	Supports up to a maximum of 96 x 10/25GbE and 8 x 100GbE ports, or up to 32 x 100GbE ports	
Additional ports and slots	1 x console port 1 x mini USB port 1 x USB port 2 x out-of-band management ports (one fiber port and one copper port)	
Power supplies	4 power supply slots 2 minimum power supplies required (ordered separately)	
Fan tray	2 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires two same-direction airflow fan trays to function properly. The system should not be operated with only one fan tray for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.	
Physical characteristics	**Dimensions**	88.1 x 440 x 660 mm (3.47 x 17.32 x 25.98 in) (2U height)
	Weight	18.10 kg (39.90 lb) shipping weight
	Full configuration weight	27 kg (59.52 lb)
Memory and processor	1 GB flash; packet buffer size: 32 MB, 8 GB SDRAM	
Performance	**Latency**	< 1 µs (64-byte packets)
	Throughput	2024 Mbpps
	Routing/Switching capacity	6.4 Tbps
	Routing table size	324K entries (IPv4), 162K entries (IPv6)
	MAC address table size	288K entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 70.8 dB, high-speed fan: 83.2dB

Technical Specifications

Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	2348 BTU/hr (2478 kJ/hr)
	Voltage	100 VAC to 240 VAC V rated, 90 VAC to 264 VAC max.., –40 VDC to –60 VDC rated –40 VDC to –72 VDC max.
	Maximum power rating	650 W
	Idle power	185 W
	Notes: Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated	
Safety	UL 60950-1, CAN/CSA C22.2 No 60950-1, IEC 60950-1, EN 60950-1, AS/NZS 60950-1, FDA 21 CFR Subchapter J	
Emissions	FCC Part 15 (CFR 47) CLASS A, ICES-003 CLASS A, VCCI CLASS A, CISPR 32 CLASS A , EN 55032 CLASS A, AS/NZS CISPR32 CLASS A, EN 61000-3-2, EN 61000-3-3, ETSI EN 300 386	
Immunity	CISPR 24, EN 55024, ETSI EN 300 386	
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	
	Notes: The customer must install a minimum of two power supplies, as the device does not come with one. The customer must install 2 fan kits, as the device does not come with one.	
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 Networking Comware 5945 32QSFP28 Switch (JQ077A)

I/O ports and slots	32 x 100G QSFP28 ports 2 x 1G SFP ports	
Additional ports and slots	1 x console port 1 x mini USB port 1 x USB port 2 x out-of-band management ports (one fiber port and one copper port)	
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	
Fan tray	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires same-direction airflow fan trays to function properly. The system should not be operated with less than five fan trays for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.	
Physical characteristics	**Dimensions**	43.6 x 440 x 460 mm (1.72 x 17.32 x 18.11 in)
	Weight	10.4 kg (22.93 lb) shipping weight
Memory and processor	1 GB flash; packet buffer size: 32 MB, 8 GB SDRAM	
Performance	**Latency**	< 1 µs (64-byte packets)

Technical Specifications

	Throughput	2024 Mpps
	Routing/Switching capacity	6.4 Tbps
	Routing table size	324K entries (IPv4), 162K entries (IPv6)
	MAC address table size	288K entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 62.4 dB, high-speed fan: 78.1 dB
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	1283 BTU/hr (1458 kJ/hr)
	Voltage	100 VAC to 240 VAC V rated 90 VAC to 264 VAC max –40 VDC to –60 VDC rated –40 VDC to –72 VDC max
	Maximum power rating	650 W
	Idle power	154 W
	Notes: Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated	
Safety	UL 60950-1, CAN/CSA C22.2 No 60950-1, IEC 60950-1, EN 60950-1, AS/NZS 60950-1, FDA 21 CFR Subchapter J	
Emissions	FCC Part 15 (CFR 47) CLASS A, ICES-003 CLASS A, VCCI CLASS A, CISPR 32 CLASS A , EN 55032 CLASS A, AS/NZS CISPR32 CLASS A, EN 61000-3-2, EN 61000-3-3, ETSI EN 300 386	
Immunity	CISPR 24, EN 55024, ETSI EN 300 386	
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	
	Notes: The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 5 fan kits, as the device does not come with one.	
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 Networking Comware 5945 2-slot Switch (JQ075A)

I/O ports and slots	2 module slots 2 x 100G QSFP28 ports
	Supports up to a maximum of 48 x 10/25GbE and 4 x 100GbE ports, or up to 16 x 100GbE ports
Additional ports and slots	1 x console port 1 x mini USB port 1 x USB port 2 x out-of-band management ports (one fiber port and one copper port)
Power supplies	2 power supply slots

Technical Specifications

	1 minimum power supply required (ordered separately)	
Fan tray	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires same-direction airflow fan trays to function properly. The system should not be operated with with less than five fan trays for more than 24 hours. The system should not be operated without a fan tray for more than two minutes. The system should not be operated outside of the temperature range of 32°F (0°C) to 113°F (45°C). Failure to comply with these operating requirements may void the product warranty.	
Physical characteristics	**Dimensions**	44.2 x 440 x 660 mm (1.74 x 17.32 x 25.98 in.)
	Weight	13.10 kg (28.88 lb) shipping weight
Memory and processor	1 GB flash; packet buffer size: 32 MB, 8 GB SDRAM	
Performance	**Latency**	< 1 µs (64-byte packets)
	Throughput	2024 Mbpps
	Routing/Switching capacity	3.6 Tbps
	Routing table size	324K entries (IPv4), 162K entries (IPv6)
	MAC address table size	288K entries
Environment	**Operating temperature**	32°F to 113°F (0°C to 45°C)
	Operating relative humidity	5% to 95%, noncondensing
	Acoustic	Low-speed fan: 70.8 dB, high-speed fan: 83.2dB
Electrical characteristics	**Frequency**	50/60 Hz
	Maximum heat dissipation	1392 BTU/hr (1458 kJ/hr)
	Voltage	100 VAC to 240 VAC V rated, 90 VAC to 264 VAC max.., –40 VDC to –60 VDC rated –40 VDC to –72 VDC max.
	Maximum power rating	650 W
	Idle power	136 W
	Notes: Idle power is the actual power consumption of the device with no ports connected. Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated	
Safety	UL 60950-1, CAN/CSA C22.2 No 60950-1, IEC 60950-1, EN 60950-1, AS/NZS 60950-1, FDA 21 CFR Subchapter J	
Emissions	FCC Part 15 (CFR 47) CLASS A, ICES-003 CLASS A, VCCI CLASS A, CISPR 32 CLASS A , EN 55032 CLASS A, AS/NZS CISPR32 CLASS A, EN 61000-3-2, EN 61000-3-3, ETSI EN 300 386	
Immunity	CISPR 24, EN 55024, ETSI EN 300 386	
Management	IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	
	Notes: The customer must install a minimum of two power supplies, as the device does not come with one. The customer must install five fan kits, as the device does not come with any.	
Services	Refer to the Hewlett Packard Enterprise website at: http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

Standards and protocols

Applies to all products in series

- IEEE 802.1ad Q-in-Q
- IEEE 802.1AX-2008 Link Aggregation
- IEEE 802.1D MAC Bridges
- IEEE 802.1p Priority
- IEEE 802.1Q VLANs
- IEEE 802.1s Multiple Spanning Trees
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3ae 10-Gigabit Ethernet
- IEEE 802.3ag Ethernet OAM
- IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber—EFMF
- IEEE 802.3x Flow Control 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 856 Telnet
- RFC 868 Time Protocol
- RFC 896 Congestion Control in IP/TCP Internetworks
- RFC 950 Internet Standard Subnetting Procedure
- RFC 1027 Proxy ARP
- RFC 1058 RIPv1
- RFC 1091 Telnet Terminal-Type Option
- RFC 1141 Incremental updating of the internet checksum
- RFC 1142 OSI IS-IS Intra-domain Routing Protocol
- RFC 1191 Path MTU discovery
- RFC 1213 Management Information Base for Network Management of TCP/IP-based internet RFC 1253 (OSPF v2)
- RFC 1531 DHCP
- RFC 1533 DHCP Options and BOOTP Vendor Extensions
- RFC 1534 DHCP/BOOTP Interoperation
- RFC 1541 DHCP
- RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
- RFC 1591 DNS (client only)
- RFC 1624 Incremental internet Checksum
- RFC 1723 RIP v2
- RFC 1812 IPv4 Routing
- RFC 2030 Simple Network Time Protocol (SNTP) v4
- RFC 2131 DHCP
- RFC 2236 IGMP Snooping
- RFC 2338 VRRP
- RFC 2453 RIPv2

Technical Specifications

- RFC 2581 TCP Congestion Control
- RFC 2644 Directed Broadcast Control
- RFC 2767 Dual Stacks IPv4 & IPv6
- RFC 2865 RADIUS
- RFC 2868 RADIUS Attributes for Tunnel Protocol Support
- RFC 2890 Key and Sequence Number Extensions to GRE
- RFC 3046 DHCP Relay Agent Information Option
- RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
- RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
- RFC 3413 SNMP Applications
- RFC 3416 Protocol Operations for SNMP
- RFC 3417 Transport Mappings for the SNMP
- RFC 3418 Management Information Base (MIB) for the SNMP
- RFC 3768 VRRP
- RFC 4250 The SSH) Protocol Assigned Numbers
- RFC 4251 The SSH Protocol Architecture
- RFC 4252 The SSH Authentication Protocol
- RFC 4253 The SSH Transport Layer Protocol
- RFC 4254 The SSH Connection Protocol
- RFC 4292 IP Forwarding Table MIB
- RFC 4293 Management Information Base for the Internet Protocol (IP)
- RFC 4364 BGP/MPLS IP Virtual Private Networks (VPNs)
- RFC 4419 Diffie-Hellman Group Exchange for the SSH Transport Layer Protocol
- RFC 4594 Configuration Guidelines for DiffServ Service Classes
- RFC 4601 Protocol Independent Multicast— Sparse Mode (PIM-SM): Protocol Specification (Revised)
- RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
- RFC 4607 Source-Specific Multicast for IP
- RFC 4941 Privacy Extensions for Stateless Address Auto configuration in IPv6
- RFC 5340 OSPF for IPv6
- RFC 5905 NTP Version 4: Protocol and Algorithms Specification
- RFC 2929 RADIUS Support DS for RADIUS

Device Management

- RFC 1157 SNMPv1/v2c
- RFC 1305 NTPv3
- RFC 1591 DNS (client)
- RFC 1902 (SNMPv2)
- RFC 1908 (SNMP v1/2 Coexistence)
- RFC 2573 (SNMPv3 Applications)
- RFC 2576 (coexistence between SNMP V1, V2, V3)
- RFC 2819 RMON
- Multiple configuration files
- Multiple software images

- SSHv1/SSHv2 Secure Shell
- TACACS/TACACS+

IPv6

- RFC 2080 RIPng for IPv6
- 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 2545 Use of MP-BGP-4 for IPv6
- RFC 2563 ICMPv6
- RFC 2711 IPv6 Router Alert Option
- RFC 2740 OSPFv3 for IPv6
- RFC 2767 Dual stacks IPv46 & IPv6
- RFC 3315 DHCPv6 (client and relay)
- RFC 3484 Default Address Selection for IPv6
- RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
- RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
- RFC 4291 IP Version 6 Addressing Architecture
- RFC 4443 ICMPv6
- RFC 4552 Authentication/Confidentiality for OSPFv3
- RFC 4862 IPv6 Stateless Address Auto-configuration
- RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

BGP

- RFC 1163 BGP
- RFC 1771 BGPv4
- RFC 1997 BGP Communities Attribute
- RFC 2918 Route Refresh Capability
- RFC 3392 Capabilities Advertisement with BGP-4
- RFC 4271 A BGP 4 (BGP-4)
- RFC 4360 BGP Extended Communities Attribute
- RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)
- RFC 4760 Multiprotocol Extensions for BGP-4
- RFC 7432 BGP MPLS-Based Ethernet VPN

MIBs

- RFC 1213 MIB II
- RFC 1907 SNMPv2 MIB
- RFC 2571 SNMP Framework MIB
- RFC 2572 SNMP-MPD MIB

- RFC 2573 SNMP-Notification MIB
- RFC 2573 SNMP-Target MIB
- RFC 2574 SNMP USM MIB
- RFC 2737 Entity MIB (version 2)
- RFC 3414 SNMP-User based-SM MIB
- RFC 3415 SNMP-View based-ACM MIB
- LLDP-EXT-DOT1-MIB
- LLDP-EXT-DOT3-MIB
- LLDP-MIB

Network Management

- RFC 2580 Conformance Statements for SMIv2
- RFC 3164 BSD syslog Protocol

QoS/CoS

- IEEE 802.1p (CoS)
- RFC 2475 DiffServ Architecture
- RFC 2597 DiffServ Assured Forwarding (AF)
- RFC 3247 Supplemental Information for the New Definition of the EF PHB (Expedited Forwarding Per-Hop Behavior)
- RFC 3260 New Terminology and Clarifications for DiffServ

OSPF

- RFC 1587 OSPF NSSA
- RFC 2328 OSPFv2
- RFC 3101 OSPF NSSA
- RFC 3137 OSPF Stub Router Advertisement
- RFC 3623 Graceful OSPF Restart
- 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

Security

- RFC 1321 The MD5 Message-Digest Algorithm
- RFC 2818 HTTP Over TLS
- RFC 6192 Partial Support-Protecting the router control plane
- ACLs SSHv2

Summary of Changes

Date	Version History	Action	Description of Change
15-Jun-2026	Version 29	Changed	New QSFP28 transceiver SKU added in Configuration Information: JL795A
27-Feb-2026	Version 28	Changed	Rebranding update applied to QuickSpecs
28-Apr-2025	Version 27	Changed	Configuration Information section was updated
02-Dec-2024	Version 26	Changed	Configuration Information section was updated
14-Oct-2024	Version 25	Changed	Configuration Information section was updated
01-Jul-2024	Version 24	Changed	Overview and Configuration Information sections were updated.
04-Dec-2023	Version 23	Changed	Series name was updated.
06-Mar-2023	Version 22	Changed	Overview and Standard Features sections were updated.
21-Nov-2022	Version 21	Changed	Configuration Information section was updated
15-Aug-2022	Version 20	Changed	Overview section was updated.
07-Feb-2022	Version 19	Changed	Standard Features and Configuration Information sections were updated. New SKUs added in Configuration Information section.
06-Jul-2021	Version 18	Changed	SKUs added in Related Options section.
12-Oct-2020	Version 17	Changed	Related Options section was updated. MD
05-Oct-2020	Version 16	Changed	Configuration Information section was updated.
10-Aug-2020	Version 15	Changed	Configuration Information section was updated.
06-Jul-2020	Version 14	Changed	Configuration Information section was updated.
04-May-2020	Version 13	Changed	Configuration Information and Related Options sections were updated.
06-Apr-2020	Version 12	Changed	Configuration Information section was updated.
18-Nov-2019	Version 10	Changed	Configuration Information section was updated. New SKUS were added.
03-Sep-2019	Version 9	Changed	Configuration Information and Additional Options sections were updated. Obsolete SKUs were removed. New SKUs were added.
13-May-2019	Version 8	Changed	Added JQ075A,and,JQ077A, Multiple SKUs were added in Related Options Overview, Standard Features and Technical specifications sections were updated
02-Apr-2019	Version 7	Changed	Configuration was updated. Compatibility rules were updated.
18-Feb-2019	Version 6	Changed	Accessories updated
03-Dec-2018	Version 5	Changed	Configuration and Technical Specifications updated.
01-Oct-2018	Version 4	Changed	HPE Recommended Options section removed
04-Sep-2018	Version 3	Changed	Technical Specifications and Configuration sections were updated.
09-Aug-2018	Version 2	Changed	Technical Specifications section was updated.
06-Aug-2018	Version 1	New	New QuickSpecs

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