HPE aruba networking

Data sheet

HPE Networking Comware Switch Series 5710

HPE

Key features

— High performance, low-latency data center top-of-rack (ToR) switch aimed at expanding port connectivity while adding local switching capacity

— HPE Intelligent Resilient Fabric (IRF) for virtualization and two-tier networks

— High 1/10GbE wire speed ports with 40GbE and 100GbE uplinks

— Layer 2 and Layer 3 features with static routing, RIP, OSPF, and BGP

— Support converged applications with Data Center Bridging (DCB) features such as Priority-based Flow Control (PFC) IEEE 802.1Qbb, Quantized Congestion Notification (QCN) IEEE 802.1Qau, Enhanced Transmission Selection (ETS) IEEE 802.1Qaz, and Data Center Bridging Capability Exchange (DCBx) IEEE 802.1Qaz, and Fibre Channel over Ethernet (FCoE)

— New **made in USA** TAA SKUs introduced for customers who have concerns with **made in China** products—these SKUs provide additional security as a combination of manual and automated source code analysis that is performed to identify common programming issues and addresses any security weaknesses

Product overview

HPE Networking Comware Switch Series 5710 is a family of high performance, low-latency access switches aimed at providing superior edge device connectivity in modern spine leaf data centers.

HPE Networking Comware Switch Series 5710 is ideally suited for deployment at the server access layer of large and medium-sized enterprise data centers. It delivers lower TCO while enhancing networking performance to support demanding virtualized applications and server-to-server traffic. Resilience and ease of management come hand-in-hand with the HPE Networking Comware Switch Series 5710.

Features and benefits

Quality of service (QoS)

— Powerful QoS features

- **Flexible classification:** Flow classification is based on DSCP field, MAC address, IP protocol type, source address, destination address, or port number of an application.
- **Feature queue scheduling:** Flexible queuing and scheduling algorithms are configured on a per-port or per-queue basis, including strict priority (SP), weighted round robin (WRR), SP+WRR, weighted fair queuing (WFQ), and SP+WFQ.
- **QPPB:** QoS Policy Propagation through Border Gateway Protocol (BGP), often abbreviated to QPPB, is a mechanism that allows propagation of QoS policy and classification by the sending party based on access lists, community lists, and autonomous system paths in the BGP thus helping to classify based on destination instead of source address.

Data center-optimized

— **Versatile server connectivity:** HPE Networking Comware Switch Series 5710 enables scaling of the server edge with 1GbE and 10GbE ToR deployments with high-density 24-and 48-port solutions delivered in a 1RU form factor. These switches can be set up as stand-alone Layer 2 and Layer 3 switches. The high server port density of HPE Networking Comware Switch Series 5710 is backed by 40GbE QSFP+ or 100GbE QSFP28 uplinks to deliver the availability of needed bandwidth for demanding applications. Each 40GbE QSFP+ port can also be configured as four 10GbE ports by using a 40GbE–10GbE splitter cable.

— **High performance switching:** Cut-through and nonblocking architecture delivers low latency (1.5 to 2.5 µs for 10GbE) for very demanding enterprise applications. HPE Networking Comware Switch Series 5710 also deliver high performance switching capacity and wire speed packet forwarding. Local switching capacity and wire speed packet forwarding are available for demanding data center environments.

— **Higher scalability:** HPE IRF technology simplifies the architecture of server access networks; up to 9 HPE Networking Comware 5710 switch switches can be combined into one virtual switch configuration and managed using a single IP address. HPE IRF enables this switch to deliver the unmatched scalability of virtualized switches and flatter two-tier networks, which reduces cost and complexity.

— **Advanced modular network operating system:** Comware v7 network operating system's modular design and multiple processes bring native high stability, independent process monitoring, and a 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 In-Service Software Upgrade (ISSU).

— **Reversible airflow:** It is 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:** 1+1 internal redundant and hot-pluggable AC or DC power supplies and multiple fan trays enhance reliability and availability.

— **DCB protocols:** It provides support for IEEE 802.1Qbb Priority Flow Control (PFC), QCN IEEE 802.1Qau, ETS IEEE 802.1Qaz, and DCBx IEEE 802.1Qaz for converged applications.

— **FCoE support:** It provides support for FCoE including Fibre Channel Forwarder (FCF), transit, and N-Port Virtualization (NPV).

— **Jumbo frames:** Frame sizes of up to 10,000 bytes allow high performance remote backup and disaster recovery services to be enabled.

Management and manageability

— **Fully featured console:** Provides a safe, easy-to-use CLI for configuring the module through Secure shell (SSH) or a switch console; provides direct real-time session visibility

— **Remote configuration and management:** Is available 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 SNMPv1/v2/v3; and is fully supported in HPE Intelligent Management Center (IMC)

— **Management security:** Restricts access to critical configuration commands; offers multiple privilege levels with password protection; access control lists (ACLs) provide Telnet and SNMP access; local and remote syslog capabilities allow logging of access

— **Command authorization:** Leverages Remote Authentication Dial-In User Service (RADIUS) to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity

— Troubleshooting

  • Ingress and egress port monitoring: Enable network problem solving

  • Traceroute and ping: Enable testing of network connectivity

— **File copy:** Allows users to copy switch files to and from a USB flash drive

— Support for multiple configuration files

— **Dual flash images:** Provides independent primary and secondary operating system files for backup while upgrading

— **SNMPv1, v2c, and v3:** Facilitates centralized discovery, monitoring, and safer 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

— **ISSU and hot patching:** Provides hitless IRF-based software upgrades and hitless patching of the modular operating system

— **Auto-configuration:** Provides automatic configuration through DHCP auto-configuration, NETCONF, and Python scripting

— IPv6 over IPv4, 6to4, and ISATAP Tunnel

— RSPAN and ERSPAN

— Ethernet OAM (802.3ah) and Connectivity Fault Detection (CFD) (802.1ag)

— Symmetric load balancing for link aggregation and ECMP

— Layer 2 protocol tunneling (L2PT) support for virtual private networks (VPNs)

— Buffer monitoring

— OVSDB QoS and OVSDB ACL

— **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 wire speed 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

— **Logging:** Provides local and remote logging of events through SNMP (v2c and v3) and syslog; provides log throttling and log filtering to reduce the number of log events generated

— **Information center:** Provides a central repository for system and network information; aggregates 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

— **Local/remote port mirroring:** Mirrors selected traffic to destination on same device or mirrors destination on different devices

— Puppet/Chef/YANG support

— **Network management:** HPE IMC centrally configures, updates, monitors, and troubleshoots

Resiliency and high availability

— **HPE IRF technology:** Delivers resilient, scalable, and secured data center network for physical and virtualized environment; groups up to 9 HPE Networking Comware Switch Series 5710 in an HPE IRF configuration, allowing them to be configured and managed as a single virtual switch with a single IP address; simplifies ToR and spine/leaf deployments 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 Protocol (MSTP):** Provides high link availability in multiple VLAN environments by allowing Multiple Spanning Trees

— **Hitless patch upgrades:** Allows patches and new service features to be installed without restarting the equipment, increasing network uptime and facilitating maintenance

— **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

— Smart Link and RRPP and load balancing among Smart Link multiple instances and RRPP multiple instances

— **DRNI:** Provides a resilient interconnect using multiple links among one or more nodes in a network

— **ERPS:** Provides fast protection and recovery switching for Ethernet traffic

Security

HPE Networking Comware Switch Series 5710 fully meets customer requirements in security design and provides a complete network security solution. It provides the following network security features:

— **ACLs:** Provides IP Layer 3 filtering based on source, destination IP address, or subnet, and source, destination TCP, or UDP port number

— **RADIUS/TACACS+:** Eases switch management security administration by using a password authentication server

— **SSH:** Encrypts transmitted data for safe remote CLI access over IP networks

— **IEEE 802.1x and RADIUS network logins:** Controls port-based access for authentication and accountability

— Terminal and user access control

— Hierarchical user management and password protection

— IP source guard

— MAC address entries

— MAC learning limit

— MAC address and port number binding

— SSH 2.0

— Port isolation

  • IEEE 802.1x-compliant user access authentication

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

  • Local and RADIUS authentications

— Ethernet frame and upper-layer packet filtering and validity authentication:

  • ACL

  • 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, and protocol type

  • SNMPv3 encryption and authentication

— Address Resolution Protocol (ARP) attack protection features such as ARP attack detection

— RA guard, ND snooping and detection

Layer 2 switching

- **ARP:** Supports static, dynamic, and reverse ARP and ARP proxy
- **Flow Control:** IEEE 802.3x Flow Control provides intelligent congestion management through pause frames
- **Ethernet link aggregation:** Provides IEEE 802.3ad Link Aggregation of up to 1024 groups and 32 ports; support for Link Aggregation Control Protocol (LACP), LACP Local Forwarding First, and LACP Short-time provides a fast, resilient environment that is ideal for the data center
- **Spanning Tree Protocol (STP):** STP (IEEE 802.1D), Rapid STP (RSTP, IEEE 802.1w), and MSTP (IEEE 802.1s)
- **VLAN support:** Provides support for 4094 VLANs based on port: VLAN mapping, Q-in-Q, and Selective Q-in-Q
- **Internet Group Management Protocol (IGMP) support:** Provides support for IGMP snooping v1/v2/v3, Protocol Independent Multicast (PIM) snooping, Multicast Listener Discovery (MLD) snooping v1/v2, and IPv6 PIM snooping
- **DHCP support at Layer 2:** Provides full DHCP snooping support for DHCP Snooping Option 82, DHCP Relay Option 82, DHCP Snooping Trust, and DHCP Snooping Item Backup

Layer 3 services

- **ARP:** Determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- **DHCP:** Simplifies the management of large IP networks and supports client and server; DHCP relay enables DHCP operation across subnets
- **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
- VXLAN L2 and L3 gateway support for up to 2K tunnels

Layer 3 routing

- **(ECMP):** Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **Layer 3 IPv4 routing:** Provides routing of IPv4 at media speed; supports static routes, RIP, OSPF, and BGP
- **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
- **Bidirectional Forwarding Detection (BFD):** Enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, Virtual Router Redundancy Protocol (VRRP), and IRF
- **Layer 3 IPv6 routing:** Provides routing of IPv6 at media speed; supports static routing, RIPng, OSPFv3, and BGP

Convergence

- **LLDP-Media Endpoint Discovery (MED):** 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

Warranty and support

- **1-Year warranty:** See arubanetworks.com/support-services/product-warranties/ for warranty and support information included with your product purchase

Technical specifications

	HPE 5710 48SFP+ 6QS+/2QS28 Switch (JL585A)	HPE 5710 48XGT 6QS+/2QS28 Switch (JL586A)
I/O ports and slots	40 x 1/10 GB SFP+ ports 8 x 10 GB SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports	40 x 1/10GBASE-T ports 8 x 10GBASE-T ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports
Additional ports and slots	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately) Power supplies are hot swappable. For 1-1 redundancy this system requires two same-type power supplies to function properly.	2 power supply slots 1 minimum power supply required (ordered separately) Power supplies are hot swappable. For 1-1 redundancy this system requires two same-type power supplies to function properly.
Fan tray	4 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires four same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable.	5 fan tray slots The customer must order fan trays, as they are not included with the switch. This system requires five same-direction airflow fan trays to function properly. A failed fan tray must be replaced immediately. Fans are hot swappable.
Physical characteristics		
Dimensions (H x W x D)	44 mm x 440 mm x 400 mm (1.73 in. x 17.32 in. x 15.75 in.) (1U height)	44 mm x 440 mm x 460 mm (1.73 in. x 17.32 in. x 18.11 in.) (1U height)
Weight	8.65 kg (19.07 lb); shipping weight 8.61 kg (18.95 lb)	10.25 kg (22.60 lb); shipping weight 10.27 kg (22.60 lb)
Memory and processor	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
Performance		
10 Gbps latency	< 1.5 µs (64-byte packets)	< 2.5 µs (64-byte packets)
Throughput	1071 Mpps	1071 Mpps
Routing/switching capacity	1440 Gbps	1440 Gbps
Routing table size	16K entries (IPv4), 8K entries (IPv6)	16K entries (IPv4), 8K entries (IPv6)
MAC address table size	208K entries	208K entries
ARP table size	68K (1K static)	68K (1K static)

Technical specifications (continued)

	HPE 5710 48SFP+ 6QS+/2QS28 Switch (JL585A)	HPE 5710 48XGT 6QS+/2QS28 Switch (JL586A)
Reliability		
MTBF (years)	135.90	114.43
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Acoustic	Low-speed fan: 52.5 dB; High-speed fan: 68.7 dB	Low-speed fan: 52.4 dB; High-speed fan: 68.6 dB
Electrical characteristics		
Frequency	50 Hz/60 Hz	50 Hz/60 Hz
Maximum heat dissipation	607 BTU/hr	900 BTU/hr
AC voltage	100 VAC–240 VAC; Max. voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 250W/450W depending on PSU selected	100 VAC–240 VAC; Max. input voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 450W
Idle power	74W/108W	108W
	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.	**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; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1	UL 60950-1; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1; AS/NZS 60950-1; CNS 14336-1
Emissions	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300 386	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300 386
Immunity	ETSI EN 300 386; EN 55024; KN35; CISPR 24	ETSI EN 300 386; EN 55024; KN35; CISPR 24
Environmental	RoHS compliant	RoHS compliant
Management	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	HPE 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 4 fan kits depending on the model, as the device does not come with one.	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 depending on the model, as the device does not come with one.
Services	Visit hpe.com/us/en/networking/comware for details on the service-level descriptions and product numbers. For details about services, and response times in your area, contact your local HPE sales office.	Visit hpe.com/us/en/networking/comware for details on the service-level descriptions and product numbers. For details about services, and response times in your area, contact your local HPE sales office.

Technical specifications (continued)

	HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)	HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)
I/O ports and slots	24 x 1/10 GB SFP+ ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports	24 x 1/10GBASE-T ports 6 x 40GbE ports or 3 x 40GbE ports and 1 x 100G port or 2 x 100GbE ports
Additional ports and slots	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port	Management ports 1 x 10M/100M/1000MBASE-T copper port 1 x SFP port Console ports 1 x mini USB console port 1 x serial console port
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Weight	8.55 kg (18.85 lb); shipping weight 8.61 kg (18.95 lb)	9.90 kg (21.83 lb); shipping weight 9.96 kg (21.96 lb)
Memory and processor	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB	1 GB flash, 4 GB SDRAM; packet buffer size: 12 MB
Performance		
10 Gbps latency	< 1.5 µs (64-byte packets)	< 2.5 µs (64-byte packets)
Throughput	714 Mpps	714 Mpps
Routing/switching capacity	960 Gbps	960 Gbps
Routing table size	16K entries (IPv4), 8K entries (IPv6)	16K entries (IPv4), 8K entries (IPv6)
MAC address table size	208K entries	208K entries
ARP table size	68K (1K static)	68K (1K static)

Technical specifications (continued)

	HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)	HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)
Reliability		
MTBF (years)	145.41	43.12
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 90%, noncondensing	10% to 90%, noncondensing
Acoustic	Low-speed fan: 52.5 dB; high-speed fan: 68.7 dB	Low-speed fan: 52.7 dB; high-speed fan: 67.0 dB
Electrical characteristics		
Frequency	50 Hz/60 Hz	50 Hz/60 Hz
Maximum heat dissipation	457 BTU/hr	399 BTU/hr
AC voltage	100 VAC–240 VAC; Max. voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 250W/450W depending on PSU selected	100 VAC–240 VAC; Max. input voltage: 264 VAC @ 50 Hz/60 Hz Max. output power: 450W
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	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.	**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.
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Emissions	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300 386	VCCI Class A; EN 55032 Class A; ICES-003 Class A; AS/NZS CISPR 32 Class A; EN 61000-3-2; EN 61000-3-3; FCC (CFR 47, Part 15) Class A; CISPR 32 Class A; CNS 13438; KN32; TCVN 7189; Anatel Resolution 442; ETSI EN 300 386
Immunity	ETSI EN 300 386; EN 55024; KN35; CISPR 24	ETSI EN 300 386; EN 55024; KN35; CISPR 24
Environmental	RoHS compliant	RoHS compliant

Technical specifications (continued)

	HPE 5710 24SFP+ 6QS+/2QS28 Switch (JL587A)	HPE 5710 24XGT 6QS+/2QS28 Switch (JL689A)
Management	HPE IMC; CLI; out-of-band management; SNMP Manager; Telnet; FTP	HPE 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 4 fan kits depending on the model, as the device does not come with one.	The customer must install a minimum of one power supply, as the device does not come with one. The customer must install 4 fan kits depending on the model, as the device does not come with one.
Services	Visit hpe.com/us/en/networking/comware for details on the service-level descriptions and product numbers. For details about services, and response times in your area, contact your local HPE sales office.	Visit hpe.com/us/en/networking/comware for details on the service-level descriptions and product numbers. For details about services, and response times in your area, contact your local HPE sales office.

Standards and protocols

(applies to all products in series)

HPE Networking Comware Switch Series 5710			
BGP	RFC 1163 BGP RFC 1771 BGP-4 RFC 1997 BGP Communities Attribute	RFC 2918 Route Refresh Capability RFC 3392 Capabilities Advertisement with BGP-4 RFC 4271 A BGP-4	RFC 4360 BGP Extended Communities Attribute RFC 4456 BGP Route Reflection: An alternative to Full Mesh Internal BGP (IBGP)
Device management	RFC 1157 SNMPv1/v2c RFC 1305 NTPv3 RFC 1591 DNS (client) RFC 1902 (SNMPv2)	RFC 1908 (SNMPv1/2 coexistence) RFC 2573 (SNMPv3 applications) RFC 2576 (coexistence between SNMPv1, v2, v3) RFC 2819 RMON	Multiple configuration files Multiple software images SSHv1/SSHv2 TACACS/TACACS+

Standards and protocols (continued)

HPE Networking Comware Switch Series 5710			
General protocols	IEEE 802.1ad Q-in-Q IEEE 802.1AX-2008 Link Aggregation IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q VLANs IEEE 802.1Qau Quantized Congestion Notification (QCN) IEEE 802.1Qaz Enhanced Transmission Selection (ETS) IEEE 802.1Qaz Data Center Bridging Capability Exchange (DCBx) IEEE 802.1Qbb Priority-based Flow Control (PFC) IEEE 802.1s Multiple Spanning Trees IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ad LACP IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3ag Ethernet OAM IEEE 802.3ah EFM 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 (OSPFv2) 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 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 SNMP Management Frameworks RFC 3412 Message Processing and Dispatching for the 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 sRFC 4254 The SSH Connection Protocol RFC 4292 IP Forwarding Table MIB RFC 4293 Management Information Base for the IP RFC 4419 Diffie-Hellman Group Exchange for the SSH Transport Layer Protocol RFC 4594 Configuration Guidelines for DiffServ Service Classes RFC 4601 PIM-Sparse Mode (PIM-SM): Protocol Specification (Revised) RFC 4604 using IGMPv3 and MLD Protocol Version 2 (MLDv2) for Source-Specific Multicast RFC 4607 Source-Specific Multicast for IP RFC 4941 Privacy Extensions for Stateless Address Autoconfiguration in IPv6 RFC 5340 OSPF for IPv6 RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification RFC 2929 RADIUS Support DS for RADIUS
IPv6	RFC 2080 RIPng for IPv6 RFC 2460 IPv6 Specification RFC 2461 IPv6 Neighbor Discovery RFC 2462 IPv6 Stateless Address Autoconfiguration 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 IPv4 & IPv6 RFC 3315 DHCPv6 (client and relay) RFC 3484 Default Address Selection for IPv6 RFC 3810 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 Autoconfiguration RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
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

Standards and protocols (continued)

HPE Networking Comware Switch Series 5710			
Network management	RFC 2580 Conformance Statements for SMIv2	RFC 3164 BSD Syslog Protocol	
OSPF	RFC 1587 OSPF NSSA RFC 2328 OSPFv2 RFC 3101 OSPF NSSA	RFC 3137 OSPF Stub Router Advertisement RFC 3623 Graceful OSPF Restart	RFC 4811 OSPF Out-of-Band LSDB Resynchronization RFC 4812 OSPF Restart Signaling RFC 4813 OSPF Link-Local Signaling
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 Expedited Forwarding Per-Hop Behavior (EF PHB) RFC 3260 New Terminology and Clarifications for DiffServ
Security	RFC 1321 The MD5 Message—Digest Algorithm RFC 2818 HTTP Over TLS	RFC 6192 Partial Support—Protecting the Router Control Plane	ACLs SSHv2

Accessories

New HPE Networking Comware 5710 TAA SKUs

— S3K83A HPE NW CW Sw 48P 6Q 2C TAA 5710
— S3K84A HPE NW CW Sw 48T 6Q 2C TAA 5710
— S3K85A HPE NW CW Sw 24P 6Q 2C TAA 5710
— S3K86A HPE NW CW Sw 24T 6Q 2C TAA 5710

The TAA SKUs have the same technical specifications of non-TAA SKUs, refer to the following mapping table.

Non-TAA SKUs	TAA SKU equivalent
JL585A	S3K83A
JL586A	S3K84A
JL587A	S3K85A
JL689A	S3K86A

HPE Networking Comware 5710 48SFP+ 6QSFP+ or 2QSFP28 Switch (JL585A)

— HPE Networking Comware 5710 250W Front-to-Back AC Power Supply (JL589A)
— HPE Networking Comware 5710 250W Back-to-Front AC Power Supply (JL590A)
— HPE Networking Comware 5710 450W 48V Front-to-Back DC Power Supply (JL688A)
— HPE Networking Comware 5710 450W Front-to-Back AC Power Supply (JL592A)
— HPE Networking Comware 5710 450W Back-to-Front AC Power Supply (JL593A)

Note: 450W AC PSUs are compatible with JL585A but not required. The 250W AC PSU and 450W AC PSU cannot be installed in the same switch. For 1-1 redundancy this system requires two same-type power supplies to function properly.

— HPE Networking Comware X721 Front-to-Back Fan Tray (JL594A)
— HPE Networking Comware X722 Back-to-Front Fan Tray (JL595A)

HPE Networking Comware 5710 48XGT 6QSFP+ or 2QSFP28 Switch (JL586A)

— HPE Networking Comware 5710 450W 48V Front-to-Back DC Power Supply (JL688A)
— HPE Networking Comware 5710 450W Front-to-Back AC Power Supply (JL592A)
— HPE Networking Comware 5710 450W Back-to-Front AC Power Supply (JL593A)
— HPE Networking Comware X721 Front-to-Back Fan Tray (JL594A)
— HPE Networking Comware X722 Back-to-Front Fan Tray (JL595A)

HPE Networking Comware 5710 24SFP+ 6QSFP+ or 2QSFP28 Switch (JL587A)

— HPE Networking Comware 5710 250W Front-to-Back AC Power Supply (JL589A)
— HPE Networking Comware 5710 250W Back-to-Front AC Power Supply (JL590A)
— HPE Networking Comware 5710 450W 48V Front-to-Back DC Power Supply (JL688A)
— HPE Networking Comware 5710 450W Front-to-Back AC Power Supply (JL592A)
— HPE Networking Comware 5710 450W Back-to-Front AC Power Supply (JL593A)

Note: 450W AC PSUs are compatible with JL587A but not required. The 250W AC PSU and 450W AC PSU cannot be installed in the same switch. For 1-1 redundancy this system requires two same-type power supplies to function properly.

— HPE Networking Comware X721 Front-to-Back Fan Tray (JL594A)
— HPE Networking Comware X722 Back-to-Front Fan Tray (JL595A)

HPE Networking Comware 5710 24XGT 6QSFP+ or 2QSFP28 Switch (JL689A)

— HPE Networking Comware 5710 450W Front-to-Back AC Power Supply (JL592A)
— HPE Networking Comware 5710 450W Back-to-Front AC Power Supply (JL593A)
— HPE Networking Comware 5710 450W 48V Front-to-Back DC Power Supply (JL688A)
— HPE Networking Comware X721 Front-to-Back Fan Tray (JL594A)
— HPE Networking Comware X722 Back-to-Front Fan Tray (JL595A)

Optical: Management ports

— 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 LH100 Transceiver (JD103A)

Gigabit SFP+ modules

Gigabit SFP+ transceiver modules

— 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 LH100 Transceiver (JD103A)

10-Gigabit SFP+ modules and cables

— HPE X130 10G SFP+ LC SR Transceiver (JD092B)
— HPE X130 10G SFP+ LC LR Transceiver (JD094B)
— HPE X240 10G SFP+ SFP+ 0.65m Direct Attach Copper Cable (JD095C)
— HPE X240 10G SFP+ SFP+ 1.2m Direct Attach Copper Cable (JD096C)
— HPE X240 10G SFP+ SFP+ 3m Direct Attach Copper Cable (JD097C)
— HPE X240 10G SFP+ SFP+ 5m Direct Attach Copper Cable (JG081C)
— HPE X2A0 10G SFP+ to SFP+ 7m Active Optical Cable (JL290A)
— HPE X2A0 10G SFP+ to SFP+ 10m Active Optical Cable (JL291A)
— HPE X2A0 10G SFP+ to SFP+ 20m Active Optical Cable (JL292A)

40-Gigabit QSFP+ modules and cables

- HPE X140 40G QSFP+ LC LR4 SM 10km 1310nm Transceiver (JG661A)
- HPE X140 40G QSFP+ MPO MM 850nm CSR4 300m Transceiver (JG709A)
- HPE X140 40G QSFP+ MPO SR4 Transceiver (JG325B)
- HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver (JL251A)
- HPE X140 40G QSFP+ LC LR4L 2km SM Transceiver (JL286A)
- HPE X140 40G QSFP+ LC ER4 40km SM Transceiver (JL306A)
- HPE X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable (JG326A)
- HPE X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable (JG327A)
- HPE X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable (JG328A)
- HPE X240 QSFP+ 4x10G SFP+ 1m Direct Attach Copper Cable (JG329A)
- HPE X240 QSFP+ 4x10G SFP+ 3m Direct Attach Copper Cable (JG330A)
- HPE X240 QSFP+ 4x10G SFP+ 5m Direct Attach Copper Cable (JG331A)
- HPE X2A0 40G QSFP+ to QSFP+ 7m Active Optical Cable (JL287A)
- HPE X2A0 40G QSFP+ to QSFP+ 10m Active Optical Cable (JL288A)
- HPE X2A0 40G QSFP+ to QSFP+ 20m Active Optical Cable (JL289A)
- HPE QSFP/SFP+ Adaptor kit (655874-B21)

100-Gigabit QSFP28 modules and cables

- HPE X150 100G QSFP28 MPO SR4 100m MM Transceiver (JL274A)
- HPE X150 100G QSFP28 LC LR4 10km SM Transceiver (JL275A)
- HPE X150 100G QSFP28 LC SWDM4 100m MM Transceiver (JH419A)
- HPE X150 100G QSFP28 BiDi 100m MM (JQ344A)
- HPE X150 100G QSFP28 eSR4 300m MM (JH672A)
- HPE X150 100G QSFP28 MPO PSM4 500m SM Transceiver (JH420A)
- HPE X150 100G QSFP28 CWDM4 2km SM Transceiver (JH673A)
- HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable (JL271A)
- HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable (JL272A)
- HPE X240 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable (JL273A)
- HPE X2A0 100G QSFP28 to QSFP28 7m Active Optical Cable (JL276A)
- HPE X2A0 100G QSFP28 to QSFP28 10m Active Optical Cable (JL277A)
- HPE X2A0 100G QSFP28 to QSFP28 20m Active Optical Cable (JL278A)

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