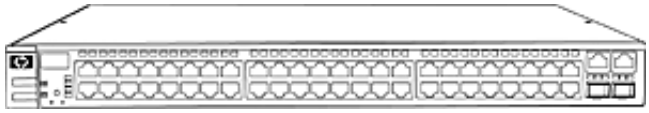
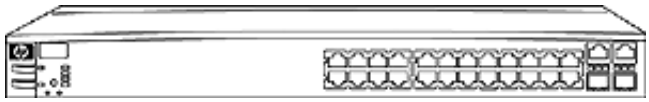
Overview

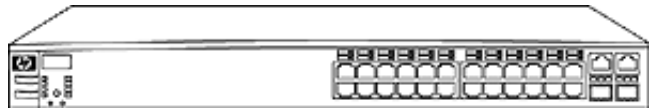


HP E2650 Switch

HP E2650-PWR Switch



HP E2626 Switch



HP E2626-PWR Switch

Models

HP E2650 Switch	J4899C
HP E2626 Switch	J4900C
HP E2650-PWR Switch	J8165A
HP E2626-PWR Switch	J8164A

Key features

- Access layer PoE switch
- Layer 2 and Layer 3 lite feature set
- Scalable 10/100 connectivity
- Gigabit fiber uplinks
- Enterprise-class features

Introduction

The HP E2600 Switch Series is a collection of low-cost, stackable, multi-layer, managed switches with 48, 24, or 8 auto-sensing 10/100 ports and dual-personality ports for 10/100/1000 or mini-GBIC connectivity. A redundant external power supply is also available as an accessory.

Features and Benefits

Quality of Service (QoS)

- **Traffic prioritization** (IEEE 802.1p): allows real-time HP E2600 Series traffic classification into eight priority levels mapped to four queues
- **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
- **Layer 4 prioritization**: enables prioritization based on TCP/UDP port numbers

Connectivity

- **Dual-personality functionality**: two 10/100/1000 ports or mini-GBIC slots for optional fiber connectivity such as Gigabit-SX,

-LX, or -LH

- Power over Ethernet (IEEE 802.3af) compliant (HP E2650-PWR, E2626-PWR, & E2600-8-PWR): provides up to 15.4 W per port to power IP phones, wireless access points, Web \cameras, and more (HP E2650-PWR may require an external power supply to provide full 15.4 W for all 48 PoE-ready ports)

Performance

- 13.6 Gbps (HP E2650 and E2650-PWR)/9.6 Gbps (HP E2626, E2626-PWR, E2600-8-PWR) backplane: wire-speed non-blocking architecture for low-latency throughput

Resiliency and high availability

- IEEE 802.3ad Link Aggregation Control Protocol (LACP) and HP port trunking: support for up to six trunks, each with up to eight links (ports) per trunk; trunking across modules is supported
- IEEE 802.1D Spanning Tree Protocol (STP): provides redundant links while preventing network loops
- 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
- Optional external redundant power supply (HP E2650-PWR, E2626-PWR, E2600-8-PWR): provides uninterrupted power; sold as an accessory

Manageability

- RMON (remote monitoring): provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events
- Friendly port names: allow assignment of descriptive names to ports
- Auto-MDIX: automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- Dual flash images: provides independent primary and secondary operating system files for backup while upgrading
- Stacking capability: single IP address management for a virtual stack of up to 16 switches, including the HP E2500 Series, E2510 Series, E2600 Series, E2800 Series, E2810 Series, E2900 Series, E3400 cl Series, E3500 yl Series, E4200 vl Series, E6108, E6200 yl, and E6400 cl Series Switches
- Find-Fix-Inform: finds and fixes common network problems automatically, then informs administrator
- Troubleshooting: ingress/egress port monitoring enables network problem-solving (HP E2626 and E2626-PWR only)
- Software updates: free downloads from the Web

Layer 2 switching

- VLAN support and tagging: support complete IEEE 802.1Q (4,096 VLAN IDs) and 253 VLANs simultaneously
- GARP VLAN Registration Protocol (GVRP): allows automatic learning and dynamic assignment of VLANs

Layer 3 routing

- Basic IP routing: enables automatic routing to the connected VLANs and up to 16 static routes, including one default route, in IP networks

Security

- Port security: allows access only to specified MAC addresses, which can be learned or specified by the administrator
- MAC address lockout: prevents particular configured MAC addresses from connecting to the network
- Dynamic IP lockdown: works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
- Dynamic ARP protection: blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- Multiple user authentication methods:

Overview

  - IEEE 802.1X: industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server
  - Web-based authentication: similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
  - MAC-based authentication: client is authenticated with the RADIUS server based on the client's MAC address
- NEW Authentication flexibility:
  - Multiple IEEE 802.1X users per port: provides authentication of up to eight IEEE 802.1X users per port; prevents user "piggybacking" on another user's IEEE 802.1X authentication
- Secure File Transfer Protocol (FTP): allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of switch configuration file
- RADIUS/TACACS+: eases switch management security administration by using a password authentication server
- Source-port filtering: allows only specified ports to communicate with each other
- Secure Shell (SSHv2): encrypts all transmitted data for secure, remote command-line interface (CLI) access over IP networks
- Secure Sockets Layer (SSL): encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- Switch management logon security: can require either RADIUS or TACACS+ authentication for secure switch CLI logon

Convergence

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP): is an automated device discovery protocol for easy mapping by network management applications
- LLDP-MED (Media Endpoint Discovery): is a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

HP E2650 Switch (J4899C)	**Ports**	48 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RS-232C DB-9 console port	
	Physical characteristics	**Dimensions** (D x W x H)	12.8 x 17.32 x 1.75 in. (32.51 x 43.99 x 4.45 cm) (1U height)
		Weight (fully loaded)	9.78 lb. (4.4 kg)
	Memory and processor	**Processor type and speed**	Motorola PowerPC MPC8245 @ 266 MHz
		Flash capacity	8 MB
		SDRAM	32 MB SDRAM
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	**Latency**	<13.3 µs (LIFO)
		Throughput	Up to 10.1 million pps
		Routing/Switching capacity	13.6 Gbps
		MAC address table size	8,000 entries
	Environment	**Operating temperature**	32° to 131°F (0° to 55°C)
		Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
		Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
		Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
		Alitude	up to 15000 ft. (4.6 km)
		Acoustic	Power: 50 dB; DIN 45635T.19 per ISO 7779
	Electrical characteristics	**Maximum heat dissipation**	342 BTU/hr (360.81 kJ/hr)
		Voltage	100-240 VAC
		Current	1.5 A
		Power consumption	100 W
		Frequency	50 /60 Hz
	Notes	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	CSA 22.2 No. 950; cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition; UL 60950	
	Emissions	FCC Class A; VCCI Class A; EN 55022/CISPR 22 Class A	
	Immunity	**Generic**	EN 55024, CISPR 24

	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (H5481E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U6303E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6302E) 3-year, 24x7 SW phone support, software updates (UE261E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR860E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR861E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR862E) 4-year, 24x7 SW phone support, software updates (UR863E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR864E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR865E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR866E) 5-year, 24x7 SW phone support, software updates (UR867E) 3 Yr 6 hr Call-to-Repair Onsite (UW362E) 4 Yr 6 hr Call-to-Repair Onsite (UW363E) 5 Yr 6 hr Call-to-Repair Onsite (UW364E) Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
Standards and protocols	Device Management HTML and telnet management General Protocols 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 802.3af Power over Ethernet
IEEE 802.3x Flow Control
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 1542 BOOTP Extensions
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 3046 DHCP Relay Agent Information Option

IP Multicast

RFC 2236 IGMPv2

MIBs

RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2021 RMONv2 MIB
RFC 2096 IP Forwarding Table MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2863 The Interfaces Group MIB

Network Management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3164 BSD syslog Protocol
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv1/SSHv2 Secure Shell

HP E2650-PWR Switch (J8165A)	Ports	48 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full 2 dual-personality ports-each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RS-232C DB-9 console port

Technical Specifications

Physical characteristics	Dimensions (D x W x H)	18.03 x 17.42 x 1.75 in. (45.8 x 44.25 x 4.45 cm) (1U height)
	Weight (fully loaded)	16.31 lb. (7.4 kg), Fully loaded
Memory and processor	Processor type and speed	Motorola PowerPC MPC8245 @ 266 MHz
	Flash capacity	8 MB
	SDRAM	32 MB
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Latency	<12 µs (LIFO)
	Throughput	Up to 10.1 million pps
	Rounting/Switching capacity	13.6 Gbps
	MAC address table size	8,000 entries
Environment	Operating temperature	32° to 122°F (0° to 50°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Alitude	up to 15000 ft. (4.6 km)
	Acoustic	Power: 53 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	2155 BTU/hr (2273.53 kJ/hr)
	Voltage	100–120 VAC/200–240 VAC
	Current	7.5 / 3.5 A
	Power consumption	631 W
	PoE power	406 W
	Frequency	50/60 Hz
Notes	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. PoE Power is the power supplied by the internal power supply, it is dependent on the type and quantity of power supplies and may be supplemented with the use of a External Power Supply (EPS).	
Safety	CSA 22.2 No. 950; cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition; UL 60950	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	Generic	EN55024:2001, CISPR 24:2002
	EN	EN55024:2001, CISPR 24:2002
	ESD	IEC 61000-4-2:2001, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3:2002, 3V/m

	EFT/Burst	IEC 61000-4-4:2001, 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5:2001, 1 kV/2 kV AC
	Conducted	IEC 61000-4-6:2001, 3V
	Power frequency magnetic field	IEC 61000-4-8:2001, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11:2001, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2:2000, IEC 61000-3-2:2001
	Flicker	EN 61000-3-3:2001, IEC 61000-3-3:2001
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (H4496E) 3-year, 4-hour onsite, 24x7 coverage for hardware (H2893E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6319E) 3-year, 24x7 SW phone support, software updates (UE264E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR884E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR885E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR886E) 4-year, 24x7 SW phone support, software updates (UR887E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR888E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR889E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR890E) 5-year, 24x7 SW phone support, software updates (UR891E) 3 Yr 6 hr Call-to-Repair Onsite (UW365E) 4 Yr 6 hr Call-to-Repair Onsite (UW366E) 5 Yr 6 hr Call-to-Repair Onsite (UW367E) Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	
Standards and protocols	Device Management HTML and telnet management General Protocols 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 802.3af Power over Ethernet IEEE 802.3x Flow Control RFC 768 UDP	

RFC 783 TFTP Protocol (revision 2)
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 1542 BOOTP Extensions
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 3046 DHCP Relay Agent Information Option

IP Multicast

RFC 2236 IGMPv2

MIBs

RFC 1213 MIB II
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RFC 2021 RMONv2 MIB
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RFC 2618 RADIUS Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2863 The Interfaces Group MIB

Network Management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3164 BSD syslog Protocol
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv1/SSHv2 Secure Shell

HP E2626 Switch (J4900C)

Ports

24 auto-sensing 10/100 ports
(IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX);
Media Type: Auto-MDIX; Duplex: half or full
1 RS-232C DB-9 console port

2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers)

Physical characteristics

Dimensions (D x W x H): 12.8 x 17.32 x 1.73 in. (32.51 x 43.99 x 4.39 cm) (1U height)

Weight (fully loaded): 9.15 lb. (4.12 kg)

Technical Specifications

Memory and processor	Processor type and speed	Motorola PowerPC MPC8245 @ 266 MHz
	Flash capacity	8 MB
	SDRAM	32 MB SDRAM
Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
Performance	Latency	<13.3 µs (LIFO)
	Throughput	Up to 6.6 million pps
	Rounting/Switching capacity	9.6 Gbps
	MAC address table size	8,000 entries
Environment	Operating temperature	32°F to 122°F (0°C to 50°C)
	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Alitude	up to 15000 ft. (4.6 km)
	Acoustic	Power: 50 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	342 BTU/hr (360.81 kJ/hr)
	Voltage	100-240 VAC
	Current	1.5 A
	Power consumption	100 W
	Frequency	50 / 60 Hz
Notes	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	CSA 22.2 No. 950; cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition; UL 60950	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	Generic	EN 55024, CISPR 24
	EN	EN 55024, CISPR 24
	ESD	IEC 61000-4-2; 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3; 3 V/m
	EFT/Burst	IEC 61000-4-4; 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5; 1 kV/2 kV AC
	Conducted	IEC 61000-4-6; 3 V
	Power frequency magnetic field	IEC 61000-4-8; 1 A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11; >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2, IEC 61000-3-2

	Flicker EN 61000-3-3, IEC 61000-3-3
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (U4683E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U4835E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6321E) 3-year, 24x7 SW phone support, software updates (UF792E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UR948E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UR949E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR950E) 4-year, 24x7 SW phone support, software updates (UR951E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UR952E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UR953E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR954E) 5-year, 24x7 SW phone support, software updates (UR955E) 3 Yr 6 hr Call-to-Repair Onsite (UW368E) 4 Yr 6 hr Call-to-Repair Onsite (UW369E) 5 Yr 6 hr Call-to-Repair Onsite (UW370E) Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
Standards and protocols	Device Management HTML and telnet management General Protocols 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 802.3af Power over Ethernet IEEE 802.3x Flow Control RFC 768 UDP RFC 783 TFTP Protocol (revision 2) RFC 792 ICMP RFC 793 TCP RFC 826 ARP RFC 854 TELNET RFC 951 BOOTP RFC 1542 BOOTP Extensions RFC 2030 Simple Network Time Protocol (SNTP) v4 RFC 3046 DHCP Relay Agent Information Option IP Multicast RFC 2236 IGMPv2 MIBs

RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2021 RMONv2 MIB
RFC 2096 IP Forwarding Table MIB
RFC 2613 SMON MIB
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Network Management

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ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv1/SSHv2 Secure Shell

HP E2626-PWR Switch (J8164A)	**Ports**	24 auto-sensing 10/100 ports (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full 2 dual-personality ports; each port can be used as either an RJ-45 10/100/1000 port (IEEE 802.3 Type 10Base-T; IEEE 802.3u Type 100Base-TX; IEEE 802.3ab 1000Base-T Gigabit Ethernet) or an open mini-GBIC slot (for use with mini-GBIC transceivers) 1 RS-232C DB-9 console port	
	Physical characteristics	**Dimensions** (D x W x H)	18.03 x 17.42 x 1.75 in. (45.8 x 44.25 x 4.45 cm) (1U height)
		Weight (fully loaded)	15.01 lb. (6.81 kg)
	Memory and processor	**Processor type and speed**	Motorola PowerPC MPC8245 @ 266 MHz
		Flash capacity	8 MB
		SDRAM	32 MB
	Mounting	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet (hardware included); horizontal surface mounting only	
	Performance	**Latency**	<12 μs (LIFO)
		Throughput	Up to 6.6 million pps
		Routing/Switching capacity	9.6 Gbps
		MAC address table size	8,000 entries
	Environment	**Operating temperature**	32°F to 122°F (0°C to 50°C)

	Operating relative humidity	15% to 95% @ 104°F (40°C), non-condensing
	Non-operating/ Storage temperature	–40° to 158°F (–40° to 70°C)
	Non-operating/ Storage relative humidity	15% to 95% @ 149°F (65°C), non-condensing
	Alitude	Up to 15,000 ft. (4.6 km)
	Acoustic	Power: 53 dB; DIN 45635T.19 per ISO 7779
Electrical characteristics	Maximum heat dissipation	2155 BTU/hr (2273.53 kJ/hr)
	Voltage	100-240 VAC
	Current	7.5 / 3.5 A
	Power consumption	631 W
	Frequency	50/60 Hz
Notes	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. PoE Power is the power supplied by the internal power supply, this may be supplemented with the use of an External Power Supply (EPS).	
Safety	CSA 22.2 No. 950; cUL (CSA 950); EN 60950/IEC 60950; NOM-019-SCFI-1994; UL 1950 3rd edition; UL 60950	
Emissions	FCC Class A; EN55022/CISPR-22 Class A; VCCI Class A	
Immunity	Generic	EN55024:2001, CISPR 24:2002
	EN	EN55024:2001, CISPR 24:2002
	ESD	IEC 61000-4-2:2001, 4 kV CD, 8 kV AD
	Radiated	IEC 61000-4-3:2002, 3V/m
	EFT/Burst	IEC 61000-4-4:2001, 1.0 kV (power line), 0.5 kV (signal line)
	Surge	IEC 61000-4-5:2001, 1 kV/2 kV AC
	Conducted	IEC 61000-4-6:2001, 3V
	Power frequency magnetic field	IEC 61000-4-8:2001, 1A/m, 50 or 60 Hz
	Voltage dips and interruptions	IEC 61000-4-11:2001, >95% reduction, 0.5 period; 30% reduction, 25 periods
	Harmonics	EN 61000-3-2:2000, IEC 61000-3-2:2001
	Flicker	EN 61000-3-3:2001, IEC 61000-3-3:2001
Management	HP PCM+; HP PCM (included); command-line interface; Web browser; configuration menu; out-of-band management (serial RS-232C)	
Services	3-year, 4-hour onsite, 13x5 coverage for hardware (U2855E) 3-year, 4-hour onsite, 24x7 coverage for hardware (U2856E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (U6304E) 3-year, 24x7 SW phone support, software updates (UE262E) Installation with minimum configuration, system-based pricing (U4826E) Installation with HP-provided configuration, system-based pricing (U4830E)	

4-year, 4-hour onsite, 13x5 coverage for hardware (UR868E)
4-year, 4-hour onsite, 24x7 coverage for hardware (UR869E)
4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR870E)
4-year, 24x7 SW phone support, software updates (UR871E)
5-year, 4-hour onsite, 13x5 coverage for hardware (UR872E)
5-year, 4-hour onsite, 24x7 coverage for hardware (UR873E)
5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UR874E)
5-year, 24x7 SW phone support, software updates (UR875E)
Refer to the HP website at www.hp.com/networking/services for details on the
service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

Standards and protocols

Device Management
HTML and telnet management
General Protocols
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 802.3af Power over Ethernet
IEEE 802.3x Flow Control
RFC 768 UDP
RFC 783 TFTP Protocol (revision 2)
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 951 BOOTP
RFC 1542 BOOTP Extensions
RFC 2030 Simple Network Time Protocol (SNTP) v4
RFC 3046 DHCP Relay Agent Information Option
IP Multicast
RFC 2236 IGMPv2
MIBs
RFC 1213 MIB II
RFC 1493 Bridge MIB
RFC 2021 RMONv2 MIB
RFC 2096 IP Forwarding Table MIB
RFC 2613 SMON MIB
RFC 2618 RADIUS Client MIB
RFC 2665 Ethernet-Like-MIB
RFC 2668 802.3 MAU MIB
RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
RFC 2737 Entity MIB (Version 2)
RFC 2863 The Interfaces Group MIB
Network Management
IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
RFC 3164 BSD syslog Protocol
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)
SNMPv1/v2c/v3

Security

IEEE 802.1X Port Based Network Access Control
RFC 1492 TACACS+
RFC 2138 RADIUS Authentication
RFC 2866 RADIUS Accounting
Secure Sockets Layer (SSL)
SSHv1/SSHv2 Secure Shell

Accessories

Transceivers	
HP X121 1G SFP LC LH Transceiver	J4860C
HP X121 1G SFP LC SX Transceiver	J4858C
HP X121 1G SFP LC LX Transceiver	J4859C
HP X122 1G SFP LC BX-D Transceiver	J9142B
HP X122 1G SFP LC BX-U Transceiver	J9143B
Cables	
HP 0.5 m Multimode OM3 LC/LC Optical Cable	AJ833A
HP 1 m Multimode OM3 LC/LC Optical Cable	AJ834A
HP 2 m Multimode OM3 LC/LC Optical Cable	AJ835A
HP 5 m Multimode OM3 LC/LC Optical Cable	AJ836A
HP 15 m Multimode OM3 LC/LC Optical Cable	AJ837A
HP 30 m Multimode OM3 LC/LC Optical Cable	AJ838A
HP 50 m Multimode OM3 LC/LC Optical Cable	AJ839A
NEW HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable	BK837A
NEW HP 1 m PremierFlex OM3+ LC/LC Optical Cable	BK838A
NEW HP 2 m PremierFlex OM3+ LC/LC Optical Cable	BK839A
NEW HP 5 m PremierFlex OM3+ LC/LC Optical Cable	BK840A
NEW HP 15 m PremierFlex OM3+ LC/LC Optical Cable	BK841A
NEW HP 30 m PremierFlex OM3+ LC/LC Optical Cable	BK842A
NEW HP 50 m PremierFlex OM3+ LC/LC Optical Cable	BK843A
EPS/RPS	
HP E600 Redundant and External Power Supply	J8168A
HP E610 External Power Supply	J8169A

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