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Avaya Ethernet Routing Switch 4500 PoE+ Series

The Avaya Ethernet Routing Switch 4500 PoE+ Series is a Stackable Chassis system providing high-performance, convergence-ready and resilient Ethernet switching connectivity. Available in 2 model variants supporting 10/100 switching and routing, Power-over-Ethernet/ Power-over-Ethernet+ and 10/100/1000 SFP uplink options, the Ethernet Routing Switch 4500 PoE+ Series is ideally suited for your converged network edge deployment. The Ethernet Routing Switch 4500 POE+ are part of the 17 model Ethernet Routing Switch 4000 product family that meets your needs by enabling true mix and match capabilities.

Highlights Of The Ethernet Routing Switch 4500 PoE+ Series

- **Always-on** – Best in class end-to-end resiliency solution, hot-swappable unit replacement within a Stack Chassis and integrated power redundancy.
- **Convergence-ready** – Support for PoE and PoE+, optimized for high-definition video surveillance, true plug and play capabilities for IP Phone deployments, advanced QoS capabilities.
- **Energy efficient** – On average 36% more energy efficient than competitive solutions,* energy saver functionality further reduces power consumption for both Switch and IP Phone without losing telephony connectivity.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stack Chassis capabilities, delivering up to 400 ports and 384 Gbps of virtual backplane throughput.
- **More Secure** – Standards-based 802.1x with integration with Avaya's Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match best-in-class stacking capabilities; Fast Ethernet and Gigabit Ethernet in the same Stackable Chassis with support for PoE/PoE+.

The Ethernet Routing Switch 4500 PoE+ Series provide resilient Stackable Chassis capabilities, high performance Layer 2 switching and Layer 3 routing, advanced convergence features and a suite of security, QoS and management capabilities. The ERS 4500 PoE+ hardware is based on a next-generation ASIC technology that combines wire-speed performance and non-blocking throughput with sophisticated QoS capabilities to support even the most demanding suite of applications.

Positioned for customers who are looking for Fast Ethernet to the desktop, PoE and PoE+, and integrated redundant AC power supplies, the ERS 4500 PoE+ Series

* Miercom, August 2011

Requirement	ERS 4500 Models	ERS 4500 PoE+ Models	ERS 4800 Models
Fast Ethernet to the desktop	Yes	Yes	Yes
Gigabit Ethernet to the desktop	Yes	No	Yes
IEEE 802.3 af PoE	Yes	Yes	Yes
IEEE 802.3 at PoE+	No	Yes	Yes
10 Gig Uplink sockets	XFP	No	SFP+
Redundant power	Yes - available through external RPS 15)	Yes – internal field-replaceable PSUs	Yes – internal field-replaceable PSUs
Hardware-ready for advanced services (Wireless Split-Plane, Virtual Services Fabric)	No	No	Yes

With 17 different models, the ERS 4000 Series offers a wide range of capabilities to meet a diverse range of edge requirements.

provides flexible high-performance platforms to meet the demands of the converged edge.

Through support for PoE and PoE+ customers have the ability to support any mix of end devices. Although the vast majority of IP-based end points do not require the increased power that PoE+ delivers, its support provides piece of mind that as new devices are brought onto the network they can be supported regardless of the power requirements.

Having integrated field replaceable AC power supplies can reduce costs and open up the rack space required by external Redundant Power Supply Unit 15.

To ensure full interoperability across the complete ERS 4000 portfolio, the rear-mounted Stackable Chassis interfaces used on the ERS 4500 PoE+ Series are consistent with those used on the other ERS 4000 models. Each ERS 4000 Switch delivers up to 384 Gbps when eight units are combined.

Summary

The ERS 4500 POE+ Series is well suited to the demands of the high-performance converged edge. The ERS 4500 PoE+ Series, along with other Avaya products, can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge.

Avaya Ethernet Routing Switch 4500 POE+ Series	
ERS 4526T-PWR+	24 10/100BASE-TX ports supporting 802.3at PoE+, plus 2 Combo 10/100/1000/SFP Uplink ports.
ERS 4550T-PWR+	48 10/100BASE-TX ports supporting 802.3at PoE+, plus 2 Combo 10/100/1000/ SFP Uplink ports.

Product Specifications

ERS 4526T-PWR+

Switch Details	24 10/100 Fast Ethernet ports 24 ports support both IEEE 802.3af POE and IEEE 802.3at POE+ Plus 2 combo 10/100/1000/SFP ports Capable of supporting Gigabit and low speed SFPs Plus 2 rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput System CPU operates at 533 MHz Switch is configured with 256MB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 x 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.42 Kg
Power and Thermal	Supplied with 1 x 1000 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy or additional PoE Maximum Power 60 watts (without PoE Load) Thermal Rating 205 BTU/hr
Maximum PoE power	855 watts when operating on one 1000w power supply 1855 watts when operating on two 1000w power supply

ERS 4550T-PWR+

Switch Details	48 10/100 Fast Ethernet ports 48 ports support both IEEE 802.3af POE and IEEE 802.3at POE+ Plus 2 Combo 10/100/1000 TX or 100/1000 SFP ports Capable of supporting Gigabit and low speed SFPs Plus 2 rear HiStack ports delivering up to 320Gbps of Stackable Chassis throughput System CPU operates at 533 MHz Switch is configured with 256MB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 x 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.83 Kg
Power and Thermal	Supplied with 1 x 1000 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy or additional PoE Maximum Power 75 watts (without PoE Load) Thermal Rating 256 BTU/hr
Maximum PoE power	855 watts when operating on one 1000w power supply 1855 watts when operating on two 1000w power supply

General Performance

- Switch Fabric performance: 48.8Gbps to 77.6Gbps
- Frame forwarding rate: 6.6 to 10.2Mpps
- Stack Throughput: 384Gbps
- Latency (64 byte packet): 3.5 microseconds
- Jitter (64 byte packet): 0.84 microseconds
- Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9,000 Bytes (802.1Q Tagged)
- Multi-Link Trunks: up to 32 Groups, with 8 Links per Group
- VLANs: up to 1,024 Port/Protocol/802.1Q-based
- Multiple Spanning Tree Groups: 8
- MAC Address: up to 8k
- DHCP Snooping: up to 1,024 table entries
- 802.1X Clients: up to 768
- LLDP Neighbors: up to 800
- ARP Entries: up to 1,792
- IP Interfaces: up to 64
- IPv4 Routes: up to 512
- OSPF Instances: up to 4
- OSPF Adjacencies: up to 16
- ECMP Paths: up to 4
- VRRP Instances: up to 256
- IPFIX Sampled Flows: up to 100,000
- Auto-MDIX

Pluggable Interfaces

- 1000BASE-T SFP up to 100m over CAT5E or better UTP Cable (RJ-45)
- 1000BASE-SX SFP up to 550m reach on MMF (Duplex LC)
- 1000-BASE-LX SFP up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)
- 1000BASE-XD CDWM SFP up to 40 km reach on SMF (Duplex LC)
- 1000BASE-ZX CDWM SFP up to 70 km reach on SMF (Duplex LC)
- 1000BASE-EX SFP up to 120 km reach on SMF (Duplex LC)
- 1000BASE-BX SFP up to 10 and 40 km reach variants on SMF (LC)
- 100BASE-FX SFP up to 2km reach over MMF (Duplex LC)
- 100BASE-LX SFP up to 10km (LC)
- 100BASE-BX10-U up to 10 km - SFP Bidirectional upstream 1310nm TX
- 100BASE-BX10-D up to 10 km - SFP Bidirectional upstream 1530nm TX
- 100BASE-ZX 70-80km SFP 1550nm
- Ethernet-over-T1 SFP up to 2,874m reach over 22AWG Cable (RJ-48C)

Standards Compatibility

- IEEE 802.1ab Link Layer Discovery Protocol
- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab Gigabit Ethernet over Copper
- IEEE 802.3ad Link Aggregation
- IEEE 802.3ae 10Gbps Ethernet
- IEEE 802.3af Power-over-Ethernet
- IEEE 802.3at Power-over-Ethernet Plus
- RFC 768 UDP
- RFC 783 Trivial File Transfer Protocol
- RFC 791/950 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet
- RFC 894 IP over Ethernet
- RFC 951 BootP
- RFC 958 NTP
- RFC 1058 RIP v1
- RFC 1112 IGMPv1
- RFC 1157 SNMP
- RFC 1213 MIB-II
- RFC 1215 SNMP Traps Definition
- RFC 12711757 / 2819 RMON
- RFC 1350 TFTP
- RFC 1361/1769 Simple Network Time Protocol (SNTP)
- RFC 1493 Bridge MIB
- RFC 1583 OSPF v2
- RFC 1573/2863 Interface MIB
- RFC 1643/2665 Ethernet MIB
- RFC 1757 RMON
- RFC 1850 OSPF v2 MIB
- RFC 1905/3416 SNMP
- RFC 1906/3417 SNMP Transport Mappings
- RFC 1907/3418 SNMP MIB

Standards Compatibility (cont.)

RFC 1945 HTTP v1.0
RFC 1981 Path MTU Discovery for IPv6
RFC 2011 SNMP v2 MIB for IP
RFC 2012 SNMP v2 MIB for TCP
RFC 2013 SNMP v2 MIB for UDP
RFC 2131 BootP/DHCP Relay Agent
RFC 2138 RADIUS
RFC 2236 IGMPv2
RFC 2328 OSPF v2
RFC 2453 RIP v2
RFC 2460 Internet Protocol v6
RFC 2474 DiffServ
RFC 2475 DiffServ
RFC 2665 Ethernet MIB
RFC 2674 Q-BRIDGE-MIB
RFC 2737 Entity MIBv2
RFC 2819 RMON MIB
RFC 2863 Interfaces Group MIB
RFC 2865 RADIUS
RFC 2866 RADIUS Accounting
RFC 3046 DHCP Relay Agent Information Option
RFC 3246 Expedited Forwarding
RFC 3410 SNMPv3
RFC 3411 SNMP Frameworks
RFC 3412 SNMP Message Processing
RFC 3413 SNMPv3 Applications
RFC 3414 SNMPv3 USM
RFC 3415 SNMPv3 VACM
RFC /3584 Co-existence of SNMP v1/v2/v3
RFC 3576 RADIUS
RFC 3768 Virtual Router Redundancy Protocol (VRRP)
RFC 3917 IP Flow Information Export
RFC 3993 DHCP Subscriber-ID sub-option
RFC 3954 NetFlow Services Export v9
RFC 4007 Scoped Address Architecture
RFC 4022 TCP MIB
RFC 4113 UDP MIB
RFC 4291 IPv6 Addressing Architecture
RFC 4293 IPv6
RFC 4432 SSH RSA
RFC 4673 RADIUS Dynamic Authorization Server MIB
RFC 4443 Internet Control Message Protocol (ICMPv6)
RFC 4861 / RFC 2461 Neighbor Discovery for IPv6
RFC 4862 / RFC 2462 IPv6 Stateless Address Auto-Configuration
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
RFC 5101 - Specification of the IP Flow Information Export (IPFIX)
RFC 5186 IGMPv3

Power Specifications

up to 8.5A @ 100-120VAC

up to 4.3A @ 200-240VAC

Environmental Specifications

Operating temperature: 0°C to 50°C (32°F to 122°F)

Storage temperature: -40°C to 85°C (-40°F to 185°F)

Operating humidity: 0 to 95% maximum relative humidity, non-condensing

Storage humidity: 10 to 90% maximum relative humidity, non-condensing

Operating altitude: 0 to 3,048m (0 to 10,000ft) maximum

Storage altitude: 0 to 12,192m (0 to 40,000ft) maximum

Acoustic Noise:

less than 50dbA at 35°C

less than 57dbA at 50°C

Safety Agency Approvals

Global basis for certification: IEC 60950 current edition with all CB member deviations

CB Scheme Certification with Member Deviations

EN60950 Europe Safety (CE)

UL60950 United States of America Safety

CSA22.2, #60950 Canada Safety

NOM Mexico Safety

S-mark Argentine Safety

Anatel Brazilian Safety

Electromagnetic Emissions & Immunity
CISPR22 International EMC Emissions
CIRPR24 International EMC Immunity
EN55022:2006 European EMC Emissions (CE)
EN55024 European EMC Immunity (CE)
EN61000
Additional European EMC Specifications (CE)
FCC Part 15 US EMC Emissions
ICES-003 Canadian EMC Emissions
VCCI Japan EMC Emissions
AN/NZS 3548 Australia/New Zealand EMC Emissions
CNS13438 Taiwan EMC Emissions
MIC Korean EMC Certification
Anatel Brazilian EMC Certification
MTBF Values
214,542 to 311,104 hours (24.49 to 35.31 years)
Warranty
Lifetime Next Business Day advanced hardware replacement
Lifetime Basic Technical Support
90-Day Advanced Technical Support
Optional Software Release Service also available: GW5300ASG / GW6300ASG
Country of Origin
China (PRC)

About Avaya

Avaya is a leading, global provider of customer and team engagement solutions and services available in a variety of flexible on-premise and cloud deployment options. Avaya's fabric-based networking solutions help simplify and accelerate the deployment of business critical applications and services. For more information, please visit **www.avaya.com.**

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