AVAYA

Engage The Power of We™

The Avaya Ethernet Routing Switch 4500 Series is a Stackable Chassis system providing high-performance, convergence-ready and resilient Ethernet switching connectivity. Available in 11 model variants supporting 10/100 and 10/100/1000 connectivity, switching and routing, Power-over-Ethernet, and 10 Gigabit Ethernet uplink options, the Ethernet Routing Switch 4500 Series is ideally suited for Enterprise wiring closet and other network edge deployments. The Ethernet Routing Switch 4500 are part of the 17 model Ethernet Routing Switch 4000 product family that meets your needs by enabling true mix and match capabilities.

Avaya Ethernet Routing Switch 4500 Series

Highlights Of The Ethernet Routing Switch 4500 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, 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 to 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 or without PoE.

The Ethernet Routing Switch 4500 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.

Positioned for customers who are looking for Fast Ethernet or Gigabit Ethernet to the desktop, support for PoE and optional support for 10 Gig uplinks, the ERS 4500 provides a flexible high-performance platform to meet the demands of the converged edge. With 11 different models, the ERS 4500 products provide the widest breadth of options to meet a diverse range of edge requirements.

*Miercom, August 2011

To ensure full interoperability across the complete ERS 4000 portfolio, the rear-mounted Stackable Chassis interfaces used on the ERS 4500 are consistent with those used on the newer ERS 4500 PoE+ models and the ERS 4800 models. Each ERS 4000 Switch delivers up to 384Gbps when eight units are combined.

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.

Summary

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

ERS 4500 Series Models

Fast Ethernet Models	
Model	**Uplink and ports**
ERS 4526FX	24 100BASE-FX ports, plus 2 Combo 10/100/1000/SFP Uplink ports
ERS 4526T	24 10/100BASE-TX ports, plus 2 Combo 10/100/1000/SFP Uplink ports
ERS 4526T-PWR	24 10/100BASE-TX ports supporting 802.3af PoE, plus 2 Combo 10/100/1000/SFP Uplink ports
ERS 4550T	48 10/100BASE-TX ports, plus 2 Combo 10/100/1000//SFP Uplink ports
ERS 4550T-PWR	48 10/100BASE-TX ports supporting 802.3af PoE, plus 2 Combo 10/100/1000/SFP Uplink ports48 x 10/100BASE-TX PoE plus 2 x Combo 10/100/1000BASE-T or 100/1000BASE-SFP

Gigabit Ethernet Models	
Model	**Uplink and ports**
ERS 4524GT	24 10/100/1000BASE-T ports, including 4 shared SFP Uplink ports
ERS 4524GT-PWR	24 10/100/1000BASE-T ports supporting 802.3af PoE, including 4 shared SFP Uplink ports
ERS 4548GT	48 10/100/1000BASE-T ports, including 4 shared SFP Uplink ports
ERS 4548GT-PWR	48 10/100/1000BASE-T ports supporting 802.3af PoE, including 4 shared SFP Uplink ports
ERS 4526GTX	24 10/100/1000BASE-T ports, including 4 shared SFP Uplink ports, plus 2 10Gigabit XFP Uplink ports
ERS 4526GTX-PWR	24 10/100/1000BASE-T ports supporting 802.3af PoE, including 4 shared SFP Uplink ports, plus 2 10Gigabit XFP Uplink ports

Note 1: ERS 4500 Series models that support the 100/1000BASE-X SFP capability, namely 4526FX, 4526T, 4526T-PWR, 4550T, 4550T-PWR, 4524GT, 4524GT-PWR, also support the 100Base FX and T1 Ethernet over TDM Pluggable Transceiver.

Note 2: All ERS 4500 Fast Ethernet and Gigabit Ethernet models are 1RU (4.4cm) high and ship with a 46cm HiStack cable included.

General Performance

- Switch Fabric performance: 48.8Gbps to 184Gbps
- Frame forwarding rate: 6.6 to 72Mpps
- 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
- 10GBASE-LR/LW XFP up to 10 km reach on SMF
- 10GBASE-SR XFP up to 300m reach on MMF
- 10GBASE-ZR/ZW XFP up to 80 km over SMF
- Ethernet-over-T1 SFP up to 2,874m reach over 22AWG Cable (RJ-48C)

Standards Compatibility

IEEE 802.1D Spanning Tree Protocol
IEEE 802.1w Rapid Spanning Tree
IEEE 802.1s Multiple Spanning Tree Groups
IEEE 802.1p Prioritizing
IEEE 802.1Q VLAN Tagging
IEEE 802.1X Ethernet Authentication Protocol
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
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
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

Weight	6.6 to 15.2kg
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 Weight: 6.6 to 15.2kg 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.**

04/15 • DN4816-06