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Avaya Ethernet Routing Switch 5600 Series

Ethernet Routing Switch 5600 Series

The Avaya Ethernet Routing Switch 5600 Series is a premium Stackable Chassis system providing high-performance, convergence-ready, more secure and resilient Ethernet switching connectivity. Available in 5 model variants supporting 10/100/1000 connectivity, switching, comprehensive Layer 3 routing, Power-over-Ethernet and 10 Gigabit Ethernet uplink options, the Ethernet Routing Switch 5600 Series is ideally suited for high-end wiring closets, high-capacity data centers and network core applications. The Ethernet Routing Switch 5600 Series is part of the 10 model Ethernet Switch 5000 Series which is 100% stack-compatible across the product family for true mix and match capabilities.[1]

Highlights of the Ethernet Routing Switch 5600 Series

- **Always-on** – Best in class end-to-end resiliency, with switch clustering and hot-swappable unit replacement within a Stack Chassis.
- **Convergence-ready** – Support for PoE, true plug and play capabilities for IP phone deployments, advanced QoS capabilities.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stack Chassis capacity, delivering up to 400 ports and over 1 Terabit per second of virtual backplane throughput.
- **Comprehensive Layer 3 services** - Advanced routing features enable traffic segregation ideal for data center and network core applications.
- **Greater Security** – Standards-based 802.1x with integration to Avaya's Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match "hybrid" stacking with the Avaya ERS 5500 Series enables versatile deployment and investment protection.[1]

The Ethernet Routing Switch 5600 provides resilient Stackable Chassis capabilities, high-performance Layer 2 connectivity, Layer 3 routing and switch clustering for a truly flexible, multi-role platform. It can be positioned for any of the following customer scenarios:

- Enterprise wiring closet – with advanced convergence features, including PoE, increased security, QoS and optional 10 Gig uplinks, the ERS 5600 is a flexible high-performance switching option for converged edge deployments. A high-density 96-port model also make it attractive to larger enterprises.
- Network core – its active / active "switch-clustering" failover and advanced Layer 3 routing services — unusual in a fixed-format switch — make the ERS 5600 a cost-effective core solution especially suited for small to mid-market enterprises.
- Data Center – as a cost-effective 1 Gigabit Top-of-Rack solution, the ERS 5600 can connect data center servers across racks while reducing latency and increasing server-to-server performance.

The Ethernet Routing Switch 5600 Series is 100% stack-compatible with Avaya's ERS 5500 Series.[1] Its unique "hybrid-stacking" capability provides great versatility and investment protection across the ERS 5000 Series family. Any combination of 5500 and 5600 models can be stacked together up to eight units high, to a maximum of 400 ports. When stacked adjacent to ERS 5500 models, the stacking bandwidth is 80 Gbps per unit. When ERS 5600s are stacked directly together, stacking bandwidth increases to 144 Gbps per switch, and a total bandwidth of 1.152 Tbps across the eight switches.

The ERS 5600 Series also delivers highly-scalable and flexible Ethernet and Power-over-Ethernet, with high-density and ultra-density models to simplify deployment in high-intensity convergence-centric networks. Internal, removable, field replaceable AC and DC power supplies ensure both power redundancy and full PoE power.

Summary

The ERS 5600 is a flexible solution suited to address the various demands of today's high-end wiring centers, high-capacity data centers and network core environments. The ERS 5600, along with other Avaya products, can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge.

[1] Mixed ERS 5500/5600 stacking supported up through Release 6.3 only.

Avaya Ethernet Routing Switch 5600 Series	
Model	**Link and Uplink Ports**
ERS 5632FD	24 x 100/1000BASE-SFP plus 8 x 10GBASE-XFP
ERS 5650TD	48 x 1000BASE-T plus 2 x 10GBASE-XFP
ERS 5650TD-PWR	48 x 1000BASE-T with Power-over-Ethernet plus 2 x 10GBASE-XFP
ERS 5698-TFD	96 x 1000BASE-T, including 6 x Combo 1000BASE-T or 100/1000BASE-SFP, plus 2 x 10GBASE-XFP
ERS 5698TFD-PWR	96 x 1000BASE-T with Power-over-Ethernet, including 6 x Combo 1000BASE-T or 100/1000BASE-SFP, plus 2 x 10GBASE-XFP

All switches include built-in ultra-speed stacking connections that can scale up to 1.152Tbps of total throughput and are fully compatible with the original ERS 5500 series models, and bays for field-replaceable power supplies. A full stack can include up to 8 switches or up to 400 ports, enabling a highly versatile solution able to meet port count and port type combinations for every application.

Specifications

General & Performance

- Switch Fabric performance: 288 – 384 Gbps
- Frame forwarding rate: 101.2 – 172.7 Mpps
- Latency: 9 µsec
- Jitter: 12-14 µsec
- Frame length: 64 – 1518 Bytes (802.1Q Untagged), 64 – 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 16k
- DHCP Snooping: up to 1,024 table entries
- ARP Entries: up to 1,792
- IP Interfaces: up to 64
- IPv4 Routes: up to 4k
- OSPF Instances: up to 4
- OSPF Adjacencies: up to 16
- Auto-MDIX

Pluggable Interfaces

- 1000BASE-T up to 100m over CAT5E or better UTP Cable (RJ-45)
- 1000BASE-SX up to 550m reach on MMF (Duplex LC)
- 1000BASE-SX up to 550m reach on MMF (Duplex MTRJ)
- 1000-BASE-LX up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)
- 1000BASE-XD CDWM up to 40 km reach on SMF (Duplex LC)
- 1000BASE-ZX CDWM up to 70 km reach on SMF (Duplex LC)
- 1000BASE-EX up to 120 km reach on SMF (Duplex LC)
- 1000BASE-BX up to 10 and 40 km reach variants on SMF (LC)
- Ethernet-over-T1 up to 2,874m reach over 22AWG Cable (RJ-48C)
- 10GBASE-SR up to 300m reach over MMF (Duplex LC)
- 10GBASE-LRM up to 220m over FDDI-grade MMF (Duplex LC)
- 10GBASE-LR/LW up to 10km reach over SMF (Duplex LC)
- 10GBASE-ER/EW up to 40km reach over SMF (Duplex LC)
- 10GBASE-ZR/ZW up to 80km reach over SMF (Duplex LC)

Specifications (cont.)

IEEE & IETF Standards Compatibility

- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1p Prioritizing
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1X EAPoL
- IEEE 802.1s Multiple Spanning Tree Groups
- IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1ab Link Layer Discovery Protocol
- IEEE 802.3 Ethernet
- IEEE 802.3 (ANSI) Auto-negotiation
- 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 802.3af Power over Ethernet
- RFC 768 UDP
- 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 1058 RIP v1
- RFC 1112 IGMPv1
- RFC 1157 SNMP
- RFC 1213 MIB-II
- RFC 1215 SNMP Traps Definition
- RFC 1271/1757/2819 RMON
- RFC 1350 TFTP
- RFC 1361/1769 Simple Network Time Protocol (SNTP)
- RFC 1493 Bridge MIB
- RFC 1573/2863 Interfaces Group MIB
- RFC 1583 OSPF v2
- 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 SNMPv2 MIB for IP
- RFC 2012 SNMPv2 MIB for TCP
- RFC 2013 SNMPv2 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 IPv6 Specification
- RFC 2461 Neighbor Discovery for IPv6
- RFC 2462 IPv6 Auto-configuration of link local addresses
- RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
- RFC 2474 DiffServ
- RFC 2475 DiffServ
- RFC 2576/3584 Co-existence of SNMP v1/v2/v3
- RFC 2660 HTTPS (Secure Web Server)
- RFC 2674 Q-BRIDGE-MIB
- RFC 2737 Entity MIBv2
- RFC 2819 RMON MIB
- RFC 2865 RADIUS
- RFC 2866 RADIUS Accounting
- RFC 2869 RADIUS Extensions
- RFC 3046 DHCP Relay Agent Information Option
- RFC 3164 BSD Syslog Protocol
- RFC 3315 DHCP for IPv6
- 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 3484 Default Address Selection for IPv6
- RFC 3576 RADIUS
- RFC 3810 MLDv2 for IPv6 - Multicast Address Listener
- 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 4193 Unique Local IPv6 Unicast Addresses
- RFC 4250 SSH Protocol Assigned Numbers
- RFC 4251 SSH Protocol Architecture
- RFC 4252 SSH Authentication Protocol
- RFC 4253 SSH Transport Layer Protocol
- RFC 4254 SSH Connection Protocol
- RFC 4291 IPv6 Addressing Architecture
- RFC 4293 IPv6
- RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
- RFC 4443 Internet Control Message Protocol (ICMPv6)
- RFC 4861 Neighbor Discovery for IPv6 (in v6.6)
- RFC 4862 IPv6 Stateless Address Auto-Configuration (in v6.6)
- RFC 4673 RADIUS Dynamic Authorization Server MIB
- RFC 4675 RADIUS Attributes for VLAN and Priority Support
- RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

- Height: 4.37 – 87.4 cm, 1 – 2 RU
- Width: 43.82 cm
- Depth: 36.82 cm
- Weight: 6.6 – 15.2 kg

Power Specifications

- Input Voltage: 100-240 VAC
- Input Current
  - 1.2 – 19.05A @ 100-120 VAC
  - 0.6 – 9.5 @ 200-240 VAC
- Power Consumption: 132 – 545 W
- Thermal Rating: 450 – 1,850 Btu/h

Environmental Specifications

- Operating temperature: 0 – 50°C
- Storage temperature: -40 to 85°C
- Operating humidity: 5 – 95% maximum relative humidity, non-condensing
- Storage humidity: 10 to 90% maximum relative humidity, non-condensing
- Operating altitude: 0 to 3,692 maximum
- Storage altitude: 0 to 12,192 maximum
- Acoustic Noise: less than 45 – 55dB at 35°C

Safety Agency Approvals

- Global basis for certification: EN 60950 current edition with CB national member deviations
- Mexico: complies with NOM

Electromagnetic Emissions & Immunity

- Global basis for certification: CISPR 22 Class A & CISPR 24, IEC 60950 with CB member national deviations
- US: complies with FCC CFR47 Part 15
- Canada: complies with ICES Class A
- Europe: complies with EN 55022 Class A; EN 55024; EN 300386 V1.3.3 Class A
- European Union & EFTA: complies with EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3
- Japan/Nippon: complies with VCCI
- Taiwan: complies with BSMI CNS 13428 & 14336, Class A
- Korea: complies with MIC Class A

Specifications (cont.)

Redundant Power

- ERS 5650/5632 up to 2 field-replaceable internal Power Supplies
- ERS 5698 up to 3 field-replaceable internal Power Supplies
- Available PSUs: 300, 600, 1000W AC and 300, 1000W DC

MTBF Values

- 123,508 hours (14.0 years)

Warranty

- Lifetime Next Business Day 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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