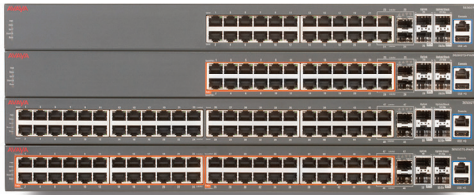# AVAYA

ETHERNET ROUTING SWITCH 3600

PRODUCT HIGHLIGHTS:

- High-performance Wiring Closet Switches

- Delivers Enabled Edge for the Avaya SDN Fx™ Architecture

- Static and Dynamic IP Routing

- Non-blocking, wire-speed switching performance

- High-capacity Stackable Chassis architecture

- 24 or 48 ports of Gigabit Ethernet for access connectivity

- 2 ports of 10 Gigabit Ethernet for network uplink connectivity

- 2 dual-use ports of 10 Gigabit for Stackable Chassis or network uplink connectivity

- Optional support for full-power PoE/PoE+

Feature-rich Ethernet Switch platforms leveraging next-generation technology optimized for the Branch Office and smaller Wiring Closets. Avaya Ethernet Routing Switch 3600 products sport the performance and agility to excel in conventional IP network deployments in additional to enabling the edge for Fabric-based solutions.

The new Ethernet Routing Switch 3600 products leverage the latest advances in network switching architecture design to maximize hardware performance and software capability. These products offer a significant evolutionary step for the entry-level Ethernet Routing Switch 3000 Series, particularly in terms of value and future-ready flexibility, and have been optimized for the Enabled Edge role.

The primary purpose of a network is to interconnect users with their applications, and the best networks do this reliably, efficiently, and with a high degree of agility. Avaya's SDN Fx™ architecture empowers companies to extend the virtualized Ethernet Fabric beyond the Data Center, to the very edge of the network, delivering powerful integration of users, applications, and devices.

The new Ethernet Routing Switch 3600 (ERS 3600) products are an important part of this strategy, delivering Fabric Attach capabilities in a cost-effective form-factor. The ERS 3600 products can be deployed standalone, or configured as a Stackable Chassis system of up to eight units/400 ports, supported by up to 192Gbps of virtual backplane bandwidth.

Supporting modern Enterprise applications requires a flexible and highly reliable infrastructure, and the ERS 3600 products help deliver against this challenge. These are highly effective products, fit-for-purpose for conventional Routed IP connectivity requirements and future-ready for the evolving and emerging software-defined needs of tomorrow. Offering feature-rich support for both IP- and Fabric-based Edge networking gives

ERS 3600 Stackable Chassis

Perspective View

ERS 3626GTS

ERS 3626GTS-PWR+

ERS 3650GTS

ERS 3650GTS-PWR+

businesses the flexibility to satisfy all common deployment scenarios, with the added advantage of an easy transitioning between the two.

Avaya brings unique differentiation to the Branch Office and small-to-medium Wiring Closet role: with a flexible, non-blocking "Stackable Chassis" architecture. The proprietary Avaya "Flexible Advanced Stacking Technology" (FAST) protocol – implemented over dedicated Quality-of-Service aware interfaces – enables a resilient, high-performance solution that leverages a shortest path algorithm to minimizes transit hops in a multi-device configuration by providing active-active bi-directional traffic flows. The Avaya Stackable Chassis technology can offer the same performance, resiliency, and ease of serviceability attributes of a traditional Chassis solution, but at a lower, pay-as-you-grow price point. Notable is the ability to swap-out an individual failed unit without the requirement to pre- or post-stage operating system software or configuration; providing equivalency to module replacement for a modular Chassis system.

The ERS 3600 products are purpose-built to support the demands of today's entry-level Wiring Closet with high-density, full-featured Gigabit Ethernet. It alleviates infrastructure complexity and reduces operational burden with a truly scalable and strategic architecture; it is designed to deliver a high-performance Enabled Edge solution that fully optimizes investments in next-generation application software.

Leveraging both next-generation hardware and software technology provides a solution that is ready to support both today's requirements and tomorrow's emerging needs. The ERS 3600 products enable businesses to future-proof with a highly software-definable network virtualization solution.

Product Overview

Broadly speaking, the Ethernet Routing Switch 3600 products provide a mix of Gigabit Ethernet ports for edge access and 10 Gigabit Ethernet ports for network uplinks. Model variants that support Power-over-Ethernet (PoE/PoE+) are also available, and all models feature a fixed, high-efficiency AC power supply. Two different port configurations are available: 26-port and 50-port models, each available in either a PoE or non-PoE format. The product range includes the following models:

• ERS 3626GTS – 24 x Gigabit RJ45 Access ports, including 2 x Combo Gigabit ports, plus 2 x 10 Gigabit SFP+ Uplink ports, and 2 x 10 Gigabit SFP+ dual-use Stack/Uplink ports

• ERS 3626GTS-PWR+ – 24 x Gigabit RJ45 Access ports with PoE+, including 2 x Combo Gigabit ports, plus 2 x 10 Gigabit SFP+ Uplink ports, and 2 x 10 Gigabit SFP+ dual-use Stack/Uplink ports

- ERS 3650GTS – 48 x Gigabit RJ45 Access ports, including 2 x Combo Gigabit ports, plus 2 x 10 Gigabit SFP+ Uplink ports, and 2 x 10 Gigabit SFP+ dual-use Stack/Uplink ports

- ERS 3650GTS-PWR+ – 48 x Gigabit RJ45 Access ports with PoE+, including 2 x Combo Gigabit ports, plus 2 x 10 Gigabit SFP+ Uplink ports, and 2 x 10 Gigabit SFP+ dual-use Stack/Uplink ports

The product's proven design leverages a sophisticated chipset from the Industry's leading supplier, featuring high-performance switching and frame forwarding. The switching core is designed to deliver wire-speed capabilities, with a fully integrated ASIC architecture that facilitates hardware-assisted feature execution.

The 26-port models – ERS 3626GTS and ERS 3626GTS-PWR+ – feature 24 access ports of 1000BASE-T Gigabit Ethernet with RJ45 interfaces; these ports also support 10/100Mbps connectivity.   Two of these ports are configured in combination with SFP sockets for flexible use as Gigabit uplinks. Two SFP+ interfaces provide 10 Gigabit network uplink connectivity. There are also two additional interfaces that can be used for either Stackable Chassis virtual backplane links or additional network uplinks.

The 50-port models – ERS 3650GTS and ERS 3650GTS-PWR+ – feature 48 access ports of 1000BASE-T Gigabit Ethernet with RJ45 interfaces; these ports also support 10/100Mbps connectivity. Again, two SFP+ interfaces provide 10 Gigabit network uplink connectivity. There are also two additional interfaces that can be used for either Stackable Chassis virtual backplane links or additional network uplinks.

The ERS 3600 models use of 10 Gigabit ports for Stackable Chassis connectivity delivers QoS-aware, high-speed connections that enable a resilient, high-performance hardware virtualization solution. This leverages a shortest path algorithm to minimizes transit hops in a multi-device configuration and supporting active-active bi-directional traffic flows.

The Power-over-Ethernet models – ERS 3626GTS-PWR+ and ERS 3650GTS-PWR+ – support full Standards-compliant IEEE 802.3af/802.3at PoE/PoE+ delivering up to 30W per port to power IP Phones, Wireless Access Points, networked IP CCTV Cameras, and other converged devices. A PoE power budget of 720W is available for the PWR+ models, delivering the follow:

- ERS 3626GTS-PWR+ – supporting all 24 access ports at up to 30W

- ERS 3650GTS-PWR+ – supporting 24 access ports at up to 30W, or 48 ports at up to 15W, or a variable mix of the two

BENEFITS

- Always-On

- Convergence-Ready

- Powerful

- Highly Secure

- Flexibility and Agility

- Fabric-Enabled

- Energy Efficient

FEATURES & CAPABILITIES

• Non-blocking, wire-speed

• Integrated design

• Feature-rich

• Avaya Stackable Chassis

• Avaya Fabric Attach

• Static and Dynamic IP Routing

Benefits

The ERS 3600 products add significant flexibility to an Enterprise's networking capability. Deployed with other Avaya or third party Ethernet Switch devices, the ERS 3600 products provide high-capacity, high-performance connectivity solution for Branch Office and small-to-medium Wiring Closet applications.

The ERS 3600 products deliver key Enterprise-class benefits, including:

• Always-On – Stackable Chassis delivers a best-in-class high-availability solution, featuring hot-swappable unit replacement.

• Convergence-Ready – support for PoE/PoE+, optimized for high-definition video surveillance, true plug-and-play capabilities for communications, collaboration, and engagement deployments, and advanced QoS capabilities.

• Powerful – wire-speed performance, truly scalable virtual backplane capabilities, delivering up to 192Gbps of throughput to support large-scale deployments.

• Highly Secure – Standards-based 802.1X Network Access Control can also be integrated with Avaya's award-winning Identity Engines technology for centralized, policy-based authenticated network access.

• Flexibility and Agility – best-in-class pay-as-you-grow scalability, versatile PoE/PoE+ support, and 1/10 Gigabit network uplinks.

• Fabric-Enabled – supporting Avaya's Fabric Attach technology to empower a seamless transition to an agile, software-defined virtualized networking solution.

• Energy Efficient – focusing on end-to-end energy efficiency, dynamic Energy Saver further reduces power consumption for both the Ethernet Switch (ranging 8-17%) and IP Phones without impacting service availability.

System Compatibility

From an operating system software perspective, the ERS 3600 products are being introduced via the BOSS 6.0 release; therefore, this will be the minimum level of system software required to operate the Switches.

This release also delivers a number of major software enhancements:

• RIP v1/v2 Dynamic IP Routing

• DHCPv6 Guard

• Multicast Listener Discovery v1/v2 Snooping & Proxy

• IPv6 features, including First-Hop Security, Neighor Discovery Inspection, Source Guard, and Router Advertisement Guard

Features & Capabilities

• Non-blocking, wire-speed switching architecture.

• Integrated design that is optimized for low latency and high Quality-of-Service (including QoS-aware Stackable Chassis interfaces).

• Feature-rich support for conventional VLAN, Multi-Link Trunking, Spanning Tree technologies.

• Avaya Stackable Chassis technology supporting scalability up to 8 units/400 ports, and Auto-Unit Replacement for Software Image and Configuration.

• Avaya Fabric Connect technology support for Fabric Attach.

• Static, Non-Local IP Routing, and RIP Dynamic IP Routing.

Warranty

• Lifetime Hardware Warranty, providing Next Business Day shipment of replacement hardware.

• Lifetime Software Warranty, providing access to Updates and Upgrades.

• Lifetime Basic Technical Support.

• 90-Day Post-Purchase Advanced Technical Support.

Software Licensing

• Base Software License, included with hardware purchase enables all software features.

Country of Origin

• China (PRC)

Additional Information

For further information about Avaya Ethernet Switches, and the complete Avaya Networking portfolio, please visit **www.avaya.com**.

Specifications

General

- Physical Connectivity:
  - 1000BASE-T Access Ports (supporting both Half- and Full-Duplex)
  - 1000BASE-SFP Combo Network Uplink Ports
  - 10GBASE-SFP+ Network Uplink Ports
- Switching Fabric:
  - 128Gbps (Full-Duplex) for 26-port models
  - 188Gbps (Full-Duplex) for 50-port models

- Frame Forwarding:
  - 95Mpps for 26-port models
  - 130Mpps for 50-port models
- Nominal Latency: 3.5 microseconds for 64 Byte packets
- Nominal Jitter: 0.84 microseconds for 64 Byte packets

- Frame Length: 64 to 1518 Bytes (Untagged), 64 to 1522 Bytes (Tagged)
- Jumbo Frame: up to 9,216 Bytes (802.1Q Tagged)
- Stackable Chassis Throughput: 24Gbps (Full-Duplex) per Switch, up to 192Gbps

Layer 2

- MAC Address: up to 16,000
- Port-based VLANs: 256
- MSTP Instances: 8

- MLT/LACP Groups: 6
- Links per MLT/LACP Group: 4
- DHCP Snooping Entries: up to 512

- 802.1X Clients: 32 per Port
- LLDP Neighbors: up to 816

Layer 3 IPv4 Routing Services

- ARP Entries: up to 512
- Static ARP Entries: up to 256

- IP Interfaces: up to 64
- IP Routes: up to 256
- IP Static Routes: up to 32

- IP Route Policies: up to 64
- RIP Interfaces: up to 16
- RIP Routes: up to 256

Multicast

- IGMP Enabled VLANs: 256

- IP Multicast Groups: up to 248

QoS & Filtering

- QoS Precedences: 8

- QoS Filters per Switch: 256 per Precedence

Operations & Management

- Many-to-One Port Mirroring
- Mirroring Instances: 4

- RMON Entries per Port: 4 Groups
- Enterprise Device Manager GUI, on-box & off-box

- Auto-MDIX Detection

Support Transceivers

- 10GBASE-LRM SFP+ (AA1403017-E6), up to 220m over FDDI-grade MMF
- 10GBASE-SR/SW SFP+ (AA1403015-E6), up to 300m over MMF
- 10GBASE-LR/LW SFP+ (AA1403011-E6), up to 10km over SMF

- 10GBASE-ER/EW SFP+ (AA1403013-E6), up to 40km over SMF
- 10GBASE-ZR/ZW SFP+ (AA1403016-E6), up to 80km over SMF
- 10GBASE-CX (AA1403019-E6) Dual-Attach Cable, up to 3m over Twinax

- 10GBASE-CX (AA1403020-E6) Dual-Attach Cable, up to 5m over Twinax
- 10GBASE-CX (AA1403021-E6) Dual-Attach Cable, up to 10m over Twinax

Note: SFP+ sockets are also capable of supporting a wide range of 1 Gigabit Ethernet Transceivers; please refer to the product documentation for complete details.

For a complete listing of all specifications and compliance please refer to the product documentation.

Physical Specifications

Height: 44 mm	Width: 440 mm	Depth: 280 mm, except 380mm for 3650GTS-PWR+	Weight: 3.5-6.3 kg

Power Specifications

ERS 3626GTS	• Up to 24.78W, up to 0.24A, and up to 84.55BTU/hr @ 200-240VAC • Up to 24.60W, up to 0.42A, and up to 83.94BTU/hr @ 100-110VAC • 14.82W power consumption at idle, and 18.28W under typical traffic load
ERS 3626GTS-PWR+	• Up to 828.69W, up to 3.66A, and up to 360.61BTU/hr @ 200-240VAC • Up to 874.92W, up to 7.05A, and up to 518.35BTU/hr @ 100-110VAC • 26.66W power consumption at idle, and 30.17W under typical traffic load (excluding PoE draw)
ERS 3650GTS	• Up to 41.54W, up to 0.41A, and up to 141.73BTU/hr @ 200-240VAC • Up to 41.77W, up to 0.69A, and up to 142.52BTU/hr @ 100-110VAC • 27.89W power consumption at idle, and 35.50W under typical traffic load
ERS 3650GTS-PWR+	• Up to 858.16W, up to 3.79A, and up to 409.64BTU/hr @ 200-240VAC • Up to 903.51W, up to 8.21A, and up to 559.26BTU/hr @ 100-110VAC • 39.84W power consumption at idle, and 46.11W under typical traffic load (excluding PoE draw)

Environmental Specifications

Operating Temperature:	0°C to 50°C (32°F to 122°F)
Storage Temperature:	-40°C to 70°C (-40°F to 158°F)
Operating Humidity:	0 to 95% maximum relative humidity, non-condensing
Storage Humidity:	10 to 95% 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 47dbA at 25°C • Less than 55dbA at 50°C

Safety Agency Approvals

- IEC 60950 International CB Certification
- EN 60950-1 Europe Safety (CE): CB Scheme Certification with Member Deviations
- UL 60950-1 USA Safety
- CSA-C22.2, #60950-1 Canada Safety

- NOM Mexico Safety
- EN 60950-1 Japan Safety
- Anatel Brazilian Safety
- ACMA-RCM Australia Safety

- Customs Union/EAC Safety of Low-Voltage Equipment Certification
- CCC & MIIT China Safety
- CNS 14336-1 Taiwan BSMI Safety
- UL 1069 Hospital Signaling and Nurse Call Equipment (relevant to PWR units only)

Electromagnetic Emissions & Immunity

- CISPR 22 International EMC Emissions
- CIRPR 24 International EMC Immunity
- FCC part 15B, Class A USA EMC Emissions
- ICES-003 Class A Canadian EMC Emissions
- VCCI Japan EMC Emissions
- EN 55022 Class A, CISPR 22 European EMC Emissions (CE)

- EN 55024, CISPR 24 including EN 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8 & 4-11 European EMC Immunity (CE)
- ACMA-RCM Mark
- Australia EMC Emissions
- Anatel Brazilian EMC Certification

- Customs Union/EAC EMC Certification
- CCC & MIIT China EMC Certification
- KC mark: EMI & EMS Korean EMC Certification
- CNS 13438 Taiwan BSMI EMC

MTBF Values

- ERS 3626GTS – 336,851 hours (38.45 years)
- ERS 3626GTS-PWR+ – 136,469 hours (15.57 years)

- ERS 3650GTS – 346,169 hours (39.51 years)
- ERS 3650GTS-PWR+ – 140,827 hours (16.07 years)

Ordering Information

Part Code	Description
AL3600?05-E6	ERS 3626GTS 26-port Ethernet Switch, supporting 24 x 1000BASE-T, including 2 x 1000BASE-SFP Combo, 2 x 10GBASE-SFP+ Uplink ports, & 2 x 10GBASE-SFP+ dual-use Stack/Uplink ports. Includes Country-specific Power Cord & Base Software License.
AL3600?15-E6	ERS 3626GTS-PWR+ 26-port Ethernet Switch, supporting 24 x 1000BASE-T PoE/PoE+, including 2 x 1000BASE-SFP Combo, 2 x 10GBASE-SFP+ Uplink ports, & 2 x 10GBASE-SFP+ dual-use Stack/Uplink ports. Includes Country-specific Power Cord & Base Software License.
AL3600?06-E6	ERS , including 2 x 1000BASE-SFP Combo, 50-port Ethernet Switch, supporting 48 x 1000BASE-T, including 2 x 1000BASE-SFP Combo, 2 x 10GBASE-SFP+ Uplink ports, & 2 x 10GBASE-SFP+ dual-use Stack/Uplink ports. Includes Country-specific Power Cord & Base Software License.
AL3600?16-E6	ERS 3650GTS-PWR+ 50-port Ethernet Switch, supporting 48 x 1000BASE-T PoE/PoE+, including 2 x 1000BASE-SFP Combo, 2 x 10GBASE-SFP+ Uplink ports, & 2 x 10GBASE-SFP+ dual-use Stack/Uplink ports. Includes Country-specific Power Cord & Base Software License.
700512588	ERS 3600 Passive Stacking Cable 0.5m.
700512589	ERS 3600 Passive Stacking Cable 1.0m.
Where applicable the seventh character (?) of the Product Code is replaced to indicate the required product nationalization:	
A	No Power Cord option.
B	Includes European "Schuko" Power Cord option, common in Austria, Belgium, Finland, France, Germany, Netherlands, Norway and Sweden.
C	Includes Power Cord used in UK and Ireland.
D	Includes Power Cord used in Japan.
E	Includes Power Cord used in North America.
F	Includes Power Cord used in Australia and New Zealand.

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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