

## Product Highlights

### Performance

- 7050S-64: 48x1/10GbE and 4x40GbE ports
- 7050S-52: 52x1/10GbE ports
- 1.28 terabits per second
- 960 million packets per second
- Wire speed L2 and L3 forwarding
- 800ns to 1.2us latency

### Data Center Optimized Design

- Typical power draw less than 2W per port
- 1+1 redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Front-to-rear or rear-to-front cooling

### Cloud Networking Ready

- 128K MAC entries
- TRILL support
- 16K IPv4 Routes
- 16K IPv4 Host Routes
- 8K IPv6 Routes
- 8K Multicast Groups
- 9MB Dynamic Buffer Allocation

### Resilient Control Plane

- Dual-core x86 CPU
- 4GB DRAM
- 2GB Flash
- User applications can run in a VM

### Built-in Storage

- Solid State Drive option
- Store logs and data captures
- Network boot nodes from the switch
- Linux tools with no limitations

### Advanced Provisioning & Monitoring

- Zero Touch Provisioning (ZTP)
- VMTracer - host view
- VMTracer - auto VLANs
- sFlow
- Self-configure and recover from USB

### Arista Extensible Operating System

- Single binary image for all products
- Fine-grained modularity
- Stateful Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- Access to Linux tools
- Extensible platform

## Overview

The Arista 7050 series 10/40G switches offer wire speed layer 2/3/4 performance with 52 or 64 ports of 10GbE in a compact 1RU chassis. The 7050S-64 switch offers 48 SFP+ and 4 QSFP+ interfaces while the 7050S-52 switch offers 52 SFP+ interfaces. Each QSFP+ 40GbE port can also operate as four independent 10GbE ports to provide a total of 64 10GbE ports in the 7050S-64 model. The Arista 7050S offers a latency of 800 to 1200 ns in cut-through mode, and a shared 9 MB packet buffer pool that is allocated dynamically to ports that are congested. With a typical power consumption of less than 2 watts/port with twinax copper cables, and less than 3 watts/port with SFP/QSFP lasers, the 7050S 10Gb switches provide industry leading power efficiency for the data center. An optional built-in SSD supports advanced logging, data captures and other services directly on the switch.



*Arista 7050S-64: 48 x 1/10GbE SFP+ and 4 x 40GbE QSFP+ ports*



*Arista 7050S-52: 52 x 1/10GbE SFP+ ports*

## Arista EOS

The Arista 7050S switches run the same Arista EOS software as all Arista products, simplifying network administration. With Arista EOS, advanced monitoring and automation capabilities such as Zero Touch Provisioning, VMTracer and Linux based tools can be run natively on the switch.

Arista EOS is a modular switch operating system with a unique state sharing architecture that cleanly separates switch state from protocol processing and application logic. Built on top of a standard Linux kernel, all EOS processes run in their own protected memory space and exchange state through an in-memory database. This multi-process state sharing architecture provides the foundation for in-service-software updates and self-healing resiliency. Several Linux based tools can be run directly on the switch, running on a powerful dual-core x86 CPU subsystem.

### High Availability

The Arista 7050 series switches were designed for high availability from both a software and hardware perspective. Key high availability features include:

- 1+1 hot-swappable power supplies
- Four N+1 hot-swappable fans
- Live software patching
- Self healing software with Stateful Fault Repair (SFR)
- Up to 16 10GbE ports per link aggregation group (LAG)
- Multi-chassis LAG for active/active L2 multipathing
- 32-way ECMP routing for load balancing and redundancy

### Dynamic Buffer Allocation

In cut-through mode, the Arista 7050 10Gb switches forward packets with a latency of 800 to 1350 nanoseconds. Upon congestion, the packets are buffered in shared packet memory that has a total size of 9 MBytes. Unlike other architectures that have fixed per-port packet memory, the 7050 switches use Dynamic Buffer Allocation (DBA) to allocate up to 5MB of packet memory to a single port for lossless forwarding.

### Provisioning Tools and Built-in Storage

The 7050 series switches offer advanced capabilities for network provisioning. With ZTP, the switch can be automatically provisioned through a centralized management system with a dynamically generated configuration and preferred boot image. A built-in 50GB SSD is available as an option from the factory. The integrated storage allows for a whole new family of applications that can be run from the network itself. This includes having the switch be a PXE boot server, store syslogs for audit and compliance right on the switch, capturing and saving data packets via tcpdump and Linux based services such as DHCP and Precision Time Protocol (PTP).

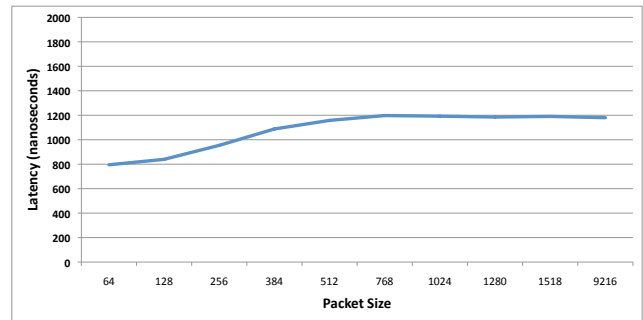
### Cloud Network Scale: Up to 18,000 10GbE nodes using standardized protocols



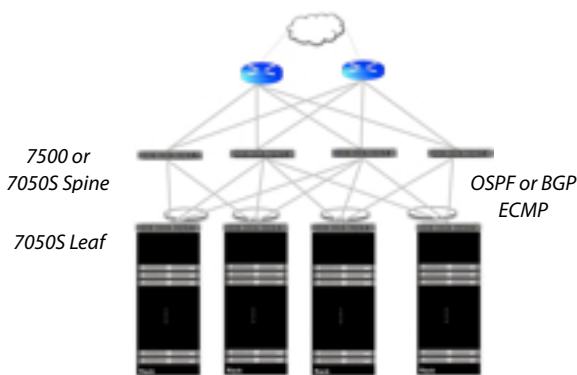
Arista 7050S-64 Rear View: Front-to-rear airflow model



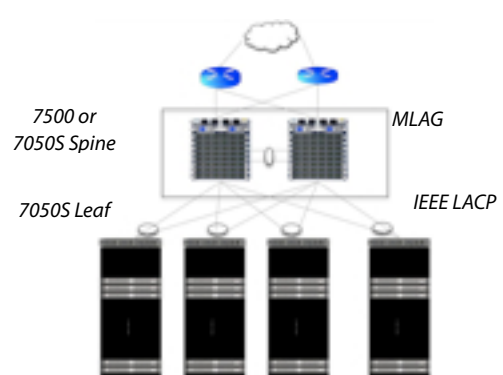
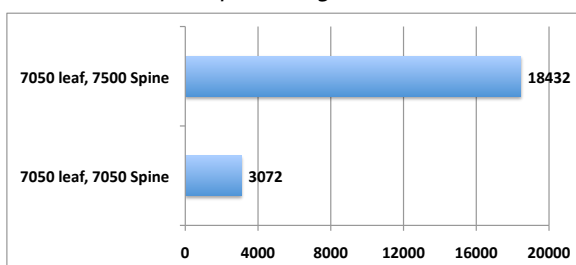
Arista 7050S-64 Rear View: Rear-to-front airflow model



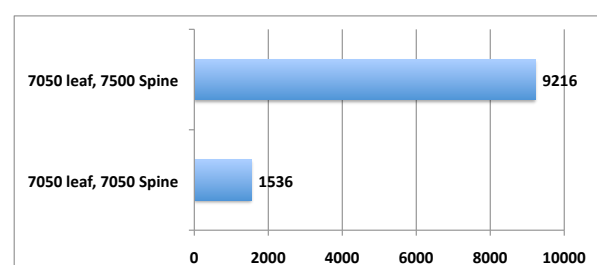
Arista 7050S: Latency through SFP+ ports



Arista Leaf-Spine Design with L3 ECMP



Arista Leaf-Spine Design with L2 MLAG



Number of 10GbE Nodes Interconnected Using Arista Leaf-Spine Designs

## Layer 2 Features

- 128K L2 Forwarding Entries
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- Rapid Per VLAN Spanning Tree (RPVST+)
- 4096 VLANs
- Q-in-Q
- 802.3ad Link Aggregation/LACP
  - 16 ports/channel
  - 64 groups per system
- Multi-Chassis Link Aggregation (MLAG)
  - Uses IEEE 802.3ad LACP
  - 32 ports per MLAG
- IETF TRILL\*
- 802.1AB Link Layer Discovery Protocol
- Port Mirroring (4 active mirroring sessions)
- 802.3x Flow Control
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control

## Layer 3 Features

- 16K IPv4 Routes
- 16K IPv4 Host Routes
- 8K IPv6 Routes\*
- 4K IPv6 Multicast Routes\*
- OSPF
- BGP
- RIPv2
- 32-way Equal Cost Multipath Routing (ECMP)
- Route Maps
- PIM-SM
- Anycast RP (RFC 4610)
- VRRP
- Virtual ARP (VARP)

## Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- Optional SSD for logging and data capture
- Restore & configure from USB
- Blue Beacon LED for system identification

## VM Tracer Feature Set

- VMware vSphere support
- VM Auto Discovery
- VM Adaptive Segmentation
- VM Host View

## Security Features

- ACLs using L2, L3, L4 fields
- Control Plane Protection (CPP)
- MAC Security
- TACACS+
- Radius

## Quality of Service (QoS) Features

- Up to 8 queues per port
- Strict priority queueing
- 802.1p based classification
- Per-Priority Flow Control (PFC)
- Data Center Bridging Extensions (DCBX)
- 802.1Qaz Enhanced Transmissions Selection (ETS)\*
- DSCP based classification and remarking\*
- Policers\*
- Rate limiting

## Network Management

- 100/1000 Management Port
- RS-232 Serial Console Port
- USB Port
- SNMP v2, v3
- Management over IPv6
- Telnet and SSHv2
- Syslog
- AAA
- Industry Standard CLI

## Standards Compliance

- 802.1D Bridging and Spanning Tree
- 802.1p QOS/COS
- 802.1Q VLAN Tagging
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- 802.1AB Link Layer Discovery Protocol
- 802.3ad Link Aggregation with LACP
- 802.3ab 1000BASE-T
- 802.3z Gigabit Ethernet
- 802.3ae 10 Gigabit Ethernet
- 802.3ba 40 Gigabit Ethernet

## SNMP MIBs

- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2863 IF-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 2096 IP-FORWARD-MIB
- RFC 4363 Q-BRIDGE-MIB
- RFC 4188 BRIDGE-MIB
- RFC 2013 UDP-MIB
- RFC 2012 TCP-MIB
- RFC 2011 IP-MIB
- RFC 2790 HOST-RESOURCES-MIB
- LLDP-MIB
- LLDP-EXT-DOT1-MIB
- LLDP-EXT-DOT3-MIB
- ENTITY-MIB
- ENTITY-SENSOR-MIB
- ENTITY-STATE-MIB

\* Supported in a future software release

### Table Sizes

MAC Addresses	128,000
STP Instances	64 (MST)/256 (RPVST+)
IGMP Groups	50,000
ACLs	3,000
IPv4 Hosts	16,000
IPv4 Routes - Unicast	16,000
IPv4 Routes - Multicast	8,000
IPv6 Routes - Unicast	8,000
IPv6 Routes - Multicast	4,000
ECMP	32-way

### Environmental Characteristics

Operating Temperature	0 to 40C
Storage Temperature	-40C to 70C
Relative Humidity	5 to 95%
Operating Altitude	0 to 10,000 ft

### Physical Characteristics

Size (WxHxD)	19" x 1.75" x 16" (44.5 x 4.4 x 40.64 cm)
Weight	17 lbs (7.71 kg)

### Power Specifications

Input Voltage	100-240AC
Input Current (Max)	2.2-5.3A
Input Frequency	50-60Hz
Input Connector	IEC 320-C13

### Standards Compliance

EMI	FCC Part 15 Class A ICES-003 Class A VCCI Class A
Safety	IEC/UL/CSA/EN 60950 CE, UL, TUV Mark
Other	ROHS-6 Compliant

### Model Comparison

	7050S-64	7050S-52
Ports	48 x SFP+, 4 x QSFP+	52xSFP+
Total 10GbE Ports	64	52
Total 1GbE Ports	48 (SFP/SFP+)	52 (SFP/SFP+)
Throughput	1.28 Terabits/second	1.04 Terabits/second
Packets/Second	960 Mpps	780 Mpps
Latency	800 - 1150ns (SFP+) 950 - 1350ns (QSFP+)	800 to 1150ns
CPU	Dual-Core x86	Dual-Core x86
System Memory	4 Gigabytes	4 Gigabytes
Flash Storage Memory	2 Gigabytes	2 Gigabytes
Packet Buffer Memory	9MB (Dynamic Buffer Allocation)	9MB (Dynamic Buffer Allocation)
SSD Storage (optional)	50 Gigabytes	50 Gigabytes
100/1000 Mgmt Ports	1	1
RS-232 Serial Ports	1 (RJ-45)	1 (RJ-45)
USB Ports	1	1
Hot-swap Power Supplies	2 (1+1 redundant)	2 (1+1 redundant)
Hot-swappable Fans	4 (N+1 redundant)	4 (N+1 redundant)
Reversible Airflow Option	Yes	Yes
Typical Power Draw*	125W	103W
Maximum Power Draw	220W	185W

### Supported Optics and Cables

Interface Type	SFP+ ports	QSFP+ ports
40GBASE-SR4	-	100m (OM3) /150m (OM4)
40GBASE-CR4 (Twinax Copper)	-	0.5m to 7m QSFP to QSFP cables
10GBASE-CR (Twinax Copper)	SFP to SFP: 0.5m to 5m	0.5m to 3m QSFP to 4 x SFP+ cables
10GBASE-SRL	100m	-
10GBASE-SR	300m	-
10GBASE-LR	10Km	-
10GBASE-ER	40Km	-
10G-DWDM	40Km	-
100Mb TX 1GbE SX, LX, TX	Yes	-

\* Typical power consumption measured at 25C ambient with 50% load

Product Number	Product Description
DCS-7050S-64-F	Arista 7050, 48xSFP+ & 4xQSFP+ switch, front-to-rear airflow and dual 460W AC power supplies
DCS-7050S-64-R	Arista 7050, 48xSFP+ & 4xQSFP+ switch, rear-to-front airflow and dual 460W AC power supplies
DCS-7050S-64#	Arista 7050, 48xSFP+ & 4xQSFP+ switch, no fans, no psu (requires fans and psu)
DCS-7050S-64-D#	Arista 7050, 48xSFP+ & 4xQSFP+ switch, 50GB SSD, no fans, no psu (requires fans and psu)
DCS-7050S-52-F	Arista 7050, 52xSFP+ switch, front-to-rear airflow and dual 460W AC power supplies
DCS-7050S-52-R	Arista 7050, 52xSFP+ switch, rear-to-front airflow and dual 460W AC power supplies
DCS-7050S-52#	Arista 7050, 52xSFP+ switch, no fans, no psu, (requires fans and psu)
DCS-7050S-52-D#	Arista 7050, 52xSFP+ switch, 50GB SSD, no fans, no psu (requires fans and psu)
FAN-7000-F	Spare fan module for Arista 7124SX, 7050 & 7048-A switches (front-to-rear airflow)
FAN-7000-R	Spare fan module for Arista 7124SX, 7050 & 7048-A switches (rear-to-front airflow)
PWR-460AC-F	Spare 460 Watt AC power supply for Arista 7124SX, 7050 & 7048-A Switches (front-to-rear airflow)
PWR-460AC-R	Spare 460 Watt AC power supply for Arista 7124SX, 7050 & 7048-A Switches (rear-to-front airflow)
PWR-460DC-F	Spare 460 Watt DC power supply for Arista 7124SX, 7050 & 7048-A Switches (front-to-rear airflow)
PWR-460DC-R	Spare 460 Watt DC power supply for Arista 7124SX, 7050 & 7048-A Switches (rear-to-front airflow)
LIC-7050-E	Enhanced License for Arista 7050 Switches (OSPF, BGP, PIM)
LIC-VM-TRACER-2	VM Tracer License for 7140, 7148 and 7050 Switches
LIC-7050-Z	Network monitoring and provisioning feature set license for Arista 7050 (ZTP)
KIT-7000	Spare accessory kit for Arista 7000 / 7100 switches

## Warranty

The Arista 7050 switches comes with a one-year limited hardware warranty, which covers parts, repair, or replacement with a 10 business day turn-around after the unit is received.

## Service and Support

Support services including next business day and 4-hour advance hardware replacement are available. For service depot locations, please see: <http://www.aristanetworks.com/en/service>

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