

Product Highlights

Performance

- 7050T-64: 48x1/10GbE and 4x40GbE ports
- 7050T-52: 52x1/10GbE ports
- 100Mb/1Gb/10GBASE-T auto-negotiating
- 1.28 terabits per second
- 960 million packets per second
- Wire speed L2 and L3 forwarding

Data Center Optimized Design

- Typical power draw less than 7W 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 1/10GBase-T switches offer wire speed layer 2/3/4 performance with 52 or 64 ports of 10GbE in a compact 1RU chassis. The 7050T switches offer 48 auto-negotiating 100Mb/1Gb/10GBase-T ports with standard RJ45 interfaces and a choice of either 4 40GbE QSFP+ interfaces or 4 10GbE SFP+ ports. The QSFP+ interfaces can operate as either a 40GbE port or as four independent 10GbE ports to provide a total of 64 10GbE ports in the 7050T-64 model. Positioned for data center server access the 7050T switches offer backwards compatibility with existing standard Gigabit Ethernet cabling and investment protection for migration to 10 Gigabit Ethernet.

The Arista 7050T switches offers flexible support for triple speed 100Mb, 1Gb and 10Gb Ethernet together with a shared 9 MB packet buffer pool that is allocated dynamically to ports that are congested. With a typical power consumption of less than 7 watts/port the 7050T Series provides industry leading power efficiency for the data center. An optional built-in SSD supports advanced logging, data captures and other enhanced services directly on the switch.



Arista 7050T-64: 48 x 1/10GbE BaseT and 4 x 40GbE QSFP+ ports



Arista 7050T-52: 48 x 1/10GbE BaseT and 4 x 1/10GbE SFP+ ports

Arista EOS

The Arista 7050T 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 10GbE switches forward packets with a low latency of under 3 microseconds. 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



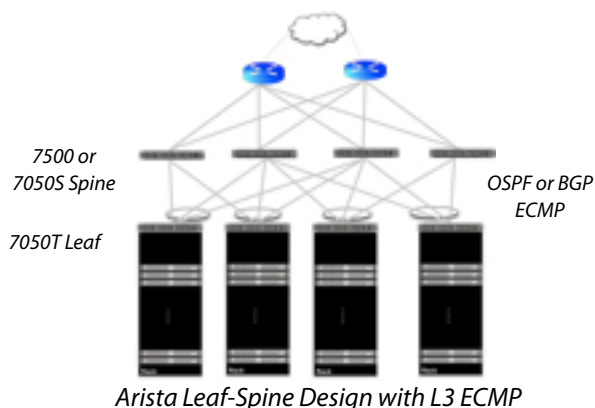
Arista 7050T Rear View: Front-to-rear airflow model



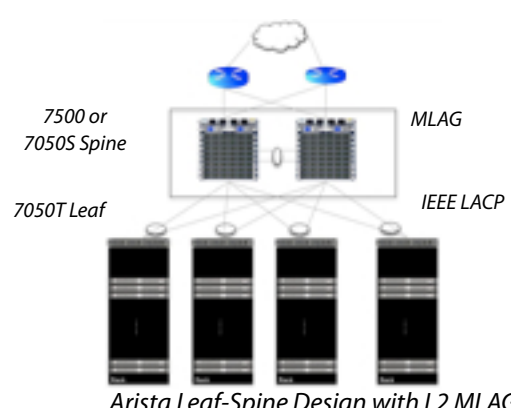
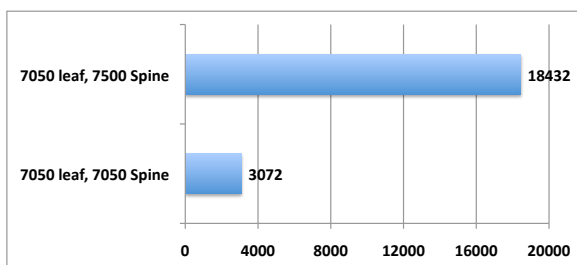
Arista 7050T Rear View: Rear-to-front airflow model

Cable Type	1000Base-T	10GBase-T
Cat 5	100m (330 ft)	Not supported
Cat 5e	100m (330 ft)	55m (180 ft)
Cat 6 UTP	100m (330 ft)	55m (180 ft)
Cat 6 STP	100m (330 ft)	100m (330 ft)
Cat 6A UTP	100m (330 ft)	100m (330 ft)
Cat 7	100m (330 ft)	100m (330 ft)

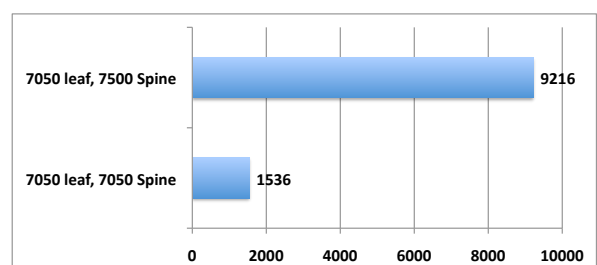
1000Base-T and 10GBase-T Cabling Distances



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
- 802.3an 10GBASE-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)/511 (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	20.9 lbs (9.5 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

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

** Performance of 10GBASE-T over Cat-5e cabling is not specified in the standard. Actual performance is based on loss characteristics of cabling and panels.

Model Comparison

	7050T-64	7050T-52
Ports	48 x RJ45, 4 x QSFP+	48 RJ45, 4xSFP+
Total 10GbE Ports	64	52
1/10GBASE-T (RJ45) Ports	48	48
Throughput	1.28 Terabits/second	1.04 Terabits/second
Packets/Second	960 Mpps	780 Mpps
Latency	3.3usec (RJ45) 950 - 1350ns (QSFP+)	3.3usec (RJ45) 800 - 1150ns (SFP+)
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
10GBaseT over Category 6a or 7 cabling	up to 100m	up to 100m
10GBaseT over Category 5e or 6 cabling	up to 55m **	up to 55m **
Typical Power Draw*	372W	347W
Maximum Power Draw	430W	405W

Supported Optics and Cables

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

Product Number	Product Description
DCS-7050T-64-F	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xQSFP+ switch, front-to-rear airflow, 2x AC power supplies
DCS-7050T-64-R	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xQSFP+ switch, rear-to-front airflow, 2x AC power supplies
DCS-7050T-64#	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xQSFP+ switch, no fans, no psu (requires fans and psu)
DCS-7050T-64-D#	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xQSFP+ switch, 50GB SSD, no fans, no psu (requires fans and psu)
DCS-7050T-52-F	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xSFP+ switch, front-to-rear airflow, 2x AC power supplies
DCS-7050T-52-R	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xSFP+ switch, rear-to-front airflow, 2x AC power supplies
DCS-7050T-52#	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xSFP+ switch, no fans, no psu (requires fans and psu)
DCS-7050T-52-D#	Arista 7050, 48xRJ45(1/10GBASE-T) & 4xSFP+ 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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