

Product Highlights

Performance

- 7050CX3-32S and 7050CX3-32C: 32x QSFP100
- 7050SX3-96YC8: 96x SFP25 & 8x QSFP100
- 7050SX3-48YC12: 48x SFP25 & 12x QSFP100
- 7050SX3-48YC8 and 7050SX3-48YC8C: 48x SFP25 & 8x QSFP100
- 7050SX3-48C8 and 7050SX3-48C8C: 48x SFP+ & 8x QSFP100
- 7050TX3-48C8: 48x 10G-T & 8x QSFP100
- Flexible 40G and 100G support
- Quad 10GbE and 25GbE support
- Up to 128 x 10G, 25G or 64x 50G
- Up to 6.4 terabits per second
- Up to 2 billion packets per second
- Wire speed L2 and L3 forwarding
- Latency from 800 ns

Data Center Optimized Design

- Over 94% efficient power supplies
- 1+1 redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Data center optimized airflow
- Tool less rails for simple installation

Cloud Networking Ready

- VXLAN and VM Tracer
- OpenFlow, DirectFlow and eAPI
- 288K MAC entries and 360K IPv4 Routes
- 168K IPv4 Host Routes
- 32 MB integrated intelligent buffer with dynamic buffer allocation

Resilient Control Plane

- High Performance x86 CPU
- 8 GB or 16GB DRAM

Advanced Provisioning & Monitoring

- CloudVision
- Zero Touch Provisioning (ZTP)
- LANZ for microburst detection
- DANZ Advanced Mirroring for visibility
- sFlow
- Self-configure and recover from USB
- Traffic aware ECMP and UCMP

Arista Extensible Operating System

- Single binary image for all products
- Fine-grained truly modular network OS
- Stateful Fault Repair (SFR)
- Full Access to Linux shell and tools
- Extensible platform - bash, python, C++, GO, OpenConfig

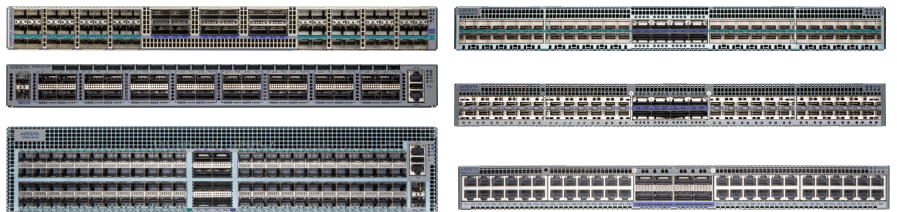
Overview

The Arista 7050X3 are members of the Arista 7050X series and key components of the Arista portfolio of data center switches. The adoption of high performance servers using virtualization and containers with increasingly higher bandwidth is accelerating the need for dense 25 and 100G Ethernet switching in both the leaf and spine tiers of modern networks. The Arista 7050X3 Series high performance flexible data center switches with a rich set of wire speed L2 and L3 features combine extensive automation with programmability, low latency and consistent features for software driven cloud networking.

The 7050X3 Series are available in a choice of configuration options. Combining high density and industry leading power efficiency with typical power consumption under 7W per 100GbE port the 7050CX3-32S and 7050CX3-32C are ideal for both high performance leaf or collapsed spine tiers with airflow choices for back to front, or front to back.

Featuring 48 ports of 25G SFP ports and a choice of 8 or 12 ports of 100G ports the 7050SX3-48YC8, 7050SX3-48YC8C and 7050SX3-48YC12 enable high performance in a compact 1RU form factor. The 7050SX3-96YC8 system has 96 ports of 25G and 8 ports of 100G in 2U. The 7050SX3 systems ensure seamless migration from 1/10G to 25G and enables high density 25G solutions without network oversubscription. The 7050TX3-48C8, 7050SX3-48C8 and 7050SX3-48C8C with 48 1/10G ports deliver consistent features and enhancements for Enterprise and carrier networks.

All models of the 7050X3 Series offer flexible forwarding tables with a Unified Forwarding Table, latency from as low as 800 ns and a fully shared packet buffer of up to 32MB for superior burst absorption. Comprehensive support for a wide range of interface speeds including 10G, 25G, 40G, 50G and 100G combined with Arista EOS ensures the 7050X3 delivers the flexibility and features for big data, cloud, virtualized and traditional network designs and accommodates the myriad different applications and east-west traffic patterns found in modern data centers.



Arista 7050X3 Series Switches: 7050SX3-48YC12, 7050CX3-32S, 7050CX3-32C, 7050SX3-96YC8, 7050SX3-48YC8, 7050SX3-48YC8C, 7050SX3-48C8, 7050SX3-48C8C and 7050TX3-48C8

Arista EOS

The Arista 7050X3 series runs the same Arista EOS software as all Arista products, simplifying network administration. 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.

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 with the powerful x86 CPU subsystem.

Model Overview

The Arista 7050X3 series come in different configurations. Each delivers high performance combined with feature rich layer 2 and layer 3 forwarding, suited for both top of rack leaf, or fixed configuration spines.

The **7050CX3-32S** and the **7050CX3-32C** are 1RU systems with 32 100G QSFP100 ports offering wire speed throughput of up to 6.4 Tbps bi-directional. Each QSFP port supports a choice of 5 speeds with flexible configuration between 100GbE, 40GbE, 4x10GbE, 4x25GbE or 2x50GbE modes for up to 128 ports of 10GbE and 25GbE or 64 ports of 50GbE. All ports can operate in any supported mode without limitation, allowing easy migration from lower speeds and the flexibility for leaf or spine deployment.



*Arista 7050CX3-32S and 7050CX3-32C :
32x 100G QSFP100 ports, 2 SFP+ ports*

The Arista **7050SX3-48YC8** and the **7050SX3-48YC8C** are 1RU systems with 48 ports of 25G SFP and 8 ports of 100G QSFP100 with an overall throughput of 4 Tbps. The high density SFP ports can be configured to run either at 25G or a mix of 10G/1G speeds. The QSFP ports allow for 100GbE or 40GbE as high speed network uplinks, with a wide choice of transceivers and cables enabling a choice of combinations for both leaf and spine deployment. With low latency and no oversubscription, the switch is optimized for high performance server and storage deployments.



*Arista 7050SX3-48YC8 and 7050SX3-48YC8C :
48x 25G SFP and 8x 100G QSFP ports*

The Arista **7050SX3-48YC12** is a 1RU system with 48 ports of 25GbE SFP and 12 ports of 100GbE QSFP100 with an overall throughput of 4.8 Tbps. The high density SFP ports can be configured in groups of 4 to run either at 25G or a mix of 10G/1G speeds. The QSFP ports allow for a choice of 5 speeds including 100GbE, 40GbE, 4x10GbE, 4x25GbE or 2x 50GbE with a wide choice of transceivers and cables enabling a choice of combinations for both leaf and spine deployment. With low latency and no oversubscription, the switch is optimized for high performance server and storage deployments.



*Arista 7050SX3-48YC12 :
48x 25G SFP and 12x 100G QSFP ports*

The Arista **7050SX3-48C8**, **7050SX3-48C8C** and **7050TX3-48C8** are 1RU systems with 48 ports of 10G and 8 ports of 100G with an overall throughput of 2.56 Tbps. The SX3 high density 10G ports can be configured for a mix of 10G/1G speeds to facilitate mixed connections and the TX3 RJ45 ports allows 1G, 2.5G, 5G, and 10G speeds. The QSFP100 ports allow 100GbE or 40GbE as network uplinks, with a rich choice of transceivers and cables for both leaf and spine deployment. With no oversubscription, the switch is optimized for high performance deployments with consistent features.



*Arista 7050SX3-48C8, 7050SX3-48C8C and 7050TX3-48C8 :
48x 10G SFP or 10GBaseT and 8x 100G QSFP ports*

The Arista **7050SX3-96YC8** is a 2RU system with 96 ports of 25G and 8 ports of 100G with an overall throughput of 6.4 Tbps bi-directional. The high density SFP ports can be configured in groups of 4 to run either at 25G or a mix of 10G/1G speeds. The QSFP100 ports allow for a choice of 5 speeds including 100GbE, 40GbE, 4x10GbE, 4x25GbE or 2x 50GbE with a wide choice of transceivers and cables enabling a choice of combinations for both leaf and spine deployment. With low latency and no oversubscription, the switch is optimized for high density server environments with native 25G connections.



*Arista 7050SX3-96YC8 :
96x 25G SFP and 8x 100G QSFP ports*

High Availability

The Arista 7050X3 series switches are designed for high availability from both a software and hardware perspective. Key high availability features include

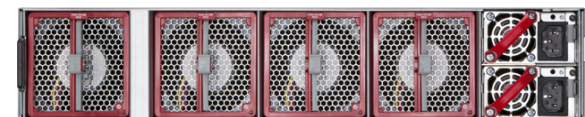
- 1+1 hot-swappable power supplies and four N+1 hot-swap fans
- Color coded PSU's and fans
- Live software patching
- Self healing software with Stateful Fault Repair (SFR)
- Smart System Upgrade (SSU)
- Multi-chassis LAG for active/active L2 multi-pathing
- 128-way ECMP routing for load balancing and redundancy



7050CX3-32S 1RU Rear View (rear to front airflow)



7050SX3-48YC12 1RU Rear View (front to rear airflow)



7050SX3-96YC8 2RU Rear View (front to rear airflow)



7050SX3-48YC8, 7050SX3-48YC8C, 7050SX3-48C8, 7050SX3-48C8C, 7050TX3-48C8, 7050CX3-32C Rear View (front to rear airflow)

Dynamic Buffer Allocation

In cut-through mode, the Arista 7050X3 switches forward packets with a consistent low latency of 800 nanoseconds. Upon congestion, the packets are buffered in an intelligent fully shared packet memory that has a total size of 32MB for superior burst absorption. Unlike other architectures that have fixed per-port packet memory, the 7050X3 Series use dynamic thresholds to allocate packet memory based on traffic class, queue depth and quality of service policy ensuring a fair allocation to all ports of both lossy and lossless classes. Buffer utilization, occupancy and thresholds are all visible with Arista LANZ and can be exported to monitoring tools to identify hotspots and measure latency at the device and end to end.

Software Driven Cloud Networking

Arista Software Driven Cloud Networking (SDCN), combines the principles that have made cloud computing the unstoppable force that it is: automation, self service provisioning, and linear scaling of both performance and economics coupled with the trend in Software Defined Networking that delivers: network virtualization, custom programmability, simplified architectures, and lower capital expenditure. This combination creates a best-in-class software foundation for maximizing the value of the network to both the enterprise and service provider data center. A new architecture for the most mission-critical location within the IT infrastructure that simplifies management and provisioning, speeds up service delivery, lowers costs and creates opportunities for competitive differentiation, while putting control and visibility back in the hands of the network and systems administrators.

Maximum Flexibility for Scale Out Network Designs

Scale out network designs enable solutions to start small and evolve over time. A simple two-way design can grow as far as 128-way without significant changes to the architecture. The Arista 7050X3 include enhancements for flexible scale-out designs:

- 128-way ECMP and 64-way MLAG to provide scalable designs and balance traffic evenly across large scale 2 tier leaf-spine designs
- Equal and Unequal Cost Multi-Pathing (UCMP) for flexible traffic balancing in large scale multi-tier topologies
- Custom hash algorithms for efficient hashing, persistent hashing and custom lookups for tunneled protocols
- Flexible allocation of L2 and L3 forwarding table resources for more design choice
- Wide choice of dense 10G/25G/40G/50G/100G interfaces for multi-speed flexibility
- Support for standards based IEEE 25GbE for simple and cost effective migration from 10G and 40G to 25G and 100G
- VXLAN routing, bridging and gateway capability for physical to virtualization communication in next generation data center designs
- DANZ, sFlow and multi-port mirroring to detect micro-burst congestion and provide network wide visibility and monitoring
- Hitless speed changes from 10G to 100G to eliminate down-time when implementing speed changes

Unified Forwarding Table

Network scalability is directly impacted by the size of a switches forwarding tables. In many systems a 'one size fits all' approach is adopted using discrete fixed size tables for each of the common types of forwarding entry. The Arista 7050X3 leverage a common Unified Forwarding Table (UFT) for the L2 MAC, L3 Routing, L3 Host and IP Multicast forwarding entries, which can be partitioned per entry type. The ideal size of each partition varies depending on the network deployment scenario. The flexibility of the UFT coupled with the range of pre-defined profiles available on the 7050X3 ensures optimal resource allocation for all network topologies and network virtualization technologies.

AI Analyzer *

Traditional software-based traffic counters do not lend themselves to examine AI/ML traffic patterns, which exhibit unique ramp up behavior in very short intervals of time. The AI Analyzer is a hardware capability that enables the collection of ECMP member utilization data, aggregated over extremely short periods of time. This allows the Arista 7050X3 series to effectively analyze the traffic patterns, with a time interval as granular as 100 microseconds. The results of such an analysis can then be applied to fine tune dynamic load balancing workloads uniformly across the ECMP member links, which is a key requirement for AI/ML applications.

CloudVision

CloudVision is a network-wide approach for workload orchestration and workflow automation as a turnkey solution for Cloud Networking. CloudVision extends the EOS publish subscribe architectural approach across the network for state, topology, monitoring and visibility. This enables enterprises to move to cloud-class automation without needing any significant internal development.

Advanced Event Management (AEM)

Simplifying the overall operations, AEM provides the tools to customize alerts and actions. AEM is a powerful and flexible set of tools to automate tasks and customize the behavior of EOS and the operation of the overall data center switching infrastructure. AEM allows operators to fully utilize the intelligence within EOS to respond to real-time events, automate routine tasks, and automate actions based on changing network conditions.

Smart System Upgrade

Smart System Upgrade is a network application designed to address one of the most complicated and challenging tasks facing data center administrators - network infrastructure maintenance. Changes to the underlying network infrastructure can affect large numbers of devices and cause significant outages. SSU provides a fully customizable suite of features that tightly couples data center infrastructure to technology partners allowing for intelligent insertion and removal, programmable updates to software releases and open integration with application and infrastructure elements.

Virtualization

Supporting next-generation virtualized data centers requires tight integration with orchestration tools and encapsulation technologies such as VXLAN. The 7050X3 build on the valuable tools already provided by the Arista VM Tracer suite to integrate directly into encapsulated environments. Offering a wire-speed gateway between VXLAN and traditional L2/3 environments, they make integration of non-VXLAN aware devices including servers, firewalls and load-balancers seamless and provide the ability to leverage VXLAN as a standards based L2 extension technology for non-MPLS environments.

Precise Data Analysis

Arista Latency Analyzer (LANZ) is an integrated feature of EOS. LANZ provides precise real-time monitoring of micro-burst and congestion events before they impact applications, with the ability to identify the sources and capture affected traffic for analysis. Advanced analytics are provided with features like buffer monitoring with configurable thresholds, in-band path and latency monitoring, event driven trace packets and granular time stamping.

Precision Timing (IEEE 1588)

Arista's hardware derived Precision Time Protocol solution provides a robust mechanism for accurate in-band time distribution in high performance environments. The system clock can be synchronized using IEEE 1588 PTP.

Dynamic Load Balancing *

Traditional hash-based load balancing algorithms can result in link and path allocations with short term imbalances and under utilization of aggregate capacity. This is aggravated further in modern data centers with high traffic loads, varied flow duration, mixed packet sizes and micro-bursts. DLB enhancements to load balancing consider the real time load on links and dynamically assign new and existing flows to the best link. When imbalances are detected active flows and new flows are allocated to the least loaded paths to reduce the possibility of drops. Supported with any combination of ECMP and LAG/MLAG, DLB delivers higher throughput with enhanced load distribution while offering the user an open implementation.

Flexible Pipeline

The Arista 7050X3 series support an enhanced forwarding architecture with smarter and flexible packet pipeline which allows the addition of new capabilities to the data plane of the packet processor through software upgrades without changes or replacement of the underlying hardware. This allows for rapid testing and deployment avoiding costly replacements or major upgrades. Together with flexible resource allocation provided by the Unified Forwarding Tables (UFT), the programmable pipeline increases the flexibility of the platform allowing for broad use cases and ensures continued investment protection.

Network Address Translation

The Arista 7050X3 series support static and dynamic address translation at line rate and introducing no additional latency when the mappings are set up. High performance environments can take advantage of NAT to resolve addressing challenges such as masking internal addresses and translating overlapping ranges resulting in simpler network topologies without performance penalty.

* Not currently supported in EOS

Supported Features in EOS

<https://www.arista.com/en/support/product-documentation/supported-features>

Layer 2 Features

- 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
 - 64 ports/channel
 - 128 groups per system
- Multi-Chassis Link Aggregation (MLAG)
 - 64 ports per MLAG
- Custom LAG Hashing
- Resilient LAG Hashing
- 802.1AB Link Layer Discovery Protocol
- 802.3x Pause Flow Control Tx
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control

Layer 3 Features

- Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and RIPv2
- 128-way Equal Cost Multipath Routing (ECMP)
- Resilient ECMP Routes
- VRF
- EVPN
- BFD
- Route Maps
- IGMP v2/v3
- PIM-SM / PIM-SSM
- Anycast RP (RFC 4610)
- VRRP
- Virtual ARP (VARP)
- Policy Based Routing (PBR)
- uRPF
- Network Address Translation
 - Source/Destination NAT
 - Source/Group Multicast NAT

Advanced Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- Smart System Upgrade
- AI Analyzer*
- Latency Analyzer and Microburst Detection (LANZ)
 - Configurable Congestion Notification (CLI, Syslog)
 - Capture/Mirror of congested traffic
- Advanced Monitoring and Aggregation
 - Port Mirroring (4 active sessions)
 - L2/3/4 Filtering on Mirror Sessions
 - Port Channel source and destination
 - Mirror to CPU

- Advanced Event Management suite (AEM)
 - CLI Scheduler
 - Event Manager
 - Event Monitor
 - Linux tools
- Integrated packet capture/analysis with TCPDump
- RFC 3176 sFlow
- Restore & configure from USB
- Blue Beacon LED for system identification
- Software Defined Networking (SDN)
 - OpenFlow
 - Arista DirectFlow
 - eAPI
 - OpenStack Neutron Support
- IEEE 1588 PTP (Transparent Clock and Boundary Clock)

Virtualization Support

- VXLAN Routing and Bridging
- VM Tracer VMware Integration

Security Features

- IPv4 / IPv6 Ingress & Egress ACLs using L2, L3, L4 fields
- MAC ACLs
- ACL Drop Logging and ACL Counters
- Control Plane Protection (CPP)
- Service ACLs
- DHCP Relay / Snooping
- MAC Security
- TACACS+
- RADIUS

Quality of Service (QoS) Features

- Up to 8 queues per port
- 802.1p based classification
- DSCP based classification and remarking
- Explicit Congestion Notification (ECN)
- QoS interface trust (COS / DSCP)
- Strict priority queueing
- Weighted Round Robin (WRR) Scheduling
- 802.1Qbb Per-Priority Flow Control (PFC)
- 802.1Qaz Data Center Bridging Exchange (DCBX)
- ACL based DSCP Marking
- ACL based Policing
- Per port MMU Configuration
- Policing/Shaping
- Rate limiting

Network Management

- CloudVision
- 10/100/1000 Management Port
- RS-232 Serial Console Port
- USB Port
- SNMP v1, v2, v3
- Management over IPv6
- Telnet and SSHv2
- Syslog
- AAA
- Industry Standard CLI
- OpenConfig

Extensibility

- Linux Tools
 - Bash shell access and scripting
 - RPM support
 - Custom kernel modules
- Programmatic access to system state
 - Python
 - C++
- Native KVM/QEMU support

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
- 802.3by 25 Gigabit Ethernet
- 802.3ba 40 and 100 Gigabit Ethernet
- RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
- RFC 4861 Neighbor Discovery for IP Version 6 (IPv6)
- RFC 4862 IPv6 Stateless Address Auto-configuration
- RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification

SNMP MIBs

- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2863 IF-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 4292 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
 - RFC 3636 MAU-MIB
 - RMON-MIB
 - RMON2-MIB
 - HC-RMON-MIB
 - LLDP-MIB
 - LLDP-EXT-DOT1-MIB
 - LLDP-EXT-DOT3-MIB
 - ENTITY-MIB
 - ENTITY-SENSOR-MIB
 - ENTITY-STATE-MIB
 - ARISTA-ACL-MIB
 - ARISTA-QUEUE-MIB
 - RFC 4273 BGP4-MIB
 - RFC 4750 OSPF-MIB
 - ARISTA-CONFIG-MAN-MIB
 - ARISTA-REDUNDANCY-MIB
 - RFC 2787 VRRPv2-MIB
 - MSDP-MIB
 - PIM-MIB
 - IGMP-MIB
 - IPMROUTE-STD-MIB
 - SNMP Authentication Failure trap
 - ENTITY-SENSOR-MIB support for DOM (Digital Optical Monitoring)
 - User configurable custom OIDs
- See EOS release notes for latest supported MIBs

Table Sizes

STP Instances	64 (MST)/510 (RPVST+)
IGMP Groups	288K max, with 16K unique groups
ACLs	2K
Egress ACLs	2K
ECMP	128-way, 1K groups

UFT Mode - 2 is default		0	1	2	3	4 (ALPM)
Shared	Max. IGMP Groups & MAC Addresses	288K	224K	160K	96K	32K
	Max. IPv4 Host Routes	16K	80K	144K	168K	16K
	Max. IPv4 Multicast (S,G)	8K	40K	72K	104K	8K
	Max. IPv6 Host Routes	8K	40K	72K	104K	8K

LPM Table Mode		ALPM	1	2	3	4
Shared	Max. IPv4 LPM Routes	360K	32K	32K	32K	32K
	Max. IPv6 LPM Routes - Unicast (prefix length <= 64)	0-192K	12K	8K	4K	-
	Max. IPv6 LPM Routes - Unicast (any prefix length)	2-40K	2K	4K	6K	8K

* Not currently supported in EOS

Specifications

Switch Model	7050CX3-32S	7050CX3-32C	7050SX3-48C8	7050SX3-48C8C	7050TX3-48C8
Ports	32x QSFP100 2x SFP+	32x QSFP100 2x SFP+	48x SFP+ 8x QSFP100	48x SFP+ 8x QSFP100	48x 1/2.5/5/10G-T 8x QSFP100
Max 100GbE Ports ¹	32	32	8	8	8
Max 50GbE Ports ¹	64	64	16	16	16
Max 40GbE Ports ¹	32	32	8	8	8
Max 25GbE Ports ¹	128	128	16	16	16
Max 10GbE Ports ¹	129	129	64	64	64
Max 1GbE Ports ¹	2	2	48	48	48
Max Total Interfaces ²	129	129	64	64	64
Throughput	3.2 (6.4) Tbps	3.2 (6.4) Tbps	1.28 (2.56) Tbps	1.28 (2.56) Tbps	1.28 (2.56) Tbps
Packets/Second	2 Bpps	2 Bpps	1 Bpps	1 Bpps	1 Bpps
Latency	800 ns	800 ns	800 ns	800 ns	3 usec
CPU	Quad-Core x86	Quad-Core x86	Quad-Core x86	Quad-Core x86	Quad-Core x86
System Memory	8 GB (16 GB optional)	16 GB	8 GB	16 GB	8 GB
Flash Storage	8 GB (32 GB optional)	32 GB	8 GB	32 GB	8 GB
Packet Buffer Mem	32 MB (Dynamic Buffer Allocation)				
Mgmt Ports	1				
RS-232 Serial Ports	1 (RJ-45)				
USB Ports	1				
Hot-swap Power	2 (1+1 redundant)				
Hot-swappable Fans	4 (N+1 redundant)	2 (1+1 redundant)			
Reversible Airflow	Yes	Yes	Yes	Yes	Yes
Typical/Max Power ³	168W / 343W	165W / 334W	106W / 285W	112W / 259W	212W / 346W
Rack Units	1RU				
Size (WxHxD)	19 x 1.75 x 16 in (48.3 x 4.4 x 40.64 cm)	19 x 1.75 x 18.4 in (48.3 x 4.4 x 46.8 cm)			
Weight	20 lbs (9.1kgs)	21 lbs (9.45kgs)	21 lbs (9.45kgs)	21 lbs (9.45kgs)	20.6lbs (9.36kgs)
Fan Tray	FAN-7000H-F/R	FAN-7011M-F/R			
Power Supplies	PWR-500-AC-F/R PWR-500-DC-F/R	PWR-511-AC-RED/BLUE PWR-511-DC-RED/BLUE			
EOS Feature Licenses	LIC-FIX-2	LIC-FIX-2	LIC-FIX-1	LIC-FIX-1	LIC-FIX-2
Minimum EOS	4.20.5	TBD	4.24.0	TBD	4.24.0

1. Maximum port numbers are uni-dimensional, may require the use of break-outs and are subject to transceiver/cable capabilities

2. Where supported by EOS, each system supports a maximum number of interfaces. Certain configurations may impose restrictions on which physical ports can be used

3. Typical power consumption measured at 25C ambient with 50% load on all ports

Specifications

Switch Model	7050SX3-96YC8	7050SX3-48YC12	7050SX3-48YC8	7050SX3-48YC8C
Ports	96x SFP25 8x QSFP100 2 SFP+	48x SFP25 12x QSFP100	48x SFP25 8x QSFP100	48x SFP25 8x QSFP100
Max 100GbE Ports ¹	8	12	8	8
Max 50GbE Ports ¹	16	24	16	16
Max 40GbE Ports ¹	8	12	8	8
Max 25GbE Ports ¹	128	96	64	64
Max 10GbE Ports ¹	129	96	64	64
Max 1GbE Ports ¹	129	48	48	48
Max Total Interfaces ²	129	96	64	64
Throughput	3.2 (6.4) Tbps	2.4 (4.8) Tbps	2 (4) Tbps	2 (4) Tbps
Packets/Second	2 Bpps	2 Bpps	1 Bpps	1 Bpps
Latency	800 ns	800 ns	800 ns	800 ns
CPU	Quad-Core x86	Quad-Core x86	Quad-Core x86	Quad-Core x86
System Memory	8 GB	8 GB	8 GB	16 GB
Flash Storage	8 GB	8 GB	8 GB	32 GB
Packet Buffer Mem	32 MB (Dynamic Buffer Allocation)			
Mgmt Ports	1			
RS-232 Serial Ports	1 (RJ-45)			
USB Ports	1			
Hot-swap Power	2 (1+1 redundant)			
Hot-swappable Fans	4 (N+1 redundant)		2 (1+1 redundant)	
Reversible Airflow	Yes	No	Yes	Yes
Typical/Max Power ³	218W / 453W	170W / 325W	124W / 301W	119W / 290W
Rack Units	2RU	1RU		
Size (WxHxD)	19 x 3.46 x 19.8 in (48.3 x 8.8 x 50.2 cm)	19 x 1.75 x 17.5 in (48.3 x 4.4 x 44.6 cm)	19 x 1.75 x 18.4 in (48.3 x 4.4 x 46.8 cm)	
Weight	43lbs (19.5kgs)	20.3 lbs (9.22kgs)	21 lbs (9.45kgs)	21 lbs (9.45kgs)
Fan Tray	FAN-7012M-RED/BLUE	FAN-7000H-F	FAN-7011M-F/R	
Power Supplies	PWR-1011-AC-RED/BLUE PWR-1011-DC-RED/BLUE	PWR-500-AC-F PWR-500-DC-F	PWR-511-AC-RED/BLUE PWR-511-DC-RED/BLUE	
EOS Feature Licenses	LIC-FIX-2	LIC-FIX-2	LIC-FIX-2	LIC-FIX-2
Minimum EOS	4.24.1	4.20.5	4.21.6	4.30.1

1. Maximum port numbers are uni-dimensional, may require the use of break-outs and are subject to transceiver/cable capabilities

2. Where supported by EOS, each system supports a maximum number of interfaces. Certain configurations may impose restrictions on which physical ports can be used

3. Typical power consumption measured at 25C ambient with 50% load on all ports

Power Supply Specifications

Power Supply	PWR-1011-AC-RED/BLUE	PWR-1011-DC-RED/BLUE	PWR-500AC-F/R	PWR-500-DC-F/R	PWR-501-AC-F/R	PWR-511-AC-RED/BLUE	PWR-511-DC-RED/BLUE
Input Voltage	100-240V AC	-48 to -60 VDC	100-240V AC	-48 to -60 VDC	100-240V AC	100-240V AC	-48 to -60 VDC
Typical Input Current	12.0 - 6.0A	23A Max (-48V)	6.3 - 2.3A	11.8A Max (-48V)	6.3 - 2.3A	6.3 - 2.3A	11.8A Max (-48V)
Input Frequency	50/60Hz	DC	50/60Hz	DC	50/60Hz	50/60Hz	DC
Output Power	1000W	1000W	500W	500W	500W	500W	500W
Input Connector	IEC 320-C13	AWG #6 Max	IEC 320-C13	AWG #14 Max	IEC 320-C13	IEC 320-C13	AWG #14 Max
Efficiency (Typical)	93% Platinum	94%	93% Platinum	90%	93% Platinum	93% Platinum	92%

Standards Compliance

EMC	FCC Class A, ICES-003, EN 55032, EN IEC 61000-3-2:2019, EN 61000-3-3
Immunity	EN 55035 EN 300 386
Safety	EN 62368-1:2014 + A11:2017 IEC 62368-1:2014
Certifications	BSMI (Taiwan) CE (European Union) KCC (South Korea) NRTL (North America) RCM (Australia/New Zealand) UKCA (United Kingdom) VCCI (Japan)
European Union Directives	2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive 2012/19/EU WEEE Directive 2011/65/EU RoHS Directive 2015/863/EU Commission Delegated Directive

Further Information [Product Certification Portal](#)

Environmental Characteristics

Operating Temperature ^{1,2}	0 to 40°C (32 to 104°F)
Storage Temperature	-40 to 70°C (-40 to 158°F)
Relative Humidity	5 to 95%
Operating Altitude	0 to 10,000 ft, (0-3,000m)

1. Certain airflow configurations or the use of higher power or reduced temperature range optics may reduce maximum operating temperature

2. 7050SX3-48YC8 max operating temperature should be reduced by 2°C per 1000m above sea level if installed in -F mode with > 4.5W QSFP or in -R mode with 2.5W SFP and/or 4.5W QSFP

Arista Optics and Cables

The Arista 7050X3 Series supports a wide range of 10G to 100G pluggable optics and cables. For details about the different optical modules and the minimum EOS Software release required for each of the supported optical modules, visit: <https://www.arista.com/en/products/transceivers-cables>.

Supported Optics and Cables

40GbE	40G QSFP ports
10GBASE-CR	0.5m-5m QSFP+ to 4x SFP+ (see note 1)
40GBASE-CR4	0.5m to 5m QSFP+ to QSFP+
40GBASE-AOC	3m to 100m
40GBASE-UNIV	150m (OM3) /150m (OM4) /500m (SM)
40GBASE-SRBD	100m (OM3) /150m (OM4)
40GBASE-SR4	100m (OM3) /150m (OM4)
40GBASE-XSR4	300m (OM3) /450m (OM4)
40GBASE-PLRL4	1km (1km 4x10G LR/LRL)
40GBASE-LRL4	1km
40GBASE-PLR4	10km (10km 4x10G LR/LRL)
40GBASE-LR4	10km
40GBASE-ER4	40km
100GbE	100G QSFP ports
100GBASE-SR4	70m OM3 / 100m OM4 Parallel MMF
100GBASE-XSR4	150m OM3 / 300m OM4 Parallel MMF
100GBASE-SWDM4	70m OM3 / 100m OM4 Duplex MMF
100GBASE-SRBD	70m OM3 / 100m OM4 Duplex MMF
100GBASE-LR	10km SM Duplex
100GBASE-LR4/LRL4	10km/2km SM Duplex
100GBASE-XCWDM4	10km SM Duplex
100GBASE-CWDM4	2km SM Duplex
100GBASE-FR	2km SM Duplex
100GBASE-DR	500m SM Duplex
100GBASE-PSM4	500m SM Parallel
100GBASE-AOC	1m to 30m
100GBASE-ERL4	40km SM Duplex
100GBASE-CR4	QSFP to QSFP: 1m to 5m
25GBASE-CR	QSFP to SFP25: 1m to 3m lengths

10GbE

10GbE	SFP+ ports
10GBASE-CR	SFP+ to SFP+: 0.5m-5m
10GBASE-AOC	SFP+ to SFP+: 3m-30m
10GBASE-SRL	100m
10GBASE-SR	300m
10GBASE-LRL	1km
10GBASE-LR	10km
10GBASE-ER	40km
10GBASE-ZR	80km
10GBASE-T	Up to 30m over Cat6a
10GBASE-DWDM	80km
1GbE SX/LX/TX *	Yes

25GbE

25GbE	25G SFP Ports
25GBASE-CR	SFP25 to SFP25: 1m-5m
25GBASE-AOC	SFP+ to SFP+: 3m-30m
25GBASE-MR-XSR	200m OM3 / 300m OM4 Duplex MMF
25GBASE-SR	70m
25GBASE-LR	10km
25GBASE-MR-LR	10km

* 100Mb is supported on 10G SFP+ ports on 7050CX3-32S and 7050SX3-96YC8 only

Product Number	Product Description
DCS-7050CX3-32S-F	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, front-to-rear air, 2xAC
DCS-7050CX3-32S-R	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, rear-to-front air, 2xAC
DCS-7050CX3-32S#	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, configurable fans and psu
DCS-7050CX3-32C-F	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, front-to-rear air, 2xAC
DCS-7050CX3-32C-R	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, rear-to-front air, 2xAC
DCS-7050CX3-32C#	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, configurable fans and psu
DCS-7050CX3-32S-D-F	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, expn memory, SSD, front-to-rear air, 2xAC
DCS-7050CX3-32S-D-R	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, expn memory, SSD, rear-to-front air, 2xAC
DCS-7050CX3-32S-D#	Arista 7050X3, 32x100GbE QSFP100 & 2xSFP+ switch, expn memory, SSD, configurable fans and psu, 2xAC
DCS-7050SX3-96YC8-F	Arista 7050X3, 96x25GbE SFP & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-96YC8-R	Arista 7050X3, 96x25GbE SFP & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050SX3-96YC8#	Arista 7050X3, 96x25GbE SFP & 8x100GbE QSFP100 switch, configurable fans and psu
DCS-7050SX3-48YC12-F	Arista 7050X3, 48x25GbE SFP & 12x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-48YC12#	Arista 7050X3, 48x25GbE SFP & 12x100GbE QSFP100 switch, configurable fans and psu
DCS-7050SX3-48YC8-F	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-48YC8-R	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050SX3-48YC8#	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, configurable fans and psu
DCS-7050SX3-48YC8C-F	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-48YC8C-R	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050SX3-48YC8C#	Arista 7050X3, 48x25GbE SFP & 8x100GbE QSFP100 switch, configurable fans and psu
DCS-7050SX3-48C8-F	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-48C8-R	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050SX3-48C8#	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, configurable fans and psu
DCS-7050SX3-48C8C-F	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050SX3-48C8C-R	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050SX3-48C8C#	Arista 7050X3, 48x10GbE SFP & 8x100GbE QSFP100 switch, configurable fans and psu
DCS-7050TX3-48C8-F	Arista 7050X3, 48x10GBaseT & 8x100GbE QSFP100 switch, front-to-rear air, 2xAC
DCS-7050TX3-48C8-R	Arista 7050X3, 48x10GBaseT & 8x100GbE QSFP100 switch, rear-to-front air, 2xAC
DCS-7050TX3-48C8#	Arista 7050X3, 48x10GBaseT & 8x100GbE QSFP100 switch, configurable fans and psu
LIC-FIX-2-E	Enhanced L3 License for Arista Group 2 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
LIC-FIX-2-V	Virtualization license for Group 2 Arista Fixed switches (VMTracer and VXLAN)
LIC-FIX-2-V2	EOS Extensions, Security and Partner Integration license for Arista Group 2 Fixed switches
LIC-FIX-2-Z	Monitoring & Automation license for Arista Group 2 Fixed switches (ZTP, LANZ, TapAgg, API, Time-stamping, OpenFlow)
LIC-FIX-2-FLX-L	FLX-Lite License for Arista Fixed switches Group 2 - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-FIX-1-E	Enhanced L3 License for Arista Group 1 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
LIC-FIX-1-V	Virtualization license for Group 2 Arista Fixed switches (VMTracer and VXLAN)
LIC-FIX-1-V2	EOS Extensions, Security and Partner Integration license for Arista Group 1 Fixed switches
LIC-FIX-1-Z	Monitoring & Automation license for Arista Group 1 Fixed switches (ZTP, LANZ, TapAgg, API, Time-stamping, OpenFlow)
LIC-FIX-1-FLX-L	FLX-Lite License for Arista Fixed switches Group 1 - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)

Optional Components and Spares

FAN-7000H-F	Spare fan module for Arista 7050X3, 7060X, 7160 and 7280R Series 1RU switches (front-to-rear airflow)
FAN-7000H-R	Spare fan module for Arista 7050X3, 7060X, 7160 and 7280R Series 1RU switches (rear-to-front airflow)
FAN-7011M-F	Spare fan module for Arista 7000 Series 1RU Enhanced Fan Speed (front-to-rear airflow)
FAN-7011M-R	Spare fan module for Arista 7000 Series 1RU Enhanced Fan Speed (rear-to-front airflow)
FAN-7012M-RED	Spare fan module for Arista 7000 Series 2RU Enhanced Speed Fan (front-to-rear airflow)
FAN-7012M-BLUE	Spare fan module for Arista 7000 Series 2RU Enhanced Speed Fan (rear-to-front airflow)
PWR-500AC-F	Spare 500 Watt AC power supply for Arista 7050X, 7280 and 7060CX 1RU Switches (front-to-rear airflow)
PWR-500AC-R	Spare 500 Watt AC power supply for Arista 7050X, 7280 and 7060CX 1RU Switches (rear-to-front airflow)
PWR-501AC-F	Spare 500v2 Watt AC power supply for Arista 7050CX3-32S-D Switches (front-to-rear airflow)
PWR-501AC-R	Spare 500v2 Watt AC power supply for Arista 7050CX3-32S-D Switches (rear-to-front airflow)
PWR-500-DC-F	Spare 500 Watt DC power supply for Arista 7050X, 7280 and 7060CX 1RU Switches (front-to-rear airflow)
PWR-500-DC-R	Spare 500 Watt DC power supply for Arista 7050X, 7280 and 7060CX 1RU Switches (rear-to-front airflow)
PWR-511-AC-RED	Arista PSU, 1RU, AC, 500W, front-to-rear airflow, 73.5mm
PWR-511-AC-BLUE	Arista PSU, 1RU, AC, 500W, rear-to-front airflow, 73.5mm
PWR-511-DC-RED	Arista PSU, 1RU, DC, 500W, front-to-rear airflow, 73.5mm
PWR-511-DC-BLUE	Arista PSU, 1RU, DC, 500W, rear-to-front, 73.5mm
PWR-1011-AC-RED	Arista PSU, 1RU, AC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-AC-BLUE	Arista PSU, 1RU, AC/DC, 1000W, REVERSE, 73.5MM
PWR-1011-DC-RED	Arista PSU, 1RU, DC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-DC-BLUE	Arista PSU, 1RU, DC/DC, 1000W, REVERSE, 73.5MM
KIT-7001	Spare tool-free accessory kit (v2) for 1RU Arista switches. 2-post & 4-post mount. (2x C13-C14, 2m)
KIT-2POST-1U-NT	Spare tool-free 2-post mount kit (v2) for 1RU Arista tool-free switches
KIT-2POST	Spare 2RU 2 post rack mount installation kit for Arista 7250 / 7050, 7260X and 7280R switches
KIT-4POST-NT	Spare tool-free 4-post mount kit (v2) for 1RU Arista tool-free switches
KIT-GND-EXT-1U	Arista 7000 Series 1RU Ground Extender Kit for NEBS compliance
KIT-GND-EXT-2U	Arista 7000 Series 2RU Ground Extender Kit for NEBS compliance

Warranty

The Arista 7050X3 series switches come 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.arista.com/en/service>

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