



Arista 7050SX Series

## Arista 7050X Series Introduction

The Arista 7050 Series are the benchmark for performance, scale and power efficiency in fixed 10G data center switches. Increased adoption of 10G servers is accelerating the need for flexible, dense 10GbE/40GbE solutions. The Arista 7050X Series extends the industry leading 7050 Series with increased performance, scalability, density and features designed for software defined networking.

The Arista 7050SX Series are a range of compact 1RU and 2RU 10GbE and 40GbE wire speed, low latency and scalable multilayer switches powered by Arista EOS, the worlds most advanced network operating system.

## High Performance

- 2.56 Tbps system capacity
- 1.44 billion packets per sec on
- Wire speed unicast & mast
- Class leading latency
- High density 10G/40G
- Dynamic buffer allocation
- Under 2W per 10G port

## Feature Rich

- High Availability
- DC optimized airflow
- Rich L2 and L3 features
- 64-Way MLAG
- 64-Way ECMP
- VXLAN gateway and routing
- Zero Touch Provisioning
- Smart System Upgrade

## High Scalability

- System scalability
- Up to 48 x 10 and 12 x 40G in 1RU
- Up to 96 x 10G + 8 x 40G in 2RU
- Scalable leaf spine designs
- MAC up to 288K
- Host Routes up to 208K
- Routes: 16K IPv4 / 8K IPv6
- UFT – IPv4/v6 144K/77K
- Multicast Routes up to 104K

## Advanced Monitoring

- CloudVision
- LANZ microburst detection
- DANZ advance monitoring
- AEM proactive management
- IEEE 1588 precision timing
- sFlow for network visibility
- SSD for local monitoring
- VM Tracer integration
- RAIL for Big Data and Hadoop

## 7050SX Density and Flexibility

The use of 10GbE server connectivity has seen considerable growth over the past several years and will overtake 1GbE as the default server connection type in 2015. While both CPU and network interfaces have held back servers from reaching full wire speeds increases in kernel bypass technology and multi-core servers allow more 10GbE server throughput. This evolution is leading to a need for 48 or more ports per server rack.

The 7050SX series are designed to tackle this challenge, combining high port density and wire speed performance in compact form factors. The 7050SX support a range of uplink capabilities offering a choice of QSFP+ or MXP both of which support flexible 10G and 40G operation.



Arista 7050X Series QSFP+ and MXP Ports

Arista Multispeed (MXP) Ports with onboard optics are an innovative technology which expand interface density and flexibility by leveraging optics built internally into the switch. Each MXP port provides a total of 120Gbps connectivity and offers several advantages over traditional interfaces:

- Optics are integrated into the switch, removing the need to purchase additional components.
- MXP Ports occupy the same space as a single QSFP+ interface, and offer 3 times the bandwidth. MXP significantly increases interface density without expanding the switch into additional rack units.
- Each MXP port can be individually used as three 40GbE, twelve 10GbE or a combination of the two speeds.

Arista QSFP+ ports provide for 40G with a flexible range of both duplex and parallel optics for multimode up to 400m and single mode up to 40km in both duplex and parallel fiber choices. Parallel optics allow for 4x10G mode, increasing the flexibility of 40G ports, and duplex optics allow for migration from 10G to 40G using existing fiber cabling.

## Arista EOS

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.

Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
Wirespeed VXLAN Gateway	Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks
IEEE 1588 PTP	Build and scale accurate timing solutions with sub-microsecond accuracy
Smart System Upgrade	Optimized SW upgrades to reduce the impact of software upgrades and avoid network convergence
64-way ECMP and LAG	Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers
Latency Analyzer	A solution to improve monitoring and visibility at both 10G and 40G for congestion from persistent or microbursts.
Cloud Control & SDN	Support for Openflow and OpenStack automation and self-service provisioning with cloud scale economics
Scalable Tables — ALPM and UFT	Flexible allocation of L2 and L3 forwarding table resources for greater design choice

## 7050SX Series Systems

Arista 7050SX Series support hot-swappable power supplies and N+1 fan redundancy, EOS high availability, a choice of L2 and L3 multi-pathing designs and powerful EOS innovations for visibility, application level performance monitoring and virtualization. The 7050SX2 series delivers line rate VXLAN routing with single pass and offers 16MB buffer



	7050SX-64	7050SX-72	7050SX-72Q	7050SX2-72Q	7050SX-96	7050SX-128	7050SX2-128
Interface Type	SFP+ QSFP+ Uplink	SFP+ MXP Uplink	SFP+ QSFP+ Uplink	SFP+ QSFP+ Uplink	SFP+ MXP Uplink	SFP+ QSFP+ (Uplink)	SFP+ QSFP+ (Uplink)
10G Ports	up to 64	up to 72	up to 72	up to 72	up to 96	96	96
40G Ports	4	up to 6	up to 6	up to 6	up to 12	8	8
Rack Units	1	1	1	1	1	2	2
Buffer	12MB			16MB	12MB		16MB
Latency	550ns						
Airflow	F-R / R-F						