

Arista 7050X3 Series

Arista 7050X3 Series Introduction

Highly dynamic data center networks continue to evolve with the introduction of new protocols and server technologies such as containers bringing with them ever increasing bandwidth demands, accelerating the need for dense 25 and 100 Gigabit Ethernet switching in both leaf and spine tiers of modern networks. The Arista 7050X3 Series are purpose built fixed configuration 10/25G and 100G systems built for the highest performance environments, and to meet the needs of the largest scale data centers. They combine scalable L2 and L3 resources and high density with extensive automation and programmability capabilities, low latency and consistent features for scalable leaf-spine designs.

High Performance

- Up to 6.4 Tbps system capacity
- Up to 2 billion packets per second
- Wire speed unicast & multicast
- Latency as low as 800nsec
- High density 25G and 100G systems
- Fully shared 32MB packet buffer
- Under 7W per 100G & 4W per 25G port

Feature Rich

- Rich L2 and L3 features
- VXLAN gateway and routing
- Zero Touch Provisioning
- Network Address Translation
- Dynamic Load Balancing
- Smart System Upgrade
- Hitless MLAG ISSU
- High Availability
- DC optimized airflow

High Scalability

- Wirespeed L2 and L3 forwarding
- Up to 32 x 100G or 128 x 25G
- 64-Way MLAG / 128-Way ECMP
- Scalable Leaf-Spine designs
- MAC 288K / IPv4 Hosts 208K
- Host Routes up to 108K
- Routes: 384K IPv4 / 192K IPv6

Advanced Monitoring




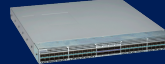

- CloudVision
- LANZ microburst detection
- AEM proactive management
- IEEE 1588 precision timing
- sFlow for network visibility
- VM Tracer integration

7050X3 10/25G and 100G Flexibility

The 7050X3 Series are a range of compact 1U and 2U systems with a choice of 25G and 10G ports with 100G QSFP uplinks and 100G systems that offer up to 32 ports of wire speed forwarding, powered by Arista EOS, the world's most advanced network operating system.

The 7050X3 Series is available in a choice of models:

- 7050CX3-32S - 10/25/40/50/100G with 32 100G QSFP interfaces
- 7050CX3M-32S - 10/25/40/50/100G MACsec with 32 100G QSFP interfaces
- 7050SX3-96YC8 - 96 10/25G SFP interfaces with 8 100G QSFP interfaces
- 7050SX3-48YC12 - 48 10/25G SFP interfaces with 12 100G QSFP interfaces
- 7050SX3-48YC8 - 48 10/25G SFP interfaces with 8 100G QSFP interfaces
- 7050TX3-48C8 - 48 10G-T RJ45 interfaces with 8 100G QSFP interfaces

7050CX3-32S 7050CX3M-32S	7050SX3-96YC8	7050SX3-48YC12	7050SX3-48YC8	7050TX3-48C8
				
32 x 100G	96 x 25G & 8 x 100G	48 x 25G and 12 x 100GbE	48 x 25G & 8 x 100G	48 x 10G-T & 8 x 100G
Consistent Software, Flexibility, Throughput and Performance				

Each of the 7050X3 models offers multiple connectivity options that provide flexibility in building scalable leaf and spine designs. The operational flexibility offered by the entire 7050X3 series ensures suitability for a variety of deployment scenarios. The following are a selection of use cases:

- **Dense top of rack** for server racks with both 10GbE and 25GbE systems
- **10GbE to 25GbE Migration** — 802.3by 25GbE and Consortium compliant for seamless transition to the next generation of Ethernet performance
- **Grid / HPC** — designs requiring cost effective and power efficient systems to enable non-blocking or minimal over-subscription for 10G and 25G Servers
- **Leaf-Spine** — open standards based L2 and L3 with telemetry and visibility
- **Secure Cloud** — Wirespeed MACsec leaf-spine at a range of speed
- **100GbE Scale Out Designs** — Small to medium locations requiring power efficiency and high density compact systems
- **ECMP designs up to 128-way** — cost-effective multi-pathing using open protocols and the Arista 7300X3 and 7500R3 as 100GbE modular spine switches
- **Large scale L2 environments** — flexible resource allocations achieve higher maximum L2 scale without inefficiency associated with traditional systems

7050X3 Series Systems

Arista 7050X3 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.

Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
Wirespeed VXLAN Routing	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
Fully shared packet buffer	Advanced traffic manager with 32MB of packet buffer that is fully shared across all ports
128-way ECMP and 64-way MLAG	Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers
Latency Analyzer	Real time visibility of port latency and per port high watermarks to provide immediate feedback and precision monitoring
Network Address Translation	Network Address translation with no performance impact to resolve overlapping addressing challenges without penalty
Programmable Architecture	Add support for new packet formats for quicker deployment of new networking solutions
Dynamic Load Balancing *	Enhanced load distribution for optimal traffic distribution and link utilization for intensive data center workloads
Time Stamping	Monitor end to end network performance with accuracy
IEEE 25GbE 802.3by	IEEE standard ensuring interoperability, long reach optics and long term investment protection

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.

	7050CX3-32S	7050CX3M-32S	7050SX3-96YC8	7050SX3-48YC12	7050SX3-48YC8	7050TX3-48C8
Description	32 100G QSFP & 2 SFP+	32 100G QSFP & 2 SFP+	96 25G SFP & 8 100G QSFP, 2 SFP+	48 25G SFP & 12 100G QSFP	48 25G SFP & 8 100G QSFP	48 10G-T & 8 100G QSFP
Maximum 100G Ports	32	32	8	12	8	8
Maximum 40G Ports	32	32	8	12	8	8
Maximum 10G Ports	128	128	129	96	56	56
Maximum 25G Ports	128	128	128	96	56	8
Maximum 50G Ports	64	64	16	24	16	16
Maximum System Throughput (bps)	6.4Tbps	6.4Tbps	6.4Tbps	4.8Tbps	4Tbps	2.56Tbps
Maximum Forwarding Rate	2Bpps	2Bpps	2Bpps	2Bpps	1Bpps	1Bpps
Latency	800ns	800ns	800ns	800ns	800ns	3usec
System Buffer	32MB	32MB	32MB	32MB	32MB	32MB
Airflow	F-R or R-F	F-R or R-F	F-R or R-F	Front-Rear	F-R or R-F	F-R or R-F

* Not currently supported in EOS

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Arista 7050X3: Next generation high capacity and advanced features