

Arista 7160 Series

Arista 7160 Series Introduction

Highly dynamic cloud 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 7160 Series are purpose built fixed configuration 10/25GbE and 100GbE 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 highly programmable and customizable switch architecture.

High Performance

- Up to 6.4 Tbps system capacity
- Up to 2.4 billion packets per second
- Wire speed unicast & mcast
- Class leading latency as low as 2usec
- High density 40G/100G systems
- Quad 10G and 25G or Dual 50G modes
- Fully shared 24MB packet buffer
- Under 10W per 100G & 3W per 25G port

Feature Rich

- Flexible forwarding profiles
- Programmable Pipeline
- AlgoMatch
- High Availability
- DC optimized airflow
- Rich L2 and L3 features
- VXLAN gateway and routing *
- Zero Touch Provisioning
- Smart System Upgrade
- Hitless MLAG ISSU

High Scalability

- Wirespeed L2 and L3 forwarding
- 32 x 100G or 128 x 25G
- Up to 48 x 10GbE or 25GbE
- 64-Way MLAG / 128-Way ECMP
- Scalable Leaf-Spine designs
- MAC 128K / IPv4 Hosts 128K
- Max IP Routes: 128K IPv4 / 64K IPv6
- 48K Access List Entries

Advanced Monitoring




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

7160 25GbE and 100GbE Flexibility

The 7160 Series are a range of compact 1U models wire speed switches with a choice of 10GBASE-T and 25GbE SFP with 40/100GbE QSFP uplinks and a 40/100GbE system that offers up to 32 ports of wire speed 100GbE, powered by Arista EOS, the worlds most advanced network operating system.

The 7160 Series is available in a choice of three models:

- 7160-32CQ - 10/25/40/100GbE connectivity via 32 100G QSFP interfaces
- 7160-48YC6 - 10/25GbE SFP connectivity with 6 100G QSFP interfaces
- 7160-48TC6 - 1/10GbE BASE-T connectivity with 6 100G QSFP interfaces

7160-32CQ	7160-48YC6	7160-48TC6
		
32 x 100GbE	48 x 25GbE and 6 x 100GbE	48 x 10GbE and 6 x 100GbE
Consistent Software, Architecture, Throughput and Performance		

Each of the 7160 models offers multiple connectivity options that provide flexibility in building scalable leaf and spine designs. The operational flexibility offered by the entire 7160 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 features
- **Secure Cloud Environments** — with support for up to 48K ACLs
- **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 7320X and 7500R as 100GbE modular spine switches
- **Large scale L2 environments** — flexible resource allocations achieve higher maximum L2 scale without inefficiency associated with traditional systems

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.

7160 Series Systems

Arista 7160 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
AlgoMatch	Efficient packet matching algorithm that enables flow matching for access control, policy and visibility
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 24MB 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 Wide Virtualization	Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques
Flexible Profiles	Adaptable forwarding tables with custom profiles for improved resource flexibility
Programmable Engine	Adds new protocols and encapsulations for quicker deployment of new solutions

	7160-32CQ	7160-48YC6	7160-48TC6
Description	32 100G QSFP and 4 SFP+	48 25G SFP and 6 100G QSFP	48 10GBASE-T and 6 100G QSFP
Size (RU)	1RU	1RU	1RU
Maximum 100G Ports	32	6	6
Maximum 40G Ports	32	6	6
Maximum 10G Ports	128	72	72
Maximum 25G Ports	128	72	24
Maximum 50G Ports	64	12	12
Maximum System Throughput (bps)	6.4Tbps	3.6Tbps	2.16Tbps
Maximum Forwarding Rate (PPS)	2.4Bpps (1.2Bpps)	2.4Bpps (1.2Bpps)	2.4Bpps (1.2Bpps)
Latency	From 2usec	From 2usec	From 3usec
Total System Buffer	24MB	24MB	24MB
Airflow	F-R or R-F	F-R or R-F	F-R or R-F

* Not currently supported in EOS