

Arista 7100 Switch Series

The Arista 7100 Series of switches combine the highest switching performance with ultra-low latency in a compact one rack unit (1 RU) form factor. Arista 7100 switches are optimized for 10 GbE and GbE server and storage access and aggregation in the data center and are ideally suited as the top-of-rack switch for cloud computing data centers. 7100 switch designs are optimized for 10 GbE while all the ports can also operate as GbE, enabling server transition from GbE to 10 GbE or mixed server configurations. Both fiber and copper cabling is supported. All switches offer hardware redundancy both for power supply and fan modules. All of these modules are hot swappable field replaceable units.



7124S



7120T-4S



7148S



7140T-8S



7148SX

The Arista 7100 switches support all ports at wirespeed with ultra low latency and support both layer-2 and layer-3 switching. The unprecedented hardware and system performance is also coupled with the highly available, modular and extensible Arista EOS which enables unique capabilities, as well as industry price/performance leadership.

Technical specifications

	7124S	7120T-4S	7148S	7140T-8S	7148SX
Total ports	24	24	48	48	48
SFP+ 10GbE ports	24	4	48	8	48
10GBaseT ports	N/A	20	N/A	40	N/A
Switching Capacity (Gbps)	480	480	800	800	960
Throughput (Mpps)	360	360	600	600	720
Latency (nanoseconds)	600	2,300	900	2,600	1,200
Height (RU)	1	1	1	1	1
Typical power draw (Watts)	210	360	360	700	600

The Arista 7100 switches address the most common challenges faced in modern data centers including:

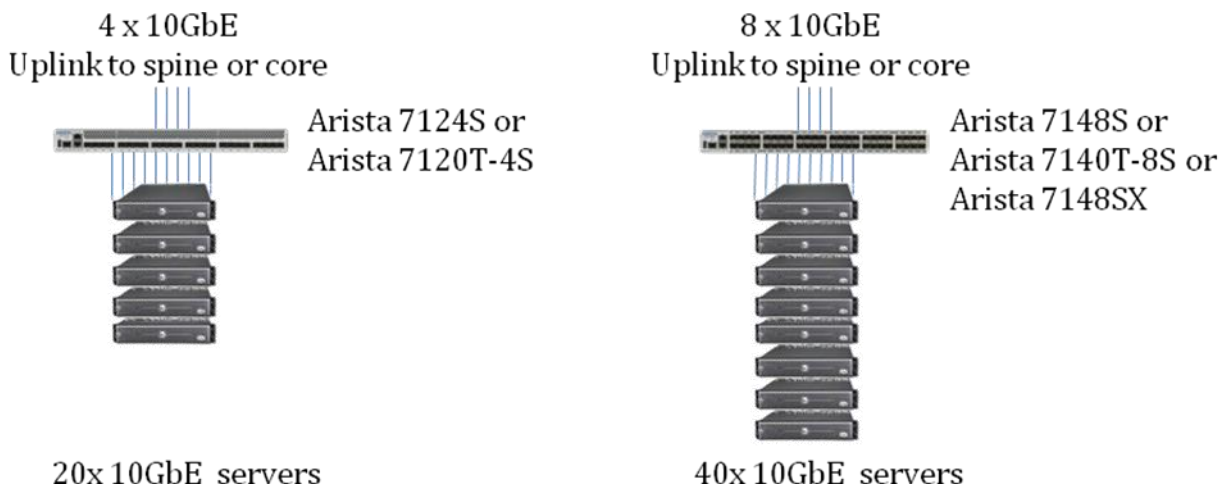
- Front-to-rear or rear-to-front air flow: allows your switches to match the server air flow.
- Redundant and hot swappable fan and power supply units: increase the availability of your data center racks and network and also eliminate or minimize unplanned down time in your data center network.
- Cut through switching: offers unprecedented network latency as low as 600 nanoseconds per switch regardless of packet sizes, which boosts application response time.
- Wire-speed layer 2/3 switching: removes network bottlenecks from the access and aggregation layer and also provides a wide range of network configuration options either using layer 2 or layer 3 topologies to meet your design needs.
- Extensible modular operating system: ensures robust and reliable system performance with a highly available software architecture that delivers live patching and in service software upgrade capability. The extensibility allows custom integration with applications and data center management systems.

Arista 7100 Series Supported Cable and SFP+ Transceivers

Type	Media	Reach	Supported ports on 7100 series switches
10GBASE-SRL	50 micron MMF	100m	Any SFP+ port on 7100 series
10GBASE-SR	50 micron MMF	300m	Any SFP+ port on 7100 series
10GBASE-LR	9 micron SMF	10km	Any SFP+ port on 7100 series
10GBASE-LRM	62.5 micron MMF	220m	Any SFP+ port on 7100 series
10GBASE-CR	Twinax cable	1m-5m	Any SFP+ port on 7100 series
10GBASE-T	Category 5e cable	55m*	7120T-4S and 7140T-8S 10GBASE-T ports
10GBASE-T	Category 6 cable	55m	7120T-4S and 7140T-8S 10GBaseT ports
10GBASE-T	Category 6E cable	100m	7120T-4S and 7140T-8S 10GBaseT ports
1000BASE-SX	50 micron MMF	550m	Any SFP+ port on 7100 series
1000BASE-LX	9 micron SMF	10km	Any SFP+ port on 7100 series
1000BASE-T	Category 5 cable	100m	Any SFP+ port on 7100 series

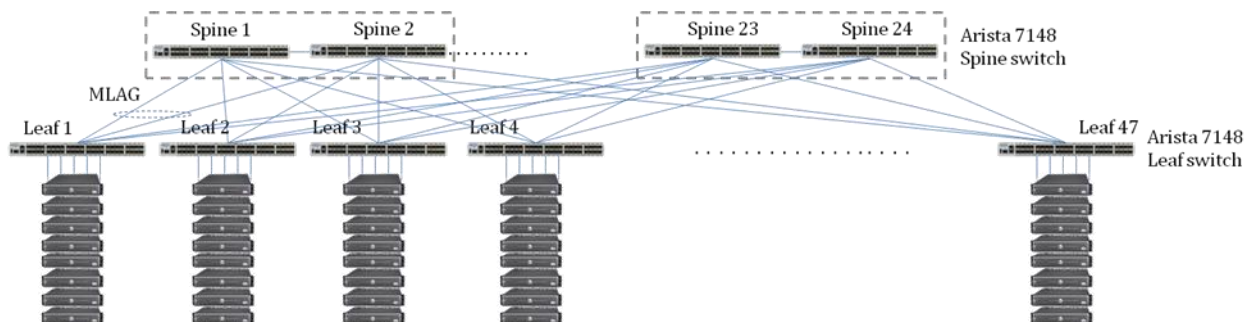
Applications and Network Design

The Arista 7100 switches are purpose built for high performance and cloud computing data centers. High performance and virtualized servers and network attached storage can be interconnected using a cost effective high performance network. A single 7100 switch can serve up to 24 or 48 10GbE servers.



24 or 48 port 10GbE on 7100 series

The data center network can expand using the Arista cloud network design architecture without sacrificing network performance. Using the Arista 7100 switches a cloud network design can expand up to 1,128 wirespeed 10GbE ports while keeping the end to end latency below 3.6 microseconds.



Cloud design for up to 1,128 wirespeed 10GbE ports

Arista 7100 Series Network Operating System and Software (EOS)

Arista Extensible Operating System (EOS) is a fine-grained, modular software architecture that leapfrogs traditional network OS designs and provides live patching capability, superior resilience, and extensibility. EOS provides the following capabilities and benefits:

- In-Service Software Updates (ISSU): Reduced maintenance windows due to ability to update processes without system interruption.
- Software Fault Containment (SFC): Faults are contained to a single module, which provides superior system stability.
- Stateful Fault Repair (SRC): Continuous health monitoring of all processes, enables invisible repair of faults
- Scalable Management Interface (SMI) Enables automated maintenance, updates, and integration with 3rd party NMS systems.

Arista's EOS delivers these benefits with a unique multi-process state sharing architecture that separates networking state from the processing itself. This enables fault recovery and incremental software updates on a fine-grain process basis without affecting the state of the system, as well as security patches behind the scenes. In addition, protocol processing, management functions, and even device drivers run in user address spaces, not in the kernel itself. This greatly increases the stability of the kernel, which is a standard Linux kernel, making it safe to extend the operating system with additional functionality. Thus EOS provides extremely robust and reliable data center communication services while preserving the Linux heritage of security, stability, openness, modularity, and extensibility. This unique combination offers the opportunity to significantly improve the functionality and evolution of next generation data center networks.

Arista EOS extension capabilities allow network administrators and Arista partners to add new functions and capabilities on the Arista 7100 switches. The extensions can range from network services running on the Linux kernel (such as Fping, tcpdump) to network management extensions or custom designed protocols. For example, in cloud computing environments, extensions can be added to the switch that provide a programmatic interface to reconfigure the switch on the fly, allowing dynamic VLAN provisioning in response to job requests. The data center operation and management functions can easily be extended to the top of rack Arista 7100 switches leveraging EOS extensibility.

Arista 7100 Series Competitive Positioning

	Arista 7100	Cisco 4900M	Cisco Nexus 5000	Force10 S2410	BNT G8100	HP 6600-24XG	Brocade 8000	Extreme X650
10GbE ports	24/48	24/16	26/52	24	24	24	24	24
GigE Ports	24/48	40	16	0	24	No 1000T	24	24
Height (RU)	1	2	2	1	1	1	1	1
Modular Software	Y	N	Y	N	N	N	N	N
Stateful Fault Repair	Y	N	N	N	N	N	N	N
Live patch/ISSU	Y	N	N	N	N	N	N	N
Front to back air flow	Y	N	Y	N	Y	Y	Y	Y
Hot swap redundant power	Y	Y	Y	N	N	Y	N	Y
10GbE copper (twinax)	Y	N	Y	N	Y	Y	Y	Y
10GBASE-T	Y	N	N	N	N	N	N	Y
Bandwidth (Gbps)	960	320	1,040	480	480	480	488	480
Forwarding performance (Mpps)	720	250	774	360	360	322	363	363
Forwarding latency (usec)	0.6/1.2	>8	4.3	0.7	0.7	>3.7	1.5 (L2)	?
Layer-3	Y	Y	N	N	Y	Y	N	Y
Software Extensibility	Y	N	N	N	N	N	N	N

For competitive deals and network designs please contact your Arista representative (email: sales@aristanetworks.com).

Arista 7100 switch value proposition

- Highest 10GbE port or 1/10GBASE-T density per RU (rack unit) on the market (at 48 ports)
- GigE or 10GbE over copper or fiber wiring in any combination
- Modular Operating System with self-healing Stateful Fault Repair (SFR) & Integration with 3rd party applications & extensible network services
- Latency as low as 600 nanoseconds for GigE and 10GbE at all packet sizes
- 1+1 hot-swappable power supplies and N+1 hot swappable fans
- Industry leading price/port