Key Features

High-Performance

- Up to 800 Gbps, 600 Mpps
- Hardware based layer 2/3/4 switching
- 1/10GBASE-T auto-negotiating

Investment Protection

- Deploy as 1000BASE-T today
- Enable 10GBASE-T when ready
- Leverage existing cabling plants

Arista Extensible Operating System

- Supports virtualized environments
- Customizable to customer needs
- Access to Linux tools

High Software Reliability

- Fine-grained software modularity
- Health monitoring and self-healing
- In-service-software upgrades (ISSU)

High Hardware Availability

- Redundant hot-swappable power
- Redundant hot-swappable fans
- Redundant management ports

Flexible Airflow/Mounting Options

- Front-to-rear or rear-to-front fan options
- Hot or cold aisle port facing options

Full Range of SFP+ Uplink Options

- 10GBASE-X optical PHYs
- 10GBASE-CR copper cables
- 1000BASE-X optical PHYs
- 1000BASE-T copper PHY

Overview

The Arista 7100 Series is a family of high performance, low latency, layer 2/3/4, 1/10 Gigabit Ethernet data center switches. The latest series additions, the Arista 7100T switches, include 24 and 48-port models with auto-negotiating 1/10GBASE-T ports with standard RJ-45 connectors and SFP+ uplink ports. The 7100T switches support redundant, hot-swappable power and cooling in 1RU and offer front-to-rear airflow when mounted in either direction. Positioned for data center server access, the 7100T switches offer backwards compatibility with standard Gigabit Ethernet cabling and investment protection as customers migrate from Gigabit to 10 Gigabit Ethernet.

The Arista 7100T switches support 10GBASE-T over Category 6a and 7 cabling up to 100m, but also support Category 5e* and Category 6 cabling with distances up to 55m. This allows for investment protection with existing cabling plants.

Arista 7140T-8S: 40-port 1/10GBASE-T (RJ-45) + 8 SFP+, 800 Gbps, 600 Mpps, L2/3/4

Arista 7120T-4S: 20-port 1/10GBASE-T (RJ-45) + 4 SFP+, 480 Gbps, 360 Mpps, L2/3/4

Arista EOS™

The Arista 7100 Series runs Arista EOS™, a data center-class operating system with a modular protected memory architecture that ensures the highest levels of reliability and availability. Each process is monitored and restarted automatically in response to failure, while in-service software upgrades (ISSU) allow individual software components to be updated without disrupting system operation. Arista EOS automates the networking infrastructure natively with VMware vSphere via VM Tracer to provide VM discovery, auto-VLAN provisioning, and unprecedented visibility into the virtual computing environment.

* Performance of 10GBASE-T over Cat-5e cabling is not specified in the standard and thus cannot be guaranteed. Field testing is recommended before deployment to establish the feasibility of using existing Cat-5e cabling.

Arista EOS™ Key Attributes

Arista EOS™ is a highly modular operating system based on a unique multi-process state sharing architecture that completely separates networking state from processing. This enables fault recovery and incremental software updates on a fine-grain process basis without affecting the state of the system. Key EOS attributes include:

- Fine Grained Modularity
- Software Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- In-Service Software Upgrades (ISSU)
- Access to Linux Tools
- Extensible Network Services
- Integration with 3rd Party Applications
- Dedicated GB of main memory for 3rd party applications

Arista 7100T Rear View

Arista 7100T rear view with two 1+1 redundant, hot-swappable power supplies and five N+1 redundant, hot-swappable independent fans.

Cloud Leaf and Spine Network Design
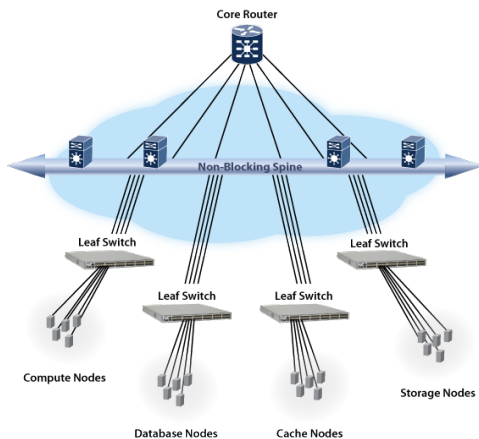
In the data center, there is an architectural migration to two-tiered cloud networking designs. The main building blocks are Cloud Leaves (CL) and Cloud Spines (CS). Cloud Spines forward traffic along optimal paths between nodes at layer 2 or layer 3 while Cloud Leaves control the flow of traffic between servers.

Predictable Latency and Multicast

The ultra-low latency of the Arista 7100 Series are consistent regardless of packet size and port speed, which means customers can reap the benefits of industry-leading latency at 1 Gigabit speeds in addition to 10 Gigabit speeds. The 7100 Series latency is also predictable with little variance in environments with random packet sizes, which is key to improving and maintaining application performance and server utilization.

Multicast and broadcast throughput is also very consistent at all packet sizes, maintaining line rate performance with no packet drops. This means that multimedia applications such as content delivery and video conferencing can be used in the network in a reliable and effective way.

High Availability

The Arista 7100 Series was designed for high availability from both a software and hardware perspective. Key high availability features include:

- Two 1+1 hot-swappable independent power supplies
- Five N+1 hot-swappable independent fans
- Dual management ports
- In-Service Software Upgrades (ISSU)
- Self-healing software with Stateful Fault Repair (SFR)
- Up to 16 10GbE ports per link aggregation group (LAG)
- ECMP routing for load balancing and redundant fail over

Target Positioning

The Arista 7100T Switches are positioned for a variety of places in the network including:

- Top-of-Rack Server Aggregation
- Blade Server Aggregation
- High Density 1/10G Server Virtualization
- 1/10G Cluster Interconnects
- Storage Access

10 Gigabit Ethernet is becoming the interconnect of choice in data centers of all sizes providing key improvements in terms of bandwidth, latency, scalability, reliability and application performance. The Arista 7100T Switches enable a seamless migration path from existing Gigabit Ethernet-based servers to 10 Gigabit Ethernet-based high-performance servers while further enabling the transition to virtualized environments.

Layer 2 Feature Set

- 16K L2 Forwarding Entries
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- RPVST+
- 802.3ad Link Aggregation/LACP
  - 16 ports/channel
  - 256 groups per system
- MLAG- Multi-Chassis Link Aggregation
- 802.1Q VLANs/Trunking
  - 4094 VLANs
  - 150K VLAN Ports
- 802.1AB Link Layer Discovery Protocol
- Traffic Mirroring (mirror port or LAG)
- Jumbo Frames (9216 Bytes)
- 802.3x PAUSE
- Layer 2 Access Lists
- Q-in-Q
- IGMP Snooping v 2

Layer 3 Feature Set

- 16K IPv4 Routes
- 4K IPv6 Routes*
- Static Routes
- OSPF
- BGP
- VRRP
- ECMP - Equal Cost Multipath Routing
- PIM-SM
- Virtual ARP (VARP)

VM Tracer Feature Set

- VMware vSphere support
- VM Auto Discovery
- VM Adaptive Segmentation
- VM Host View
- VMware ESX Port Profile
- VM Tracer Multi-Tenancy

Network Management

- SNMP v2, v3
- Management over IPv6
- Syslog
- RADIUS / TACACS+
- AAA
- Network Time Protocol (NTP)
- File download via SCP, HTTP, HTTPs, FTP & TFTP Client
- Familiar Industry Standard CLI

IEEE Compliance

- 802.1D Bridging and Spanning Tree
- 802.1p QOS/COS
- 802.3ab 1000BASE-T
- 802.3z Gigabit Ethernet
- 802.3ae 10 Gigabit Ethernet

Model Comparison

	7120T-4S	7140T-8S
1/10GBASE-T (RJ-45) Ports	20	40
SFP/SFP+ Uplink Ports	4	8
Throughput	480 Gbps	800 Gbps
Packets/Second	360 Mpps	600 Mpps
Latency	2.5 usec	2.9 usec
CPU	X86 Dual-Core	X86 Dual-Core
Flash Memory	2GB	2GB
Main Memory	2GB	2GB
10/100/1000 Management Ports	2	2
RS-232 Serial Ports	1	1
USB Port	1	1
1+1 PSU Redundancy	Yes	Yes
Hot Swappable PSUs	Yes	Yes
Hot Swappable Fans	Yes	Yes
Reversible Airflow Option	Yes	Yes
10GBASE-T over Category 6a or 7 Cabling	up to 100m	up to 100m
10GBASE-T over Category 5e or 6 Cabling	up to 55m**	up to 55m**
Typical Power Draw	288 watts	585 watts

Supported SFP Optics and Copper Media

Interface Type	Media	Max Distance
10GBASE-CR	Twinax Copper	7m
10GBASE-SRL	50 micron MMF	100m
10GBASE-SR	50 micron MMF	300m
10GBASE-LRM	62.5 micron MMF	220m
10GBASE-LR	9 micron SMF	10km
10GBASE-ER	9 micron SMF	40km
1000BASE-SX	50 micron MMF	550m
1000BASE-LX	9 micron SMF	10km
1000BASE-T	Category 5 Copper	100m

Quality of Service

- 8 queues per port
- 802.1p Based Classification
- Strict Priority Queueing
- Per-Priority Flow Control (PFC)
- Data Center Bridging Exchange (DCBX)

Environmental Characteristics

- Operating Temperature 0 to 40C
- Storage Temperature -40 to 70C
- Relative Humidity 5 to 95%
- Operating Altitude 0-10,000 ft

Power Specifications

- Max Output Power: 760W
- Input Voltage Range: 100-240VAC
- Input Current (max): 4-8A
- Input Frequency: 50-60 Hz
- Input Connector: IEC 320-C13

Security

- IP Access Lists (per-port)
- MAC Security
- Control Plane Protection (CPP)
- IP Control Plane Access Lists
- SSHv2

Physical Characteristics

- Size HxWxD: 1.74 x 17.4 x 20.25"
  (44 x 440 x 515mm)
- Weight : 7120T-4S 26 lbs (11.8kg)
  7140T-8S: 29 lbs (13.2kg)

Standards Compliance

- EMI: FCC Part 15 Class A
  ICES-003 Class A
  VCCI Class A
- Safety: IEC/UL/CSA/EN 60950
  CE, UL, TUV Mark
- Other: ROHS-5 compliant

* Supported in a future software release
** Performance of 10GBASE-T over Cat-5e cabling is not specified in the standard and thus cannot be guaranteed. Field testing is recommended before deployment to establish the feasibility of using existing Cat-5e cabling.

Ordering Information

Product Number	Product Description
DCS-7120T-4S-F	Arista 7100T, 20-port 1/10GBASE-T (RJ-45) + 4 SFP+ ports (5 front-to-rear* airflow fans) & 2 760W AC**
DCS-7120T-4S-R	Arista 7100T, 20-port 1/10GBASE-T (RJ-45) + 4 SFP+ ports (5 rear-to-front* airflow fans) & 2 760W AC**
DCS-7140T-8S-F	Arista 7100T, 40-port 1/10GBASE-T (RJ-45)+ 8 SFP+ ports (5 front-to-rear* airflow fans) & 2 760W AC**
DCS-7140T-8S-R	Arista 7100T, 40-port 1/10GBASE-T (RJ-45) + 8 SFP+ ports (5 rear-to-front* airflow fans) & 2 760W AC**
LIC-7124-E	Enhanced Software License for Arista 7124S/T series switches (OSPF, BGP)
LIC-7148-E	Enhanced Software License for Arista 7148S/T and 7148SX series switches (OSPF, BGP)
CAB-SFP-SFP-0.5M	10GBASE-CR twinax copper cable, 0.5 meter (SFP+ connectors pre-attached on both ends)
CAB-SFP-SFP-1M	10GBASE-CR twinax copper cable, 1 meter (SFP+ connectors pre-attached on both ends)
CAB-SFP-SFP-2M	10GBASE-CR twinax copper cable, 2 meters (SFP+ connectors pre-attached on both ends)
CAB-SFP-SFP-3M	10GBASE-CR twinax copper cable, 3 meters (SFP+ connectors pre-attached on both ends)
CAB-SFP-SFP-5M	10GBASE-CR twinax copper cable, 5 meters (SFP+ connectors pre-attached on both ends)
CAB-SFP-SFP-7M	10GBASE-CR twinax copper cable, 7 meters (SFP+ connectors pre-attached on both ends)
SFP-10G-SR	10GBASE-SR (Short Reach) SFP+
SFP-10G-SRL	10GBASE-SRL (Short Reach Lite) SFP+
SFP-10G-LRM	10GBASE-LRM (Long Reach Multimode) SFP+
SFP-10G-LR	10GBASE-LR (Long Reach) SFP+
SFP-10G-ER	10GBASE-ER (Extended Reach) SFP+
SFP-1G-SX	1000BASE-SX (Short Haul) SFP
SFP-1G-LX	1000BASE-LX (Long Haul) SFP
SFP-1G-T	1000BASE-T (Copper) SFP

* Front-to-rear implies airflow from the port side to the fan side. Rear-to-front indicates airflow from the fan side to the port side.
** All Arista 7100T switches ship with two 2 meter C13-C14 power cables. Other power cables must be ordered separately.

Warranty

The Arista 7100T switches include a one-year limited hardware warranty, which covers parts repair or replacement with a ten-business-day turn-around after unit is received.

Service and Support

Additional support services including advanced hardware replacement are available.

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