

## Product Highlights

### Performance

- Up to 176Gbps throughput
- Up to 132Mpps forwarding
- 768MB packet buffer memory
- As low as 3 micro-second latency

### Data Center Optimized Design

- 1+1 redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Front-to-rear or rear-to-front cooling
- Typical power consumption 5W/port

### Resilient Control Plane

- Dual-core x86 CPU
- 4GB DRAM
- 2GB Flash
- User applications can run in a VM

### Advanced Provisioning

- Zero Touch Provisioning (ZTP)
- VMTracer

### Arista Extensible Operating System

- Single binary image for all products
- Truly modular network OS
- Stateful Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- Access to Linux tools
- Extensible platform

## Overview

The Arista 7048 switch offers unmatched performance for high-density data center deployments. With 48 100/1000BASE-T and four 1/10GbE SFP+ ports, the switch delivers a non-blocking design with 40 Gbps of uplink bandwidth. The 7048 switch forwards at layer 2/3/4 with low latency at wire speed. Redundant power and cooling options along with a robust software architecture provide the foundation for a data center class product. The switch comes with both front-to-back and back-to-front airflow options for energy efficiency. All SFP+ ports accommodate a full range of 10GbE twinax copper cables and optical 1/10GbE transceivers. With Arista EOS, advanced monitoring and provisioning capabilities such as Zero Touch Provisioning, VMTracer and Linux based tools can be run natively on the switch.



*Arista 7048T-A: 48-port 1GbE- 4-port 10GbE switch*

## Deep Buffer Architecture

The Arista 7048 switches are designed to handle fair allocation of bandwidth to all traffic flows in the datacenter. With 768 MB of packet buffer memory, the architecture scales in congestion scenarios and all ports can simultaneously buffer up to 50ms of traffic without any drops. The deep buffer architecture of the 7048 also provides a platform for lossless asymmetric connections when 10GbE nodes communicate with 1GbE nodes in the datacenter.

## Arista EOS

All Arista products including the 7048T-A switch run Arista EOS software. The same binary image supports all Arista products, making it easy for network administrators to standardize the operating system across all switches in the data center. 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. Several Linux based tools can be run directly on the switch, running on a powerful dual-core x86 CPU subsystem.

## Automated Provisioning Tools

The 7048T-A offers advanced capabilities for automating deployment and bring up of data center racks. Zero Touch Provisioning allows switches to download configuration and image files from any connected network port allowing managers to set up remote data center switches as they would bare metal servers.

Arista Network's vmTracer is an agent that works with vmWare's vCenter data center manager to automate VLAN configuration to vSwitches and VMs on hypervisors. As VMs are instantiated, cloned or moved on the network, The 7048T-A automatically reconfigures VLANs trunking to the server and cleans up unnecessary configurations which can jeopardize the security of stability of the data center network.

## High Availability

The Arista 7048 switch is designed for high availability from both a software and hardware perspective. Key high availability features include:

- 1+1 hot-swappable power supplies
- Four N+1 hot-swappable fans
- Live patching
- Self healing software with Stateful Fault Repair (SFR)
- Up to 16 ports per link aggregation group (LAG)
- Multi-chassis LAG for active/active L2 multipathing
- 16-way ECMP routing for load balancing and redundancy

## Layer 2 Features

- 16K L2 Forwarding Entries
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- Rapid Per VLAN Spanning Tree (RPVST+)
- 802.3ad Link Aggregation/LACP
  - 16 ports/channel
  - 256 groups per system
- Multi-Chassis Link Aggregation (MLAG)
  - Uses IEEE 802.3ad LACP
  - 32 ports per MLAG
- 802.1Q VLANs/Trunking
  - 4094 VLANs
- 802.1AB Link Layer Discovery Protocol
- Port Mirroring
- 802.3x Flow Control
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping



*Arista 7048T-A Rear View: Front-to-rear airflow model*



*Arista 7048T-A Rear View: Rear-to-front airflow model*

## Layer 3 Features

- 14K IPv4 Routes
- 4K IPv6 Routes\*
- Static Routes
- OSPF
- BGP
- 16-way Equal Cost Multipath Routing (ECMP)
- Route Maps
- PIM-SM
- Anycast RP (RFC 4610)
- VRRP
- Virtual ARP (VARP)

## Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- Restore from USB
- Blue Beacon LED for system identification

## VM Tracer Feature Set

- VMware vSphere support
- VM Auto Discovery
- VM Adaptive Segmentation
- VM Host View

## Security Features

- ACLs using L2, L3, L4 fields
- Control Plane Protection (CPP)
- MAC Security
- TACACS+
- Radius

## Quality of Service (QoS) Features

- Up to 8 queues per port
- Strict priority queueing
- 802.1p based classification
- DSCP based classification and remarking\*
- Policers\*
- Rate limiting\*

### Network Management

- 100/1000 Management Port
- RS-232 Serial Console Port
- USB Port
- SNMP v2, v3
- Management over IPv6
- Telnet and SSHv2
- Syslog
- AAA
- Industry Standard CLI

### Standards Compliance

- 802.1D Bridging and Spanning Tree
- 802.1p QOS/COS
- 802.1Q VLAN Tagging
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- 802.1AB Link Layer Discovery Protocol
- 802.3ad Link Aggregation with LACP
- 802.3ab 1000BASE-T
- 802.3z Gigabit Ethernet
- 802.3ae 10 Gigabit Ethernet

### SNMP MIBs

- ARISTA-SMI-MIB
- ARISTA-PRODUCTS-MIB
- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2863 IF-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 2096 IP-FORWARD-MIB
- RFC 4363 Q-BRIDGE-MIB
- RFC 4188 BRIDGE-MIB
- RFC 2013 UDP-MIB
- RFC 2012 TCP-MIB
- RFC 2011 IP-MIB
- RFC 2790 HOST-RESOURCES-MIB
- LLDP-MIB
- LLDP-EXT-DOT1-MIB
- LLDP-EXT-DOT3-MIB
- ENTITY-MIB
- ENTITY-SENSOR-MIB
- ENTITY-STATE-MIB

## Physical and Environmental Characteristics

| Physical Characteristics      |   | 100/1000Base-T RJ-45 ports      | 48                             |
|-------------------------------|---|---------------------------------|--------------------------------|
| Size (WxHxD)                  | 19" x 1.75" x 16"<br>(44.5 x 4.4 x 40.64 cm)            | 1/10Gb SFP/SFP+ ports           | 4                              |
| Weight                        | 17 lbs (7.71 kg)  | Throughput                      | 176 Gigabits per second        |
| Power Specifications          |   | Packets/Second                  | 132 Million packets per second |
| Max Input Power               | 212W  | Latency (64 byte frame)         | 3 microseconds                 |
| Input Voltage                 | 100-240AC   | CPU                             | Dual-Core x86                  |
| Input Current (Max)           | 2.2-5.3A  | System Memory                   | 4 Gigabytes                    |
| Input Frequency               | 50-60Hz   | Flash Storage Memory            | 2 Gigabytes                    |
| Input Connector               | IEC 320-C13   | 100/1000 Management Ports       | 1                              |
| Environmental Characteristics |   | RS-232 Serial Console Ports     | 1 (RJ-45)                      |
| Operating Temperature         | 0 to 40C  | USB Ports                       | 1                              |
| Storage Temperature           | -40C to 70C   | Hot-swappable Power Supplies    | 2 (1+1 redundant)              |
| Relative Humidity             | 5 to 95%  | Hot-swappable Fans              | 4 (N+1 redundant)              |
| Operating Altitude            | 0 to 10,000 ft  | Reversible Airflow Option       | Yes                            |
| Standards Compliance          |   | Typical Power Draw              | 174W*                          |
| EMI                           | FCC Part 15 Class A<br>ICES-003 Class A<br>VCCI Class A | Maximum Power Draw              | 212W                           |
| Safety                        | IEC/UL/CSA/EN 60950<br>CE, UL, TUV Mark                 | Supported SFP Optics and Cables |                                |
| Other                         | ROHS-6 Compliant  | 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                           |
|                               |   | 10G-DWDM                        | 9 micron SMF                   |
|                               |   |                                 | 40km                           |
|                               |   | 1000BASE-SX                     | 50 micron MMF                  |
|                               |   |                                 | 550m                           |
|                               |   | 1000BASE-LX                     | 9 micron SMF                   |
|                               |   |                                 | 10km                           |
|                               |   | 100/1000BASE-T                  | Category 5 Copper              |
|                               |   |                                 | 100m                           |

\* Typical power consumption measured at 25C ambient with 50% load

| Product Number | Product Description   |
|----------------|---|
| DCS-7048T-A-F  | Arista 7048T-A, 48-port 100/1000BASE-T (RJ-45) + 4 SFP+ ports (4 front-to-rear airflow fans) & two 460W AC power supplies |
| DCS-7048T-A-R  | Arista 7048T-A, 48-port 100/1000BASE-T (RJ-45) + 4 SFP+ ports (4 front-to-rear airflow fans) & two 460W AC power supplies |
| FAN-7000-F     | Fan for Arista 7048T-A, front-to-rear airflow   |
| FAN-7000-R     | Fan for Arista 7048T-A, rear-to-front airflow   |
| PWR-460AC-F    | AC Power supply for Arista 7048T-A, 460W, front-to-rear airflow   |
| PWR-460AC-R    | AC Power supply for Arista 7048T-A, 460W, rear-to-front airflow   |
| LIC-7048-E     | Enhanced software license for Arista 7048T-A switches (OSPF, BGP, PIM)  |
| LIC-7048V      | Virtualization feature set software license for Arista 7048T-A switches (VMTracer)  |
| LIC-7048-Z     | Network monitoring and provisioning feature set license for Arista 7048T-A (ZTP, LANZ)                                    |
| KIT-7000       | Spare accessory kit for Arista 7048T-A  |

## Warranty

The Arista 7048T-A switch comes with a one-year limited hardware warranty, which covers parts, repair, or replacement with a 10 business day turn-around after the unit is received.

## Service and Support

Support services including next business day and 4-hour advance hardware replacement are available.

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