

Product Highlights

Performance

- 7060PX4-32: 32x OSFP 400G and 2x SFP+
- 7060DX4-32: 32x QSFP-DD 400G & 2x SFP+
- Highest density 400G in compact 1RU
- Flexible 100GbE, 200G and 400G support
- Up to 25.6 terabits per second
- Up to 8 billion packets per second
- Wire speed L2 and L3 forwarding
- Latency from 700ns for 400G

Data Center Optimized Design

- 32 port of 400G ports in 1RU
- Typical power of under 17W per port
- Over 93% efficient power supplies
- 1+1 redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Front-to-rear cooling
- Tool less rails for simple installation

Cloud Networking Ready

- 128-way ECMP for hyperscale networks
- Dynamic Load Balancing for advanced multi-pathing
- Cluster Load Balancing (CLB)
- Advanced Congestion Management for NVMe and AI workloads
- Flow aware traffic scheduling
- Shared 64MB Buffer with burst absorption
- Up to 8K MAC and 16K Host entries
- Over 480K IPv4 Routes
- Over 300K IPv6 Routes
- DirectFlow and eAPI

Resilient Control Plane

- High Performance x86 CPU
- 8GB DRAM
- User applications can run in a VM

Advanced Provisioning & Monitoring

- CloudVision
- Zero Touch Provisioning (ZTP)
- LANZ for microburst detection
- DMF
- sFlow
- Self-configure and recover from USB

Arista Extensible Operating System

- Single binary image for all products
- Fine-grained truly modular network OS
- Stateful Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- Full Access to Linux shell and tools
- Extensible platform - bash, python, C++

Overview

The expansion of applications for machine learning and artificial intelligence driven by faster CPUs, flash storage and server less compute is driving the next generation of datacenter cloud networks based on 400G Ethernet. Evolution to 400G requires systems that deliver higher performance, to address the growth demands, and increased scale optimized for modern hyper-scale cloud environments, in addition to backward compatibility and a consistent proven architecture.

The Arista 7060X4 series deliver high density 400G switching with line rate performance, proven layer 2 and layer 3 features, and advances in traffic awareness, congestion handling and instrumentation for the largest scale cloud networks. The Arista 7060X4 series, with the Arista 7060X and 7260X portfolio of data center switches, deliver a rich choice of port speed and density including 25GbE, 100GbE, 200GbE and 400GbE enabling consistent network architectures that seamlessly scale from small dedicated clusters to the needs of the largest multi-tier networks.

The 7060PX4-32 and 7060DX4-32 are fixed switches in an extremely compact form factor with a choice of industry standard 400G interfaces that provide investment protection migration from 100G to 400G with power and space improvements. The 7060X4 series switches support a flexible combination of speeds including 100G, 200G and 400G allowing easy and seamless transition to the latest 400G networks.

Combined with Arista EOS both models of the 7060X4 series deliver advanced features for hyperscale networks, server-less compute, big data farms and machine learning clusters.



Arista 7060PX4-32: 32 x 400GbE OSFP ports, 2 SFP+ ports



Arista 7060DX4-32: 32 x 400GbE QSFP-DD ports, 2 SFP+ ports

Arista EOS

The Arista 7060X4 series run the same Arista EOS software as all Arista products, simplifying network administration. 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.

With Arista EOS, advanced monitoring and automation capabilities such as Zero Touch Provisioning, VMTracer and Linux based tools can be run natively on the switch with the powerful x86 CPU subsystem.

Model Overview

The Arista 7060X4 series offers high density 400G in a choice of two models. Each delivers the highest performance combined with feature rich layer 2 and layer 3 forwarding, suited for both top of rack, leaf, or fixed configuration spine deployment in modern large scale networks addressing the challenges of increasing network capacity and efficiency through lower power, enhanced automation and advances in scalability.

The **7060PX4 32** and **7060DX4 32** both deliver 32 400G ports in 1RU systems with an overall throughput of 12.8Tbps. The 7060PX4-32 supports OSFP based 400G and 100G interfaces and the 7060DX4-32 supports QSFP-DD interfaces. Both the 7060PX4-32 and 7060DX4-32 support industry standard optics and cables allowing for ease of migration to 400G. All ports allow a choice of speeds including 400GbE, 200GbE or 100GbE, up to 128 interfaces.

The Arista 7060X4 series switches support latency as low as 700ns in cut-through mode, and a 64 MB packet buffer with a large shared pool allowing for superior burst absorption compared to systems with fixed port buffering.



*Arista 7060PX4-32:
32 x 400GbE OSFP ports, 2 SFP+ ports*



*Arista 7060DX4-32:
32 x 400GbE QSFP-DD ports, 2 SFP+ ports*



Arista 7060X4 Series Rear View: Front to Rear airflow



Arista 7060X4 Series Fan Trays and Power Supplies

Maximum Flexibility for Scale Out Network Designs

Scale out network designs enable solutions to start small and evolve over time. A simple two-way design can grow as far as 128-way without significant changes to the architecture. The Arista 7060X4 provide a consistent architecture with the 7060X/7260X Series and a choice of either 400G OSFP and QSFP-DD interfaces, both providing investment protection and future proof migration to 400G optimized for large scale cloud networks. They include several enhancements for hyper-scale cloud data center designs:

- Wide choice of optics and cables for multi-speed flexibility from 100G to 400G
- 128-way ECMP and 64-way MLAG for scalable designs and to balance traffic evenly across large scale multi-tier designs
- Enhanced ECMP Hashing and Load Balancing consider real-time loads and dynamically assign new and existing flows to the best link to improve performance
- Advanced Multipathing improves congestion management by rebalancing flows in large scale cloud environments under load
- Hitless speed changes from 400G to 100G to eliminate down-time when implementing changes
- Flow aware detector to identify large flows and selectively allow marking and queue assignment to optimize traffic forwarding

High Availability

The Arista 7060X4 series switches were designed for high availability from both a software and hardware perspective. Key high availability features include:

- 1+1 hot-swappable power supplies and five N+1 hot-swap fans
- Color coded PSU's and fans
- Live software patching for zero downtime maintenance
- Self healing software with Stateful Fault Repair (SFR)
- Smart System Upgrade (SSU) and Accelerated Software Update (ASU)
- Up to 128 100GbE/200GbE/400GbE ports per link aggregation group
- Multi-chassis LAG for active/active L2 multi-pathing
- 128-way ECMP routing for load balancing and redundancy

AI Analyzer *

Traditional software-based traffic counters do not lend themselves to examine AI/ML traffic patterns, which exhibit unique ramp up behavior in very short intervals of time. The AI Analyzer is a hardware capability that enables the collection of ECMP member utilization data, aggregated over extremely short periods of time. This allows the Arista 7060X4 series to effectively analyze the traffic patterns, with a time interval as granular as 100 microseconds. The results of such an analysis can then be applied to fine tune dynamic load balancing workloads uniformly across the ECMP member links, which is a key requirement for AI/ML applications.

CloudVision® for Accelerated Computing*

CloudVision is a network-wide approach for workload orchestration and workflow automation as a turnkey solution for Accelerated Computing. CloudVision extends the EOS publish-subscribe architectural approach across the network for state, topology, monitoring and visibility.

CloudVision combined with Arista Validated Designs (AVD) enables a template driven automated common configuration model to be deployed deterministically across all network elements, implementing best-practice configuration parameters with minimal user input. When combined with the Arista AI Agent for compute hosts, configuration consistency and visibility is extended into the compute platform improving cluster deployment time, operational stability and end to end telemetry.

Cluster Load Balancing (CLB)*

Cluster Load Balancing (CLB) is an innovative new AI load balancing mechanism, that utilizes RDMA queue pairs to ensure optimal link utilization. AI clusters typically have low quantities of large bandwidth flows, which can result in high tail end latency. CLB solves that problem by doing RDMA-aware flow placement to ensure high performance for all flows with low tail latency.

Load balancing methods that perform local load-aware flow placement maximize the leaf-to-spine link utilization. However, such locally optimized methods fail on the reverse path - there is typically no ability to perform load balancing on the spine-to-leaf path as every spine often only has one path to the destination leaf. CLB approaches this problem with a global view, and is able to simultaneously optimize both the leaf-to-spine and spine-to-leaf flows.

Supported Features in EOS

<https://www.arista.com/en/support/product-documentation/supported-features>

Layer 2 Features

- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- Rapid Per VLAN Spanning Tree (RPVST+)
- 4096 VLANs
- 802.3ad Link Aggregation/LACP
 - 64 ports/channel
 - 128 groups per system
- Multi-Chassis Link Aggregation (MLAG)
 - 64 ports per MLAG
- Custom LAG Hashing
- Resilient LAG Hashing
- 802.1AB Link Layer Discovery Protocol
- 802.3x Flow Control*
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control
- Audio Video Bridging (AVB)

Layer 3 Features

- Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and RIPv2
- 128-way Equal Cost Multipath Routing (ECMP)
- Resilient ECMP Routes
- VRF
- BFD
- Route Maps
- IGMP v2/v3
- PIM-SM / PIM-SSM
- Anycast RP (RFC 4610)
- VRRP
- Virtual ARP (VARP)
- Policy Based Routing (PBR)
- RAIL

Advanced Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- AI Analyzer*
- Traffic statistics polling at rates as low as 100 msec
- Optional traffic statistics fast polling as low as 1 msec rate
- Latency Analyzer and Microburst Detection (LANZ)
 - Configurable Congestion Notification (CLI, Syslog)
 - Streaming Events (GPB Encoded)
 - Capture/Mirror of congested traffic
- Advanced Monitoring and Aggregation
 - Port Mirroring (4 active sessions)
 - L2/3/4 Filtering on Mirror Sessions
 - Port Channel source and destination
 - Mirror to CPU *

- Advanced Event Management suite (AEM)
 - CLI Scheduler
 - Event Manager
 - Event Monitor
 - Linux tools
- Integrated packet capture/analysis with TCPDump
- RFC 3176 sFlow
- Restore & configure from USB
- Blue Beacon LED for system identification
- Software Defined Networking (SDN)
 - Arista DirectFlow
 - eAPI
 - OpenStack Neutron Support
- IEEE 1588 PTP (Transparent Clock and Boundary Clock)

Virtualization Support

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

Security Features

- IPv4 / IPv6 Ingress & Egress ACLs using L2, L3, L4 fields
- ACL Drop Logging and ACL Counters
- Control Plane Protection (CPP)
- PDP
- Service ACLs
- DHCP Relay / Snooping
- MAC Security
- TACACS+
- RADIUS

Quality of Service (QoS) Features

- Up to 8 Unicast and 2 Multicast queues per port
- 802.1p based classification
- DSCP based classification and remarking
- Explicit Congestion Notification (ECN)
- QoS interface trust (COS / DSCP)
- Strict priority queueing
- Weighted Round Robin (WRR) Scheduling
- Per-Priority Flow Control (PFC)
- Data Center Bridging Extensions (DCBX)
- 802.1Qaz Enhanced Transmissions Selection (ETS)
- ACL based DSCP Marking
- ACL based Policing
- Per port MMU Configuration
- Policing/Shaping
- Rate limiting

* Not currently supported in EOS

Network Management

- CloudVision
- 10/100/1000 Management Port
- RS-232 Serial Console Port
- USB Port
- SNMP v1, v2, v3
- Management over IPv6
- Telnet and SSHv2
- Syslog
- AAA
- Industry Standard CLI

Extensibility

- Linux Tools
 - Bash shell access and scripting
 - RPM support
 - Custom kernel modules
- Programmatic access to system state
 - Python
 - C++
- Native KVM/QEMU support

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
- 802.3ae 10 Gigabit Ethernet
- 802.3ba 100 Gigabit Ethernet
- 802.3bs 400 and 200 Gigabit Ethernet
- 802.3cm 400 Gigabit over multimode fiber
- RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
- RFC 4861 Neighbor Discovery for IP Version 6 (IPv6)
- RFC 4862 IPv6 Stateless Address Autoconfiguration
- RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification

SNMP MIBs

- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2863 IF-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 4292 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
- RFC 3636 MAU-MIB

- RMON-MIB
- RMON2-MIB
- HC-RMON-MIB
- LLDP-MIB
- LLDP-EXT-DOT1-MIB
- LLDP-EXT-DOT3-MIB
- ENTITY-MIB
- ENTITY-SENSOR-MIB
- ENTITY-STATE-MIB
- ARISTA-ACL-MIB
- ARISTA-QUEUE-MIB
- RFC 4273 BGP4-MIB
- RFC 4750 OSPF-MIB
- ARISTA-CONFIG-MAN-MIB
- ARISTA-REDUNDANCY-MIB
- RFC 2787 VRRPv2-MIB
- MSDP-MIB
- PIM-MIB
- IGMP-MIB
- IPMROUTE-STD-MIB
- SNMP Authentication Failure trap
- ENTITY-SENSOR-MIB support for DOM (Digital Optical Monitoring)
- User configurable custom OIDs

See EOS release notes for latest supported MIBs

Table Sizes

STP Instances	62 (MST)/62 (RPVST+)
IGMP Groups	8K, with 512 unique groups
ACLs	2700
Egress ACLs	512
ECMP	128-way, 4K groups, 64K members
MAC Addresses	8K
IPv4 Host Routes	16K
IPv4 Multicast (S,G)	8K
IPv4 LPM Routes (UFT)	640K
IPv6 LPM Routes - Unicast (prefix length <= 64) (UFT)	160K
IPv6 LPM Routes - Unicast (any prefix length) (UFT)	100K

* Not currently supported in EOS

Specifications			Power Supply Specifications		
Switch Model	7060PX4-32	7060DX4-32	Power Supply	PWR-1611-AC-RED	PWR-1611-DC-RED
Ports	32 x OSFP 2x SFP+	32 x QSFP-DD 2x SFP+	Input Voltage	200-240AC	-48 to -60 VDC
Max 400GbE Ports	32		Typical Input Current	11.2 - 9.5A	38A Max (-48V)
Max 200GbE Ports	64 (OSFP or QSFP-DD to 2xQSFP 200G)		Input Frequency	50/60Hz	DC
Max 100GbE Ports	128 (OSFP or QSFP-DD to 4xQSFP 100G)		Input Connector	IEC 60320 C14	AWG #6 Max
Max 50GbE Ports	128 (OSFP or QSFP-DD to 4xQSFP 50G)		Efficiency (Typical)	93% Platinum	92%
Max 40GbE Ports	64 (OSFP or QSFP-DD to 2xQSFP 40G)				
Max 1/10GbE Ports	130				
Throughput	25.6 Tbps				
Packets/Second	8 Bpps				
Latency	700 ns				
CPU	Multi-Core x86				
System Memory	8 Gigabytes				
Flash Storage Memory	8 Gigabytes				
Packet Buffer Memory	64MB (Dynamic Buffer Allocation)				
10/100/1000 Mgmt Ports	1				
RS-232 Serial Ports	1 (RJ-45)				
USB Ports	1				
Hot-swap Power Supplies	2 (1+1 redundant)				
Hot-swappable Fans	5 (N+1 redundant)				
Reversible Airflow Option	No (Front to Rear Only)				
Typical/Max Power Draw ¹	388W/989W	388W/989W			
Size (WxHxD)	17.32 x 1.71 x 26.4" (48.3 x 4.4 x 67 cm)				
Weight	21lbs (9.5kg)	21lbs (9.5kg)			
Fan Tray	FAN-7001DH-F				
Power Supplies	PWR-1611-AC-RED PWR-1611-DC-RED				
EOS Feature Licenses	Group 3				
Minimum EOS	4.23.0				

1. Typical power consumption measured at 25C ambient with 50% load. Performance rated over operation with average packets larger than 200 bytes.

Standards Compliance

EMC	FCC A ICES-003 Issue 7 EN 55032:2015 EN IEC 61000-3-2:2019 EN 61000-3-3 KS C 9832 VCCI-CISPR 32:2016 AS/NZS CISPR 32:2015 +A1 2020 EN 300 386, TEC/SD/DD/EMC-221 CNS 15936 BS EN 55032:2015+A11:2020 BS EN IEC 61000-3-2 BS EN 61000-3-3
	EN 55035:2017+A11:2020 EN 300 386 KS C9835 BS EN 55035:2017+A11:2020
Safety	EN 62368-1:2020+A11:2020 EN 62368-1:2014+A11:2017 IEC 62368-1: 2018 Korea KC Safety KC 62368-1 (2021-08) CSA/UL 62368-1:2019 NOM 019-SCFI-1998 CNS 15598-1 AS/NZS 62368.1:2022
Certifications	BSMI (Taiwan) FCC Class A (United States) ICES-003 (Canada) CE (European Union) KCC (South Korea) NRTL (North America) RCM (Australia / New Zealand) UKCA (United Kingdom) VCCI (Japan) TEC (India) ANATEL (Brazil) ICASA (South Africa) NOM Equivalency (Mexico)
European Union Directives	2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive 2012/19/EU WEEE Directive 2011/65/EU RoHS Directive 2015/863/EU Commission Delegated Directive
Further Information	Product Certification Portal

Environmental Characteristics

Operating Temperature ¹	0 to 40°C (32 to 104°F)
Storage Temperature	-40 to 70°C (-40 to 158°F)
Relative Humidity	5 to 90%
Operating Altitude	0 to 10,000 ft, (0-3,000m)

1. Certain airflow configurations or the use of higher power or reduced temperature range optics may reduce maximum operating temperature.

Arista Optics and Cables

The Arista 7060X4 Series supports a wide range of 10G to 400G pluggable optics and cables. For details about the different optical modules and the minimum EOS Software release required for each of the supported optical modules, visit <https://www.arista.com/en/products/transceivers-cables>

Supported Optics and Cables *

Interface Type	OSFP ports
400GBASE-CR8	OSFP to OSFP: 1m-3m
400GBASE-AOC	OSFP to OSFP: 1m-30m
400GBASE-SR8	100m
400GBASE-DR4	500m
400GBASE-XDR4	2km
400GBASE-FR4	2km
400GBASE-2FR4	2km
400GBASE-LR4	10km
200GBASE-CR4	OSFP to 2xQSFP: 1m to 3m
100GBASE-CR4	OSFP to 2xQSFP: 1m to 3m
100GBASE-CR2	OSFP to 4xQSFP: 1m to 3m
50GBASE-CR2	OSFP to 4xQSFP: 1m to 3m
50GBASE-CR	OSFP to 8xSFP: 1m to 3m
25GBASE-CR	OSFP to 8xSFP: 1m to 3m
Interface Type	QSFP-DD ports
400GBASE-CR8	QSFP-DD to QSFP-DD: 1m-2.5m
400GBASE-AOC	QSFP-DD to QSFP-DD: 1m-30m
400GBASE-SR8	100m
400GBASE-DR4	500m
400GBASE-XDR4	2km
400GBASE-FR4	2km
400GBASE-2FR4	2km
400GBASE-LR4	10km

Interface Type

SFP+ ports

200GBASE-CR4	QSFP-DD to 2xQSFP: 1m to 2.5m
100GBASE-CR4	QSFP-DD to 2xQSFP: 1m to 2.5m
100GBASE-CR2	QSFP-DD to 4xQSFP: 1m to 2.5m
50GBASE-CR2	QSFP-DD to 4xQSFP: 1m to 2.5m
50GBASE-CR	QSFP-DD to 8xSFP: 1m to 2.5m
25GBASE-CR	QSFP-DD to 8xSFP: 1m to 2.5m
10GBASE-CR	SFP+ to SFP+: 0.5m-5m
10GBASE-AOC	SFP+ to SFP+: 3m-30m
10GBASE-SRL	100m
10GBASE-SR	300m
10GBASE-LRL	1km
10GBASE-LR	10km
10GBASE-ER	40km
10GBASE-ZR	80km
10GBASE-DWDM	80km
1GbE SX/LX/TX	Yes

* Check EOS release notes for support

Product Number	Product Description
DCS-7060PX4-32-F	Arista 7060X4, 32x400GbE OSFP switch, front-to-rear air, 2xAC
DCS-7060DX4-32-F	Arista 7060X4, 32x400GbE QSFP-DD switch, front-to-rear air, 2xAC
DCS-7060PX4-32#	Arista 7060X4, 32x400GbE OSFP switch, no fans, no psu
DCS-7060DX4-32#	Arista 7060X4, 32x400GbE QSFP-DD switch, no fans, no psu
LIC-FIX-3-E	Enhanced L3 License for Arista Group 3 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
LIC-FIX-3-V	Virtualization license for Group 3 Arista Fixed switches (VMTracer and VXLAN)
LIC-FIX-3-V2	EOS Extensions, Security and Partner Integration license for Arista Group 3 Fixed switches
LIC-FIX-3-Z	Monitoring & Automation license for Arista Group 3 Fixed switches (ZTP, LANZ, TapAgg, API, Time-stamping, OpenFlow)
LIC-FIX-3-FLX-L	FLX-Lite License for Arista Fixed switches Group 3 - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)

Optional Components and Spares

FAN-7001DH-F	Spare high speed fan module for Arista 7000 Series 1RU switches (front-to-rear airflow)
PWR-1611-AC-RED	Spare Arista PSU, 1RU, AC/DC, 1600W, Forward, HS, 73.5MM
PWR-1611-DC-RED	Spare 1600W DC power supply for Arista 7000 Series 1U switches (front to rear airflow)
KIT-7001	Spare tool-free accessory kit (v2) for 1RU Arista switches. 2-post & 4-post mount. (2x C13-C14, 2m)
KIT-2POST-1U-NT	Spare tool-free 2-post mount kit (v2) for 1RU Arista tool-free switches
KIT-4POST-NT	Spare tool-free 4-post mount kit (v2) for 1RU Arista tool-free switches

Warranty

The Arista 7060X4 switches 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. For service depot locations, please see: <http://www.arista.com/en/service>

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