

Product Highlights

Performance

- 7388X5: 128 x 100G/200G (with or without MACsec) or 64 x 400G
- High density 100G, 200G and 400G
- Flexible 10G, 25G, 100G, 200G and 400G support
- Up to 25.6 Tbps system capacity
- Up to 10.6 billion packets per second
- Wire speed L2 and L3 forwarding
- Latency from 825 ns for 200G

Data Center Optimized Design

- 128 ports of 200G in 4RU
- All active components field removable
- Mix and match IO Modules
- Typical power of under 10W per 200G port
- Over 96% efficient power supplies
- N+N redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Front-to-rear cooling

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 114MB Buffer with burst absorption
- Up to 128K MAC addresses
- Over 800K IPv4 Routes
- Over 500K IPv6 Routes
- DirectFlow and eAPI

Resilient Control Plane

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

Advanced Provisioning & Monitoring

- CloudVision
- Zero Touch Provisioning (ZTP)
- LANZ for microburst detection
- DANZ Advanced Mirroring for visibility
- sFlow
- AI Analyzer*

Arista Extensible Operating System

- Single binary image for all products
- 64-bit EOS
- 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

A key enabler in the ecosystem of ultra-high performance applications including hyper-scale cloud computing and AI/ML clusters is 400 Gigabit Ethernet. Faster, higher capacity CPUs, specialist processors, Smart NICs and flash storage enable the construction of larger clusters which require high bandwidth, low latency, large radix networks to achieve optimal performance. As clusters evolve, the network must not only scale but also be flexible to support a wide range of speeds including 25G, 50G, 100G, 200G and 400G.

The Arista 7388X5 series is a compact modular system built on a single 25.6Tbps packet processor in an extremely compact 4RU form factor that enables flexible port configuration as well as simple maintenance with all elements being field replaceable.

With twice the capacity of the previous generation, the 7388X5 doubles the network radix for high density switching, reduces tiers and simplifies networks. Line rate performance with up to 128 ports of 200G or 64 ports of 400G provides significant improvements to both system density and power efficiency. Combined with proven layer 2 and 3 features the 7388X5 delivers advances in traffic awareness, congestion handling and instrumentation to enhance network wide visibility and monitoring.

The Arista 7388X5, with the Arista 7060X and 7260X portfolio of data center switches, delivers a rich choice of port speed and density including 25G, 100G, 200G and 400G enabling consistent network architectures that seamlessly transition between interface speeds and scale from small dedicated clusters to the needs of the largest multi-tier hyperscale cloud networks.

Combined with Arista EOS the 7388X5 series deliver advanced features for hyperscale networks, serverless compute, big data farms and machine learning clusters.



Arista 7388X5: 128 ports of 200G or 64 ports of 400G

Arista EOS

The Arista 7388X5 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 7388X5 is a high performance system that enables up to 64 ports of 400G, 128 ports of 200G, or up to 128 ports of 100G in a compact 4RU system with 8 interface module slots. The 7388X5 delivers 25.6 Tbps of system forwarding and up to 10.66 Bpps with a single high capacity packet processor in a configurable system. The system is designed for flexible configurations with a choice of interface module cards, ease of maintenance operations for cloud networks, increased network scale and resilience with advanced traffic management and congestion control.

The 7388X5 delivers high performance, with feature rich layer 2 and layer 3 forwarding, suited for both leaf or 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.

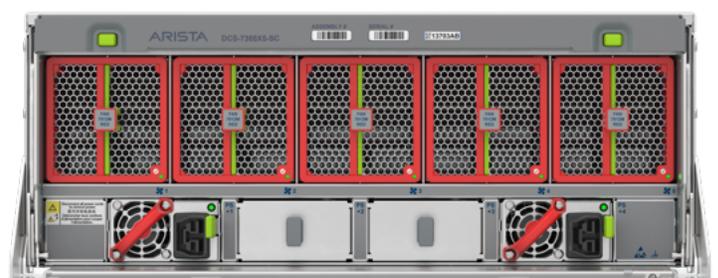
The 7388X5 is designed around the 7388X5 switch card (7388X5-SC), that is fully connected to 8 I/O module slots delivering 3.2 Tbps of system capacity to each slot. The management module runs Arista Extensible Operating System (EOS) on a quad core CPU with 32GB of memory with the performance to run the control plane and management functions of the system. The removable interface modules provide for mix and match of interface types and density including 100G, 200G and 400G with each module supporting a range of interface speeds using industry standard optics and cables. Each I/O module connects directly to the switch card without adding any oversubscription. All components of the system including the switch card are removable for ease of maintenance and simplifying upgrades.

The system supports up to 4 high efficiency AC or DC power supplies, providing sufficient power for both current and future needs, with both grid and power supply redundancy and are hot-swappable to eliminate downtime when replacing power supplies. High performance fan modules deliver resilient data center optimized system cooling in a forward to rear airflow direction.

The Arista 7388X5 series switches support port to port latency as low as 825 ns in cut-through mode, and a 114 MB packet buffer with a large shared pool allowing for superior burst absorption compared to multi-chip systems or pre-allocated fixed per-port buffering.



Arista 7388X5:
System Front 128 ports of 100G



System Rear
(Front to Rear Airflow)



DCS-7388-SUP management card - Quad core CPU and 32GB memory for high performance control plane, Ethernet and management ports with optional SSD for storage.



DCS-7388-16CD2 - 16 ports of 100G/200G with QSFP28/ QSFP56 optics and cables, and the use of existing 100G optics and cables.



DCS-7388-8DR QSFP-DD - 8 ports of 400G with QSFP-DD optics and cables and the use of existing 400G optics and cables.



DCS-7388-8D QSFP-DD - 8 ports of 400G MACsec with QSFP-DD optics and cables and the use of existing 400G optics and cables.

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 256-way without significant changes to the architecture. The Arista 7060X5 provide a consistent architecture with the 7060X/7260X Series offering QSFP-DD interfaces, providing investment protection and future proof migration to high density 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
- DANZ, sFlow and multi-port mirroring to detect micro-burst congestion and provide network wide visibility and monitoring

Precise Data Analysis

Arista Latency Analyzer (LANZ) is an integrated feature of EOS. LANZ provides precise real-time monitoring of micro-burst and congestion events before they impact applications, with the ability to identify the sources and capture affected traffic for analysis. Advanced analytics are provided with features like buffer monitoring with configurable thresholds, in-band path and latency monitoring, event driven trace packets and granular time stamping.

Virtualization

Supporting next-generation virtualized data centers requires tight integration with orchestration tools and encapsulation technologies such as VXLAN. The 7388X5 builds on the valuable tools already provided by the Arista VM Tracer suite to integrate directly into encapsulated environments. Offering a wire-speed gateway between VXLAN and traditional L2/3 environments, they make integration of non-VXLAN aware devices including servers, firewalls and load-balancers seamless and provide the ability to leverage VXLAN as a standards based L2 extension technology for non-MPLS environments.

CloudVision

CloudVision is a network-wide approach for workload orchestration and workflow automation as a turnkey solution for Cloud Networking. CloudVision extends the EOS publish subscribe architectural approach across the network for state, topology, monitoring and visibility. This enables enterprises to move to cloud-class automation without needing any significant internal development.

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.

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 7388X5 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.

Arista Optics and Cables

The Arista 7388X5 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>

Chassis	DCS-7388-CH	Supervisor Module	DCS-7388-SUP
Supervisor slots	1	CPU	Multi-Core x86
Linecard Slots	8	System Memory	32 Gigabytes
Power Supply Slots	4 (N+N Redundant)	10/100/1000 Mgmt Ports	1
Fan Modules	5 (N+1 Redundant)	RS-232 Serial Ports	1 (RJ-45)
Size (HxWxD) - excluding ejectors and handles	6.85" x 17.3" x 26.77" (17.4 x 44 x 68cm)	USB Ports	1
Rack Space	4RU	SSD Storage	512 GB
Weight (Chassis only)	36 lbs (16.3 kg)	Typical (Max) Power ²	33W (53W)
Weight (Fully configured system)	109 lbs (49.44 kg)	Size (HxWxD)	5.7 x 1.1 x 11.96 (14.7 x 2.8 x 30.4cm)
Max System Power Consumption ¹	3,458 W	Weight	2.5 lbs (1.14kg)
Fan Tray	FAN-7012HP-RED / FAN-7012MP-RED	Minimum EOS	4.29.1
Power Supplies	PWR-2421-HV-RED		
EOS Feature Licenses	Fixed - Group 4		

Interface Modules	DCS-7388-16CD2	DCS-7388-8DR	DCS-7388-8D
Ports	16 x QSFP56	8 x QSFP-DD	8 x QSFP-DD
Max 400G ²	—	8	8
Max 200G ²	16	16	16
Max 100G ²	32	32	32
Max 40G ²	16	8	8
Max 25G ²	32	32	32
Max 10G ²	32	32	32
MACsec Encryption	—	—	Yes
Typical (Max) Power ¹	2.2W (4.4W)	17W (39W)	142W (161W)
Size (HxWxD) Excluding Ejector	6.7" x 1.95" x 4.21" (16.9 x 4.95 x 10.7cm)	6.7" x 1.95" x 4.21" (16.9 x 4.95 x 10.7cm)	6.7" x 1.95" x 4.21" (16.9 x 4.95 x 10.7cm)
Weight	2 lbs (0.90kg)	2 lbs (0.90kg) (Approx)	2 lbs (0.90kg) (Approx)
Chassis Support	DCS-7388-CH		
Minimum EOS	4.29.1	4.30.1	4.29.1

1. Maximum system power is calculated at 40C ambient with 100% load on all ports. This system consists of 8 x DCS-7388-8D with 15W Optics for all ports. Typical power consumption is measured at 25C ambient with 50% load on all ports, excludes transceivers.

2. Maximum port numbers are uni-dimensional, may require the use of break-outs and are subject to transceiver/cable capabilities

Switch Card

DCS-7388X5-SC

Packet Buffer Memory	114 MB (Dynamic Buffer Allocation)
Maximum Throughput	25.6.Tbps / 10.66 Bpps
Latency	825ns
Size (HxWxD)	6.14" x 16.92" x 23.11" (15.6 x 43.0 x 58.7cm)
Weight	56.0 lbs (25.4 kg)
Typical (Max) Power	372W (457W)
Chassis Support	DCS-7388-CH
Minimum EOS	4.29.1

Table Sizes

STP Instances	62 (MST)/62 (RPVST+)
L2 Multicast (IGMP Snooping)	128K, with 512 unique groups
L3 Multicast Routing (IPv4)	48K, with 512 unique groups
ACLs	2304
Egress ACLs	512
ECMP	128-way, 4K groups, 16K members
MAC Addresses	128K
IPv4 LPM Routes	800K
IPv6 LPM Routes	500K

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 95%
Operating Altitude	0 to 10,000 ft, (0-3,000m)

Power Supply Specifications

Power Supply	PWR-2421 HV ²	PWR-2411-DC-RED
Output Power	2400W	2400W
Input Voltage	200-277VAC 240-380VDC	40-72V DC
Typical Input Current	13.5A (200V AC)	42A at -48V
Input Frequency	50/60Hz AC or DC	DC
Input Connector	SAF-D	AWG #2-4 Dual-hole Lugs
Efficiency (Typical)	96%	94%

Standards Compliance

EMC	FCC Class A, ICES-003, EN 55032, EN IEC 61000-3-2:2019, EN 61000-3-3
Immunity	EN 55035 EN 300 386
Safety	EN 62368-1:2014 + A11:2017 IEC 62368-1:2014
Certifications	BSMI (Taiwan) CE (European Union) KCC (South Korea) NRTL (North America) RCM (Australia/New Zealand) UKCA (United Kingdom) VCCI (Japan)
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

1. Certain airflow configurations or the use of higher power or reduced temperature range optics may reduce maximum operating temperature.
2. Requires EOS version 4.29.1 or later

Product Number	Product Description
DCS-7388X5-64D-F	Arista 7388X System bundle. Includes 7388X5-BND Bundle and 64 x 400G QSFP-DD MS (front-to-rear air)
DCS-7388X5-64DR-F	Arista 7388X System bundle. Includes 7388X5-BND Bundle and 64 x 400G QSFP-DD (front-to-rear air)
DCS-7388X5-128-BND-F	Arista 7388X System bundle. Includes 7388X5-BND Bundle and 128 x 200G QSFP-DD ports (front-to-rear air)
DCS-7388X5-80C-24DR-F	Arista 7388X System bundle. Includes 7388X5-BND Bundle and 80 x 200G, 24 x 400G QSFP-DD (front-to-rear air)
DCS-7388X5-32C-48DR-F	Arista 7388X System bundle. Includes 7388X5-BND Bundle and 32 x 200G, 48 x 400G QSFP-DD (front-to-rear air)
DCS-7388X5-BND-F	Arista 7388X System bundle. Includes 7388, 2 x AC PS, Supervisor, 7388X5-SC and Fans (front-to-rear air)
DCS-7388-SUP	Supervisor module for 7388 Series
DCS-7388-16CD2	Arista 7388X-16CD2 module for 7388X Series, 16 port 200GbE QSFP100-DD (Spare)
DCS-7388-8D	Arista 7388X-8D module for 7388X Series, 8 port 400GbE QSFP-DD with MACsec (Spare)
DCS-7388-8DR	Arista 7388X-8D module for 7388X Series, 8 port 400GbE QSFP-DD (Spare)
LIC-FIX-4-E	Enhanced L3 License for Arista Group 4 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
LIC-FIX-4-Z	Monitoring & Automation license for Arista Group 4 Fixed switches (ZTP, LANZ, TapAgg, OpenFlow)
LIC-FIX-4-V	Virtualization license for Group 4 Arista Fixed switches (VMTracer and VXLAN)
LIC-FIX-4-V2	EOS Extensions, Security and Partner Integration license for Arista Group 4 Fixed switches
LIC-FIX-4-FLX-L	FLX-Lite License for Arista Fixed switches Group 4 - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-FIX-4-MACSEC	MACSEC Encryption License for Arista Group 4 Fixed switches, MACSEC capable ports

Optional Components and Spares

DCS-7388-CH	Arista 7388 empty chassis, 1 supervisor slot, 8 module slots
DCS-7388X5-SC	7388X5 Switch Card for 7388 chassis, includes Fans and PSU (front-to-rear air) Spare
DCS-7388X5-SC-SPARE	7388X5 Switch Card for 7388 chassis, No Fans and PSU (Spare)
FAN-7012HP-RED	Spare fan module for Arista 7000 Series 2RU High Fan Speed (front-to-rear airflow)
FAN-7012MP-RED	Spare fan module for Arista 7000 Series 2RU Enhanced Fan Speed (front-to-rear airflow)
PWR-2421-HV-RED	Arista 2400W HV AC and DC Power Supply, FORWARD, 73.5MM
DCS-7388-PCVR	Blank Cover for 7388 Power Supply Slot
DCS-7388-LCVR	Blank cover for 7388 module slot
CAB-AC-20A-SG-C20	Power cord SAF-D to C20 (2m)
CAB-AC-20A-SG-C20-1M	Power cord SAF-D to C20 (1m)
KIT-7004-2U	Spare tool-free 4-post mount kit (v2) for 2-4RU Arista tool-free switches
KIT-7004-2UL	Spare extended tool-free 4-post mount kit (v2) for 2-4RU Arista tool-free switches

Warranty

The Arista 7388X5 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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