Product Highlights

Performance

- 7280PR3 Series: 24 x 400G
- 7280DR3 Series 24 x 400G
- 7280CR3 Series: 96 x 100G
- Up to 24 wire-speed 100G ports
- Up to 9.6 terabits per second
- Up to 4 billion packets per second
- Wire speed L2 and L3 forwarding
- OSFP and QSFP-DD: 400G and 4 x 100G

Data Center Optimized Design

- Ultra-deep packet buffer up to 32GB
- Virtual Output Queues per port to eliminate head of line blocking
- Over 94% efficient power supplies
- Redundant & hot-swap power and fans
- Front-to-rear cooling
- Designed for NEBS
- Tool less rails for simple installation

Virtualization and Provisioning

- CloudVision
- VXLAN for next generation DC
- LANZ for microburst detection
- DANZ Advanced Mirroring & TAP Aggregation for improved visibility
- VM Tracer
- Zero Touch Provisioning (ZTP)
- Advanced Event Monitoring
- Accelerated sFlow (RFC3176)

Cloud Networking Ready

- 768K MAC Addresses
- 768K IPv4 and IPv6 Host Routes
- Over 2.5M IPv4 Routes with 7280R3K
- Algorithmic ACLs for 100K rules

Resilient Control Plane

- High Performance x86 CPU
- Up to 32GB DRAM
- 8GB Flash
- User applications can run in a VM

Arista Extensible Operating System

- Single binary image
- 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++ , GO, OpenConfig

Overview

The Arista 7280R3 Series of fixed systems, including the 7280R3 and the 7280R3K, are key components of the Arista 7000 Series portfolio of data center switches. The Arista 7280R3 Series are purpose built 100G and 400G systems built for the highest performance environments, and to meet the needs of the largest scale data centers and service providers They deliver scalable L2 and L3 resources and high density with advanced features for network monitoring, precision timing and network virtualization to deliver scalable and deterministic network performance while simplifying designs and reducing Opex. The 7280R3 capabilities address the requirements for modern networking and rich multi-media content delivery requiring a lossless forwarding solution in a compact and energy efficient form factor.

The 7280R3 can be deployed in a wide range of open networking solutions including large scale layer 2 and layer 3 cloud designs, overlay networks, virtualized or traditional enterprise data center networks. Deep packet buffers and large routing tables allow for internet peering, interconnect and Inter-DC networking. The broad range of interfaces and density choice provides deployment flexibility.

The 7280R3 Series are available in a range of models with a choice of 400G and 100G systems that offer up to 24 ports of wire speed 400 in a 1RU system.

7280R3 support for 100G QSFP incorporates a flexible choice of interface speed including 25G and 50G providing unparalleled flexibility and the ability to seamlessly transition data centers to the next generation of Ethernet performance. The 7280R3 Series provide industry leading power efficiency with airflow choices for back to front, or front to back. An optional built-in SSD supports advanced logging, data captures and other services directly on the switch. Combined with Arista EOS the 7280R3 Series delivers advanced features for big data, cloud, virtualized and traditional designs.

Arista 7280R3 Series

Arista EOS

All Arista products including the 7280R3 Series runs the same Arista EOS software, binary image simplifying network administration with a single standard across all switches. 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 together with stateful switchover without the loss of data plane forwarding.

Arista EOS enables advanced monitoring and automation capabilities such as Zero Touch Provisioning, LANZ, VM Tracer and Linux based tools to be run natively on the switch.

Software Defined Cloud Networks

Arista Software Defined Cloud Networking (SDCN), combines the principles that have made cloud computing the unstoppable force that it is: automation, self service provisioning, and linear scaling of both performance and economics coupled with the trend in Software Defined Networking that delivers: network virtualization, custom programmability, simplified architectures, and lower capital expenditure. This combination creates a best-in-class software foundation for maximizing the value of the network to both the enterprise and service provider data center. A new architecture for the most mission-critical location within the IT infrastructure that simplifies management and provisioning, speeds up service delivery, lowers costs and creates opportunities for competitive differentiation, while putting control and visibility back in the hands of the network and systems administrators.

The Four Pillars of Arista's Software Defined Cloud Networking:

Universal Cloud Network
- Scalable standards-based MLAG at Layer 2, ECMP for Layer 3 and VXLAN for network virtualization flexibility
- Non blocking leaf-spine for 10K-500K hosts

Cloud Control
- Standards based EOS with AEM, ZTP/ZTR, LANZ and DANZ
- Automated Monitoring for visibility and telemetry

Network Wide Virtualization
- Multi-vendor API Support with eAPI
- Support for VMWare and NSX with VXLAN and VMTracer
- Support for Openstack OVSDB

Network Applications and Automated Management
- Single point of network-wide state with Arista CloudVision
- Networked applications for workload mobility, smart systems rollback and upgrades and workflow telemetry
- Open Partner integration

Scaling Data Center Performance

The Arista 7280R3 Series deliver non-blocking switching capacity that enables dramatically faster and simpler network designs for data centers and lower both capital and operational expenses. A wide range of modular systems with a single consistent EOS allows for flexible selections at all tiers of the network and deployment scenarios including layer 2 MLAG, layer 3 ECMP, VXLAN Overlay and Internet Peering.

Arista's **Multi-Chassis Link Aggregation** (MLAG) technology supports a leaf and spine active/active L2 network topology. An **Equal Cost Multi-Path (ECMP)** design at Layer 3 scales the network in a fully non-blocking, low-latency, two-stage network that provides predictable and consistent application performance. The flexibility of the L2 and L3 multi-path design options combined with support for open standards provides maximum flexibility, scalability and network wide virtualization that scales to hundreds of thousands of hosts in a single two-tier design. Both designs support overlay networks via VXLAN and can integrate with standards-based overlay controller solutions.

The Arista 7280R3 Series **FlexRoute** engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing. Arista FlexRoute along with EOS NetDB enables innovation not natively available in merchant chipsets. Arista EOS provides operational savings through visibility, automation and improved network operations.

Routing Table Scale

Network scalability is directly impacted by the size of a systems forwarding tables. In many systems a 'one size fits all' approach is adopted using discrete fixed size tables for each of the common types of forwarding entry. The Arista 7280R3 Series leverage a database for forwarding resources which can be allocated for MAC, Routing, Host and ARP tables with a choice of forwarding profiles that optimizes these tables. The flexibility coupled with the range of system forwarding profiles ensures optimal resource allocation for a wide range of network topologies and use cases including Internet Peering, virtualization, Carrier Edge and Security as well as datacenter spine and leaf.

Enhanced Features for High Performance Cloud Networks

The Arista 7280R3 delivers a suite of advanced traffic control and monitoring features to improve the agility of modern high performance environments, with solutions for automation, data monitoring, precise timing and next-generation virtualization.

Automating the data center enables customers to dynamically provision computing resources in the most efficient manner while also meeting business needs by maintaining service level agreements (SLAs). Arista EOS automates complex IT workflows and simplifies network operations while reducing or even eliminating downtime. Arista EOS rich automation capabilities not only reduce the human error element in network operations but also enable IT operators to make the network work the way they want.

Arista offers solutions for a variety of approaches to cloud-like network automation. Addressing the needs of the largest public cloud environments as well as applying those lessons learned in the turnkey CloudVision automation offering.

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.

Advanced Event Management (AEM)

Advanced Event Management (AEM), a sub-system of Arista EOS, is a powerful and flexible tool to automate tasks and customize the behavior of EOS and the operation of the overall data center switching infrastructure. Simplifying the overall operations, AEM provides the tools to customize alerts and actions. AEM allows operators to fully utilize the intelligence within EOS to respond to real-time events, automate routine tasks, and automate actions based on changing network conditions.

Precise Data Analysis

Arista Latency Analyzer (LANZ) and Precision Data Analyzer (DANZ) are integrated features of EOS. DANZ provides a solution to monitoring and visibility challenges at 100Gbps and 400Gbps giving IT operations the ability to proactively deliver feedback on congestion events, filter, replicate, aggregate and capture traffic without affecting production performance. 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.

Precision Timing (IEEE 1588)

Arista's hardware derived Precision Time Protocol solution provides a robust mechanism for accurate in-band time distribution in high performance environments. The system clock can be synchronized using IEEE 1588 PTP.

Virtualization

Supporting next-generation virtualized data centers requires tight integration with orchestration tools and emerging encapsulation technologies such as VXLAN. The 7280R3 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, the 7280R3 makes integration of non-VXLAN aware devices including servers, firewalls and load-balancers seamless and provides the ability to leverage VXLAN as a standards based L2 extension technology for non-MPLS environments.

7280R3 Deterministic Network Performance

The Arista 7280R3 Series uses a deep buffer virtual output queue (VOQ) architecture that eliminates head-of-line (HOL) blocking and virtually eliminates packet drops even in the most congested network scenarios. An advanced traffic scheduler fairly allocates bandwidth between all virtual output queues while accurately following queue disciplines including weighted fair queueing, fixed priority, or hybrid schemes. As a result, the Arista 7280R3 can handle the most demanding data center requirements with ease, including mixed traffic loads of real-time, multicast, and storage traffic while still delivering low latency.

Algorithmic ACLs

Algorithmic ACLs combine both software and hardware to enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry. Combining general purpose memory with advanced software algorithms delivers higher scale, performance and efficiency with lower power and is more cost effective than traditional solutions. Algorithmic ACLs leverage efficient packet matching algorithms that in turn enables flow matching for access control, policy and visibility. The net benefits are a high performance policy engine with both increased functionality and scale in a cost and power efficient solution. Algorithmic ACLs are available on the 7280R3 and 7280R3K Series of products.
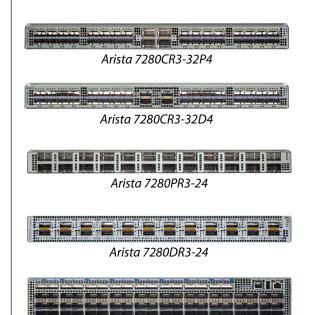
- Enables IPv4 and IPv6 access control at the same scale
- L4 rule ranges are programmed efficiently without expansion or reduced capacity
- Multiple actions can be performed on a single packet or flow
- User defined filters allow flexible packet classification based on offsets for custom actions
- Supports rich policy with consistent semantics that would exhaust classical resources

Inband Network Telemetry

Inband network telemetry, or INT, is a standards approach to providing deep visibility into traffic in real-time, with no impact on switch performance. INT provides per-flow monitoring of traffic drops, latency, congestion and the network path. INT information can be exported in IPFIX or sFlow formats to a management system or collector such as Arista CloudVision, for predictive analytics and deep forensics to measure latency per device and across the network, trace packets and reconstruct path topology as well as detecting hot-spots. Inband Network Telemetry is available on the 7280R3 and 7280R3K Series of products, with the ability to originate, pass and terminate, along with mirroring to external collectors.

7280R3 Accelerated sFlow

SFlow is a powerful tool used commonly by network operators for advanced network telemetry, capacity planning, security analysis and quality of experience monitoring. Traditional sFlow utilizes a system CPU for processing samples of hundreds of thousands of flows. In modern high performance systems guaranteed high rate sampling requires the capability to both sample and process packet rates of billions of packets per second. With the 7280R3 Series Accelerated sFlow feature the sampling and processing of flow samples into sFlow datagrams is handled via integrated sFlow engines capable of supporting 1:500 sampling rates of full wire speed systems or higher rates with selective sampling based on triggers and filters. All sFlow v5 information is included in the sFlow records ensuring consistent integration with existing standard sFlow collection and analysis tools and no loss of information.

Arista 7280CR3-32P4

7280CR3-32P4 and 7280CR3K-32P4: 32 port 100G and 4 port 400G
- Flexible system with 32 ports of 100G QSFP and 4 ports of 400G OSFP
- 4.8Tbps of wire speed performance with 8GB of buffer

Arista 7280CR3-32D4

7280CR3-32D4 and 7280CR3K-32D4: 32 port 100G and 4 port 400G
- Flexible system with 32 ports of 100G QSFP and 4 ports of 400G QSFP-DD
- 4.8Tbps of wire speed performance with 8GB of buffer

Arista 7280PR3-24

7280PR3-24 and 7280PR3K-24: 24 port 400G OSFP or QSFP-DD
- Full 24 ports of 400G with flexible combinations of 4x100G for up to 96 x 100G
- 9.6Tbps of wire speed performance with 16GB of buffer

Arista 7280DR3-24

7280DR3-24 and 7280DR3K-24: 24 port 400G QSFP-DD
- Full 24 ports of 400G with flexible combinations of 4x100G for up to 96 x 100G
- 9.6Tbps of wire speed performance with 16GB of buffer

Arista 7280CR3-96

7280CR3-96 and 7280CR3K-96: 96 port QSFP100
- High density 2RU system with 96 ports of 100G QSFP
- Allows up to 192 ports of 50G with breakout optics and cables
- 9.6Tbps of wire speed performance with 16GB of buffer

FlexRoute™

The Arista FlexRoute Engine provides support for the full internet routing table, in hardware, with IP forwarding at Layer 3 and with sufficient headroom for future growth in both IPv4 and IPv6 route scale to more than 1.3 million routes. The innovative FlexRoute Engine with its patented algorithmic approach to building layer 3 forwarding tables on Arista R-Series Universal Spine and Leaf platforms is unique to Arista and a key enabler in calling these platforms routers. The large scale 7280R3K Series expand FlexRoute support to over 2.5M IPv4 and IPv6 routes.
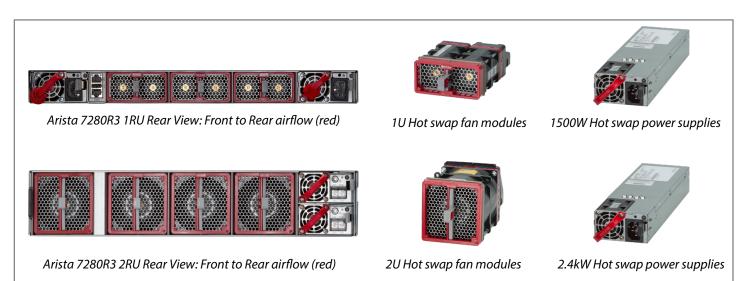
Maximum Network Design Flexibility

- Scalable designs with up to a 256-way ECMP provides flexibility and balances traffic evenly across the largest leaf-spine designs
- MLAG designs are effective at almost any layer of the network and maximize cross-sectional bandwidth with fast failover times measured in 100's of milliseconds for link failures.
- VXLAN gateway, bridging and routing with VMTracer features to enable next generation data center designs
- Scaleable routing tables to support internet route peering
- Wide choice of dense 100G and 400G interfaces with broad support for flexible 25G or 50G modes.
- Support for standards based IEEE 25GbE with mix and match support for simple and cost effective migration
- Virtual output queue (VoQ) architecture and deep packet buffering to eliminate head of line blocking with low latency
- ACL scalability with up to 100K entries per forwarding engine allows for rich policy control
- Flexible allocation of L2 and L3 forwarding table resources for more design choice
- PTP, Accelerated sFlow, DANZ and multi-port mirroring tools provide network wide visibility and monitoring to detect traffic bursts, monitor latency and congestion and allow capacity planning to improve application performance and availability

7280R3 High Availability

The Arista 7280R3 switches were designed for continuous operations with system wide monitoring of both hardware and software components, simple serviceability and provisioning to prevent single points of failure. Key high availability features include:

- 1+1 hot-swappable power supplies and hot-swap fans provide dynamic temperature control combined with N+1 redundancy
- Color coded PSU's and fans that deliver platinum level power efficiency
- Live software patching
- Self healing software with Stateful Fault Repair (SFR)
- Smart System Upgrade (SSU) and Accelerated Software Update (ASU)

Arista 7280R3 1RU Rear View: Front to Rear airflow (red) *1U Hot swap fan modules* *1500W Hot swap power supplies*

Arista 7280R3 2RU Rear View: Front to Rear airflow (red) *2U Hot swap fan modules* *2.4kW Hot swap power supplies*

Layer 2 Features

- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- Rapid Per Vlan Spanning Tree (RPVST+)
- 4096 VLANs
- Q-in-Q *
- 802.3ad Link Aggregation/LACP
    - 256 Ports / Channel
    - 1152 groups per system (subject to system density)
- MLAG (Multi-Chassis Link Aggregation) *
    - Uses IEEE 802.3ad LACP
    - 128 ports per MLAG
- 802.1Q VLANs/Trunking
- 802.1AB Link Layer Discovery Protocol
- 802.3x Flow Control *
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control *

Layer 3 Features

- Static Routes
- Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and RIPv2
- 256-way Equal Cost Multipath Routing (ECMP)
- VRF
- Bi-Directional Forwarding Detection (BFD)
- Unicast Reverse Path Forwarding (uRPF)
- VRRP
- Virtual ARP (VARP)
- Policy Based Routing (PBR)
- Route Maps

Multicast

- IGMP v2/v3
- Protocol Independent Multicast (PIM-SM / PIM-SSM)
- PIM-BiDir *
- Anycast RP (RFC 4610)
- Multicast Source Discovery Protocol (MSDP)

Advanced Monitoring and Provisioning

- Latency Analyzer and Microburst Detection (LANZ)
    - Configurable Congestion Notification (CLI, Syslog) *
    - Streaming Events (GPB Encoded) *
- Zero Touch Provisioning (ZTP)
- Advanced Mirroring
    - Port Mirroring (16 sessions)
    - Enhanced Remote Port Mirroring
    - SPAN/TAP M:N Aggregation
    - L2/3/4 Filtering
- Advanced Event Management suite (AEM)
    - CLI Scheduler
    - Event Manager
    - Event Monitor
    - Linux tools
- Integrated packet capture/analysis with TCPDump
- Restore and Configure from USB
- RFC 3176 sFlow

- Optional SSD for logging and data capture
- IEEE 1588 PTP

Virtualization Support

- VXLAN Bridging and Routing (VRF, MLAG)
- VM Tracer VMware Integration

Security Features

- Control Plane Protection (CPP)
- Ingress / Egress ACLs using L2, L3, L4 fields
- Ingress / Egress ACL Logging and Counters
- MAC ACLs
- ACL Deny Logging
- ACL Counters
- Atomic ACL Hitless restart
- DHCP Relay / Snooping
- MAC Security *
- TACACS+
- RADIUS
- ARP trapping and rate limiting

Quality of Service (QoS) Features

- Up to 8 queues per port
- Strict priority queueing
- 802.1p based classification
- DSCP based classification and remarking
- Egress shaping / Weighted round robin (WRR)
- Policing / Shaping
- Explicit Congestion Notification (ECN) marking
- 802.1Qbb Per-Priority Flow Control (PFC)
- 802.1Qaz Enhanced Transmission Selection (ETS) *
- Data Center Bridging Extensions (DCBX) *

Network Management

- CloudVision
- Configuration rollback and commit
- 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
- Beacon LED for system identification
- System Logging
- Environment monitoring

* Not currently supported in EOS

Extensibility

- Linux Tools
    - Bash shell access and scripting
    - RPM support
    - Custom kernel modules
- Software Defined Networking (SDN)
    - eAPI
    - OpenStack Neutron Support
- Programmatic access to system state
    - Python
    - Chef
    - Puppet
    - C++
    - eAPI
    - GO
    - OpenConfig
    - OpenStack Neutron Plug-in support
- Native KVM/QEMU support

System Scalability

- 9216 Byte Jumbo Frame Support
- 8 Priority Queues per Port
- 1152 Link Aggregation Groups (LAG)
- 32 Ports per LAG
- Virtual Output Queueing
- Distributed Scheduler
- WFQ, CIR*, ETS*, Fixed Priority

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
- 802.3x Flow Control
- 802.3ab 1000BASE-T
- 802.3z Gigabit Ethernet
- 802.3ae 10 Gigabit Ethernet
- 802.3by 25 Gigabit Ethernet
- 802.3ba 40 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 2461 Neighbor Discovery for IP Version 6 (IPv6)

- RFC 2462 IPv6 Stateless Address Autoconfiguration
- RFC 2463 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification
- IEEE 1588-2008 Precision Time Protocol

SNMP MIBs

- 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
- 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 VRRPv2MIB
- 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

---

* Not currently supported in EOS

1. Maximum values dependent on shared resources in some cases

Model Comparison	7280PR3-24	7280PR3K-24	7280DR3-24	7280DR3K-24
Ports	24 x OSFP	24 x OSFP	24 x QSFP-DD	24 x QSFP-DD
Max 400G Ports	24	24	24	24
Max 100G Ports	96	96	96	96
Max 50G Ports	192	192	192	192
Max 40G Ports	24	24	24	24
Max 25/10G Ports	192	192	192	192
Throughput	9.6Tbps	9.6Tbps	9.6Tbps	9.6Tbps
Packets/Second	4 Bpps	4 Bpps	4 Bpps	4 Bpps
Latency	From 3.8us	From 3.8us	3.8us	3.8us
CPU	Quad-Core x86	Quad-Core x86	Quad-Core x86	Quad-Core x86
System Memory	8 GB (64GB optional)	64 Gigabytes	8 GB (64GB optional)	64 Gigabytes
Packet Buffer Memory	16GB	16GB	16GB	16GB
USB Ports	1			
Flash Storage Memory	8 GB			
SSD Storage	120GB with 64GB System	120GB	120GB with 64GB System	120GB
100/1000 Mgmt Ports	1			
RS-232 Serial Ports	1 (RJ-45)			
Hot-swap Power Supplies	2 (1+1 redundant)			
Hot-swappable Fans	3 (N+1 redundant)		3 (N+1 redundant)	
Airflow Direction	Front to rear			
Rack Units	1U		1U	
Size (WxHxD)	17.3 x 1.72 x 22.6 in (43.99 x 4.37 x 57.4 cm)		17.3 x 1.72 x 22.6 in (43.99 x 4.37 x 57.4 cm)	
Typical/Max Power Draw [1]	650W / 1100W		650W / 1100W	
Weight	28 lbs (12.7kg)		28 lbs (12.7kg)	
Fan Tray	FAN-7011H		FAN-7011H	
Power Supplies	PWR-1511 AC or PWR-2411 DC		PWR-1511 AC or PWR-2411 DC	
Accelerated sFlow	Yes			
EOS Feature Licenses	Group 4			
Minimum EOS	4.22.2		4.23.1	

1. Typical power consumption measured at 25C ambient with 50% load on all ports

Model Comparison	7280CR3-32P4	7280CR3K-32P4	7280CR3-32D4	7280CR3K-32D4
Ports	32 x QSFP100, 4 x OSFP	32 x QSFP100, 4 x OSFP	32 x QSFP100, 4 x QSFP-DD	32 x QSFP100, 4 x QSFP-DD
Max 400G Ports	4	4	4	4
Max 100G Ports	48	48	48	48
Max 50G Ports	96	96	96	96
Max 40G Ports	36	36	36	36
Max 25/10G Ports	96	96	96	96
Throughput	4.8Tbps	4.8Tbps	4.8Tbps	4.8Tbps
Packets/Second	2 Bpps	2 Bpps	2 Bpps	2 Bpps
Latency	From 3.8us	From 3.8us	From 3.8us	From 3.8us
CPU	Multi-core x86	Multi-core x86	Multi-core x86	Multi-core x86
System Memory	8 GB (64GB optional)	64 Gigabytes	8 GB (64GB optional)	64 Gigabytes
Packet Buffer Memory	8GB	8GB	8GB	8GB
USB Ports	1			
Flash Storage Memory	8 GB			
SSD Storage	120GB with 64GB System	120GB	120GB with 64GB System	120GB
100/1000 Mgmt Ports	1			
RS-232 Serial Ports	1 (RJ-45)			
Hot-swap Power Supplies	2 (1+1 redundant)			
Hot-swappable Fans	3 (N+1 redundant)			
Airflow Direction	Front to rear and Rear to Front		Front to rear and Rear to Front	
Rack Units	1U			
Size (WxHxD)	17.3 x 1.72 x 22.0 in (43.99 x 4.37 x 55.83 cm)		17.3 x 1.72 x 22.0 in (43.99 x 4.37 x 55.83 cm)	
Typical/Max Power Draw [1]	535W / 851W	535W / 851W	535W / 851W	535W / 851W
Weight	27 lbs (12.27kg)		27 lbs (12.27kg)	
Fan Tray	FAN-7011H			
Power Supplies	PWR-1011 (AC or DC)		PWR-1011 (AC or DC)	
Accelerated sFlow	Yes			
EOS Feature Licenses	Group 3		Group 3	
Minimum EOS	4.22.1		4.22.2	

1. Typical power consumption measured at 25C ambient with 50% load on all ports

Model Comparison	7280CR3-96	7280CR3K-96
Ports	96 x QSFP100	96 x QSFP100
Max 400G Ports	—	—
Max 100G Ports	96	96
Max 50G Ports	192	192
Max 40G Ports	96	96
Max 25/10G Ports	192	192
Throughput	9.6Tbps	9.6Tbps
Packets/Second	4 Bpps	4 Bpps
Latency	3.8us	3.8us
CPU	Quad-Core x86	Quad-Core x86
System Memory	64 Gigabytes	64 Gigabytes
Packet Buffer Memory	16GB	16GB
USB Ports	1	
Flash Storage Memory	8 GB	
SSD Storage	120GB	120GB
100/1000 Mgmt Ports	1	
RS-232 Serial Ports	1 (RJ-45)	
Hot-swap Power Supplies	2 (1+1 redundant)	
Hot-swappable Fans	4 (N+1 redundant)	
Airflow Direction	Front to rear	
Rack Units	2U	
Size (WxHxD)	17.3 x 3.46 x 29.96 in (43.99 x 8.79 x 76.1cm)	
Typical/Max Power Draw [1]	1003W / 1803W	1003W / 1803W
Weight	52 lbs (23.6kg)	
Fan Tray	FAN-7012H	
Power Supplies	PWR-2411 (AC or DC)	
Accelerated sFlow	Yes	
EOS Feature Licenses	Group 4	
Minimum EOS	4.24.0	

1. Typical power consumption measured at 25C ambient with 50% load on all ports

Resources [1]

Profile	7280R3 Series Balanced	7280R3 Series L3	7280R3K Series Balanced	7280R3K Series L3	7280R3K Series L2
MAC Addresses	448K	128K	736K	160K	1.4M
IPv4 Host Routes	896K	256K	1.4M	320K	2.8M
IPv6 Unicast Host Routes	224K	64K	368K	80K	736K
IPv4 Unicast LPM Routes	704K	1.3M	1.2M	2.5M	128K
IPv6 Unicast LPM Routes	235K	440K	411K	821K	42K
Multicast Routes	448K	128K	736K	160K	1.4M
ACL Entries	24K	24K	24K	24K	24K

1. Maximum values dependent on shared resources in some cases

Power Supply Specifications

Power Supply	PWR-1011AC	PWR-1011-DC	PWR-1511-AC	PWR-1511-DC	PWR-2411-AC	PWR-2411-DC
Input Voltage	100-240V AC	40-72V DC	200-240V AC	40-72V DC	200-240V AC	40-72V DC
Typical Input Current	6.3 - 2.3A	13.1 - 7.3A 11A at -48V	9.6A	10 - 4A	14A	38 - 60A 50A at -48V
Input Frequency	50/60Hz	DC	50/60Hz	DC	50/60Hz	DC
Output Power	1000W	1000W	1500W	1500W	2400W	2400W
Input Connector	IEC 320-C13	AWG #16-#12	IEC 320-C13	AWG #6-#3	IEC 60320 C20	AWG #6-2
Efficiency	93% Platinum	90%	93% Platinum	90%	93% Platinum	90%

Standards Compliance

EMC	Emissions: FCC, EN55022, EN61000-3-2, EN61000-3-3 or EN61000-3-11, EN61000-3-12 (as applicable) Immunity: EN55024 Emissions and Immunity: EN300 386
Safety	UL/CSA 60950-1, EN 60950-1, IEC 60950-1 CB Scheme with all country differences
Certifications	North America (NRTL) European Union (EU) BSMI (Taiwan) C-Tick (Australia) CCC (PRC) MSIP (Korea) EAC (Customs Union) VCCI (Japan)
European Union Directives	2006/95/EC Low Voltage Directive 2004/108/EC EMC Directive 2011/65/EU RoHS Directive 2012/19/EU WEEE Directive

Environmental Characteristics

Operating Temperature	0 to 40˚C (32 to 104˚F)
Operating Temperature 7280DR3-24	0 to 35˚C (32 to 95˚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)

Supported Optics and Cables *

Interface Type	40G QSFP ports
10GBASE-CR	0.5m-5m QSFP+ to 4x SFP+
40GBASE-CR4	QSFP+ to QSFP+: 0.5m-5m
40GBASE-AOC	3m to 100m
40GBASE-UNIV	150m (OM3) / 150m (OM4), 500m (SM)
40GBASE-SRBD	100m (OM3) /150m (OM4)
40GBASE-SR4	100m (OM3) / 150m (OM4)
40GBASE-XSR4	300m (OM3) / 400m (OM4)
40GBASE-PLRL4	1km (1km 4x10G LR/LRL)
40GBASE-PLR4	10km (10km 4x10G LR/LRL)
40GBASE-LRL4	1km
40GBASE-LR4	10km
40GBASE-ER4	40km

100GbE	100G QSFP ports
100GBASE-SR4	70m OM3 / 100m OM4 Parallel MMF
100GBASE-XSR4	170m OM3 / 300m OM4 Parallel MMF
100GBASE-SWDM4	70m OM3 / 100m OM4 duplex MMF
100GBASE-SRBD	70m OM3 / 100m OM4 Duplex MMF
100GBASE-LR4	10km SM Duplex
100GBASE-LRL4	2km SM Duplex
100GBASE-CWDM4	2km SM duplex
100GBASE-PSM4	500m SM Parallel
100GBASE-AOC	1m to 30m
100GBASE-ERL4	40km SM Duplex
100GBASE-CR4	QSFP to QSFP: 1m to 5m
50GBASE-CR2	QSFP to 2xQSFP: 1m to 5m lengths
25GBASE-CR	QSFP to 4xSFP25: 1m to 3m lengths

Supported Optics and Cables *

Interface Type	400G 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
200GBASE-CR4	OSFP to 2xQSFP: 1m to 3m
100GBASE-CR2	OSFP to 4xQSFP: 1m to 3m lengths
100GBASE-CR4 **	OSFP to 2xQSFP: 1m to 3m lengths
50GBASE-CR2 **	OSFP to 4xQSFP: 1m to 3m lengths
25GBASE-CR **	OSFP to 8xSFP: 1m to 3m lengths

Interface Type	400G 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
200GBASE-CR4	QSFP-DD to 2xQSFP: 1m to 2.5m
100GBASE-CR2	QSFP-DD to 4xQSFP: 1m to 3m lengths
100GBASE-CR4 **	QSFP-DD to 2xQSFP: 1m to 3m lengths
50GBASE-CR2 **	QSFP-DD to 4xQSFP: 1m to 3m lengths
25GBASE-CR **	QSFP-DD to 8xSFP: 1m to 3m lengths

** Requires OSFP / QSFP-DD port to be configured for 200G, 8 x 25G NRZ lanes. Allows interop with 100G QSFP and 25G SFP ports

* Check EOS release notes for support

Product Number	Product Description
DCS-7280PR3-24-F	Arista 7280R3, 24x400GbE OSFP switch router, front to rear air, 2 x AC
DCS-7280PR3-24#	Arista 7280R3, 24x400GbE OSFP switch router, configurable fans and psu
DCS-7280PR3-24-M#	Arista 7280R3, 24x400GbE OSFP switch router, expn mem, configurable fans and psu
DCS-7280PR3K-24-F	Arista 7280R3, 24x400GbE OSFP switch router, large route, front to rear air, 2 x AC
DCS-7280PR3K-24#	Arista 7280R3, 24x400GbE OSFP switch router, large route, configurable fans and psu
DCS-7280DR3-24-F	Arista 7280R3, 24x400GbE QSFP-DD switch router, front to rear air, 2 x AC
DCS-7280DR3-24#	Arista 7280R3, 24x400GbE QSFP-DD switch router, configurable fans and psu
DCS-7280DR3-24-M#	Arista 7280R3, 24x400GbE QSFP-DD switch router, expn mem, configurable fans and psu
DCS-7280DR3K-24-F	Arista 7280R3, 24x400GbE QSFP-DD switch router, front to rear air, 2 x AC
DCS-7280DR3K-24#	Arista 7280R3, 24x400GbE QSFP-DD switch router, large route, front to rear air, 2 x AC
DCS-7280CR3-32P4-F	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, front to rear air, 2 x AC
DCS-7280CR3-32P4-R	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, rear to front air, 2 x AC
DCS-7280CR3-32P4#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, configurable fans and psu
DCS-7280CR3-32P4-M#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, expn mem, configurable fans and psu
DCS-7280CR3K-32P4-F	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, large route, front to rear air, 2 x AC
DCS-7280CR3K-32P4-R	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, large route, rear to front air, 2 x AC
DCS-7280CR3K-32P4#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE OSFP switch router, large route, configurable fans and psu
DCS-7280CR3-32D4-F	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, front to rear air, 2 x AC
DCS-7280CR3-32D4-R	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, rear to front air, 2 x AC
DCS-7280CR3-32D4#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, configurable fans and psu
DCS-7280CR3-32D4-M#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, expn mem, configurable fans and psu
DCS-7280CR3K-32D4-F	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, large route, front to rear air, 2 x AC
DCS-7280CR3K-32D4-R	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, large route, rear to front air, 2 x AC
DCS-7280CR3K-32D4#	Arista 7280R3, 32x100GbE QSFP and 4x400GbE QSFP-DD switch router, large route, configurable fans and psu
DCS-7280CR3-96-F	Arista 7280R3, 96x100GbE QSFP switch router, front to rear air, 2 x AC
DCS-7280CR3-96#	Arista 7280R3, 96x100GbE QSFP switch router, configurable fans and psu
DCS-7280CR3K-96-F	Arista 7280R3, 96x100GbE QSFP switch router, large routes, front to rear air, 2 x AC
DCS-7280CR3K-96#	Arista 7280R3, 96x100GbE QSFP switch router, large routes, configurable fans and psu

Note:
- Arista 7280R3 models including the 2400W PSU ship with two C19-C20 power cables (2m). Other power cables must be ordered separately
- Front-to-rear means the air flows from the switch port side to the fan side. Rear to front means the air flows from the fan side to the switch port side.

Optional Components and Spares

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)
LIC-FIX-3-FLX	FLX License for Arista Fixed Group 3 - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
LIC-FIX-4-E	Enhanced L3 License for Arista Group 4 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
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-Z	Monitoring & Automation license for Arista Group 4 Fixed switches (ZTP, LANZ, TapAgg, API, Time-stamping, OpenFlow)
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-FLX	FLX License for Arista Fixed Group 4 - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
PWR-1011-AC-RED	Arista PSU, 1RU, AC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-AC-BLUE	Arista PSU, 1RU, AC/DC, 1000W, REVERSE, 73.5MM
PWR-1011-DC-RED	Arista PSU, 1RU, DC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-DC-BLUE	Arista PSU, 1RU, DC/DC, 1000W, REVERSE, 73.5MM
PWR-1511-AC-RED	Arista PSU, 1RU, AC/DC, 1500W, FORWARD, 73.5MM
PWR-1511-DC-RED	Arista PSU, 1RU, DC/DC, 1500W, FORWARD, 73.5MM
PWR-2411-AC-RED	Arista PSU, 1RU, AC/DC, 2400W, FORWARD, 73.5MM
PWR-2411-DC-RED	Arista PSU, 1RU, DC/DC, 2400W, FORWARD, 73.5MM
FAN-7011H-F	Spare fan module for Arista 7000 Series 1RU High Speed Fan (front-to-rear airflow)
FAN-7011H-R	Spare fan module for Arista 7000 Series 1RU High Speed Fan (rear-to-front airflow)
FAN-7012H-RED	Spare fan module for Arista 7000 Series 2RU High Speed Fan (front-to-rear airflow)
KIT-7001	Spare accessory kit for Arista 1RU tool-less switches
KIT-2POST-1U-NT	Spare 1RU 2 post rail kit for 1RU tool less systems (7050QX-32S, 7050SX/TX and 7280R)
KIT-2POST	Spare 2RU 2 post rack mount installation kit for Arista 7250 / 7050, 7260X and 7280R switches
KIT-4POST-NT	Spare 1RU/2RU tool-less rail kits for 4-post installation (7050QX-32S, 7050SX/TX, 7280R and 7250X)
KIT-7003	Spare accessory kit for Arista 7280R 2RU switches
KIT-GND-WIRE	Arista Ground Wire Kit, STRAIGHT LUG, 6AWG, 8IN LENGTH with Screws

Headquarters

5453 Great America Parkway
Santa Clara, California 95054
408-547-5500

Support

support@arista.com
408-547-5502
866-476-0000

Sales

sales@arista.com
408-547-5501
866-497-0000

www.arista.com

ARISTA