

## Product Highlights

### System Scale and Performance

- 460 Terabits per second fabric capacity
- Up to 96 Billion packets per second
- Up to 14.4 Terabit per second per slot
- Up to 576 wire-speed 400G ports
- 100G, 200G and 400G modes, 800G Ready
- Deep packet buffer
  - Up to 24 GB /line card
- Virtual Output Queues per port to eliminate head of line blocking
- Under 4 microsecond latency (64 bytes)
- 400G ZR and ZR+ Support
- MACsec, IPsec and VXLANsec encryption
- Front-to-rear airflow for optimized cooling
- 16W per 100G and 25W per 400G port typical power

### High Hardware Availability

- Dual-input grid redundant power supplies
- Configurable PSU redundancy up to N+N
- 1+1 Supervisor redundancy
- Fabric module redundancy
- N+1 Fan module redundancy

### Cloud Grade Routing

- Secure Internet Peering
- Carrier Edge VPN Services
- Next Generation EVPN Services for 5G/ MEC, CIN, & Metro
- Carrier Core transport (LDP, RSVP-TE, SR-TE) and HA with FRR and TI-LFA
- Next Generation timing (IEEE 1588 - PTP)
- Open programmable APIs (JSON-RPC, NETCONF) for provisioning, telemetry, path selection/topology discovery

### Virtualization and Provisioning

- CloudVision
- EVPN for next generation DC
- LANZ for microburst detection
- Zero Touch Provisioning (ZTP)
- Accelerated sFlow (RFC3176)
- IEEE 1588 PTP

### Resilient Control Plane

- Multi-core Hyper-threaded x86 CPU
- 64GB DRAM / 4GB Flash
- Dual Supervisor modules

### Arista Extensible Operating System

- Single binary image
- Stateful Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- Full access to Linux shell and tools
- Extensible platform - bash, python, C++

## Overview

The Arista 7800R3 Series of purpose built modular switches deliver the industry's highest performance scaling to 460 Tbps of system throughput to meet the needs of the largest scale data centers. They combine 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 7800R3 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 and secure data center interconnect applications and provides complete deployment flexibility.

Available in a modular system design, as a choice of 16, 12, 8 and 4 slots, the Arista 7800R3 is the next generation of the 7500 Series and delivers a consistent architecture offering the same deep buffer, non-blocking VOQ capabilities while setting a new standard for performance, density, reliability, and power efficiency. The 7800R3 can support up to 576 ports of wire speed 400G and 768 ports of 100G and offers over 460 Tbps of total capacity with a broad choice of line cards. Standards based OSFP 400G and QSFP 100G interfaces support a choice of speeds including 50G providing unparalleled flexibility and the ability to seamlessly transition data centers to the next generation of Ethernet performance.

All components are hot swappable, with redundant supervisor, power, fabric and cooling modules with front-to-rear airflow. The system is purpose built for data centers and is energy efficient with typical power consumption from 16 Watts per 100G port and from 25W per 400G port for a fully configured chassis. These attributes make the Arista 7800R an ideal platform for building reliable and highly scalable data center networks.



*Arista 7800R Series Modular Data Center Switches*

## Arista EOS

All Arista products including the 7800R3 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 EVPN for network virtualization flexibility
- Non blocking leaf-spine architecture for 50K-2M 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 High Performance Interconnects

The Arista 7800R 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 EVPN/VXLAN and can integrate with standards-based overlay controller solutions.

The Arista 7800R Series FlexRoute technology 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.

## Cloud Grade Routing

The 7800R3 series are key components of Arista's portfolio of Cloud Grade Routing platforms that encompasses a wide choice of fixed and modular systems. Combining Arista EOS's proven and feature rich Service Provider functionality, telemetry and open programmability with industry leading scale, density and power efficiency, the R3 series systems are designed for versatile deployment in a wide variety of open networking environments.

Next generation multi-service environments require flexibility, security and open programmability to leverage the power efficiency and proven scale of cloud networks. The R3 Series routing solutions include large scale layer 2, layer 3 and EVPN based telco and cloud data center designs, low latency MEC overlay fabrics, data center interconnect (DCI) with long haul optics, provider edge networks with scaleable L2 and L3 VPN services, high density 100G/400G traffic engineered MPLS and SR-TE cores, 5G infrastructure and metro-aggregation for the backhaul of E-LINE services.

## Enhanced Features for High Performance Cloud Networks

The Arista 7800R 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.

### 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 100/400Gbps 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, offering both Boundary and Transparent clock modes. The system clock can be synchronized using IEEE 1588 PTP.

### Virtualization

The foundation for Arista's Network Virtualization solutions is VXLAN, an open IETF specification designed to standardize an overlay encapsulation protocol. Arista solutions range from OVSDB and Openstack integration to BGP EVPN in conjunction with EOS CloudVision®, a platform for network-wide workload orchestration and workflow automation.

The 7800R3 builds on the deep buffer wire-speed gateway with EVPN/VXLAN for layer-2 and layer-3 stretch within data center as well as DCI use cases. The 7800R3 is the perfect solution for transit gateway between EVPN domains connected over MPLS.

### Maximum Network Design Flexibility

- Scalable designs with up to a 512-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
- Scalable routing tables to support internet route peering
- Wide choice of dense 100G and 400G line cards with 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, 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

## System Overview

The 7800R3 Series offers architectural consistency to the 7500R and 7280R Series that ensures long term investment protection with support for deterministic fair delivery, flexible scale and open programmability building on evolution of the Arista R-Series delivered by the 7500 and 7280 Series. The following 7800R3 chassis options are available:

- **7816R and 7816LR** are 16-slot 32RU chassis that support up to 16 line cards with both AC or DC power options
- **7812R** a 12-slot 23RU chassis that supports up to 12 line cards with both AC or DC power options
- **7808R** an 8-slot 16 RU chassis that supports up to 8 line cards with both AC or DC power options
- **7804R** a 4-slot 10 RU chassis that supports up to 4 line cards with both AC or DC power options

The 7800R systems can accommodate any combination of the 7800R3 and 7800R3A line cards providing a choice of density, scale and speed, with all options including support for FlexRoute, Accelerated sFlow and Algorithmic ACLs.

The Arista 7800R3 lowers total cost of ownership as it is designed to be efficient with power per port as low as 25W per 100G port which combined with front to rear cooling to optimize the data center environment produces the most reliable, dense and power efficient modular switch.

## 7800R3 Deterministic Network Performance

The Arista 7800R 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 7800R 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.

## 7800R3 Series Chassis - 16-Slot, 12-slot, 8-slot and 4-slot

The 7800R Series chassis each provide room for two supervisor modules, four, eight, twelve or sixteen line card modules, grid redundant power supplies, and six or twelve fabric modules depending on the specific system. Supervisor and line card modules plug in from the front, along with the power supplies while the fabric modules are inserted from the rear. The system uses a mid plane less design for direct connection from line cards to fabric modules with control plane connectivity to each of the fabric and line card modules. The systems are optimized for data center deployments with front-to-rear airflow and internally redundant AC or DC power supplies. 7800 platforms support migration to higher performance and density with no loss of functionality or redundancy.

## Supervisor Module

The supervisor modules for the 7800R3 series run Arista Extensible Operating System (EOS) and handle all control plane and management functions of the system. One supervisor module is needed to run the system and a second can be added for 1+1 redundancy. The multi-core x86 CPU with 64GB of DRAM and an optional SSD provides the control plane performance needed to run an advanced data center switch scaling to hundreds of physical ports and thousands of virtual ports. A pulse per second clock input port enables synchronizing with an external source to improve the accuracy of monitoring tools.

## Fabric Module

At the heart of the 7800R3 series is the fabric. It interconnects all line cards in a non-blocking architecture irrespective of the traffic. Each line card module connects to the fabric with multiple links and data packets are spread across the links to fully utilize the fabric capacity. Unlike hash-based selection of fabric links, the 7800R architecture provides 100% efficient connectivity from any port to any other port with no drops. The fabric modules are always active-active, provide redundancy and can be hot-swapped. The Fabric Modules for each system are based on the size of the chassis and contain individually serviceable fans for flexible and redundant cooling.

## Power Supply Modules

The 7800R3 series switches are equipped with redundant and hot-swappable AC or DC power supplies with an internal variable speed fan. Each power supply integrates 1+1 power redundancy ensuring grid redundancy in a choice of 3000W AC or DC power supplies. The AC supplies are Titanium climate saver rated and have an efficiency of over 94% with single stage conversion to the internal 12V DC voltage. The DC power supplies use -40 to -72V direct current inputs.



## Line Card Modules

Wire-speed line cards deliver up to 6 Billion packets per second of forwarding with a distributed virtual output queue architecture and lossless fabric that eliminates head-of-line blocking and provides fairness across all ports. Line cards contain up to 24GB of packet memory for approximately 50msec of traffic buffer per ingress port and virtually eliminating packet drops in congestion scenarios. Line cards connect to all fabric modules in a non-blocking full mesh.

The Arista 7800R3 systems can be populated with any combination of line cards. For environments requiring the highest performance combined with scalability a wide choice of speed and interface options is available to provide cloud scale density with carrier grade features for flexible deployment in data center, internet edge, peering and backbones with advanced features for routing, telemetry and programmable packet processing.

## 7800R3 and 7800R3K Series Line Cards

The 7800R3 Series line cards provide a choice of 100G and 400G interfaces with support for industry standard optics for both single and multi-mode fiber with the flexibility to enable multi-rate configurations. Line cards support for 100G breakout and 400G ensure future proofing for next generation network architectures. Speed changes and breakout modes are enabled independently of the other ports on the line card for seamless migration and investment protection for both existing and new network designs.

The 7800R3 and 7800R3A Series of line cards build on the capability of the 7280R and 7500R Series with support for FlexRoute, Accelerated sFlow and large scale ACLs. FlexRoute provides scalability to support deployment as a routing platform with Internet scale routing. Algorithmic ACLs provide flexible pattern matching for access control, policy based forwarding and network telemetry. All variations of the 7800R3 and 7800R3A Series line cards interoperate and the large scale 7800R3K and 7800R3AK Series of line cards expand FlexRoute support to over 5M routes. Accelerated sFlow at high density 25G, 100G and 400G provides visibility and programmatic control of traffic steering with no impact on packet forwarding.

## Dense 400G DWDM

Arista's 7800R3A 36 port 400G line cards are optimized to support high power 400ZR OSFP and QSFP-DD optical modules. 400ZR modules are software tunable, DWDM, coherent optical modules, with a reach of up to 120km. When combined with Arista's ZR Line System, up to 8x 400ZR modules can be multiplexed to transport 3.2 Tb/s over a single fiber pair. The combination of 7800R3A 36 port line card, 400G-ZR and the ZR-LS represent a revolutionary plug-and-play approach, completely eliminating external transponders and line systems while reducing cost and complexity - allowing DCI links to be turned up as quickly and easily as inside-the-datacenter links.

## 7800R3 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 7800R 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 on full wire speed systems or even higher rates with selective sampling based on triggers and filters. All sFlow v5 information is included in the sFlow records ensuring integration with standard sFlow collection and analysis tools and no loss of key information.



### 7800R3K-72Y: 72 port 25G and 50G SFP line card

- Up to 72 25G ports per line card and 32 ports of 50G
- Flexible 10G, 25G and 50G with optics or cables
- 2.6 Tbps of forwarding and 1 Bpps with 4GB of buffer



### 7800R3-48CQ series: 48 port 100G line card

- Up to 48 100G ports per line card or 96 50G ports
- 4.8 Tbps of forwarding and 2 Bpps with 8GB of buffer



### 7800R3-36P and 7800R3A-36P series : 36 port 400G OSFP line card

- Up to 36 400G ports per line card or 144 100G ports
- Flexible 10G, 25G, 50G and 100G with optics or cables
- 14.4 Tbps of forwarding, up to 6 Bpps with 24GB of buffer



### 7800R3-36D and 7800R3A-36D series: 36 port 400G QSFP-DD line card

- Up to 36 400G ports per line card or 144 100G ports
- Flexible 10G, 25G, 50G and 100G with optics or cables
- 14.4 Tbps of forwarding, up to 6 Bpps with 24GB of buffer

## 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 7800R3 and 7800R3A Series of line cards.

- 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

## 7800R 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 7800R3 Series of products, with the ability to originate, pass and terminate, along with mirroring to external collectors.

## 7800R High Availability

The Arista 7800R Series are designed for continuous operations with system wide monitoring of both hardware and software components, simple serviceability and provisioning to prevent single points of failure. The hardware supports high-availability with hot-swap of all components with redundant supervisors, power supplies, fabric and cooling modules. Fabric redundancy provides zero loss of performance with deterministic degradation and high performance fan systems provide dynamic temperature control combined with N+1 redundancy. The 7800R Series offer power redundancy that supports both power source and power supply redundancy with each power supply providing two supply connections and being internally redundant. The Arista EOS software supports stateful failover (\*) between the dual redundant supervisors as well as self-healing stateful fault containment (SFC), stateful fault repair (SFR) and live patching through in-service-software updates to help ensure continuous service.

## Routing Table Scale and FlexRoute™

Network scalability is directly impacted by the size of a system's 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 7800R3 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.

Arista's innovative FlexRoute Engine, with its patented algorithmic approach to building layer 3 forwarding tables on Arista R-Series, provides support for the full internet routing table in hardware. Scaling to more than 5 million routes in 7800R3K and R3AK modules, the 7800R3 Series platforms have sufficient headroom for future growth in both IPv4 and IPv6. 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.

## 10-400G Wire-speed Encryption with TunnelSec

7800R3AM and 7800R3AK line cards support Arista's TunnelSec technology, enabling line-rate, industry standard, authenticated strong encryption with using the AES-256-GCM block cipher. TunnelSec devices offer IEEE 802.1AE MAC Security (MACsec), IPsec (RFC 4303) and VXLANsec for flexible encryption of layer 2, layer 3 or overlay networks. While MACsec operates at the link layer, offering point to point encryption, IPsec and VXLANsec enable the construction of encrypted IP tunnels that traverse multiple unencrypted hops between router or VTEP endpoints enabling line-rate strong encryption across third party infrastructure for WAN or DCI deployments.

The flexibility to offer multiple types of encryption enables a broad range of deployments and removes the need for additional encryption devices while providing orders of magnitude improvements in latency and throughput when compared to traditional appliance based implementations. The 7800R3AM and 7800R3AK series support TunnelSec on all interface speeds, from 10G to 400G without a performance penalty. Encryption services are an EOS licensed feature and requires a license file to enable the encryption feature. License information is included in the ordering information section of this document.

## 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
  - 2048 groups per system (subject to system density)
- MLAG (Multi-Chassis Link Aggregation)
  - Uses IEEE 802.3ad LACP
  - 512 ports per MLAG
- 802.1Q VLANs/Trunking
- 802.1AB Link Layer Discovery Protocol
- 802.3x Receive Flow Control
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control
- Loop protection
- Layer 2 sub-interfaces
- Flexible VLAN encapsulation

## Layer 3 Features

- Static Routes
- Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and RIPv2
- BGP FlowSpec, BMP, BGP-RPKI, PIC
- 512-way Equal Cost Multipath Routing (ECMP)
- Unequal Cost Multipath Routing with BGP communities
- VRF, Inter-VRF Route Leaking
- Bi-Directional Forwarding Detection (BFD)
- Micro BFD (RFC 7130)
- Unicast Reverse Path Forwarding (uRPF)
- VXLAN Bridging and Routing
- VRRP / VRRPv3
- Virtual ARP (VARP)
- Policy Based Routing (PBR)
- Route Maps & RCF (Routing Control Functions)
- Layer 3 sub-interfaces
- Route-target pruning, Route-target constraints
- Route Reflector, Optimal Route Reflector

## Multicast

- IGMP v2/v3
- MLD v2
- Protocol Independent Multicast (PIM-SM / PIM-SSM)
- PIM-Bidir \*
- Anycast RP (RFC 4610)
- Multicast Source Discovery Protocol (MSDP)
- Multicast Only FastReroute (MoFRR)

## 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 (14 sessions)
  - Enhanced Remote Port Mirroring
  - SPAN/TAP M:N Aggregation
  - L2/3/4 Filtering
- Post-card Telemetry
- 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
- IPFIX

## Security Features

- Control Plane Protection (CPP)
- Ingress / Egress ACLs using L2, L3, L4 fields
- Ingress / Egress ACL Logging and Counters
- MAC ACLs
- UDF (User Defined Fields)
- ACL Deny Logging
- ACL Counters
- Atomic ACL Hitless restart
- DHCP Relay / Snooping
- MAC Security
- TACACS+
- RADIUS
- ARP trapping and rate limiting
- Scalable traffic policies
- MACsec (IEEE 802.1AE)
- IPsec
- VXLANsec

## Quality of Service (QoS) Features

- Up to 8 queues per port / sub-interface
- Strict priority queueing
- 802.1p based classification
- DSCP based classification and remarking
- Egress shaping / Weighted round robin (WRR)
- WFQ, CIR\*, ETS\*, Fixed Priority
- Policing / Shaping, H-QoS
- Explicit Congestion Notification (ECN) marking
- 802.1Qbb Per-Priority Flow Control (PFC)
- 802.1Qaz Enhanced Transmission Selection (ETS)
- Data Center Bridging Extensions (DCBX)
- Virtual Output Queueing
- Distributed Scheduler

## Precision Timing

- Synchronous Ethernet with ESMC
- IEEE 1588-2008 PTP T-GM, T-BC, T-TSC
- G.8275.1, G.8275.2
- G.8261, G.8264

\* Not currently supported in EOS

## 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
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## MPLS

- LDP, RSVP-TE, FRR, BGP-LU, BGP-LS
- Bandwidth reservation, auto-bandwidth, split-tunneling
- ISIS-SR, OSPF-SR\*, SR-TE, TI-LFA, BGP-SR, BGP-LU for EPE, ISIS FlexAlgo
- Seamless BFD with Round Trip Time
- Class Based Forwarding
- Flow-Aware Transport (RFC 6391), Entropy label (RFC 6790)

## L2/L3 VPN

- IP-VPN (RFC 4364), 6PE, 6vPE, inter-as option A,B&C
- LDP pseudowires (Type-4 & Type-5)
- VPLS with LDP signaling, BGP-AD
- VPLS with BGP signaling\*
- Multicast VPN (NG-MVPN) mLDP with default MDT, data MDT\*
- EVPN-VXLAN (L2 & L3)
- EVPN-MPLS (L2 & L3)
- EVPN VLAN based & VLAN-aware services
- EVPN Multihoming
- EVPN VPWS & VPWS-FXC with MPLS
- EVPN integrated Routing & Bridging (IRB)
- EVPN E-tree with MPLS
- EVPN L2 multicast, L3 OISM with VXLAN
- EVPN-VXLAN to EVPN-MPLS, EVPN-VXLAN to EVPN-VXLAN, EVPN-VXLAN to IP-VPN GWs

## Extensibility

- Linux Tools
  - Bash shell access and scripting
  - RPM support
  - Custom kernel modules
- Software Defined Networking (SDN)
  - OpenStack Neutron Plug-in support
- Programmatic access to system state
  - EOS SDK, Python, C++, GO

- Chef, Puppet
- eAPI (HTTP & HTTPS), NETCONF, RESTCONF, GNMI
- OpenConfig yang models, EOS native models
- Native KVM/QEMU support

## Ethernet OAM

- Ethernet CFM (UP, DOWN MEPs)
- LM (Loss Measurement), SLM (Synthetic Loss Measurement), DM (Delay Measurement)
- RFC2544 (Initiator & reflector)
- TWAMP (Two Way Active Measurement Protocol)
- Link Fault signaling
- EOS connectivity monitor
- MPLS ping & trace route, VCCV 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
- 802.3x 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)
- RFC 2461 Neighbor Discovery for IP Version 6 (IPv6)
- RFC 2462 IPv6 Stateless Address Autoconfiguration
- RFC 2463 Internet Control Message Protocol (ICMPv6)
- IEEE 1588-2008 Precision Time Protocol

## SNMP MIBs

- MIBs available at <https://www.arista.com/en/support/product-documentation/arista-snmp-mibs>

## OpenConfig paths

- Supported paths available at <https://www.arista.com/en/support/toi/path-support>

\* Not currently supported in EOS



Chassis	DCS-7816L	DCS-7816	DCS-7812
Supervisor slots	2	2	2
Linecard Slots	16	16	12
Fabric Module Slots	6	12	6
Power Supply Slots (Max Power Budget)	24 (72 kW)	24 (72 kW)	18 (54 kW)
Physical Dimensions (HxWxD)	55.6 x 17.3 x 37" (141.3 x 44.1 x 94 cm)	55.9 x 17.3 x 40" (142.2 x 44.1 x 101 cm)	39.9 x 17.3 x 37" (101.2 x 44.1 x 94.0 cm)
Rack Units	32	32	23
Weight (Chassis Only)	483 lbs (219 kg)	640 lbs (291 kg)	355 lbs (161 kg)
Weight (Full System)	1523 lbs (691 kg)	1580 lbs (717 kg)	1082 lbs (490 kg)
Maximum 50G Density <sup>1</sup>	4608	4608	3456
Maximum 100G Density <sup>1</sup>	2304	2304	1728
Maximum 400G Density <sup>1</sup>	576	576	432
Maximum Throughput/PPS	460 Tbps / 96 Bpps	460 Tbps / 96 Bpps	345 Tbps / 72 Bpps
Max Power Consumption <sup>2</sup>	37,914 W	39,264 W	27984 W
Typical Airflow <sup>3</sup>	1985 cfm (56.18 m³/min)	1779.6 cfm (50.36 m³/min)	1546.6 cfm (43.77 m³/min)
Max Airflow <sup>3</sup>	4826.1 cfm (136.58 m³/min)	4251 cfm (120.32 m³/min)	3455.4 cfm (97.79 m³/min)

Chassis	DCS-7808	DCS-7804
Supervisor slots	2	2
Linecard Slots	8	4
Fabric Module Slots	6	6
Power Supply Slots (Max Power Budget)	12 (36 kW)	8 (24 kW)
Physical Dimensions (HxWxD)	27.6 x 17.3 x 37.0" (70.2 x 44.1 x 94.0 cm)	17.1 x 17.3 x 37.0" (43.5 x 44.1 x 94.0 cm)
Rack Units	16	10
Weight (Chassis Only)	222 lbs (101 kg)	163 lbs (74 kg)
Weight (Full System)	717 lbs (325 kg)	448 lbs (203 kg)
Maximum 50G Density <sup>1</sup>	2304	1152
Maximum 100G Density <sup>1</sup>	1152	576
Maximum 400G Density <sup>1</sup>	288	144
Maximum Throughput/PPS	230 Tbps / 48 Bpps	115 Tbps / 24 Bpps
Max Power Consumption <sup>2</sup>	19,698 W	9,121 W
Typical Airflow <sup>3</sup>	1057.1 cfm (29.92 m³/min)	452.5 cfm (12.81 m³/min)
Max Airflow <sup>3</sup>	2358 cfm (66.73 m³/min)	1108.6 cfm (31.37 m³/min)

1. Maximum density values based on per line card breakout with appropriate cables/transceivers and subject to EOS Scale

2. System maximum internal power calculated at 40C ambient with 100% load on all ports. Excludes optics power as this is a significant variable for 100G and 400G.

3. Typical airflow: default PSUs, 1x supervisor, full-fill of 7800R3AK-36DM-LC at 25C, sea level. Max airflow: 40C+3km, 100% load, all line cards, supervisors and PSUs installed.

Fabric Module	DCS-7816LR3-FM	DCS-7816R3-FM	DCS-7812R3-FM
Redundancy	Graceful degradation supported		
Dimensions (HxWxD)	2.5" x 43.3" x 23.6" (6.4 x 109 x 60 cm)	2.5" x 21.75" x 23.75" (6.4 x 55.3 x 60.3 cm)	2.5" x 31" x 22.7" (6.4 x 78.9 x 57.6 cm)
Weight	70.5 lbs (32 kg)	32 lbs (14.5 kg)	51 lbs (23.1 kg)
Typical (Max) Power <sup>1</sup>	1030 W (1331 W)	510 W (778 W)	681 W (917 W)
User Serviceable Fans	Yes (16 Fan Modules)	Yes (8 Fan Modules)	Yes (12 Fan Modules)
Chassis Support	DCS-7816L (6 per chassis required)	DCS-7816 (12 per chassis required)	DCS-7812 (6 per chassis required)

Fabric Module	DCS-7808R3-FM	DCS-7808R3-FM2	DCS-7804R3-FM
Redundancy	Graceful degradation supported		
Dimensions (HxWxD)	2.5" x 21.75" x 23.75" (6.4 x 55.3 x 60.3 cm)	2.5" x 21.75" x 23.75" (6.4 x 55.3 x 60.3 cm)	2.5" x 12.25" x 23.75" (6.4 x 31.1 x 60.3 cm)
Weight	35 lbs (15.9 kg)	32.2 lbs (14.6 kg)	20 lbs (9.1 kg)
Typical (Max) Power <sup>1</sup>	510 W (778 W)	370 W (518 W)	180 W (248 W)
User Serviceable Fans	Yes (8 Fan Modules)	Yes (8 Fan Modules)	Yes (4 Fan Modules)
Chassis Support	DCS-7808 (6 per chassis required)	DCS-7808 (6 per chassis required)	DCS-7804 (6 per chassis required)

Power Supply	PWR-D1-3041-AC	PWR-D2-3041-DC	PWR-D4-3041-AC
Input Circuit (Max)	2x - 200-240VAC, 16A	2x -48 to -60VDC, 70A	2x 200-277VAC or 2x 240-380VDC, 16A
Input Frequency	50/60Hz	N/A	50/60Hz (AC)
Output Power	3000W	3000W	3000W
Input Connector	2x SAF-D-GRID 400	AWG#1 Max Each Lug 2 x M6 Studs	2x SAF-D-GRID 400
Efficiency	94.5% Platinum	94%	94.5% Platinum
Size (WxHxD)	2.7" x 1.6" x 23.6" (6.8 x 40.6 x 60.0cm)	2.7" x 1.6" x 23.6" (6.8 x 40.6 x 60.0cm)	2.7" x 1.6" x 23.6" (6.8 x 40.6 x 60.0cm)
Weight	8lbs (3.6kg)	8lbs (3.6kg)	8lbs (3.6kg)
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

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

7800R Series	7800R3A-36P	7800R3A-36PM	7800R3AK-36PM
Ports	36 x OSFP	36 x OSFP	36 x OSFP
Max 10G <sup>1</sup>	232	232	232
Max 25G <sup>1</sup>	232	232	232
Max 40G <sup>1</sup>	36	36	36
Max 50G <sup>1</sup>	232	232	232
Max 100G <sup>1</sup>	144	144	144
Max 400G <sup>1</sup>	36	36	36
Max Total Interfaces <sup>2</sup>	232	232	232
Throughput (FDX)	14.4 Tbps (28.8 Tbps)		
Encryption	No	TunnelSec - All Ports	TunnelSec - All Ports
Port Buffer	16 GB	16 GB	16 GB
Weight	25.35 lbs (11.5 kg)	25.35 lbs (11.5 kg)	25.35 lbs (11.5 kg)
Typical (Max) Power <sup>3</sup>	533 W (749 W)	548 W (764 W)	578 W (794 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)		
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

7800R Series	7800R3A-36D	7800R3A-36DM	7800R3AK-36DM
Ports	36 x QSFP-DD	36 x QSFP-DD	36 x QSFP-DD
Max 10G <sup>1</sup>	232	232	232
Max 25G <sup>1</sup>	232	232	232
Max 40G <sup>1</sup>	36	36	36
Max 50G <sup>1</sup>	232	232	232
Max 100G <sup>1</sup>	144	144	144
Max 400G <sup>1</sup>	36	36	36
Max Total Interfaces <sup>2</sup>	232	232	232
Throughput (FDX)	14.4 Tbps (28.8 Tbps)		
MACsec	No	TunnelSec - All Ports	TunnelSec - All Ports
Port Buffer	16 GB	16 GB	16 GB
Weight	25.7 lbs (11.66 kg)	25.7 lbs (11.66 kg)	25.7 lbs (11.66 kg)
Typical (Max) Power <sup>3</sup>	533 W (749 W)	548 W (764 W)	578 W (794 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)		
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

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

2. Where supported by EOS, each system supports a maximum number of interfaces. Certain configurations may impose restrictions on which physical ports can be used

3. Typical power consumption measured at 25C ambient with 50% load on all ports. Excludes optics power as this is a significant variable for 100G and 400G

7800R Series	7800R3A-36D2	7800R3A-36DM2	7800R3AK-36DM2
Ports	36 x QSFP-DD	36 x QSFP-DD	36 x QSFP-DD
Max 10G <sup>1</sup>	232	232	232
Max 25G <sup>1</sup>	232	232	232
Max 40G <sup>1</sup>	36	36	36
Max 50G <sup>1</sup>	232	232	232
Max 100G <sup>1</sup>	144	144	144
Max 400G <sup>1</sup>	36	36	36
Max Total Interfaces <sup>2</sup>	232	232	232
Throughput (FDX)	14.4 Tbps (28.8 Tbps)		
Encryption	No	TunnelSec - All Ports	TunnelSec - All Ports
Linecard CPU	Yes	Yes	Yes
Port Buffer	16 GB	16 GB	16 GB
Weight	25.85 lbs (11.73 kg)	25.85 lbs (11.73 kg)	25.85 lbs (11.73 kg)
Typical (Max) Power <sup>3</sup>	563 W (779 W)	578 W (794 W)	608 W (824 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)		
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

7800R Series	7800R3-36P	7800R3-36D	7800R3K-36DM
Ports	36 x OSFP	36 x QSFP-DD	36 x QSFP-DD
Max 10G <sup>1</sup>	288	288	288
Max 25G <sup>1</sup>	288	288	288
Max 40G <sup>1</sup>	36	36	36
Max 50G <sup>1</sup>	288	288	288
Max 100G <sup>1</sup>	144	144	144
Max 400G <sup>1</sup>	36	36	36
Max Total Interfaces <sup>2</sup>	288	288	288
Throughput (FDX)	14.4 Tbps (28.8 Tbps)		
Encryption	No	No	MACsec - All ports
Port Buffer	24 GB	24 GB	24 GB
Weight	22 lbs (10 kg)	22 lbs (10 kg)	22 lbs (10 kg)
Typical (Max) Power <sup>3</sup>	825 W (1136 W)	839 W (1149 W)	1416 W (1823 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)		
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

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

2. Where supported by EOS, each system supports a maximum number of interfaces. Certain configurations may impose restrictions on which physical ports can be used

3. Typical power consumption measured at 25C ambient with 50% load on all ports. Excludes optics power as this is a significant variable for 100G and 400G

7800R Series	7800R3-48CQ	7800R3-48CQM	7800R3K-48CQ	7800R3K-72Y
Ports	48 x QSFP100	48 x QSFP100	48 x QSFP100	72 SFP 25G
Max 1G <sup>1</sup>	—	—	—	40
Max 10G <sup>1</sup>	96	—	96	72
Max 25G <sup>1</sup>	96	—	96	72
Max 40G <sup>1</sup>	48	48 (no MACsec)	48	—
Max 50G <sup>1</sup>	96	--	48	32
Max 100G <sup>1</sup>	48	48	48	—
Max 400G <sup>1</sup>	—	—	—	—
Max Total Interfaces <sup>2</sup>	96	48	96	72
Throughput (FDX)	4.8 Tbps (9.6 Tbps)			2.4 Tbps (4.8 Tbps)
Encryption	No	MACsec - All ports	No	No
Port Buffer	8 GB	8 GB	8 GB	4 GB
Weight	20 lbs (9.1 kg)	20 lbs (9.1 kg)	20 lbs (9.1 kg)	18 lbs (8.2 kg)
Typical (Max) Power <sup>3</sup>	398 W (462 W)	620 W (684 W)	398 W (462 W)	142 W (178 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)			
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804			

7800R Series	7800R3-48CQ2	7800R3-48CQM2	7800R3-48CQMS
Ports	48 x QSFP100	48 x QSFP100	48 x QSFP100
Max 10G <sup>1</sup>	96	96	96
Max 25G <sup>1</sup>	96	96	96
Max 40G <sup>1</sup>	48	48	48
Max 50G <sup>1</sup>	96	96	48
Max 100G <sup>1</sup>	48	48	48
Max 400G <sup>1</sup>	—	—	—
Max Total Interfaces <sup>2</sup>	96	96	96
Throughput (FDX)	4.8 Tbps (9.6 Tbps)		
Encryption	No	MACsec - All ports	MACsec - All ports
Linecard CPU	Yes	Yes	No
Port Buffer	8 GB	8 GB	8 GB
Weight	19.4 lbs (8.81 kg)	19.4 lbs (8.81 kg)	19.1 lbs (8.68 kg)
Typical (Max) Power <sup>3</sup>	474 W (622 W)	511 W (696 W)	501 W (666 W)
Dimensions (WxHxD)	18.9" x 2.1" x 17.8" (48.1 x 5.4 x 45.2 cm)		
Chassis Support	DCS-7816L, DCS-7816, DCS-7812, DCS-7808, DCS-7804		

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

2. Where supported by EOS, each system supports a maximum number of interfaces. Certain configurations may impose restrictions on which physical ports can be used

3. Typical power consumption measured at 25C ambient with 50% load on all ports. Excludes optics power as this is a significant variable for 100G and 400G



Supervisor Module	DCS-7800-SUP DCS-7800-SUP1A DCS-7800-SUP1S	DCS-7816-SUP DCS-7816-SUP1S
Processor	1.9 GHz, Six-Core x86 64-bit	2.0 GHz, Eight-Core x86 64-bit
System Memory	64 GB	64 GB
Flash Storage Memory	4 GB	4 GB
RS-232 Serial Ports	1	1
Management Ports	1 (RJ-45) + 1 (SFP 1G)	1 (RJ-45) + 1 (SFP 1G)
USB 2.0 Interface	2	2
SSD Storage	256 GB	256 GB
Default Secure Boot	S Model	S Model
Size (WxHxD)	9.0 " x 2.1" x 17.25" (22.8 x 5.3 x 43.8 cm)	9.0 " x 2.1" x 17.25" (22.8 x 5.3 x 43.8 cm)
Weight	6.3 lbs (2.9 kg)	6.3 lbs (2.9 kg)
Typical (Max) Power *	61 W (72 W)	71 W (78 W)
Chassis Support	DCS-7808, DCS-7804	DCS-7816L, DCS-7816, DCS-7812

Linecard	7800R3 Series		7800R3K Series			
Profile	L3	Balanced	L3-XL	L3-XXL	L3-XXXL	Balanced-XL
ARP Entries	88k	80k	112k	112k	80k	96k
MAC Addresses	224k	224k	256k	192k	384k	256k
IPv4 Unicast Routes	1450k	800k	2250k	2850k	3950k	1850k
Additional IPv4 Unicast Routes with FlexRoute	+ 1,792k	+ 1,792k	+ 2,048k	+ 1,536k	+ 3,072k	+ 2,048k
IPv6 Unicast Routes	433-483k	250-267k	683-750k	833-950k	1100-1317k	567-617k
Multicast Routes	128k	128k	128k	128k	128k	128k
TCAM ACL Entries (Per chip)	24k	24k	24k	24k	24k	24k
Traffic Policy ACL IPv4 Prefixes	30k	30k	430k	296k	30k	430k
Traffic Policy ACL IPv6 Prefixes	10k	10k	150k	100k	10k	150k
ECMP	512-Way	512-Way	512-Way	512-Way	512-Way	512-Way

Maximum values dependent on shared resources in some cases

### 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	<a href="#">Product Certification Portal</a>

### Environmental Characteristics

Operating Temperature	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)

## Arista Optics and Cables

The Arista 7800R3 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 <sup>1</sup>

Interface Type	400G OSFP ports
400GBASE-CR8	OSFP to OSFP: 1m-3m lengths
400GBASE-AOC	OSFP to OSFP: 1m-30m lengths
400GBASE-SR8	100m OM3/4 Parallel MMF
400GBASE-DR4	500m Parallel SM
400GBASE-XDR4	2km Parallel SM
400GBASE-FR4	2km Duplex SM
400GBASE-2FR4	2km 2 x Duplex SM
400GBASE-LR4	10km Duplex SM
400GBASE-PLR4	10km Parallel SM
400GBASE-ZR	120km (with optical amplification)
200GBASE-CR4	OSFP to 2xQSFP: 1m to 3m lengths
200GBASE-SR4	100m (using OSFP-400G-SR8)
200GBASE-FR4	2km (using OSFP-400G-2FR4)
100GBASE-CR2	OSFP to 4xQSFP: 1m to 3m lengths
100GBASE-CR4 <sup>2</sup>	OSFP to 2xQSFP: 1m to 3m lengths
50GBASE-CR	OSFP to 8xSFP: 1 to 3m lengths
50GBASE-CR2 <sup>2</sup>	OSFP to 4xQSFP: 1m to 3m lengths
25GBASE-CR <sup>2</sup>	OSFP to 8xSFP: 1m to 3m lengths

### Supported Optics and Cables <sup>1</sup>

Interface Type	400G QSFP-DD ports
400GBASE-CR8	QSFP-DD to QSFP-DD: 1m-2.5m lengths
400GBASE-AOC	QSFP-DD to QSFP-DD: 1m-30m lengths
400GBASE-SR8	100m OM3/4 Parallel MMF
400GBASE-DR4	500m Parallel SM
400GBASE-XDR4	2km Parallel SM
400GBASE-FR4	2km Duplex SM
400GBASE-LR4	10km Duplex SM
400GBASE-PLR4	10km Parallel SM
400GBASE-ZR	120km (with optical amplification)
200GBASE-CR4	QSFP-DD to 2xQSFP: 1m to 2.5m lengths
200GBASE-SR4	100m (QDD-400G-SR8 / QSFP-200G-SR4)
200GBASE-FR4	2km (using QSFP-200G-FR4)
100GBASE-CR2	QSFP-DD to 4xQSFP: 1m to 3m lengths
100GBASE-CR4 <sup>2</sup>	QSFP-DD to 2xQSFP: 1m to 3m lengths
50GBASE-CR	QSFP-DD to 8xQSFP: 1m to 3m lengths
50GBASE-CR2 <sup>2</sup>	QSFP-DD to 4xQSFP: 1m to 3m lengths
25GBASE-CR <sup>2</sup>	QSFP-DD to 8xSFP: 1m to 3m lengths

1. For a complete list of transceivers, please refer to the Transceiver Datasheet and check EOS release notes for support

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

Supported Optics and Cables <sup>1</sup>

40GbE	40G QSFP ports
10GBASE-CR	QSFP+ to 4xSFP+: 0.5m-5m lengths
40GBASE-CR4	QSFP+ to QSFP+: 0.5m-5m lengths
40GBASE-AOC	3m to 100m lengths
40GBASE-UNIV	150m OM3 / 150m OM4, 500m SM
40GBASE-SRBD	100m OM3 / 150m OM4 Duplex MMF
40GBASE-SR4	100m OM3 / 150m OM4 Parallel MMF
40GBASE-XSR4	300m OM3 / 400m OM4 Parallel MMF
40GBASE-PLRL4	1km (1km 4x10G LR/LRL)
40GBASE-PLR4	10km (10km 4x10G LR/LRL)
40GBASE-LRL4	1km Duplex SM
40GBASE-LR4	10km Duplex SM
40GBASE-ER4	40km Duplex SM
100GbE	100G QSFP ports
100GBASE-SR4	70m OM3 / 100m OM4 Parallel MMF
100GBASE-XSR4	150m OM3 / 300m OM4 Parallel MMF
100GBASE-SWDM4	70m OM3 / 100m OM4 Duplex MMF
100GBASE-SRBD	70m OM3 / 100m OM4 Duplex MMF
100GBASE-LR	10km Duplex SM
100GBASE-LR4	10km Duplex SM
100GBASE-LRL4	2km Duplex SM
100GBASE-XCWD4	10km Duplex SM
100GBASE-CWD4	2km Duplex SM
100GBASE-FR	2km Duplex SM
100GBASE-DR	500m Duplex SM
100GBASE-PSM4	500m Parallel SM
100GBASE-AOC	1m to 30m lengths
100GBASE-ERL4	40km Duplex SM
100GBASE-CR4	QSFP to QSFP: 1m to 5m lengths
50GBASE-CR2	QSFP to 2xQSFP: 1m to 5m lengths
25GBASE-CR	QSFP to SFP25: 1m to 5m lengths

Supported Optics and Cables <sup>1</sup>

10GbE	SFP+ ports
10GBASE-CR	SFP+ to SFP+: 0.5m-5m lengths
10GBASE-AOC	SFP+ to SFP+: 3m-30m lengths
10GBASE-SRL	100m OM3 / 150m OM4 Duplex MMF
10GBASE-SR	300m OM3 / 400m OM4 Duplex MMF
10GBASE-LRL	1km Duplex SM
10GBASE-LR	10km Duplex SM
10GBASE-ER	40km Duplex SM
10GBASE-ZR	80km Duplex SM
10GBASE-T	Up to 30m over Cat6a
10GBASE-DWDM	80km Duplex SM
1GbE SX/LX/TX	550m / 10km / 100m
25GbE	25G SFP Ports
25GBASE-CR	SFP25 to SFP25: 1m-5m lengths
25GBASE-AOC	SFP+ to SFP+: 3m-30m lengths
25GBASE-MR-XSR	25G: 200m OM3 / 300m OM4 Duplex MMF 10G: 300m OM3 / 400m OM4 Duplex MMF
25GBASE-MR-SR	25G: 70m OM3 / 100m OM4 Duplex MMF 10G: 300m OM3 / 400m OM4 Duplex MMF
25GBASE-SR	70m OM3 / 100m OM4 Duplex MMF
25GBASE-LR	10km Duplex SM
25GBASE-MR-LR	10km Duplex SM

1. For a complete list of transceivers, please refer to the Transceiver Datasheet and check EOS release notes for support

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

Product Number	Product Description
<b>System Bundles</b>	
DCS-7804R3-BND	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D1 AC PS, 6xFM-R3, 1x7800-Sup1A
DCS-7804R3-BND-DC	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D2 DC PS, 6xFM-R3, 1x7800-Sup1A
DCS-7804R3-BND-S2	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D1 AC PS, 6xFM-R3, 2x7800-Sup1A
DCS-7804R3-BND-DC-S2	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D2 DC PS, 6xFM-R3, 2x7800-Sup1A
DCS-7804R3-BNDS	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D1 AC PS, 6xFM-R3, 1x7800-Sup1S
DCS-7804R3-BNDS-DC	Arista 7804R Chassis bundle. Includes 7804 chassis, 6x3kW D2 DC PS, 6xFM-R3, 1x7800-Sup1S
DCS-7808R3-BND	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D1 AC PS, 6xFM-R3, 1x7800-Sup1A
DCS-7808R3-BND-DC	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D2 DC PS, 6xFM-R3, 1x7800-Sup1A
DCS-7808R3-BND-S2	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D1 AC PS, 6xFM-R3, 2x7800-Sup1A
DCS-7808R3-BND-DC-S2	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D2 DC PS, 6xFM-R3, 2x7800-Sup1A
DCS-7808R3A-BND	Arista 7808R Chassis bundle. Includes 7808 chassis, 6x3kW D1 AC PS, 6xFM2-R3 1x7800-Sup1A
DCS-7808R3-BNDS	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D1 AC PS, 6xFM-R3, 1x7800-Sup1S
DCS-7808R3-BNDS-DC	Arista 7808R Chassis bundle. Includes 7808 chassis, 8x3kW D2 DC PS, 6xFM-R3, 1x7800-Sup1S
DCS-7812R3-BND	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D1 AC PS, 6xFM-R3, 1x7816-Sup
DCS-7812R3-BND-18PS	Arista 7812R Chassis bundle. Includes 7812 chassis, 18x3kW D1 AC PS, 6xFM-R3, 1x7816-Sup
DCS-7812R3-BND-DC	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D2 DC PS, 6xFM-R3, 1x7816-Sup
DCS-7812R3-BND-S2	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D1 AC PS, 6xFM-R3, 2x7816-Sup
DCS-7812R3-BND-DC-S2	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D2 DC PS, 6xFM-R3, 2x7816-Sup
DCS-7812R3-BNDS	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D1 AC PS, 6xFM-R3, 1x7816-Sup1S
DCS-7812R3-BNDS-DC	Arista 7812R Chassis bundle. Includes 7812 chassis, 10x3kW D2 DC PS, 6xFM-R3, 1x7816-Sup1S

## Note:

- Arista 7804, 8, 12 and 16 slot switches ship with 12, 16, 20 or 24 SAF-D-GRID to C20 power cables (4m). Other power cables must be ordered separately
- Front-to-rear means the air flows from the switch port side to the fan side



Product Number	Product Description
<b>System Bundles</b>	
DCS-7816R3-BND	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D1 AC PS, 12xFM-R3, 1x7816-Sup
DCS-7816R3-BND-DC	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D2 DC PS, 12xFM-R3, 1x7816-Sup
DCS-7816R3-BND-S2	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D1 AC PS, 12xFM-R3, 2x7816-Sup
DCS-7816R3-BND-DC-S2	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D2 DC PS, 12xFM-R3, 2x7816-Sup
DCS-7816R3-BNDS	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D1 AC PS, 12xFM-R3, 1x7816-Sup1S
DCS-7816R3-BNDS-DC	Arista 7816R Chassis bundle. Includes 7816 chassis, 12x3kW D2 DC PS, 12xFM-R3, 1x7816-Sup1S
DCS-7816LR3-BND	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D1 AC PS, 6xFM-LR3, 1x7816-Sup
DCS-7816LR3-BND-DC	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D2 DC PS, 6xFM-LR3, 1x7816-Sup
DCS-7816LR3-BND-S2	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D1 AC PS, 6xFM-LR3, 2x7816-Sup
DCS-7816LR3-BND-DC-S2	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D2 DC PS, 6xFM-LR3, 2x7816-Sup
DCS-7816LR3-BNDS	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D1 AC PS, 6xFM-LR3, 1x7816-Sup1S
DCS-7816LR3-BNDS-DC	Arista 7816LR Chassis bundle. Includes 7816L chassis, 12x3kW D2 DC PS, 6xFM-LR3, 1x7816-Sup1S

## Note:

- Arista 7804, 8, 12 and 16 slot switches ship with 12, 16, 20 or 24 SAF-D-GRID to C20 power cables (4m). Other power cables must be ordered separately
- Front-to-rear means the air flows from the switch port side to the fan side

Product Number	Product Description
<b>Line Cards</b>	
DCS-7800R3A-36P-LC	7800R3A Series 36 port 400GbE OSFP line card
DCS-7800R3A-36PM-LC	7800R3A Series 36 port 400GbE OSFP with Enh MACsec line card
DCS-7800R3AK-36PM-LC	7800R3A Series 36 port 400GbE OSFP line card with large routes (Enh MACsec)
DCS-7800R3A-36D-LC	7800R3A Series 36 port 400GbE QSFP-DD line card
DCS-7800R3A-36DM-LC	7800R3A Series 36 port 400GbE QSFP-DD with Enh MACsec line card
DCS-7800R3AK-36DM-LC	7800R3A Series 36 port 400GbE QSFP-DD line card with large routes (Enh MACsec)
DCS-7800R3A-36D2-LC	7800R3A Series 36 port 400GbE QSFP-DD line card with CPU
DCS-7800R3A-36DM2-LC	7800R3A Series 36 port 400GbE QSFP-DD with Enh MACsec line card with CPU
DCS-7800R3AK-36DM2-LC	7800R3A Series 36 port 400GbE QSFP-DD line card with large routes and CPU (Enh MACsec)
DCS-7800R3-36P-LC	7800R3 Series 36 port 400GbE OSFP wirespeed line card
DCS-7800R3-36D-LC	7800R3 Series 36 port 400GbE QSFP-DD wirespeed line card
DCS-7800R3K-36DM-LC	7800R3 Series 36 port 400GbE QSFP-DD with MACsec wirespeed line card, large routes
DCS-7800R3-48CQ-LC	7800R3 Series 48 port 100GbE QSFP wirespeed line card
DCS-7800R3-48CQM-LC	7800R3 Series 48 port 100GbE QSFP with MACsec wirespeed line card
DCS-7800R3K-48CQ-LC	7800R3 Series 48 port 100GbE QSFP wirespeed line card, large routes
DCS-7800R3-48CQ2-LC	7800R3 Series 48 port 100GbE QSFP line-card with CPU
DCS-7800R3-48CQM2-LC	7800R3 Series 48 port 100GbE QSFP with Enh MACsec line-card with CPU
DCS-7800R3-48CQMS-LC	7800R3 Series 48 port 100GbE QSFP with Enh MACsec line card
DCS-7800R3K-72Y-LC	7800R3 Series 72 port 25GbE SFP wirespeed line card, large routes

## Optional Components and Spares

DCS-7804-CH	Arista 7804 chassis, 2 Supervisor slots, 4 line card slots, 6 Fabric Module slots, AC or DC option
DCS-7804R3-FM	7800R3 Series Fabric Module for 7804R3 Chassis, required for fabric slots 1-6
DCS-7808-CH	Arista 7808 chassis, 2 Supervisor slots, 8 line card slots, 6 Fabric Module slots, AC or DC option
DCS-7808R3-FM	7800R3 Series Fabric Module for 7808 Chassis, required for fabric slots 1-6
DCS-7808R3-FM2	7800R3 Series Fabric Module-2 for 7808 Chassis, required for fabric slots 1-6
DCS-7812-CH	Arista 7812 chassis, 2 Supervisor slots, 12 line card slots, 6 Fabric Module slots, AC or DC option
DCS-7812R3-FM	7800R3 Series Fabric Module for 7812 Chassis, required for fabric slots 1-6
DCS-7816-CH	Arista 7816 chassis, 2 Supervisor slots, 16 line card slots, 12 Fabric Module slots, AC or DC option
DCS-7816R3-FM	7800R3 Series Fabric Module for 7816 Chassis, required for fabric slots 1-12
DCS-7816L-CH	Arista 7816L chassis, 2 Supervisor slots, 16 line card slots, 6 Fabric Module slots, AC or DC option
DCS-7816LR3-FM	7800R3 Series Fabric Module for 7816L Chassis, required for fabric slots 1-6
DCS-7800-SUP	Supervisor module for 7800 series - 7808 and 7804 chassis
DCS-7800-SUP1A	Supervisor1A module for 7800 series - 7808 and 7804 chassis
DCS-7800-SUP1S	Supervisor1S module for 7800 series - 7808 and 7804 chassis
DCS-7816-SUP	Supervisor module for 7800 series - 7816L, 7816 and 7812 chassis
DCS-7816-SUP1S	Supervisor1S module for 7800 series - 7816L, 7816 and 7812 chassis

## Optional Components and Spares

PWR-D1-3041-AC-BLUE	Arista PSU, ATS, 1RU, AC, 3KW, BLUE
PWR-D2-3041-DC-BLUE	Arista PSU, DUAL INPUT, 1RU, DC, 3KW, BLUE
PWR-D4-3041-AC-BLUE	Arista PSU, ATS-HVAC-HVDC, 1RU, AC, 3KW, BLUE (Worldwide with 277VAC/380VDC support)
FAN-7802-H	Spare high speed fan module for Arista 7800 Series (front-to-rear airflow)
DCS-7800-SCVR	Blank cover for 7804/7808 supervisor slot
DCS-7800-PCVR	Blank cover for 7800 power supply slot
DCS-7800-LCVR	Blank cover for 7800 line card slot
DCS-7816-SCVR	Blank cover for 7812/7816/7816L supervisor slot
KIT-7804	Spare accessory kit for Arista 7804. 4 post mount. (12x SAF-D-C20, 4m)
KIT-7808	Spare accessory kit for Arista 7808. 4 post mount. (16x SAF-D-C20, 4m)
KIT-7812	Spare accessory kit for Arista 7812. 4 post mount. (20x SAF-D-C20, 4m)
KIT-7816	Spare accessory kit for Arista 7816 and 7816L. 4 post mount. (24x SAF-D-C20, 4m)
KIT-7800-RK	Spare 4 post mounting kit for Arista 7800 series (standard depth)
KIT-7800-RK-L	Spare 4 post mounting kit for Arista 7800 series (extended depth)
CAB-AC-20A-SG-C20-1M	Power cord, SAF-D-GRID to C20 (1m)
CAB-AC-20A-SG-C20	Power cord, SAF-D-GRID to C20 (2m)
CAB-AC-20A-SG-C20-3M	Power cord, SAF-D-GRID to C20 (3m)
CAB-AC-20A-SG-C20-4M	Power cord, SAF-D-GRID to C20 (4m)

## Optional Licenses

LIC-MOD-1-E	Enhanced Software License for Arista Modular switches - 4 slots (OSPF, BGP, ISIS, PIM)
LIC-MOD-2-E	Enhanced Software License for Arista Modular switches - 8 slots (OSPF, BGP, ISIS, PIM)
LIC-MOD-3-E	Enhanced Software License for Arista Modular switches - 12 slots (OSPF, BGP, ISIS, PIM)
LIC-MOD-4-E	Enhanced Software License for Arista Modular switches - 16 slots (OSPF, BGP, ISIS, PIM)
LIC-MOD-1-V	Virtualization license for Arista Modular switches - 4 slots (VM Tracer and VXLAN)
LIC-MOD-2-V	Virtualization license for Arista Modular switches - 8 slots (VM Tracer and VXLAN)
LIC-MOD-3-V	Virtualization license for Arista Modular switches - 12 slots (VM Tracer and VXLAN)
LIC-MOD-4-V	Virtualization license for Arista Modular switches - 16 slots (VM Tracer and VXLAN)
LIC-MOD-1-V2	EOS Extensions, Security and Partner Integration license for Arista Modular switches - 4 slots
LIC-MOD-2-V2	EOS Extensions, Security and Partner Integration license for Arista Modular switches - 8 slots
LIC-MOD-3-V2	EOS Extensions, Security and Partner Integration license for Arista Modular switches - 12 slots
LIC-MOD-4-V2	EOS Extensions, Security and Partner Integration license for Arista Modular switches - 16 slots
LIC-MOD-1-Z	Monitoring & provisioning license for Arista Modular switches - 4 slots (ZTP, LANZ, API, TapAgg)
LIC-MOD-2-Z	Monitoring & provisioning license for Arista Modular switches - 8 slots (ZTP, LANZ, API, TapAgg)
LIC-MOD-3-Z	Monitoring & provisioning license for Arista Modular switches - 12 slots (ZTP, LANZ, API, TapAgg)
LIC-MOD-4-Z	Monitoring & provisioning license for Arista Modular switches - 16 slots (ZTP, LANZ, API, TapAgg)
LIC-MOD-1-FLX	FLX License for Arista 4-Slot Modular - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
LIC-MOD-2-FLX	FLX License for Arista 8-Slot Modular - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
LIC-MOD-3-FLX	FLX License for Arista 12-Slot Modular - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
LIC-MOD-4-FLX	FLX License for Arista 16-Slot Modular - Full Routing upto 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS-LER/LSR, with TE & link/node protection
LIC-MOD-1-FLX-L	FLX-Lite License for Arista 4-Slot Modular - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-MOD-2-FLX-L	FLX-Lite License for Arista 8-Slot Modular - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-MOD-3-FLX-L	FLX-Lite License for Arista 12-Slot Modular - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-MOD-4-FLX-L	FLX-Lite License for Arista 16-Slot Modular - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)



## Optional Licenses

LIC-MOD-1-MACSEC	MACSEC Encryption License for Arista 4-Slot Modular - Encryption with MACsec capable Linecards
LIC-MOD-2-MACSEC	MACSEC Encryption License for Arista 8-Slot Modular - Encryption with MACsec capable Linecards
LIC-MOD-3-MACSEC	MACSEC Encryption License for Arista 12-Slot Modular - Encryption with MACsec capable Linecards
LIC-MOD-4-MACSEC	MACSEC Encryption License for Arista 16-Slot Modular - Encryption with MACsec capable Linecards
LIC-MOD-1-ENCR	Enhanced Security Encryption License for Arista 4-Slot Modular - Encryption capable Linecards, TunnelSec and MACsec
LIC-MOD-2-ENCR	Enhanced Security Encryption License for Arista 8-Slot Modular - Encryption capable Linecards, TunnelSec and MACsec
LIC-MOD-3-ENCR	Enhanced Security Encryption License for Arista 12-Slot Modular - Encryption capable Linecards, TunnelSec and MACsec
LIC-MOD-4-ENCR	Enhanced Security Encryption License for Arista 16-Slot Modular - Encryption capable Linecards, TunnelSec and MACsec

## Warranty

The Arista 7800R3 Series switches come 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>

### Headquarters

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408-547-5500

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