

High Performance

- Up to 460Tbps system capacity
- Up to 96 billion packets per second
- Wire speed unicast & multicast
- Under 4us latency (64 byte)
- High density 100G and 400G
- Ultra large buffers per port
- Under 25W per 100G port
- 800G Ready

Feature Rich

- High Availability
- DC optimized airflow
- Rich L2 and L3 features
- 256-Way MLAG and 128-Way ECMP
- VXLAN gateway and routing
- Zero touch provisioning
- Hitless MLAG ISSU
- Integrated wirespeed 802.1AE MACsec *

High Scalability

- Up to 576 x 400G
- Up to 768 x 100G
- Flexible 50G and 200G modes
- FlexRoute™ Engine
- Over 1.4M MAC and Hosts
- Over 2M IPv4/IPv6 Unicast LPM Routes

Scalable Architecture

- 100% efficient cell based fabric
- Deep packet buffer (24GB per line card)
- Virtual Output Queues per port to eliminate head of line blocking
- 14.4Tbps per slot fabric capacity

High System Availability

- Grid and PS redundant power system
- 1+1 Supervisor redundancy
- Fabric module redundancy
- N+1 Fan module redundancy
- Designed for NEBS

Advanced Monitoring

- CloudVision
- LANZ microburst detection
- DANZ advance monitoring
- AEM proactive management
- IEEE 1588 precision timing
- Accelerated sFlow for network visibility
- VM Tracer integration
- Inband Network Telemetry

Arista 7800R3 Series Introduction

Combining high density 100G and 400G with low latency and wire speed performance the Arista 7800R3 Series are designed for large virtualized data centers, internet peering, cloud networks and mission critical environments. A deep buffer VoQ architecture with large routing tables delivers a highly scalable and power efficient system optimized for modern datacenter and telco clouds.

The Arista 7800R3 Series FlexRoute engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing. All Arista 7800R3 Series support FlexRoute™ engines providing the scalability to support deployment as a routing platform with Internet scale. The 7800R3 Series Accelerated sFlow feature samples and processes flow samples at line rate. The 7800R3K Series support a series of flexible profiles that leverage common resources for different network roles including up to 2.5M IP routes. Algorithmic ACLs enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry, available on the Arista 7800R3 and 7800R3K series.

With front-to-rear airflow, redundant and hot swappable supervisor, power, fabric and cooling modules the system is purpose built for high availability and continuous operations.

7800R3 Advantages

- Support for up to 2,304 interfaces with choice of speed from 10G to 400G
- Highly scalable chassis with choice of performance and size
- Consistent features with the 7500R3 and 7280R3 Series
- Streaming network state for advanced analytics with CloudVision
- Unique monitoring and provisioning features – LANZ, DANZ, AEM, PTP, ZTP, VM Tracer, VXLAN, and eAPI
- Comprehensive L2 and L3 feature set for open multi-vendor networks with no proprietary lock-in
- Scalable forwarding table resources allow deployment flexibility in both large L2 and L3 environments and internet peering with any workload suitability
- Flexible and scalable solutions for access control and network telemetry
- Network-wide virtualization platform for next generation cloud bursting with wire-speed VXLAN routing
- Accelerated sFlow and IPFIX for network forensics
- Directly connected 25G, 40G and 50G attached storage systems, requiring high performance spine with predictable latency
- Programmable packet processor for advanced features and flexible profiles enabling different use cases including peering and DCI
- Comprehensive interface combinations with 50G and 200G modes on both 400G and 100G ports using optics and cables.
- Segment Routing and EVPN with flexible options for underlay and overlay topologies



*Arista 7800R3 Series Modular
Data Center 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.

Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
DANZ Tap Aggregation *	10/40/100G Tap Aggregation with best-in-class performance and high density up to 576 400G Tap/Tool ports
Wirespeed VXLAN Routing	Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks
IEEE 1588 PTP	Build and scale accurate timing solutions with sub-microsecond accuracy
FlexRoute	Flexible scalability to support deployment as a routing platform with Internet scale routing
sFlow Acceleration	High sampling rate for advanced network telemetry, capacity planning and monitoring
Inband Network Telemetry *	Measure latency per device and across the network, trace packets and reconstruct topology
Dynamic Deep Buffers	Up to 16GB of packet memory per line card virtually eliminating packet drops in congestion scenarios
256-way ECMP & 128-way MLAG	Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers
Network Wide Virtualization	Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques

7800R3 Deployment Scenarios

- **Universal Spine:** Unparalleled performance with high density and network virtualization in a proven architecture
- **Internet Peering:** Scaling to over 2.5M routes with FlexRoute the 7800R3 can be leveraged for peering and MPLS
- **Telco and Cloud data centers:** Non-blocking performance and deep buffers coupled with a rich L2/L3 feature set with advanced routing, flexible and open provisioning and telemetry including accelerated sFlow and IPFIX
- **High Performance Compute (HPC) and Research:** Low and predictable latency, non-blocking with high density 400G and 100G, precision timing, monitoring, and support for interface speeds including 10G, 25G, 40G, 50G, 100G and 400G
- **Cloud and AI:** High performance leaf and spine for AI and ML solutions, east-west traffic patterns using advanced monitoring and traffic control features for deterministic performance
- **Content Delivery Networks:** Ultra deep buffers create a lossless network for streaming 4K video over content delivery networks that ensures reliable performance under peak load
- **IP Storage:** Storage requiring performance, deep buffers and predictable low latency in non-blocking system
- **Data Center Interconnect (DCI):** High performance, cost effective and secure

The 7800R3 Series offers a choice of line cards, with consistent support for the full set of 7800R3 features:

Line Card	10G	25G	40G	50G	100G	400G
7800R3K-48CQ	96	96	48	96	48	—
7800R3-48CQ	96	96	48	96	48	—
7800R3-36P	—	144	—	288	144	36



Arista 7800R3 100G Line Cards



Arista 7800R3 400G Line Cards

* Not currently supported in EOS