High Performance
- 230 Tbps system capacity
- Up to 48 billion packets per second
- Wire speed unicast & multicast
- Under 4us latency (64 byte)
- High density 25G, 100G and 400G
- Ultra large buffer per port
- Under 25W per 100G port

Feature Rich
- High Availability
- DC optimized airflow
- Carrier Grade Routing
- Rich L2 and L3 features
- 256-Way MLAG and 512-Way ECMP
- EVPN for next generation DC
- Zero touch provisioning
- Hitless MLAG ISSU

High Scalability
- Up to 288 x 400G
- Up to 432 x 100G
- Flexible 50G and 200G modes
- FlexRoute™ Engine
- Over 5M IPv4 Routes with K series

Scalable Architecture
- 100% efficient cell based fabric
- Deep packet buffer (16GB per line card)
- Virtual Output Queues per port to eliminate head of line blocking
- 9.6Tbps per slot 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 7500R3 Series Introduction

Combining high density 100G and 400G with low latency and wire speed performance the Arista 7500R3 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 in compact designs delivers a highly scalable and power efficient system.

The Arista 7500R3 Series FlexRoute engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing. All Arista 7500R3 Series support FlexRoute™ engines providing the scalability to support deployment as a routing platform with Internet scale. The 7500R3 Series Accelerated sFlow feature samples and processes flow samples at linerate. The 7500R3K Series support a series of flexible profiles that leverage common resources for different network roles including over 5M IP routes. Algorithmic ACLs enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry, available on the Arista 7500R3 and 7500R3K 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.

7500R3 Advantages

- Support for up to 1152 Ethernet interfaces with choice of speed from 10G to 400G
- Highly scalable chassis ranging from 12 slot to 4 slot systems
- Investment protection with 7500R 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 7500R3 Series Modular Data Center Switches

Arista 7500R3: High Density 400G & 100G with Next Generation Routing

Arista EOS

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 1152 100G 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
512-way ECMP & 256-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

7500R3 Deployment Scenarios

- **Universal Spine:** Unparalleled performance with high density and network virtualization in a proven architecture
- **Internet Peering:** Scaling to over 5M routes with FlexRoute the 7500R3 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 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:** Deep buffers and predictable low latency in non-blocking systems with Inband Network Telemetry
- **Data Center Interconnect (DCI):** High performance, cost effective and secure

The 7500R3 Series offers a choice of line cards, with consistent support for the full set of 7500R3 features:

Line Card	10G	25G	40G	50G	100G	400G
7500R3K-36CQ	96	96	36	72	36	—
7500R3-36CQ	96	96	36	72	36	—
7500R3-24P	192	192	24	192	96	24
7500R3-24D	192	192	24	192	96	24
7500R3K-48Y4D	80	80	4	32	16	4

Arista 7500R3 25G Line Cards

Arista 7500R3 100G Line Cards

Arista 7500R3 400G Line Cards

* Not currently supported in EOS

Arista 7500R3: High Density 400G & 100G with Next Generation Routing