**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
- 16W per 100G and 25W per 400G ports
- 800G Ready

**Feature Rich**

- High Availability
- DC optimized airflow
- Rich L2 and L3 features
- 256-Way MLAG and 512-Way ECMP
- VXLAN gateway and routing
- Zero touch provisioning
- Hitless MLAG ISSU
- Integrated wirespeed encryption
- 802.1AE MACsec / IPSec UDP-ESP

**High Scalability**

- Up to 576 x 400G
- Up to 768 x 100G QSFP
- Flexible 50G and 200G modes
- FlexRoute™ Engine
- Over 5M IPv4 Routes with K series

**Scalable Architecture**

- 100% efficient cell based fabric
- Deep packet buffer
  - up to 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 P5 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

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**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 linerate. The 7800R3K 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 7800R3, 7800R3A, 7800R3K and 7800R3AK 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 576 400G OSFP or QSFP-DD or up to 786 100G QSFP
- Support for 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. Accelerated sFlow and IPFIX for network forensics
- 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
- 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

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Arista 7800R3: Deep buffer, High Performance, Cloud and Carrier Grade
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.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CloudVision</td>
<td>Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking</td>
</tr>
<tr>
<td>DANZ Tap Aggregation</td>
<td>10/40/100G Tap Aggregation with best-in-class performance and high density up to 576 400G Tap/Tool ports</td>
</tr>
<tr>
<td>Wirespeed VXLAN Routing</td>
<td>Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks</td>
</tr>
<tr>
<td>IEEE 1588 PTP</td>
<td>Build and scale accurate timing solutions with sub-microsecond accuracy</td>
</tr>
<tr>
<td>FlexRoute</td>
<td>Flexible scalability to support deployment as a routing platform with Internet scale routing</td>
</tr>
<tr>
<td>sFlow Acceleration</td>
<td>High sampling rate for advanced network telemetry, capacity planning and monitoring</td>
</tr>
<tr>
<td>Inband Network Telemetry *</td>
<td>Measure latency per device and across the network, trace packets and reconstruct topology</td>
</tr>
<tr>
<td>Dynamic Deep Buffers</td>
<td>Up to 24GB of packet memory per line card virtually eliminating packet drops in congestion scenarios</td>
</tr>
<tr>
<td>512-way ECMP &amp; 256-way MLAG</td>
<td>Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers</td>
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<tr>
<td>Network Wide Virtualization</td>
<td>Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques</td>
</tr>
<tr>
<td>MACsec at 10G up to 400G</td>
<td>Bulk data encryption at scale with high performance for Cloud Data Centers and DCI</td>
</tr>
</tbody>
</table>

**7800R3 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 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 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

* Not currently supported in EOS

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**Arista 7800R3**: Deep buffer, High Performance, Cloud and Carrier Grade
The 7800R3 Series offers a choice of line cards, with consistent support for the full set of 7800R3 features:

<table>
<thead>
<tr>
<th>Line Card</th>
<th>Type</th>
<th>10G</th>
<th>25G</th>
<th>40G</th>
<th>50G</th>
<th>100G</th>
<th>400G</th>
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* Not currently supported in EOS