High Performance
• 150Tbps system capacity
• Up to 69 billion packets per second
• Wire speed unicast & multicast
• Under 4us latency (64 byte)
• High density 10G/25G/40G/100G
• Ultra large buffer per 100G port
• Under 25W per 100G port

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

High Scalability
• Up to 576 x 100G
• Up to 576 x 40G
• Up to 2304 x 25G
• Up to 2304 x 10G
• FlexRoute™ Engine
• 768K MAC/IPv4/IPv6 Hosts
• Over 2M IPv4/IPv6 Unicast LPM Routes

Scalable Architecture
• 100% efficient cell based fabric
• Deep packet buffer (24GB per line card)
• Up to 13,824 Virtual Output Queues per port to eliminate head of line blocking
• 9.6Tbps per slot fabric capacity

High System Availability
• Grid and PS redundant power system
• 1+1 Supervisor redundancy
• N+1 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

Arista 7500R Series Introduction
Combining high density 10/40 and 100GbE with low latency and wire speed performance the Arista 7500R 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 a compact design delivers a highly scalable and power efficient system.

The Arista 7500R Series FlexRoute engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing enabling innovation not natively available in merchant chipsets. 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.

7500R Advantages
• Support for over 2,300 10Gb and 25Gb Ethernet ports - 2304 x 10G / 25G, 576 x 40G / 100G Ethernet interfaces
• Broad choice of compact to highly scalable chassis ranging from 16 slot to 4 slot systems
• Seamless investment protection with 7500E line cards, fabric and supervisor
• 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 L2 and L3 table resources allow deployment flexibility in both large L2 and L3 environments and internet peering with any workload suitability
• AlgoMatch™ for 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 25GbE, 40GbE and 50GbE attached storage systems, requiring high performance and predictable latency
• Performance optimized DCI solution with line rate encryption with MACSec and coherent optics for long haul connectivity

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.
7500R Series Systems

7500R Series Systems

<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 100G 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>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>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>IEEE 1588 PTP</td>
<td>Build and scale accurate timing solutions with sub-microsecond accuracy</td>
</tr>
<tr>
<td>128-way ECMP &amp; 128-way MLAG</td>
<td>Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers</td>
</tr>
<tr>
<td>Latency Analyzer</td>
<td>Microsecond utilization granularity using buffer watermarks for immediate feedback and precise monitoring</td>
</tr>
<tr>
<td>Network Wide Virtualization</td>
<td>Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques</td>
</tr>
<tr>
<td>Secure Encryption with MACsec</td>
<td>Support for 802.1AE MACsec encryption on 100GbE ports for DCI and securing leaf and spine tiers</td>
</tr>
</tbody>
</table>

7500R Deployment Scenarios

- **Universal Spine:** Delivering high bandwidth with density with resiliency, rapid convergence and large routing tables
- **Internet Peering:** With support for large tables and rapid convergence the 7500R can be leveraged for both peering and DC
- **Virtualized and Cloud data centers:** Largest scale, flexible interface choices, balanced resources, deep buffers and non-blocking performance coupled with a rich L2/L3 feature set and innovative provisioning and monitoring features
- **High Performance Compute (HPC) and Research:** Low and predictable latency, non-blocking with high density 40G and 100G, precision timing, precision monitoring, and support for interface speeds including 10G, 25G, 40G, 50G and 100G
- **Big Data and Hadoop:** High performance spine for east-west traffic patterns with advanced monitoring and traffic control features for deterministic performance
- **IP Storage:** Storage requiring performance, deep buffers and predictable low latency in non-blocking system

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

<table>
<thead>
<tr>
<th>Line Card</th>
<th>10G</th>
<th>25G</th>
<th>40G</th>
<th>50G</th>
<th>100G</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500R2AK-48YCQ1</td>
<td>48 + 8</td>
<td>12 + 8</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>7500R-48S2CQ</td>
<td>48 + 8</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>2</td>
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<tr>
<td>7500R-36Q</td>
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<td>144</td>
<td>36</td>
<td>12</td>
<td>6</td>
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<tr>
<td>7500R2-18CQ</td>
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<td>72</td>
<td>18</td>
<td>36</td>
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<tr>
<td>7500R-36CQ</td>
<td>7500R2AK-36CQ1</td>
<td>7500R2A-36CQ1</td>
<td>7500R2-36CQ1</td>
<td>7500RM-36CQ</td>
<td>7500R2M-36CQ</td>
</tr>
<tr>
<td>144</td>
<td>144</td>
<td>36</td>
<td>72</td>
<td>36</td>
<td>8</td>
</tr>
</tbody>
</table>

1 IEEE 25G Support  2 MACsec Support

Arista 7500R: Deep buffer, high availability, advanced visibility and open extensibility