Arista 7358X4 Series Introduction

As enterprises continue to optimize data center facilities for modern cloud-native applications, collaboration tools, containerized services and emerging AI/ML technologies, the requirement for high capacity, low latency networking is driving a flattening of data center architectures and high bandwidth interconnectivity between facilities and the public cloud. In addition to the need for next generation systems that deliver higher scale, optimized for cost and energy efficiency, enterprises require rich functionality and broad compatibility with existing networks and automation and orchestration systems.

The Arista 7358X4 series is built on a single 12.8Tbps high capacity packet processor in an extremely compact and power efficient 4RU modular form factor that increases the network radix for high density switching, reduces tiers and simplifies networks while providing flexibility to deploy a range of interface types. Line rate performance with up to 128 ports of 100G or 32 ports of 400G combined with broad support for enterprise features including EVPN/VXLAN.

7358X4 Deployment Flexibility

The Arista 7358X4 data center switches deliver a rich choice of interface speeds allowing leaf and spine networks to seamlessly migrate to 100G and 200G/400G in a 4U compact system. The 7358X4 powered by Arista EOS, the worlds most advanced network operating system, are available with a range of modules:

- **7358-16C** - QSFP based with support for 40G, 50G and 100G speeds on all 16 ports and 200G on alternate ports
- **7368-4D** - 400G with QSFP-DD and support for 4x100G and 2x200G modes
- **7368-4P** - 400G with OSFP and support for 4x100G and 2x200G modes

Support for mix and match combinations of the modules allows up to 128 x 100G or 64 x 200G or 32 x 400G in just 4RU, with a pay as you grow flexibility for right sizing deployments and the ability to expand over time.

The 7358X4 offers high performance, simple maintenance, rich features and advanced provisioning and monitoring tools that provide flexibility in building large scale leaf and spine designs. The system density and flexibility combined with a consistent architecture offered by the 7050X4 series reduces the total number of network devices, lowering cost and power. The 7358X are suitable for a wide variety of deployment scenarios, the following are a selection of typical use cases:

- **Enterprises** — for large scale leaf spine networks
- **Dense top of rack** — for server racks with 100G systems and 100G/400G network connections
- **Grid / HPC** — requiring cost effective and power efficient systems to enable AI and ML solutions with non-blocking or minimal over-subscription for servers
- **Leaf-Spine** — open standards based L2 and L3 with monitoring and visibility
- **400G and 100G Scale Out Designs** — Small to medium locations requiring power efficiency and high density compact systems
- **ECMP designs up to 128-way** — cost-effective multi-pathing using open protocols and high density single packet processor switches
- **Loaded Features** — Rich instrumentation, programmable pipeline, high scale and large buffers
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.

7358X4 Series Systems

The 7358X4 supports easy replacement of all active components including supervisor, switch card and I/O modules, power supplies, and fans. The Arista 7358X4 support hot-swappable power supplies and N+1 fan redundancy, EOS high availability and live software patching, a choice of L2 and L3 multi-pathing designs and powerful EOS innovations for visibility, application level performance monitoring, traffic management and virtualization.

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<th>Feature</th>
<th>Description</th>
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<tr>
<td>CloudVision</td>
<td>Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking</td>
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<td>IEEE 1588 PTP</td>
<td>Build and scale accurate timing solutions with sub-microsecond accuracy</td>
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<td>Smart System Upgrade</td>
<td>Optimized SW upgrades to reduce the impact of software upgrades and avoid network convergence</td>
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<td>Hitless Speed Changes</td>
<td>Eliminate downtime when configuring different speeds and bringing up new links</td>
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<td>128-way ECMP and 64-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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<td>Latency Analyzer</td>
<td>A solution to improve monitoring and visibility for congestion from persistent or microbursts.</td>
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<td>Flow aware management of traffic</td>
<td>Enhanced load distribution for optimal traffic distribution and link utilization for intensive datacenter workloads</td>
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<td>Elephant Flow Detector</td>
<td>Automatically detect large flows and redirect to lower priority queues in real-time</td>
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<tr>
<td>High Performance Shared Buffer Memory</td>
<td>Integrated packet buffer that is dynamically shared across ports to maximize the per port buffer for bursty applications and advanced congestion control for lossless traffic requirements in low latency networks</td>
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16 x 100G Module:
- QSFP100 ports
- Flexible 100G with 200G mode
- Compatible with 40G QSFP+
- Hotswap with no power off

4 x 400G Module:
- Either QSFP-DD or OSFP
- Flexible 400G or 4x 100G mode
- Compatible with 100G QSFP
- Hotswap with no power off

Arista 7358X4: Enterprise and Hyperscale cloud density, performance, features and efficiency