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 12.8 Tbps 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
- **7368/16S** - SFP based with support for 25G and 10G on all ports

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 4 RU, 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 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, and high scale

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**High Performance**
- 32 x 400G, 128 x 100G or 128 x 25G
- High density 100G and 400G
- Flexible 10G, 25G, 100G, 200G and 400G support
- Up to 12.8 Tbps system capacity
- Up to 5.3 billion packets per second
- Latency from 900 ns for 400G
- All active components field removable
- Mix and match I/O Modules
- Typical power of under 10W per 100G port
- Over 93% efficient power supplies
- N+N redundant & hot-swappable power
- N+1 redundant & hot-swappable fans
- Front-to-rear and rear-to-front cooling
- Tool less rails for simple installation
- High Performance x86 CPU
- 32 GB DRAM
- User applications can run in a VM

**High Scalability**
- 128K MAC entries
- 800K/500K* IPv4/v6 Routes
- 128-way ECMP for scale-out networks
- Up to 320K/80K IPv4/v6 Host Routes
- 132 MB integrated intelligent buffer with dynamic buffer allocation

**Advanced Monitoring**
- CloudVision
- Zero Touch Provisioning (ZTP)
- LANZ for microburst detection*
- DANZ Advanced Mirroring for visibility
- sFlow
- INT and GREEN-T for In-Band Telemetry*
- Self-configure and recover from USB
- Traffic aware ECMP and UCMP

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<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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<tr>
<td>Latency Analyzer</td>
<td>A solution to improve monitoring and visibility for congestion from persistent or microbursts.</td>
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<tr>
<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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DCS-7368-4P OSFP - 4 ports of 400G with OSFP optics and cables, and the use of existing 100G optics and cables.

DCS-7368-4D QSFP-DD - 4 ports of 400G with QSFP-DD optics and cables and the use of existing 100G optics and cables.

DCS-7358-16C QSFP100 - 16 ports of 100G, up to 8 ports of 200G mode (alternate ports) support on all ports.

DCS-7368-16S SFP28 - 16 ports of 25G with support for 25G and 10G on all ports.