Arista

Arista DCS-7150S-64-CL-R

Datasheet

Product Overview

- The Arista 7150 Series redefines high-performance network switching with ultra low latency and wire speed for Layer 2, 3, and 4 applications.

- Designed for environments like financial ECNs, HPC clusters, and cloud data centers, it meets the toughest demands of modern enterprise networks.

- Key specifications include 48 x 1/10GbE SFP+ ports, 4 x 10/40GbE QSFP+ uplinks, and up to 1.28Tbps switching capacity, delivering consistent wire-speed performance.

- Advanced features like LANZ Microburst Analysis, IEEE 1588 PTP clock, and DANZ mirroring boost network visibility and precision for mission-critical operations.

- Deployment is simplified by CloudVision, Zero Touch Provisioning, and robust management resources, enabling efficient provisioning and rapid recovery at scale.

- The Arista DCS-7150S-64-CL-R ensures deterministic low latency with flexible control and automation tools, making it ideal for performance-driven data centers and financial core networks.

Product Highlights

- **Ultra Low Latency Switching:** Delivers deterministic latency from 350 nanoseconds, ensuring rapid data movement for high-frequency trading and HPC applications.

- **Flexible High-Speed Ports:** Offers 48 x 1/10GbE SFP+ and 4 x 10/40GbE QSFP+ ports with up to 1.28 Tbps switching capacity for scalable deployments.

- **Advanced Monitoring Capabilities:** Integrates CloudVision, LANZ, DANZ, and sFlow for real-time network analytics and enhanced troubleshooting.

- **Resilient and Efficient Design:** Features redundant, hot-swappable fans and power, typical 3.5W/port consumption, and robust VM-based control plane enhancements.

Detailed Features

Arista DCS-7150S-64-CL-R

Component	Specification
Switching Ports	48 x 10 Gigabit Ethernet SFP+
Uplink Ports	4 x 40 Gigabit Ethernet QSFP+
Switching Capacity	1.28 Tbps
Forwarding Rate	960 Mpps
Redundant Power	1+1 hot-swappable AC

Unified EOS Software Platform

The DCS-7150S-64-CL-R operates with Arista EOS, a single software image that promotes a consistent experience across all Arista switches. This approach enables simplified network management and rapid integration with automation systems.

Robust Modular Operating System

Arista EOS is engineered with stateful process isolation, separating switching state from protocol and application logic. This ensures in-service software upgradeability and system self-healing, reducing unplanned downtime.

Full Linux Tool Access

EOS is built on a standard Linux kernel, granting users unrestricted access to the Linux shell and development tools. This extensibility allows seamless third-party integration, script automation, and operational visibility throughout the network.

Native Advanced Monitoring and Provisioning

On-board monitoring, analytics, and automation such as Zero Touch Provisioning, VMTracer, and sFlow can run natively on the switch, driven by a powerful multi-core x86 CPU subsystem for agile response to operational changes.

State Sharing Architecture

The EOS state-sharing model utilizes a high-performance, in-memory database that allows instant state updates across processes. This architecture supports advanced feature automation and reliable, rapid recovery in failure scenarios.

Secure, Isolated Process Spaces

Every protocol and application in EOS operates within protected memory, minimizing potential system impact from failures and streamlining troubleshooting for critical production environments.

In-Service-Software Upgrades

Thanks to modular architecture, EOS allows software updates and upgrades to occur without interrupting switching and forwarding, supporting continuous operation for always-on networks.

Self-Healing Resilience

If a software process encounters an issue, EOS enables rapid stateful recovery, ensuring the switch and applications resume normal operations with minimal impactvital for mission-critical deployments.

Technical Specifications

Product Specifications

Feature	Value
Product Family	7150S Series
Network Ports	48 x 10 Gigabit Ethernet SFP+
Uplink Ports	4 x 40 Gigabit Ethernet QSFP+
Management Ports	1 x Gigabit Management
Management Ports (Serial)	1 x RS-232 Serial RJ45
Management Ports (USB)	1 x USB
High Precision Clock	Yes
CPU	Dual-Core x86
Packet Buffer	9.5 MB
VLAN IDs	4096
Airflow Direction	Back-to-Front
Fan Module Options	4 x FAN-7000-R (N+1 redundant) included
Power Supplies Included	2 x PWR-460AC-R (1+1 redundant)

Feature	Value
Switching Capacity	1.28 Tbps
Forwarding Rate	960 Mpps
MAC Address Table Size	64,000
Latency	380 ns
DRAM	4 GB
Flash	2 GB
Part Number	DCS-7150S-64-CL-R
Model Number	DCS-7150S-64-CL-R

Product Comparison

Feature	Arista DCS-7150S-64-CL-R	Arista DCS-7150S-24-R	C9500-48Y4C-E
Switching Ports	48 x 1/10GbE SFP+	24 x 1/10GbE SFP+	48 x 1/10/25GbE SFP28
Uplink Ports	4 x 40GbE QSFP+	4 x 40GbE QSFP+	4 x 40/100GbE QSFP28
Switching Capacity	1.28 Tbps	480 Gbps	2.4 Tbps
Forwarding Rate	960 Mpps	360 Mpps	1800 Mpps
Redundant Power	Yes (1+1)	Yes (1+1)	Yes (N+1)
Latency	380 ns	350 ns	<1 µs
OS Platform	Arista EOS	Arista EOS	Cisco IOS XE
Management Features	LANZ, DANZ, sFlow, CloudVision	LANZ, DANZ, sFlow, CloudVision	DNA Center, SNMP, sFlow
Application Scenario	Financial ECN, HPC, Cloud DC	HPC, Cloud DC, Financial	Enterprise Core, Large Data Center

Accessories

Category	Accessories
Included Accessories	- 2 x PWR-460AC-R Power Supplies - 4 x FAN-7000-R Fan Modules - Rack Mount Kit

Category	Accessories
Optional Accessories	- SFP+ Transceivers - QSFP+ Modules - Advanced Management Cable

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Optional Accessories	- SFP+ Transceivers - QSFP+ Modules - Advanced Management Cable

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References

[1] Arista Networks. (2023). 7150S Series Switches Datasheet. Retrieved from https://www.arista.com/assets/data/pdf/Datasheets/7150S_Datasheet.pdf