

Arista

Arista DCS-7050TX3-48C8-

F

Datasheet



Product Overview

- The Arista 7050X3 Series delivers high-performance, flexible data center networking, standing out in Arista's core switch portfolio.
- This switch is tailored for cloud data centers, enterprise networks, and carriers deploying high-bandwidth virtualization and containerization.
- Key hardware features include 48 x 10G-T ports, 8 x 100G QSFP uplinks, and a switching capacity up to 1.28 Tbps for dense, modern networks.
- Advanced Arista EOS software, unified forwarding tables, and low-latency architecture bring reliable, programmable automation to enterprise deployments.
- Deployment benefits include dynamic buffer allocation and broad interface support, ensuring seamless upgrades and minimal network downtime.
- The DCS-7050TX3-48C8-F enables efficient east-west traffic flow and network scalability for virtualized, big data, and traditional data center scenarios.

Product Highlights

- **High-Density 10G Access:** Delivers 48 x 10G-T RJ-45 ports and 8 x 100G QSFP100 uplinks, enabling robust aggregation and access.
- **Wire-Speed Performance:** Supports L2 and L3 forwarding at full wire speed with latency from 800 ns, fitting demanding data center tasks.
- **Resilient Cooling and Power:** 1+1 hot-swappable power and N+1 redundant fans, plus front-to-back airflow for reliable 24/7 operation.
- **Cloud-Ready Operations:** Includes VXLAN, zero-touch provisioning, and integrated intelligent buffer, simplifying automated, virtualized deployments.

Detailed Features



Arista DCS-7050TX3-48C8-F

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Component	Specification
Ports	48 x 10 Gigabit Ethernet RJ-45
Uplink Ports	8 x 100G QSFP100
Switching Capacity	1.28 Tbps
Forwarding Rate	1 Bpps
Power Supply	1+1 Redundant, Hot-Swappable (Front-to-Back airflow)



Unified Arista EOS Architecture

Arista DCS-7050TX3-48C8-F runs on the field-proven Arista EOS, a modular switch OS architected for resiliency and scalability. By separating protocol processing from switch state and leveraging a Linux foundation, EOS enables in-service-software updates and robust self-healing, ensuring continuous operation.

Dynamic Buffer Management

The switch provides a fully shared 32MB packet buffer with dynamic allocation per port and traffic class. This mitigates microbursts by using LNZ for traffic analysis. The design prevents bottlenecks during high-volume periods, delivering consistent low latency and reliable performance in demanding environments.

High Availability Hardware Design

Engineered for business continuity, the 7050X3 series features 1+1 hot-swappable power supplies, four N+1 redundant fans, color-coded hardware, and live software patching. Key features like Stateful Fault Repair (SFR) and Smart System Upgrade (SSU) further maximize network uptime and operational resilience.

Flexible Scale-Out Network Topologies

Supporting 128-way ECMP and 64-way MLAG, the switch allows scalable leaf-spine architectures. It offers custom hash algorithms for efficient traffic distribution and supports flexible table allocations for adapting to evolving network requirements in both virtualized and physical environments.

Versatile Multi-Speed Interfaces

Multi-rate interfaces support 10G, 25G, 40G, 50G, and 100G, simplifying migrations and expansion. Standards-based IEEE 25GbE support ensures cost-effective upgrades, while seamless hitless speed transition minimizes disruptions.

Integrated Cloud Networking

Native VXLAN routing, bridging, and gateway capabilities enable smooth integration between physical and virtual segments. Arista Software Driven Cloud Networking provides automated orchestration, workload visibility, and workflow automation to streamline cloud operations.

Comprehensive Monitoring & Visibility

With tools like CloudVision, sFlow, DMF analytics, and Arista LNZ, operators gain full network insight. Real-time data enables fast troubleshooting, traffic optimization, and proactive congestion management across enterprise and cloud environments.

AI-Driven Traffic Analysis

The built-in AI Analyzer captures detailed traffic patterns, including ECMP utilization, in intervals as short as 100µs. This precision benefits AI/ML data flows, optimizing dynamic load balancing and ensuring consistent high-throughput and low-latency for intelligent applications.

Technical Specifications

Product Specifications

Feature	Value
Network Ports	48 x 10 Gigabit Ethernet RJ-45
Uplink Ports	8 x 100 Gigabit Ethernet QSFP100
Management Ports	1 x 1 Gigabit Management RJ-45, 1 x RS-232 RJ-45, 1 x USB
Switch Version	Arista EOS
Airflow Direction	Front-to-Back Airflow
Fan Module Options	2 x FAN-7011M-F (1+1 redundant), Front-to-Back Airflow
Power Supplies Included	2 x PWR-511-AC-RED (1+1 redundant), Front-to-Back Airflow
Switching Capacity	1.28 (2.56) Tbps
Forwarding Rate	1 Bpps



Feature	Value
MAC Address Table Size	288,000
Latency	3 μ sec
CPU	Quad-Core x86
Model Number	DCS-7050TX3-48C8-F
Part Number	DCS-7050TX3-48C8-F

Product Comparison

Feature	Arista DCS-7050TX3-48C8-F	Arista DCS-7280CR-48-F	Arista DCS-7020SR-32C2-F
Fixed Ports	48 x 10G-T RJ-45	48 x 100G QSFP	32 x 100G QSFP
Uplink Ports	8 x 100G QSFP100	4 x 100G QSFP	2 x 100G QSFP
Switching Capacity	1.28 Tbps	9.6 Tbps	6.4 Tbps
Forwarding Rate	1 Bpps	~7.14 Bpps	4.8 Bpps
Redundant Power	1+1 Hot-swappable	Yes	Yes
Fan Design	Front-to-Back (1+1 Redundant)	Hot-swappable	Hot-swappable
Layer 3 Support	Full L2/L3 wire-speed	Full L2/L3 wire-speed	Full L2/L3 wire-speed
Management OS	Arista EOS	Arista EOS	Arista EOS
Form Factor	1RU	2RU	1RU

Accessories

Category	Accessories
Included Accessories	- 2 x PWR-511-AC-RED Power Supplies - 2 x FAN-7011M-F Fan Modules - Rack Mount Kit
Optional Accessories	- QSFP100 Transceiver Modules - SFP+ Transceivers - Console Cable



Support & Warranty



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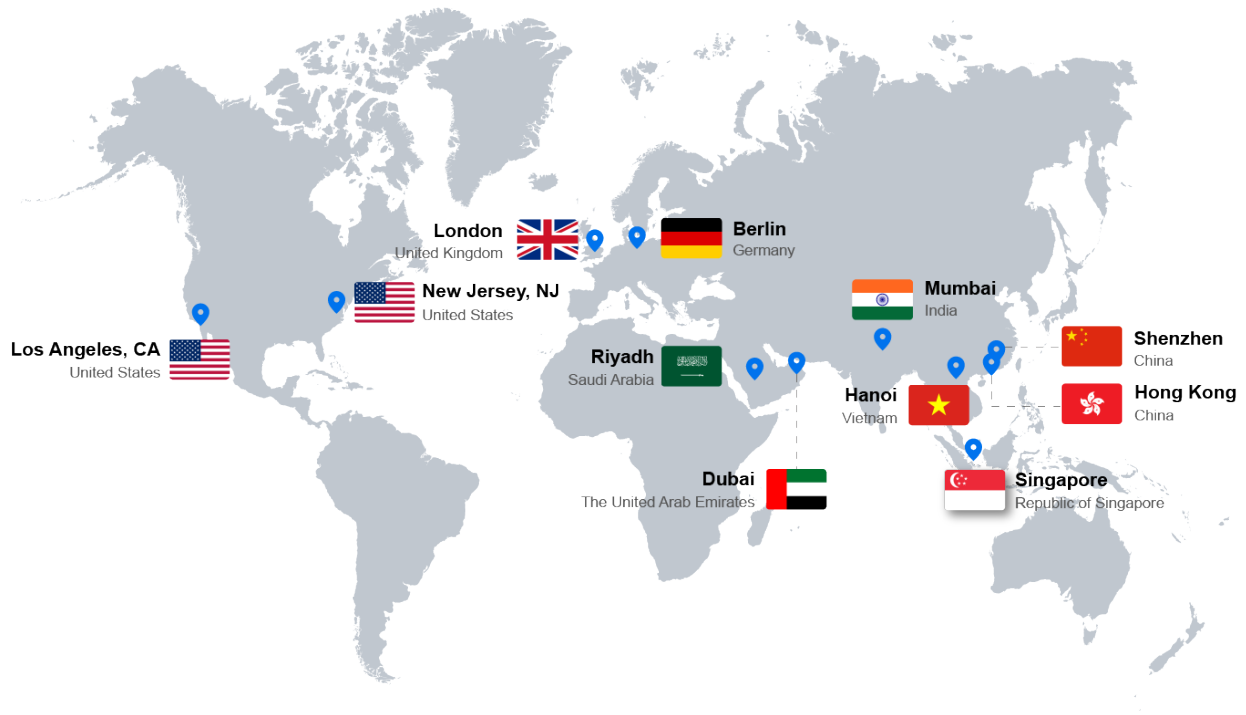
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Global Branches

Headquarters (Hong Kong)

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

USA Branch

35 E Horizon Ridge Pkwy, Ste 110 #30131, Henderson, NV 89002, USA

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK



References

[1] Arista Networks. (2024). 7050X3 Series Data Center Switches Datasheet. Retrieved from <https://www.arista.com/assets/data/pdf/Datasheets/7050X3-Datasheet.pdf>