

Arista 7280R3A Series

High Performance

- Up to 54 400G wire-speed ports
- Up to 21.6 Tbps capacity
- Up to 8.1 billion packets per second
- Wire speed unicast & multicast
- Under 4us latency (64 byte)
- Line-rate MACsec and IPsec encryption
- VOQs to eliminate head of line blocking
- Dynamic deep packet buffer up to 24 GB

Feature Rich

- High Availability
- Rich L2 and L3 features
- 512-Way ECMP and 256-Way MLAG
- Hitless MLAG ISSU
- Flexible 10/25/40G/50G/100G/400G
- Support for dense 400G-ZR
- On-board OSFP Line System ports
- Designed for NEBS

Cloud Grade Routing

- Secure Internet Peering
- Carrier Edge VPN Services
- Next Generation EVPN Services for 5G/ MEC, CIN, & Metro
- Carrier Core transport (LDP, RSVP-TE, SR-TE) and HA with FRR and TI-LFA
- Next Generation timing (PTP and SyncE)
- Open programmable APIs (JSON-RPC, NETCONF) for provisioning, telemetry, path selection/topology discovery
- Over 5M IPv4 Routes with K series

Virtualization & Provisioning

- Extensible 64-bit EOS
- CloudVision
- EVPN-VXLAN for next generation DC
- LANZ for microburst detection
- Zero Touch Provisioning (ZTP)
- Accelerated sFlow (RFC3176)
- Inband Network Telemetry

Arista 7280R3A Series Introduction

The Arista 7280R3A Series of fixed systems are the latest generation of Arista 7000 Series portfolio of data center switches. The 7280R3A Series are purpose built 100G and 400G systems built for the highest performance environments, and to meet the needs of the largest scale data centers and service providers. They deliver scalable L2 and L3 resources, high bandwidth encryption and high density with advanced features for network monitoring, precision timing and network virtualization to deliver scalable and deterministic network performance while simplifying designs and reducing Opex.

The 7280R3A's capabilities address the requirements for modern networking and rich multi-media content delivery requiring a lossless forwarding solution in a compact and energy efficient form factor, offering rich functionality for traditional data centre, virtualized/overlay networking and wide area networking along with deep packet buffers, large routing tables and industry leading switching capacity. For maximum flexibility, each platform provides a choice of three levels of scale and functionality with Standard (R3A), Encryption (R3AM) and Large Scale plus Encryption (R3AK) models available.

All Arista 7280R3A Series support FlexRoute™ engines providing the scalability to support deployment as a routing platform with Internet scale. The 7280R3A Series Accelerated sFlow feature samples and processes flow samples at line-rate. The 7280R3AK Series support a series of flexible profiles that leverage common resources for different network roles including over 5M IP routes. Algorithmic ACLs enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry, available on the R3AK series.

7280R3A Advantages

- Standards-based high density 100G and 400G switch ideal for future proof designs and high bandwidth needs such as in Internet Exchanges, High Performance Storage or Content Delivery Networks (CDNs)
- Intelligent deep buffers in a fixed form factor makes an ideal spine switch where lossless performance and in-cast problems are expected such as in data analytics and IP storage
- Directly connected 50G, 100G and 200G attached storage systems, requiring high performance and predictable latency
- Comprehensive, wire-speed, cloud data center virtualization and carrier routing with EVPN-VXLAN, MPLS and Segment Routing
- Line rate TunnelSec encryption for strong layer 2 and layer 3 security
- Hardware assisted IEEE 1588 and SyncE enables accurate timing solutions across Ethernet based networks without costly investment in separate timing networks
- Streaming network state for advanced analytics with CloudVision
- Unique monitoring and provisioning features – LANZ, DANZ, AEM, ZTP, eAPI
- Comprehensive L2 and L3 feature set for open multi-vendor networks with no proprietary lock-in
- Accelerated sFlow and IPFIX for network forensics
- Scalable forwarding table resources allow deployment flexibility in both large L2 and L3 environments for emerging network workloads
- Programmable packet processor for advanced features and flexible profiles enabling different use cases including peering and DCI
- NEBS compliance and DC power supplies designed for service provider environments
- Flexible support for 10G, 25G, 40G, 50G, 100G, 200G and 400G with wide selection of optics and cables including OSFP, QSFP-DD and QSFP form factors

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.

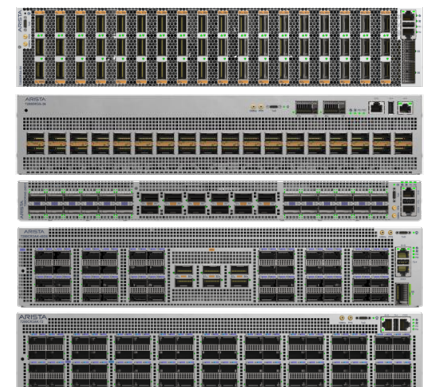
Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration. Turnkey solution for Cloud Networking
DANZ Tap Aggregation	10/40/100/400G Tap Aggregation with best-in-class performance and density up to 54 400G Tap/Tool ports
VXLAN Routing	Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks
IEEE 1588 PTP and SyncE *	Build and scale accurate timing solutions with sub-microsecond accuracy
Cloud Grade Routing	Scalable IP/MPLS and EVPN services for Internet Peering, Carrier Core and Edge
sFlow Acceleration	High sampling rate for advanced network telemetry, capacity planning, traffic engineering and monitoring
Inband Network Telemetry *	Measure latency per device and across the network, trace packets and reconstruct topology
Dynamic Deep Buffers	Up to 24 GB of packet memory per switch virtually eliminating packet drops in congestion scenarios
512-way ECMP and 256-way MLAG	Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers
Network Wide Virtualization	Multi-vendor API Support with eAPI, EVPN-VXLAN and NSX, and other encapsulation techniques
TunnelSec for 10G - 400G	MACsec, IPsec and VXLANsec line rate encryption at scale for Cloud Data Centers and DCI

7280R3A Deployment Scenarios

- **Universal Spine:** Unparalleled performance with high density and network virtualization in a proven architecture
- **Internet Peering:** Scaling to over 5M routes with FlexRoute the 7280R3AK can be leveraged for peering and MPLS
- **Telco and Cloud data centers:** Non-blocking performance and deep buffers coupled with a rich L2/L3 feature set with advanced routing, flexible and open provisioning and telemetry including accelerated sFlow and IPFIX
- **IP Storage:** Deep buffers and predictable low latency in non-blocking systems with Inband Network Telemetry
- **High Performance Compute (HPC) and Research:** Low and predictable latency, non-blocking with high density 400G and 100G, precision timing, precision monitoring, and support for flexible 10G, 25G, 40G, 50G, 100G and 400G
- **Cloud and AI:** High performance leaf and spine for AI and ML solutions, east-west traffic patterns using advanced monitoring and traffic control features for deterministic performance
- **Content Delivery Networks:** Ultra deep buffers create a lossless network for streaming 4K video over content delivery networks that ensures reliable performance under peak load
- **Data Center Interconnect (DCI):** High performance, cost effective and secure

Platform	10 or 25G ¹	50G ¹	100G ¹	400G QSFP-DD	Encryption (M & K Models)	SyncE	400G ZR Line System Ports
7280DR3A-54 7280DR3AM-54 7280DR3AK-54	- / 348	- / 348	- / 216	54	TunnelSec	Yes	2
7280DR3A-36 7280DR3AM-36 7280DR3AK-36	- / 232	- / 232	- / 144	36	TunnelSec	Yes	2
7280CR3A-24D12 7280CR3AM-24D12 7280CR3AK-24D12	- / 116	- / 116	24 / 72	12	TunnelSec	Yes	—
7280CR3A-48D6 7280CR3AM-48D6 7280CR3AK-48D6	- / 116	- / 116	48 / 72	6	TunnelSec	Yes	1
7280CR3A-72 7280CR3AM-72 7280CR3AK-72	- / 116	- / 116	72	—	TunnelSec	Yes	—

Arista 7280R3A Series systems
Secure scalability for 10/25/40/50/100/400G



1. Port counts defined as (physical interfaces / breakout interfaces) subject to EOS support and appropriate cable or transceiver selection
* Not currently supported in EOS