Arista 7280R3 Series

High Performance

- Up to 96 100G and 24 400G wire-speed ports
- Up to 9.6Tbps capacity
- Up to 8 billion packets per second
- Wire speed unicast & multicast
- Under 4us latency (64 byte)
- VOQs to eliminate head of line blocking
- Dynamic deep packet buffer up to 16GB

Feature Rich

- High Availability
- Rich L2 and L3 features
- 256-Way MLAG and 128-Way ECMP
- Hitless MLAG ISSU
- Zero touch provisioning
- IEEE 1588 precision timing
- Flexible 10/25/40G/50G/100G/400G
- Designed for NEBS

High Scalability

- 96 x 100G in 2RU
- 24 x 400G in 1RU
- 32 x 100G plus 4 x 400G in 1RU
- FlexRoute™ engine
- Over 1.4M MAC and Hosts
- Over 2M IPv4/IPv6 Unicast LPM Routes

Virtualization & Provisioning

- CloudVision
- VXLAN for next generation DC
- VM Tracer integration
- LANZ for microburst detection
- DANZ advanced mirroring
- AEM proactive management
- IEEE 1588 precision timing
- sFlow for network visibility
- Inband Network Telemetry

Arista 7280R3 Series Introduction

The Arista 7280R3 Series are a key component of the Arista 7000 Series portfolio and consist of 7280R3 and 7280R3K products. The Arista 7280R3 Series is a set of purpose built 100G/400G fixed configuration systems designed for the highest performance environments, where wire speed L2 and L3 forwarding are combined with advanced features for network virtualization, open monitoring and network analysis, resiliency and architectural flexibility. The 7280R3 Series capabilities address the requirements for modern networking and rich multi-media where content delivery require a lossless forwarding solution.

The Arista 7280R3 Series FlexRoute engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing. All Arista 7280R3 Series support FlexRoute™ engines providing the scalability to support deployment as a routing platform with Internet scale. The 7280R3 Series Accelerated sFlow feature samples and processes flow samples at linerate. The 7280R3K Series support a series of flexible profiles that leverage common resources for different network roles including up to 2.5M IP routes. Algorithmic ACLs enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry, available on the Arista 7280R3 and 7280R3K series.

7280R3 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 25G, 40G and 50G attached storage systems, requiring high performance and predictable latency
- Streaming network state for advanced analytics with CloudVision
- Network–wide virtualization platform for next generation cloud bursting with wire-speed VXLAN routing
- Hardware assisted PTP enables accurate timing solutions across Ethernet based networks without costly investment in separate timing networks
- Unique monitoring and provisioning features – LANZ, DANZ, AEM, IEEE 1588 PTP, ZTP, VM Tracer, VXLAN, and 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 100G and 400G with wide selection of optics and cables including OSFP and QSFP-DD form factors
- Comprehensive interface combinations with 50G and 200G modes on both 400G and 100G ports using optics and cables.
- Segment Routing and EVPN with flexible options for underlay and overlay topologies

Arista 7280R3: Optimized for Next Generation Routing with Advanced Features

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.
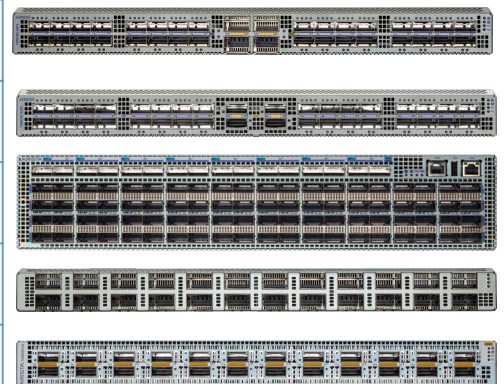
Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
DANZ Tap Aggregation	10/40/100/400G Tap Aggregation with best-in-class performance and high density up to 24 400G Tap/Tool ports
Wirespeed VXLAN Routing	Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks
IEEE 1588 PTP	Build and scale accurate timing solutions with sub-microsecond accuracy
FlexRoute	Flexible scalability to support deployment as a routing platform with Internet scale routing
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 16GB of packet memory per switch virtually eliminating packet drops in congestion scenarios
256-way ECMP and 128-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, VXLAN and NSX, and other encapsulation techniques

7280R3 Deployment Scenarios

- **Universal Spine:** Unparalleled performance with high density and network virtualization in a proven architecture
- **Internet Peering:** Scaling to over 2.5M routes with FlexRoute the 7280R3 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 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	10G	25G	40G	50G	100G	400G
7280CR3-32P4 **7280CR3K-32P4**	96	96	36	96	48	4
7280CR3-32D4 **7280CR3K-32D4**	96	96	36	96	48	4
7280CR3-96 **7280CR3K-96**	192	192	96	192	96	—
7280PR3-24 **7280PR3K-24**	96	192	24	192	96	24
7280DR3-24 **7280DR3K-24**	96	192	24	192	96	24

A choice of systems for flexible options of 10/25/40/50/100/400G

Arista 7280R3 Series Switches

* Not currently supported in EOS

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