Arista 7280R and R2 Series

High Performance

- Up to 60 wire-speed 100GbE ports
- Up to 12Tbps Capacity
- Up to 5.76 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 32GB

Feature Rich

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

High Scalability

- 60 x 100G in 2RU
- 72 x 40G in 2RU
- 36 x 40G in 1RU
- 48 x 10/25G and 6 x 100G in 1RU
- FlexRoute™ engine
- 768K MAC/IPv4/IPv6 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 and Tap Aggregation
- AEM proactive management
- sFlow for network visibility

Arista 7280R Series Introduction

The Arista 7280R Series are a key component of the Arista 7000 Series portfolio and consist of 7280R and 7280R2 products. The Arista 7280R Series is a set of purpose built 10/25/40/50/100GbE 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 7280R Series capabilities address the requirements for modern networking and rich multi-media where content delivery require a lossless forwarding solution.

The Arista 7280R Series FlexRoute engine provides the flexible scalability to support deployment as a routing platform with Internet scale routing. Arista FlexRoute along with EOS NetDB enables innovation not natively available in merchant chipsets. The 7280R Series Accelerated sFlow feature samples and processes flow samples into datagrams in dedicated engines. AlgoMatch™, a unique Arista innovation to enable more flexible and scalable solutions for access control, policy based forwarding and network telemetry is available on the Arista 7280RA and 7280R2A series.

7280R Advantages

- Standards-based high density 100G switch ideal for future proof designs and high bandwidth needs such as in High Performance Storage or Content Delivery Networks (CDNs)
- Dynamic deep buffers in a fixed form factor makes for an ideal top of rack switch where lossless performance and in-cast problems are expected such as in data analytics and IP storage
- Directly connected 25GbE, 40GbE and 50GbE 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
- Large scale L2 and L3 table resources allow deployment flexibility in both large L2 and L3 environments with any-workload suitability
- NEBS compliance and DC power supplies designed for service provider environments

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.

Arista 7280R: Deep buffer, advanced services, feature rich leaf

Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
DANZ Tap Aggregation	10/40/100G Tap Aggregation with best-in-class performance and high density up to 48 100G 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 and monitoring
Dynamic Deep Buffers	Up to 32GB of packet memory per switch virtually eliminating packet drops in congestion scenarios
128-way ECMP and MLAG	Improve network scalability and balance traffic across large-scale leaf-spine designs or server load balancers
Latency Analyzer (LANZ)	usec granularity on port utilization using buffering watermarks for immediate feedback and precision monitoring
Network Wide Virtualization	Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques

7280R Deployment Scenarios

- **Universal Spine:** Delivering high bandwidth with density, resiliency, rapid convergence and large routing tables
- **Internet Peering**: With support for large tables and rapid convergence the 7280R can be leveraged for both peering and DCI
- **Virtualized and Cloud data centers:** Largest scale resources, deep buffers and non-blocking performance coupled with a rich L2/L3 feature set and innovative provisioning and monitoring
- **IP Storage:** Dense with deep buffers and predictable low latency in non-blocking systems
- **High Performance Compute (HPC) and Research:** Low and predictable latency, non-blocking with high density 40G and 100G, precision timing, precision monitoring, and support for flexible 10G, 25G, 40G, 50G and 100G
- **Big Data and Hadoop:** High performance leaf and spine for east-west traffic patterns with advanced monitoring and traffic control features for deterministic performance
- **Content Delivery Networks:** Ultra deep buffers create a lossless network for streaming media and content delivery networks that ensures reliable performance under peak load

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

Platform	10G	25G	40G	50G	100G
7280TR-48C6 **7280SR-48C6**	48 + 24	24	6	12	6
7280QR-C72	160	64	72	32	16
7280CR2-60* **7280CR2A-60*** **7280CR2K-60***	240	240	60	120	60

* IEEE 25G Support

Arista 7280R and R2 Series Switches

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