

Arista 7020R Series

## High Performance

- Up to 1.04 Tbps system capacity
- Up to 300 million packets per second
- Wire speed unicast and multicast
- Latency as low as 3.8usec
- Virtual Output Queue per port to eliminate head of line blocking
- Dynamic deep packet buffer up to 3GB
- Under 2W power per 10Gbps of performance

## Feature Rich

- Arista FlexRoute
- Rich L2 and L3 features
- High Availability
- DC optimized airflow
- VXLAN gateway and routing
- Zero Touch Provisioning
- Smart System Upgrade \*
- Hitless MLAG ISSU
- RAIL for Big Data and Hadoop
- Chef, Puppet and Ansible automation
- Extensible platform - bash, python, C++
- IPSec encryption in hardware

## High Scalability

- Wirespeed L2 and L3 forwarding
- 32 x 10G SFP+ and 2 x 100G QSFP
- 24 x 10G SFP+ and 2 x 100G QSFP
- 48 x 100/1000BASE-T and 6 x 1/10G
- 64-Way MLAG / 128-Way ECMP
- Scalable Leaf-Spine designs
- MAC 256K / IPv4 Hosts 80K
- Max IP Routes: 200K IPv4 / 200K IPv6

## Advanced Monitoring

- CloudVision
- sFlow for network visibility
- LANZ microburst detection \*
- AEM proactive management
- IEEE 802.1 AVB
- VM Tracer integration \*

## Arista 7020R Series Introduction

The Arista 7020R Series are a purpose built high performance and power efficient solution for high density data center deployments. With a choice of 10G SFP+ or 100Mb/1G RJ45, the switch delivers non-blocking forwarding of up to 1.04Tbps combined with feature rich L2 and L3 switching. The 7020R are designed for the high performance environments as a server edge for 1G leaf and spine designs or a high performance storage network switch, where wire speed L2 and L3 forwarding are combined with advanced features for network virtualization, open monitoring and network analysis, resiliency and architectural flexibility.

### Lossless Architecture With Unparalleled Performance and Scale

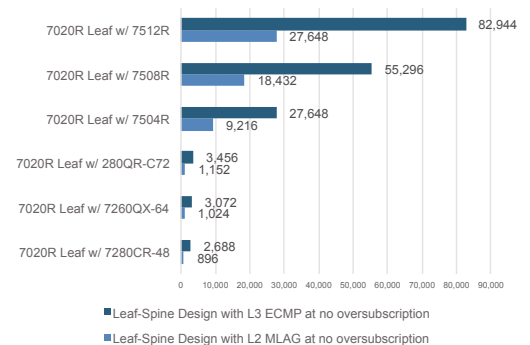
The Arista 7020R Series uses a deep buffer VOQ architecture consistent with the 7280R Series that eliminates head-of-line blocking and packet drops even in the most congested network scenarios. As a result, the Arista 7020R can handle the most demanding data center requirements with ease, including mixed traffic loads of real-time streaming, multicast, and storage traffic. The switches all use a common dedicated packet processor that delivers consistent features.

The 7020R has a high performance quad core CPU and 8GB of system memory to allow for a combination of larger routing tables, vrfs, additional protocols and faster convergence. With support for Arista FlexRoute engine and large forwarding tables along with EOS NetDB the 7020R enable scalability not natively available in typical 1G switches. 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 7020TRA series.

### A Flexible Universal 1G and 10G Leaf Platform

With Arista EOS, the 7020R allow flexible options at all tiers of the network, and in a range of deployment scenarios including layer 2 MLAG, layer 3 ECMP, VXLAN Overlay bridging and routing.

The flexibility of the L2 and L3 multi-path design options combined with support for open standards provides maximum flexibility, scalability and network wide virtualization that scales to thousands of hosts in a single two-tier design.



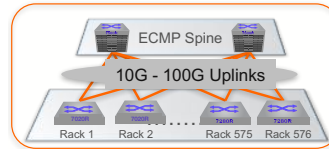
Arista 7020R Series Scale-out

## Arista EOS

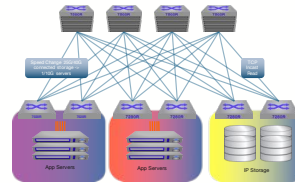
Arista EOS is a modular switch operating system with a unique state sharing architecture that cleanly separates switch state from protocol processing and application logic. Built on top of a standard Linux kernel, all EOS processes run in their own protected memory space and exchange state through an in-memory database. This multi-process state sharing architecture provides the foundation for in-service-software updates and self-healing resiliency.

### 7020R Deployment Scenarios

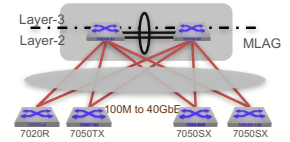
- **Universal Leaf:** Delivering high performance and bandwidth with density, resiliency, equal cost multi-pathing, rapid convergence and large routing tables
- **Virtualized and Cloud data centers:** Large scale resources coupled with a rich L2/L3 feature set and innovative provisioning and monitoring
- **IP Storage:** Lossless performance with dynamic deep buffers and predictable low latency in non-blocking systems for consistent application response
- **Digital Media:** Low and predictable latency, non-blocking with high density 10G and 1G, precision timing and monitoring
- **Big Data and IP Storage:** High performance leaf 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 loads
- **Hyperconverged Server and Storage Infrastructure:** Small form factor system with 10G SFP for local connections and 100G QSFP uplinks allows high performance and non-blocking designs with deep buffers
- **Site-to-site VPN with IPSec:** Secure VPNs for the transmission of sensitive information over unprotected public networks (7020SRG only)
- **Edge computing and 5G networks:** high performance with compact and power efficient platform with dual 100G uplinks



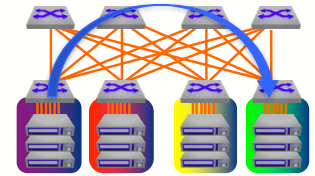
ECMP Scale Out Design



IP Storage



Traditional Enterprise L2/L3 Design



Virtualized Data Centers

Arista 7020R Series Deployment Scenarios

### 7020R Series Systems

Arista 7020R Series support hot-swappable power supplies and N+1 fan redundancy, EOS high availability, a choice of L2 and L3 multi-pathing designs and powerful EOS innovations for visibility, application level performance monitoring and virtualization.

With deep packet buffers, large forwarding tables, data center class reliability and an architecture and features consistent with the 7280R Series, the 7020R is an ideal platform for building reliable and highly scalable data center networks.

Feature	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
Dynamic Deep Buffers	3GB of packet memory per switch virtually eliminating packet drops in congestion scenarios
Equal Cost Multi Pathing (ECMP)	All paths between spine and leaf run active/active utilizing standard routing protocols like BGP and OSPF and ECMP is used to run all paths in active/active mode.
IPv4 and IPv6 Routing Support	IPv4 and IPv6 Layer 3 routing (OSPF, BGP, ISIS and PIM) is available in the Enhanced Routing license, enabling highly resilient multi-path networks.
Zero Touch Provisioning	With ZTP, a switch loads its image and configuration from a centralized location within the network. This simplifies deployment, enabling network engineering resources to be used for more productive tasks.
Wirespeed VXLAN Routing	Seamless integration between VXLAN and L2/L3 environments, physical and virtualized networks
IPSec VPN *	Site to site IPSec VPN for secure connections between datacenter and points of presence (7020SRG only)
Latency Analyzer * (LANZ)	Real time visibility of port latency and per port high watermarks to provide immediate feedback and precision monitoring
Network Wide Virtualization	Multi-vendor API Support with eAPI, VXLAN and NSX, and other encapsulation techniques
High Performance Control Plane	Quad core CPU and 8GB of system memory to support larger routing tables, vrf's and faster convergence.

\* Not currently supported in EOS