



Arista 7170B Series

Arista 7170B Series Introduction

Significant growth in the scale, performance and complexity of data centre networks has created new challenges for designers. Network functions that traditionally required dedicated appliances are no longer able to keep pace with the required data rates in an economical fashion.

Combining Arista EOS and a highly programmable switch architecture with customizable system resources, the 7170B Series builds on the success of the 7170 family with a substantial increase in on-chip resources to enable unique features for traditional and new network based applications and services at wire speed.

7170B Series Deployment Scenarios

The 7170B is a 64 x QSFP100 port fixed configuration system in a compact 2RU form factor with support for a broad range of speeds from 10GbE through to 200GbE and support for wire speed MACsec encryption.

The unique programmable architecture with scale increase to up to 80 programmable stages, provides the flexibility to install pipeline profiles defined in P4 to address different use cases, add new functionality and vary table sizes.

This provides phenomenal investment protection along with opening the possibility to support highly personalized use cases to solve traditional and new network challenges which are otherwise not feasible with traditional switching platforms. The following are a selection of such use cases

- Bare-metal Integration with Network Overlays and Virtualization
- Large Scale Network Address Translation:
- IPv4 to v6 transition with MAP-T
- Stateless Load Balancing
- Advanced Features for Broadcast Media Workflows

High Performance

- Up to 6.4 (12.8) Tbps system capacity
- Up to 3.2 billion packets per second
- P4 programmable packet processor
- Wire speed unicast & multicast
- Class leading latency as low as 1us
- Support for 10, 25, 40, 50, 100 & 200GbE
- Wire speed AES-256 MACsec Encryption
- 64MB packet buffer

Feature Rich

- High Availability
- DC optimized airflow
- Rich L2 and L3 features
- 64-Way MLAG
- 128-Way ECMP or UCMP
- Zero Touch Provisioning
- Hitless MLAG ISSU
- Large Scale NAT
- AlgoMatch for network policy

Flexible & Programmable

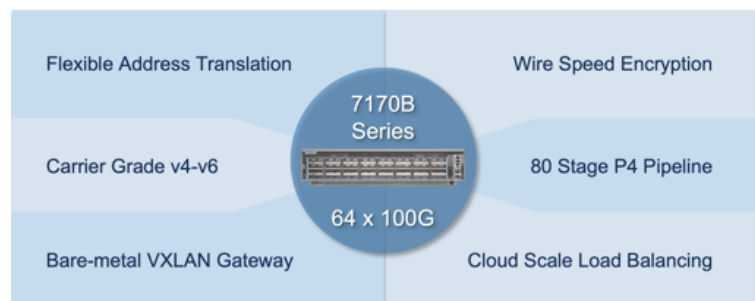
- P4 programmable pipeline
- Up to 80 pipeline stages
- Online pipeline program update
- Full access to linux shell and tools
- Extensible via APIs and scripting

High Scalability

- Wirespeed L2 and L3 forwarding
- 64 x 100G or 40G with optics and cables
- Up to 128 x 25/50G or 32 x 200G
- Scalable MAC & IPv4 Hosts and Routes
- Wirespeed Network Address Translation

Advanced Monitoring

- CloudVision
- LANZ microburst detection
- AEM proactive management
- IEEE 1588 precision timing
- sFlow for network visibility



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.

7170 Series Systems

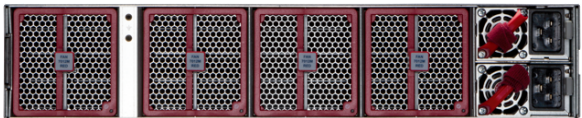
Arista 7170 Series support hot-swappable power supplies and N+1 fan redundancy, EOS high availability, a choice of L2 and L3 multi-pathing designs and powerful EOS innovations for visibility, network security, application level performance monitoring and virtualization.

Feature *	Description
CloudVision	Network-wide workflow automation and workload orchestration as a turnkey solution for Cloud Networking
Programmable Packet Processor	Multi-stage pipeline which allows reconfiguration of the forwarding logic programmatically using P4
Flexible Resource Profiles	Flexible allocation of L2 and L3 forwarding table resources for greater design choice. New profiles implemented via EOS
Broad Range of Interface Speeds	Combinations of 10G, 25G, 40G, 50G, 100G and 200G provide maximum flexibility
MACsec (802.1AE)	High security communication with strong encryption using AES-256-GCM on all interfaces
IEEE 1588 PTP	Build and scale accurate timing solutions with sub-microsecond accuracy
Large Scale Full Featured NAT	Multiple varieties of Network Address Translation with no performance impact to resolve overlapping addressing challenges
MAP-T	Line-rate, high scale, stateless translation between IPv4 and IPv6 enabling service providers to remove IPv4 from core networks without the need for complex CGNAT deployments.
Bare-metal Integration	Large scale integration of bare metal compute into virtualized overlays
Stateless Load Balancing	High bandwidth, low latency load balancing for distributed applications including cloud, web and containerized workloads

	7170B-64C
Description	64-Port QSFP100 and 2 SFP+
Maximum 100G Ports	64
Maximum 40G Ports	64
Maximum 10G Ports	130
Maximum 25G Ports	128
Maximum 50G Ports	128
Maximum System Throughput (Full Duplex)	6.4 (12.8) Tbps
Maximum Forwarding Rate	3.2 Bpps
Port to Port Latency	from 1 us
Total System Buffer	64MB
Typical Power per 100G port	12.6W
Airflow	Front-Rear

High Availability

- 1+1 hot-swappable power supplies and
- Four N+1 hot-swap fans
- Color coded PSU's and fans



Arista 7170B 2RU Rear View: Front to Rear airflow (red)

* Due to the highly programmable nature of the packet processor, available functionality and scale varies by the current active profile.