The world's leading FPGA-enabled network platform

Ultra-Low Latency

- 5 ns port-to-port Layer1
- As low as 39 ns multiplexing

Application Ready

- Leverage Arista applications:
  - MetaMux
  - MetaWatch
  - SwitchApp
  - ExchangeApp
  - MultiAccess
  - MetaProtect Firewall
- Develop and host your own apps
- Integrate 3rd party apps or cores

Feature Rich

- Media conversion
- Signal regeneration
- Dynamic patching
- Telemetry

Monitoring

- Enabled by Arista applications:
  - Packet statistic on every link
  - Signal quality monitoring
  - High precision clock

7130 FPGA-enabled Network Switches

Arista's FPGA-enabled 7130E and L Series devices leverage the latest FPGA technology to allow companies to develop and deploy cutting-edge network applications. Available in 32, 48 or 96 SFP+ port options, the FPGA-enabled switches include a host of functionality:

- Up to 3 FPGAs on a single device
- 5 ns layer 1 switching between network
- 3 ns latency from front panel to FPGA
- Various specifications for RAM, buffers, and transceivers
- Extensive development toolkits and low-latency IP Cores

All FPGA-enabled devices are optimized for Arista's high performance network applications and can equally be leveraged to run 3rd party partner applications. FPGA application developers can utilize the platform to deploy and deliver their performance critical apps. In addition to the market-leading FPGA functionality, the devices offer a multitude of Layer 1+ network functionality:

- Signal regeneration
- Port mirroring
- Dynamic patching/link management
- Ad-hoc tapping without rewiring
- Layer 1+ statistics on every link
- Media conversion
- Telemetry

Feature	Description
Ultra-low latency	Fan-out with 5 ns of latency, equivalent to a single metre of fibre or copper interconnect, and aggregate in 39 ns.
Simplified Stack	Combine your FPGA(s), x86 server and Layer 1 switch in a single device, ensuring that all hardware components work in sync and significantly reducing development time and errors.
Integrated with existing FPGA Tools	Remotely develop on the FPGA(s) with ease. Platform specific adapters for programming the FPGA are embedded within 7130 devices, allowing for a quick and easy access by your FPGA development tools to the devices. Connect to the hardware over the network using all your usual development tools.
Layer 1+ Functionality	Save rack space and reduce complexity by leveraging the layer 1 functionality for scalable broadcast, connection monitoring, remote patching, tapping, media conversion, time stamping. For example: take in a multicast feed, replicate it out to the core infrastructure and route directly to the FPGA, all on the same device with no additional overhead.
Feature rich	Avoid the need to build features in-house by leveraging Arista's access control, syslog, SNMP, packet stats, tcpdump, JSON RPC API, time series data, streaming telemetry and more - included as standard within the 7130 Series.
Easy app deployment	Streamline operational processes through Arista's built-in application infrastructure which allows developers to wrap applications into simple packages for deployment.
Enterprise ready	Deploy FPGA applications with ease - the FPGA platform integrates with a 64-bit x86 management processor and the MOS or/and EOS Operating systems to provide user extensible solutions.

Arista 7130: Low-Latency, Programmable, Multi-feature, Deterministic

7130E Series Devices

Model	FPGA	FPGA Quantity	SFP+ Ports	FPGA Ports	RU	ePCIE	PPS In/Out	SSD Drive Bays
48EH	Xilinx Virtex® UltraScale+™ VU9P	3	48	56 central/ 14 leaf	1		x	

7130L Series Devices

Model	FPGA	FPGA Qty	SFP+ Ports	FPGA Ports	Off-Chip RAM	RU	ePCIE	PPS In/Out	Clock	SSD Bay	Internal 10G Ports
48L	Xilinx Virtex® UltraScale+™ VU7P	1	48	60	4 x 8GB DDR4 2400 ECC	1		x	OCXO		x
96L	Xilinx Virtex® UltraScale+™ VU7P	1	96	58	4 x 8GB DDR4 2400 ECC	2		x	OCXO		x
32LB	Xilinx Virtex® UltraScale+™ VU9P	1	32	60	4 x 8GB DDR4 2400 ECC	1	x	x	OCXO	x	x
48LB	Xilinx Virtex® UltraScale+™ VU9P	1	48	60	4 x 8GB DDR4 2400 ECC	1		x	OCXO		x
96LB	Xilinx Virtex® UltraScale+™ VU9P	1	96	58	4 x 8GB DDR4 2400 ECC	2		x	OCXO		x
48LA	Xilinx Virtex® UltraScale+™ VU7P	1	48	60	4 x 8GB DDR4 2400 ECC	1		x	Atomic		x
96LA	Xilinx Virtex® UltraScale+™ VU7P	1	96	58	4 x 8GB DDR4 2400 ECC	2		x	Atomic		x
32LBA	Xilinx Virtex® UltraScale+™ VU9P	1	32	60	4 x 8GB DDR4 2400 ECC	1	x	x	Atomic	x	x
48LBA	Xilinx Virtex® UltraScale+™ VU9P	1	48	60	4 x 8GB DDR4 2400 ECC	1		x	Atomic		x
96LBA	Xilinx Virtex® UltraScale+™ VU9P	1	96	58	4 x 8GB DDR4 2400 ECC	2		x	Atomic		x

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Why use Arista 7130 FPGA-enabled switching devices?

- Leverage the 7130 as a powerful FPGA application platform to …
    - Deploy the Arista MetaMux, MetaWatch, MultiAccess, SwitchApp, ExchangeApp and MetaProtect Firewall applications
    - Develop and deploy applications on the FPGA and/or 64-bit x86 processor
    - Bring your application logic to the network edge
    - Provide the building blocks for powerful networked applications with 1/10GbE networking

- Utilize the fastest network devices on the market with a quarter of the latency of conventional switches
- Troubleshoot and manage your network through packet statistics and monitoring across all ports
- Simplify your network architecture by replacing a rack loaded with separate devices for discrete functions
- Build on a tried and true hardware and software platform with 24X7 support

MOS Operating System

MOS provides a core set of features that are common across the 7130 platform. It is based on Linux and provides a command line and web interface as well as support for other management protocols. MOS provides a standard, mature and powerful platform with the commands, tools and packages such as syslog, net-snmp, daemons, RPMs, Bash, Python, authentication, and security:

- Command-line interface (CLI), web user interface & JSON-RPC API via HTTP/HTTPS
- Integrated telemetry via the InfluxData TICK Stack (Telegraf, InfluxDB, Chronograf and Kapacitor)
- Application monitoring: Layer 1 switch statistics and FPGA application monitoring
- SNMP support including traps on environmental, authentication, link state, memory, disk, load, and more
- Ability to load FPGA images from the MOS CLI or MOS API
- Remote access to the platforms JTAG interface remotely via provided JTAG utilities

EOS - Extensible Operating System & CloudVision

Arista EOS is a fully programmable, highly modular, Linux-based network operating system, using a familiar industry standard CLI and running a single binary software image across the Arista switching family. Architected for resiliency and programmability, EOS has a unique multi-process state sharing architecture that separates state information and packet forwarding from protocol processing and application logic.

As customers are focussing on automation and visibility in the network, programmability at every layer of the software is key. Arista CloudVision provides a network-wide approach for workload orchestration, workflow automation and real-time telemetry enabling companies to manage the network with much fewer human resources. Rapid integration with a wide range of third-party applications for virtualization, management, automation and orchestration services are equally available.