SOLUTION PROFILE

Intel® Ethernet Server Adapters

Arista Networks

Intel® Ethernet Converged Network Adapter and Arista Networks Switch Product Reference

Intel® Ethernet Converged Network Adapters, in combination with Arista software-defined networking (SDN)-enabled switches, provide scalable, high-performance 10 Gigabit Ethernet connectivity and lossless delivery for cloud, big data, virtualized, and centralized storage data centers.

	INTEL® ETHERNET CONVERGED NETWORK ADAPTER	KEY FEATURES	ARISTA SWITCH	KEY FEATURES
10GBASE-T	**Intel® Ethernet Converged Network Adapter X540-T2** Product code: X540T2 **Intel® Ethernet Converged Network Adapter X540-T1** Product code: X540T1	▪ Single-chip design for low-cost, low-power 10GBASE-T connectivity ▪ Compatible with Gigabit Ethernet (1000BASE-T) infrastructures ▪ Unified Networking Support ▪ Intel® Virtualization Technology for Connectivity ▪ One- and two-port designs	**Arista 7050T Series Switch** ▪ DCS-7050T-64 ▪ DCS-7050T-52 ▪ DCS-7050T-36	▪ Compatible with Gigabit Ethernet cabling, including auto-speed negotiations ▪ Optimized power consumption with third-generation PHYs (5 watts per port average) ▪ Millisecond port-to-port switching for latency-sensitive applications ▪ SDN-ready with OpenFlow* controller integration ▪ Large table sizes for virtual machine scalability ▪ Award-winning Arista Extensible Operating System (EOS) features
SFP+	**Intel® Ethernet Converged Network Adapter X520 (SFP+ models)** Product codes: ▪ E10G42BTDA (dual-port Direct Attach Copper) ▪ E10G41BFSR (single-port SR fiber) ▪ E10G42BFSR (dual-port SR fiber) ▪ E10G41BFLR (single-port LR fiber)	▪ Single-chip design for low-cost, low-power SFP+ connectivity ▪ Unified Networking Support ▪ Intel® Virtualization Technology for Connectivity ▪ One- and two-port designs ▪ Support for Intel® Ethernet SFP+ optics	**Arista 7150S Series Switch** ▪ DCS-7150S-24 ▪ DCS-7150S-52 ▪ DCS-7150S-64 **Arista 7050 Series Switch** ▪ DCS-7050S-52 ▪ DCS-7050S-64	▪ Nanosecond port-to-port switching for multi-node compute-intensive application ▪ Precision time clock compliant to IEEE 1588 standards ▪ LACP and 802.3X flow control with Intel Ethernet Converged Network Adapters ▪ Compatible with Direct Attach Copper (DAC) cables and SFP+ optical connectors ▪ Wire rate VXLAN for VMware vSphere* 5.1 multi-tenant cloud hosting ▪ EOS extensibility including OpenStack* integration and virtual machine tracing
	Intel® Ethernet SFP+ Optics ▪ **10GBASE-SR** Product code: E10GSFPSR ▪ **10GBASE-LR** Product code: E10GSFPLR	▪ Compatible with SFP+ ports on Intel® Ethernet Server Adapter X520 ▪ Dual-speed (1/10) 300-meter reach using multimode SR fiber ▪ 10-km reach using single-mode LR fiber		

Best-in-Class Unified Networking with Intel® Ethernet Converged Network Adapters

Intel has shipped over 600 million Ethernet ports over the last decade and is the industry's leading 10GbE adapter vendor.[1] Intel® Ethernet Converged Network Adapters offer performance, efficiency, and value other vendors cannot match.

Reliable performance. Intel has more than three decades of experience delivering reliable Ethernet products. Innovations such as intelligent hardware offloads provide outstanding performance across a wide range of applications.

Best choice for I/O virtualization. Intel Virtualization Technology for Connectivity, which includes Virtual Machine Device Queues (VMDq) and support for PCI-SIG* Single Root I/O Virtualization (SR-IOV), improves I/O virtualization performance in virtualized and non-virtualized environments.

Cost-effective storage. A single Intel Ethernet Converged Network Adapter supports both LAN and storage traffic. Using storage initiators integrated into the operating system or hypervisor delivers high-performance storage connectivity without the limitations of proprietary hardware offloads.

Arista Networks Portfolio

Arista Networks was founded to deliver software-defined cloud networking solutions for large data centers and high-performance computing (HPC) environments. With more than one million cloud networking ports deployed worldwide, Arista delivers a portfolio of products that redefine network architectures, bring extensibility to networking, and dramatically change the price/performance of data center networks.

Arista 7150S Series

The Arista 7150S series represents the industry's leading ultra-low latency 1RU 1/10/40GbE layer 2/3/4 wire-speed switch family, offering a unique combination of performance, advanced functionality, and extensive onboard resources. Designed to suit the requirements of demanding environments such as ultra-low latency financial electronic communication networks, HPC clusters, and cloud data centers, the class-leading deterministic latency from 350ns is coupled with a set of advanced tools for monitoring and controlling mission-critical environments.

Configurations include

- 7150S-64: 48 SFP+ and 4 QSFP+ interfaces
- 7150S-52: 52 SFP+ interfaces
- 7150S-24: 24 SFP+ interfaces

Each QSFP+ 40GbE port can also operate as four independent 10GbE ports.

Arista 7050 Series

The Arista 7050 series switches offer wire-speed layer 2/3/4 performance in a compact 1RU chassis and a choice of SFP+ or 10GBASE-T interfaces. Designed for cloud and virtualized data centers, the 7050S and 7050T series provide integration with VMware vSphere*, OpenStack, OpenFlow*, Microsoft Hyper-V*, KVM* Cloud hypervisor, and management solutions.

Configurations include

- 7050S-64: 48 SFP+ and 4x40GbE QSFP+ interfaces
- 7050S-52: 52 SFP+ interfaces
- 7050T-64: 48 1/10GBASE-T and 4x40GbE QSFP+ interfaces
- 7050T-52: 48 1/10GBASE-T and 4x10GbE SFP+ interfaces
- 7050T-36: 32 1/10GBASE-T and 4x10GbE SFP+ interfaces

Each QSFP+ 40GbE port can also operate as four independent 10GbE ports.

The Arista 7050S offers a latency of 800 to 1200 ns in cut-through mode and a shared 9 MB packet buffer pool that is allocated dynamically to ports that are congested. An optional built-in solid-state drive supports advanced logging, data captures and other services directly on the switch.

Intel and Arista: Meeting the Needs of Next-Generation Networks

With support for technologies and standards for low-latency performance, cloud networking, software-defined networking, and network virtualization, Intel and Arista are two companies leading the transition to next-generation data center networking. Intel and Arista work together closely to ensure product interoperability and outstanding performance.

Learn more:

www.intel.com/go/ethernet

www.aristanetworks.com

Solution provided by:

[1] Source: Crehan Research, Q1'13

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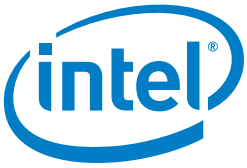
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