Coraid and Arista

Simplicity at Scale: Scale-Out Storage and Networking for Public and Private Cloud Builders

Cloud computing and virtualization are breaking down traditional IT silos in the data center, creating the need for storage and networking platforms that deliver scalable, flexible and automated services. Data centers are turning away from monolithic systems using proprietary hardware for their network and storage needs, and are turning to scale-out building blocks based on commodity hardware. The Coraid EtherDrive® storage platform combined with Arista's state of-the-art 10 Gb Ethernet switch technology provides a scalable networked storage solution that allows businesses to effectively deploy cloud and virtualized infrastructures to manage their rapidly growing data while keeping total costs under control.

Coraid has partnered with Arista to deliver a joint interoperability-tested solution using Arista 10 Gigabit Ethernet switches with Coraid EtherDrive 10 Gigabit Ethernet storage demonstrating industry leading scalability, flexibility and automation. Coraid storage uses connectionless, standard layer-2 Ethernet as the interconnection fabric between hosts and storage, which enables easy and powerful integration between technologies from the two companies. IT administrators can use EtherDrive scale-out block storage and Arista 10 GbE switches to build flexible shared pools of storage to meet their SLAs and reduce storage complexity.

Arista Networks

Arista Networks delivers a portfolio of 1/10/40 and 100 GbE capable products that redefine network architectures, bring extensibility to networking, and dramatically change the price/performance of data center networks. Consolidation of storage and virtualization of servers has created demand for a new class of networked storage that addresses the need for higher performance, scalability and agility while controlling cost. As data centers transition from legacy Fibre Channel to Ethernet, the performance and simplicity of a 10Gb Ethernet storage based on commodity hardware provides a compelling alternative. Arista and Coraid are both innovators in virtual data center infrastructure, and the combined solution delivers unprecedented value.

Coraid EtherDrive and EtherCloud

Coraid has brought to storage the same flexibility, simplicity and scalability that Arista Networks has to networking. Coraid EtherDrive is a family of scale-out block storage products based on Ethernet that offers superior price- performance and simplicity. Coraid EtherCloud is the industry's first software-defined storage platform for architects of the modern data center. EtherCloud is designed to work with Coraid EtherDrive, and makes every aspect of storage management and control programmable via REST API. Using the API, cloud administrators can easily automate workflows related to storage provisioning and management, and integrate the management of storage with the rest of the infrastructure.

Ultra-Low Latency

By leveraging the power of Ethernet and utilizing congestion avoidance algorithms Coraid EtherDrive storage in combination with Arista's ultra-low-latency 10GbE switches is able to reduce latency and leverage multiple data paths to exceed performance SLAs. In addition, performance can be inexpensively scaled up through the addition of more EtherDrive storage systems. And with the deep buffers of the Arista 7500 family of switches featuring more than 40ms of per-port packet buffering, conditions such as fan-in, which arise when multiple servers need to access the same storage data, are well handled. Additionally, with the Arista 7100 family, the use of a Dynamic Buffer Allocation capability allows the switch to deliver the lowest latency possible without compromising the ability to handle congestion.

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REDEFINING STORAGE

Performance Testing

Performance was tested using the IOMETER workload generator via simulated application workloads based on streaming media services. The tests confirm Arista and Coraid's ability to deliver predictably scalable performance.

Configuration	Workload	MB/sec
16 x SATA	Streaming Media	826
24 x SATA	Streaming Media	1211
36 x SATA	Streaming Media	1880

Recommended Configuration

Arista and Coraid completed joint interoperability testing. Using Arista 10Gb Ethernet core and top-of-rack switches and Coraid EtherDrive 10Gb Ethernet storage arrays, customers can build scale-out configurations ranging from 24TB single storage appliance to a multi-petabyte system by simply adding more storage appliances.

Summary

Network and Storage solutions from Arista and Coraid provide unmatched scalability, flexibility and automation advantages for virtualized and cloud environments. With solutions from Coraid and Arista, it is possible to address both today's application performance requirements as well as build a virtualized infrastructure that paves the way for a cloud storage environment of the future.

Massive scale-out block storage, policy based automation and improved operational efficiencies are all prime focuses of the Arista-Coraid joint solution. Arista's state-of-the-art network switches provide optimal performance for storage traffic and eliminate performance issues associated with latency and inadequate packet buffering, while Coraid's EtherDrive storage and EtherCloud management software give unique and dramatic storage advantages – especially within Cloud and virtualized environments.
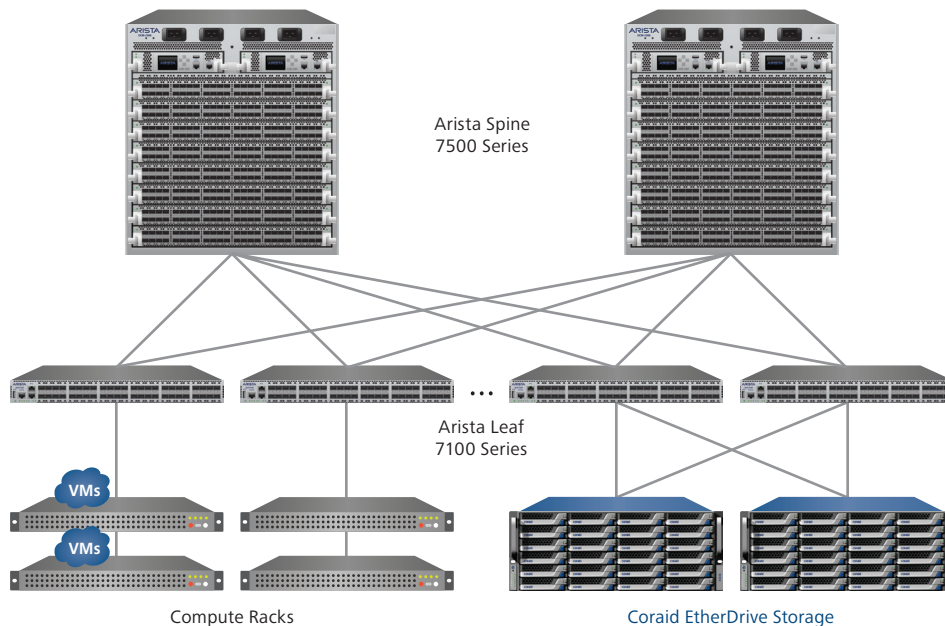
A cloud storage infrastructure can now be built with a joint Arista-Coraid offering exceptional performance, service automation, and truly boundless scalability, enabling creation of a genuine cloud storage infrastructure.

About Arista Networks

Arista Networks delivers cloud networking solutions for large data center and computing environments. Arista leads the data center Ethernet switching industry with innovation in switching hardware, performance, and the EOS platform. www.aristanetworks.com.

About Coraid

Coraid redefines storage with its breakthrough line of EtherDrive and EtherCloud solutions. Coraid delivers scale-out performance, Ethernet simplicity, and an elastic storage architecture to handle massive data growth. Designed from the ground up for big data, virtualization, and cloud architectures, Coraid solutions have been deployed by more than 1,700 customers worldwide. For more information, visit www.coraid.com.

Arista Spine 7500 Series

Arista Leaf 7100 Series

VMs

VMs

Compute Racks

Coraid EtherDrive Storage

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