

Creating High Performance Best-In-Breed Scale-Out Network Attached Storage Solutions

Inside

EMC Isilon Product Features

- Highest performance and scalability
- Best cost and storage efficiency
- Easiest to provision and manage

Arista and EMC Isilon Solution Elements

- Scalability on demand
- Availability
- Performance
- Configuration and Manageability

Whether you're building the latest cloud solution, virtualizing your data center, or dealing with big data, Arista's network and EMC Isilon's scale-out storage offer a best-of-breed solution that's perfect for today, and expandable into tomorrow.

The exponential growth of on-line data demands high performance access, delivery, and response time to remain competitive in today's business marketplace.

Arista and EMC Isilon are driving products and solutions by offering a well-engineered storage domain that can deliver both operational and infrastructure efficiencies that were previously unavailable. Scalable and seamless access, reliability, simple management, and performance provide an operational advantage to end users and administrators, while better utilization of existing infrastructure reduces costs. The proper choice of a back-end storage and delivery network is an essential part of the right big data solution.

EMC² ISILON

EMC Isilon's scale-out storage solutions offer the highest performance and scalability at the best cost. With EMC Isilon solutions, management and provisioning are easy.

Scalability On Demand

To remain competitive, the modern data center requires the capability to dynamically grow and shrink based on business requirements. While idle and unused resources lead to wasted expenses, overused and saturated resources lead to performance degradation and even service outages. Together, Arista and EMC Isilon provide an intelligent and capable architecture that can scale on demand to increase the efficiency of the data center.

A scalable data center network must be able to provide for increased storage traffic or new devices without impacting current systems. Arista switches address this challenge by providing the following to customers:

- A portfolio of high-density, line rate, switching platforms with a consistent operating model across platforms
- The ability to manage multiple devices as a single system without reduced functionality using standards-based EOS features such as CloudVision and VMTracer.
- The ability to construct high-performance multi-system topologies without reducing the capacities of each system or introducing blocking architectures.
- The ability to linearly scale to a larger number of high-performance interfaces that map cleanly to a server's ability to generate I/O and a storage system's ability to consume/source data.

A scalable network needs a scalable storage solution to achieve true Big Data performance. EMC Isilon scale-out storage provides a number of important advantages in this regard:

- Massive scalability: EMC Isilon network area storage (NAS) can easily scale to over 15 petabytes (pb) in capacity with a highly efficient, easy-to-manage, single file system/single volume storage solution.
- Storage efficiency: With EMC Isilon storage systems, organizations can achieve an industry-leading 80% utilization with a single pool of storage, thus making Big Data a reality.

Increased Availability

Robust and redundant networks and storage are an absolute necessity for today's data center. A single failure should not cause a full service interruption. This high level of availability must extend from the storage medium to the end user. The combination of Arista's networking portfolio and EMC Isilon's storage solutions provides the requisite HA features and self-healing capabilities to mitigate and alleviate faults that could interrupt business operations.

At the heart of all Arista switched is the Arista Extensible Operating System (EOS). EOS is a platform-independent modular OS capable of providing process separation for better failure containment, In-Service Software Upgrade (ISSU), and customization.

EOS also offers powerful industry-standard switching and routing functionalities, including layer 2 Multi-chassis Link Aggregation (MLAG) and IP Equal Cost Multi-pathing (ECMP) to increase application availability and performance.



Arista Extensible Operating System

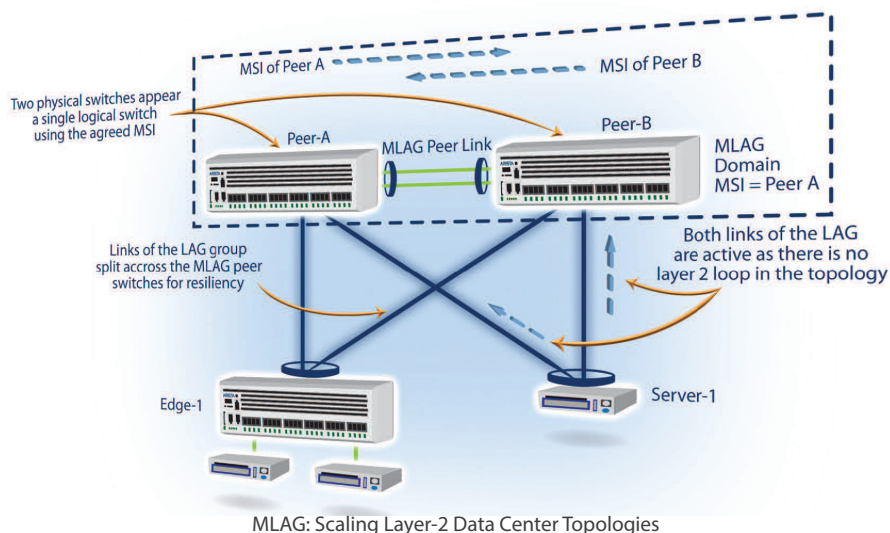
In terms of storage efficiency, EMC Isilon storage systems have been shown to achieve an industry-leading 80 percent utilization with a single pool of storage. Combined with a simple, easy-to-manage approach, this utilization rate helps enterprises to reduce capital expenditures as well as ongoing operating costs.

Both MLAG and ECMP technologies provide better link utilization, along with transparent HA. MLAG delivers up to 16 distribution Link Aggregation (LAG) ports per single bonded interface, while ECMP is able to support up to 32 distributed route paths to storage systems. The scalable multi-path layer 2/3 bonding features offer active/active bonded ports that provide increased cross-sectional bandwidth and redundancy with fast fail-over, should a fault occur.

The HA path is completed by EMC Isilon's Scale-out NAS storage, which has been designed to withstand multiple simultaneous component failures while still providing unfettered access to the entire file system and data-set. In addition, EMC Isilon data storage solutions leverage built-in enterprise data protection to provide the highest levels of reliability, availability, and serviceability in the industry. EMC Isilon storage systems include dependable and efficient snapshot data protection with EMC Isilon SnapshotIQ™ provides data replication of large, mission-critical data sets to multiple shared storage systems at multiple sites.

Performance and Efficiency

Performance and efficiency are at the heart of your solution. Increased performance enhances competitiveness, and high efficiency ensures the maximum utilization of important infrastructure. Arista platforms lead industry latency metrics, providing as low as 500 nanoseconds latency for Layer 2, 3, and 4 switching. Arista's switching portfolio also delivers the best bandwidth and performance in the industry. MLAG provides benefits over legacy Layer 2 protocols by enabling better use of cross-functional bandwidth and faster fail-over times, while still remaining transparent to both the user and the application. Arista switches have an established track record in high performance areas that include algorithmic trading and large-scale data analytics.

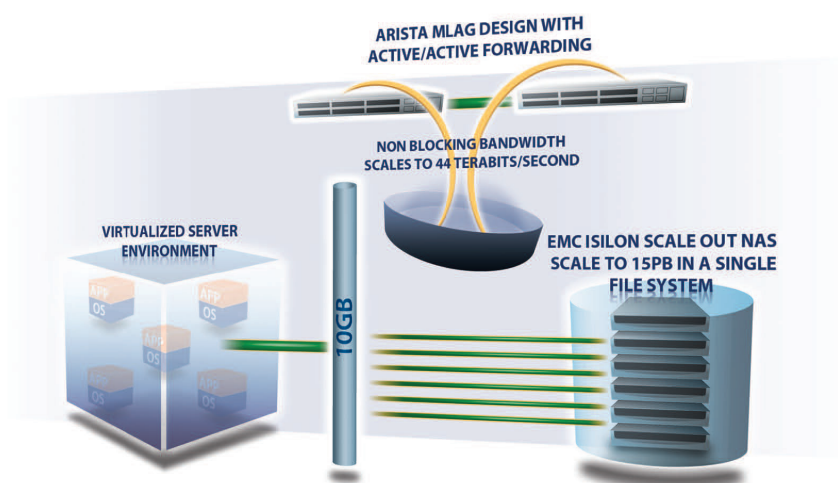


In terms of storage efficiency, EMC Isilon storage systems have been shown to achieve an industry-leading 80 percent utilization with a single pool of storage. Combined with a simple, easy-to-manage approach, this utilization rate helps enterprises to reduce capital expenditures as well as ongoing operating costs. In addition, with EMC Isilon SmartPools software, organizations can optimize resources with an automated tiered storage strategy that provides them with the right combination of performance and economy.

Arista and EMC Isilon offer an important partnered solution that allows customers to meet their business objectives while driving down capital and operational expenses. Easy to configure, manage, and optimize, Arista and EMC Isilon provide customers best-of-breed solutions for both today and tomorrow.

Efficiency also extends to a single, system-wide management and configuration capability offered by both Arista and EMC Isilon. Combining the efficiencies of Arista and EMC Isilon creates a best-in-breed solution for big data in a scalable and virtualized data center.

This sample architecture demonstrates the elegance and technology leadership that EMC Isilon and Arista bring to your network/storage solution.



MLAG: Scaling The Network and Storage Together

Conclusion

Arista Network's switches are designed from the ground up for reliable, economic data center operations. Providing the industry's leading port density, lowest latency, and first extensible operating system, Arista switches scale seamlessly to meet application and storage demands. Standards-based Layer 2 and Layer 3 multi-pathing technologies provide an increase in scalable bandwidth and HA that is transparent to both users and applications.

EMC Isilon storage systems can provide scalable storage performance coupled with an 80 percent utilization rate for a single pool of storage. This industry-leading storage performance and efficiency, combined with a simple, easy-to-manage approach, helps enterprises to reduce capital expenditures as well as ongoing costs. In addition, with EMC Isilon SmartPools software, organizations can optimize resources with an automated tiered storage strategy that provides them with the right combination of performance and economy.

Combining Arista Network's product portfolio with EMC Isilon's Service Oriented Architecture creates a dynamic data center infrastructure that is able to meet the demands of the evolving data center in a cost effective way. By delivering a solution that provides high performance, scalability, reliability, and efficiency, Arista and EMC Isilon offer a best-in-breed solution for big data and a modern, virtualized environment that avoids the problem of data compartmentalization.

About EMC Isilon

Isilon, a division of EMC, is the global leader in scale-out NAS. They deliver powerful yet simple solutions for enterprises that want to manage their data, not their storage. Isilon's products are simple to install, manage and scale, at any size. And, unlike traditional enterprise storage, Isilon stays simple no matter how much storage is added, how much performance is required or how business needs change in the future. We're challenging enterprises to think differently about their storage, because when they do, they'll recognize there's a better, simpler way.

Santa Clara—Corporate Headquarters

5453 Great America Parkway,
Santa Clara, CA 95054

Phone: +1-408-547-5500

Fax: +1-408-538-8920

Email: info@arista.com

Ireland—International Headquarters

3130 Atlantic Avenue
Westpark Business Campus
Shannon, Co. Clare
Ireland

Vancouver—R&D Office
9200 Glenlyon Pkwy, Unit 300
Burnaby, British Columbia
Canada V5J 5J8

San Francisco—R&D and Sales Office 1390
Market Street, Suite 800
San Francisco, CA 94102

India—R&D Office

Global Tech Park, Tower A & B, 11th Floor
Marathahalli Outer Ring Road
Devarabeesanahalli Village, Varthur Hobli
Bangalore, India 560103

Singapore—APAC Administrative Office

9 Temasek Boulevard
#29-01, Suntec Tower Two
Singapore 038989

Nashua—R&D Office

10 Tara Boulevard
Nashua, NH 03062



Copyright © 2016 Arista Networks, Inc. All rights reserved. CloudVision, and EOS are registered trademarks and Arista Networks is a trademark of Arista Networks, Inc. All other company names are trademarks of their respective holders. Information in this document is subject to change without notice. Certain features may not yet be available. Arista Networks, Inc. assumes no responsibility for any errors that may appear in this document. MM/YY