

Enterasys Solutions for Virtualized SANs

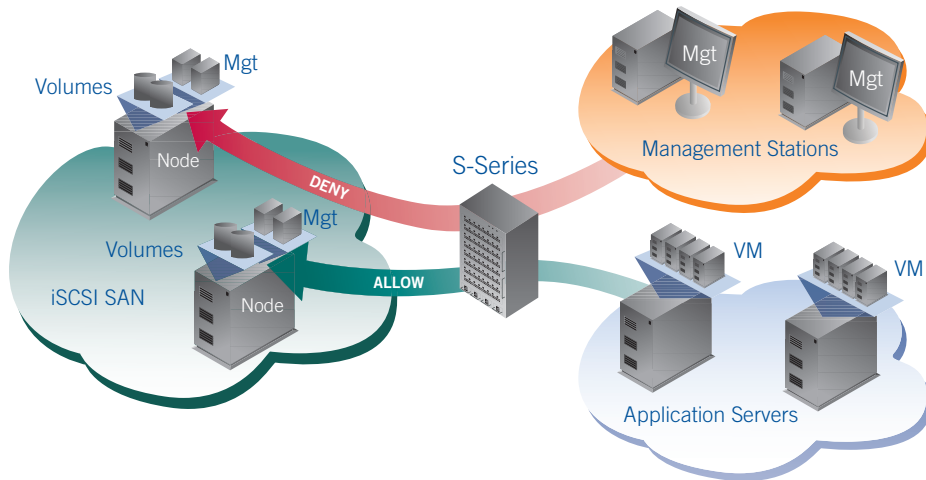
Enable and Optimize *Any* Virtual Storage Area Network

Many IT organizations today are implementing and leveraging virtualization technologies to reduce the cost of IT operations while improving service reliability. Network operations to support virtualized Storage Area Networks (SANs) pose new challenges to assure the priority and proactive protection of data center communications. Network administrators must virtualize the network to enable and optimize the virtualized storage traffic to ensure performance as well as availability of the information. As physical storage clusters interact with multiple application and database servers, the network must have the centralized visibility and control over distributed computing and storage communications to make sure only the right users have access to the right information from the right place at the right time. Enterasys recommends a simple, yet highly effective identity-based approach to enable, optimize and secure iSCSI SAN deployments.

Enterasys enables iSCSI SAN solutions from any vendor. Enterprises worldwide want to ensure the same reliability, quality, manageability, and security of traditional SANs with new iSCSI virtual storage solutions. The Enterasys solution for virtualized SANs delivers an easy and effective way to optimize iSCSI communications through automatic discovery, classification, and prioritization of iSCSI SANs. In addition, the Enterasys solution will sense and automatically respond to security threats against virtual storage nodes, enforce role-based network access control policies, and comply with regulations for monitoring and auditing.

The Enterasys Solution

The Enterasys architecture is a unique approach to networking that integrates intelligent switching, routing, and wireless products; network configuration and management software applications; and intrusion prevention and Network Access Control.



Policy Table

	iSCSI Management	iSCSI Volume
Management Station	Allow Access	Deny Access
iSCSI SAN (Node)	Deny Access	Allow Access
Application Server	Deny Access	Allow Access

Solution Benefits

Business Alignment

- Enabling and supporting virtualization of business critical storage systems
- Guaranteed service quality for virtual storage systems with policy-enabled Enterasys switches

Operational Efficiency

- Reduce storage costs while improving business continuity through simple yet effective network management for virtualized storage
- Global SAN policy configuration and pre-configured SAN policy templates with industry-leading Enterasys policy management

Security & Compliance

- Complete security of the virtual storage services, endpoints, and traffic ensuring SAN service availability and integrity
- SAN specific threat management with Enterasys patented distributed intrusion prevention, source location and automated corrective action

Support and Service

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services

There is nothing more important than our customers.

Many iSCSI solutions today fail to implement security controls inherent in legacy storage systems. Separation of management and data traffic is not commonly deployed in today's systems – yet is a requirement imposed by many governmental, industry, and internal regulations. Application aware infrastructure products, such as the Enterasys S-Series, prioritize, segregate, and secure iSCSI SAN traffic in the data center.

“Something as simple as having a strict separation between management and data planes would be basic to these products, we thought, but less than half of the products tested have the ability to completely separate data and management.”

– Joel Snyder, Network World iSCSI
Clear Choice Test July 2008

Enterasys policies can be leveraged to provide the requisite management and data plane separation within the network architecture, without requiring complex access control lists (ACLs). Enterasys Network Management Suite (NMS) includes pre-defined network policy configuration templates for popular iSCSI solutions to enable quick implementation of security controls within the network layer, providing the requisite separation of the management and data traffic.

Security isn't the only concern within data center environments; SAN performance is just as critical to the business. The Enterasys iSCSI solution set provides a robust set of quality of service (QoS) controls that allow for different QoS profiles to be stored within the infrastructure and be activated during certain activity cycles or “on-demand” based on need. Pre-provisioning the network allows for predictable QoS based on current needs, optimizes the process, and reduces cost of manual change control.

Support for audit functions are a basic feature of the Enterasys S-Series switching platform. In addition to security and QoS controls, the S-Series provides NetFlow record generation for every communication flow traversing the platform. Detailed communication records supply compliance auditors and network planners accurate information regarding SAN access, usage, and QoS controls – without adding cost or additional hardware.

With these fully integrated components, Enterasys delivers important capabilities required to enable, optimize, and secure an iSCSI SAN solution.

Choice

Enterasys maintains a long-standing commitment to standards-based technologies and open-architected systems. Leveraging this commitment, Enterasys offers a solution that will support any SAN application from any vendor. An Enterasys solution can identify and provision role-based access controls to any iSCSI storage node running on the network and ensure it is enabled and optimized in alignment with business requirements. The open architecture approach provides organizations the flexibility of choice to deploy the right business application at the right time, for the right reasons. There is no dependency in the network architecture restricting the storage applications that can be leveraged in the virtualized SAN environment.

Reliability

An Enterasys solution assures customers of the ability to meet the quality of service (QoS) requirements to support iSCSI SANs in the virtualized network. A single Enterasys S-Series switch provisioned as a “top of rack” switch provides the required connectivity with high-availability features and fault-tolerant power management to keep virtualized storage available and ensure application availability. Enterasys products support all of the standard technologies necessary to ensure full redundancy and communications resiliency (technologies such as 802.1w, 802.1s, 802.3ad, OSPF, VRRP). Beyond the standard technology features, Enterasys embeds innovative broadcast flooding protection and communication flow overrun protection in switches to ensure that dangerous network traffic patterns do not result in communication failures for virtualized SAN services.

Quality

An Enterasys solution discovers and classifies an iSCSI SAN component the moment it connects to the network. Once the virtualized storage node is detected, the Enterasys solution enforces appropriate communication policies in the network to ensure the QoS available to the SAN. iSCSI SAN detection methods include source MAC address, source IP address, and 802.1X authentication. Enterasys switches provide the requisite multi-user, multi-method authentication to identify and classify more than one device on a single Ethernet connection. Once a virtual storage node is detected, Enterasys switches will automatically enforce iSCSI SAN role-based access communication policy rules for prioritization, rate shaping, and security of SAN traffic.

Manageability

An Enterasys solution provides centralized visibility and control of specific network features important to SAN communications in a virtualized network environment. SAN nodes can be quickly and easily located and logged to a central database. SAN communication policy rules are centrally established and globally distributed, with automated corrective actions to contain threats. Management software provides IT administrators with a single central location for establishing policy rules for iSCSI SAN services, and an easy distribution method for pushing the policy rules out to the entire network infrastructure.

Compliance

An Enterasys solution provides required role-based access controls and data logging for iSCSI SANs. It is necessary to provide audit logs showing identity-based access to the virtualized storage systems to ensure compliance with governmental and internal compliance regulations. The Enterasys S-Series provides accurate usage data for each user and application through the NetFlow management protocol. Network usage data is “unsampled”, ensuring accurate reporting of each system accessing the storage network and auditing storage network access by control group. The S-Series switch provides this important capability for SAN without requiring additional line cards or firmware licensing. There is also no performance impact to enable any of the NetFlow audit features to manage an iSCSI SAN solution.

Security

An Enterasys solution includes the ability to centrally manage a set of communication policy rules which can restrict the type and amount of network traffic directed at virtualized storage nodes. Role-based access policy rules can be enforced to ensure that storage nodes are not “spoofed” causing disruption or violating the integrity of stored information. In addition to proactive security of storage resources, events occurring on the network that can compromise the SAN service can be detected, and ultimately mitigated in order to preserve the storage system continuity. Once threats against storage services are detected, automated services can be used to locate the exact source of the threat and take appropriate action to eliminate the threat.

Solution Capability	Enterasys Products
Choice	<ul style="list-style-type: none">iSCSI SAN products from any vendorEnterasys S-Series switches with high availability services and service assurance
Reliability	<ul style="list-style-type: none">Enterasys S-Series switches with device-to-device redundancy and resiliency features
Quality	<ul style="list-style-type: none">Enterasys S-Series switches with policy enforcement for virtualized SAN service-level requirements
Manageability	<ul style="list-style-type: none">Enterasys Network Management Suite (NMS) software advanced bundle with centralized visibility and control of SAN role-based access control policies, security, and endpoint location; device and network resiliency configuration; SAN service-level policies; virtual SAN node location and compliance reporting; threat mitigation; network configuration compliance monitoring and reporting
Compliance	<ul style="list-style-type: none">Enterasys S-Series switches with unsampled NetFlow network traffic loggingEnterasys Security Information and Event Manager (SIEM) with SAN access reporting
Security	<ul style="list-style-type: none">Enterasys S-Series switches with policy enforcement and role-based access controls for SAN security and network traffic logging leveraging unsampled NetFlowEnterasys Intrusion Prevention System (IPS) with specific SAN threat signatures

Contact Us

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