Independent Assessment
by Alan Radding

Competitive Face-Off: SAN Encryption

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Overview

As organizations adopt networked storage, particularly storage area networks (SAN), and populate their SANs with valuable corporate data, the security of that data becomes a serious concern. Data stored on networked storage devices shares all the vulnerabilities of data on any network. Since the networked storage protocols themselves do not address the security of the stored data, organizations are turning to a variety of security strategies to protect the data, including storage encryption. The encryption of stored data can ensure its privacy even in the event of a storage security breach. A number of recent startups promise to deliver enterprise-scale storage encryption.

The encryption of stored data presents a difficult challenge. The sheer amount of data being stored by enterprises today is staggering. Storage encryption solutions must encrypt and decrypt large volumes of data fast while being completely transparent, which means without impacting the performance of the applications. It must also address both stored files and block-oriented storage. Finally, it must do it in a way that, itself, is secure, easily managed, and low cost.

Key Criteria

Criteria	Description
Type of storage addressed	Does it handle network attached storage (NAS), SAN, direct attached storage, file system or block-oriented, or some combination of storage formats.
Speed and capacity	How fast can it encrypt/decrypt storage? How much storage can it handle?
Encryption and key security	What type of encryption does it employ and how does it ensure the safety of the keys
Solution form factor	How is the solution delivered, as software or as a hardware appliance?
Manageability and reporting	How is the system administered? What kind of management reporting does it provide?

High availability	How does the system ensure against downtime?
Cost	How is the system priced?
Deployment ease	How difficult is it to implement the solution?

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Criteria	Decru DataFort FC440 (currently shipping)	NeoScale CryptoStor FC (general availability: Q1, 2003)	Vormetric (general availability: Q1, 2003)
Type of storage addressed	SAN, block-oriented data (DataFort EC440 handles NAS, file-oriented data)	SAN, block-oriented data (CryptoStor tape for data backup encryption)	Data-layer encryption primarily for file-oriented data
Speed and capacity	-Full duplex, gigabit-speed encryption	Gigabit-speed encryption Transparent to application	Unspecified other than wire speed
Encryption and key security	256-bit AES encryption Keys stored in the hardware appliance Ability to encrypt keys and move encrypted copies FIPS 140 level 2 (encryption engine--level 3) Supports smart card authentication	Industry standard encryption Key security (unspecified) FIPS 140 level 2	Unspecified
Solution form factor	Integrated hardware/software appliance	Rack mounted hardware/software appliance	Hardware/software appliance
Manageability and reporting	Web-based management interface Supports SNMP and syslog monitoring	Policy-based Remote management	Unspecified

High availability	FC400 appliances are compatible with multi-path environments May be clustered for load balancing and failover No NAS failover	Paired deployment for redundancy	Paired deployment for redundancy
Cost	About $30,000/appliance Usually deployed in pairs for failover	Per port pricing model About $30,000 for encryption of primary storage	Less than $50,000 per unit (deploy 2 units for under $100,000)
Deployment ease	Vendor reports 30-minute installation Single or clustered deployment options	Deploy anywhere in the data path (server, switch, device) Vendor reports fast, simple deployment	Unspecified

Assessment

This is truly an emerging market with products just coming onto the market. A few points to consider:

Only Decru was actually shipping a product when this report was written. The others had beta tests underway

All are opting for the hardware/software appliance format for performance, ease of deployment, and security. Software-only encryption is not fast enough for large-scale storage purposes

Vormetric's approach should also handle SAN although Vormetric's public details are sketchy (not unusual for a company still not shipping its product)

Decru requires the purchase of a separate appliance for NAS encryption

NeoScale does not support NAS; however it will offer tape data encryption

This report focuses on dedicated storage encryption products. Additional companies are expected to enter the storage encryption market. Other companies, such as Kasten-Chase (www.kastenchase.com) and Ingrian Networks (www.ingrian.com), offer some storage encryption as part of a broader product offering.

Conclusion

At this point, Decru offers the only viable solution for SAN encryption. Offering full encryption and key security capabilities and operating at gigabit speed, it can handle even enterprise-scale SANs.

To set up a Competitive Face-Off briefing, call 617-332-4369
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About Independent Assessment's Competitive Face-Off

Competitive Face-Off is a positioning tool designed to provide at a glance a concise comparison of a selected set of competing products. The underlying premise is that often there is no single best product; the design and features of any given product make it best for certain types of users. By comparing products in terms of key criteria, readers are able to determine which particular product will best meet their needs. The information used in Competitive Face-Off is derived from a detailed analysis of each vendor's latest technical information, other publicly available information, and interviews with users of the product. Independent Assessment does not run benchmarks or test labs or use private, proprietary information. Disclaimer: every effort is made to provide the latest, accurate information, but vendors frequently change product features and specifications, often without notice.

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Sample

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Alan Radding is a widely published business and technology researcher, writer, and analyst. His writing has appeared in Information Week, Computerworld, CIO Magazine, Consulting Magazine, CFO Magazine, New York Times, Business Week, and more. He has written for a number of leading companies including IBM, Microsoft, Compaq, Lotus Development, Oracle, Sybase, Sun Microsystems, Rational Software, Nokia, and many more.

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