THE CLIPPER GROUP
Navigator™
Navigating Information Technology Horizons℠
Published Since 1993 October 11, 2002

TrueSAN Targets the Mid-Tier with Comprehensive SAN Management

Analyst: Michael Fisch

Management Summary

This is the Information Age, and information technology has connected the world together and made enterprises more productive. Productivity, in turn, drives profitability, economic growth, and, yes, shareholder value. However, the benign byproduct of these efficiency gains is the rapid accumulation of enterprise data. Annual growth rates of 100% are not uncommon.

Many large enterprises have turned to storage area networks (SANs) to deal with this deluge of data. By connecting multiple servers to a consolidated pool of storage, SANs enable higher storage utilization, faster backup, and simpler management. ***It's about lowering storage total cost of ownership (TCO), and SANs deliver.***

But SANs have brought their own set of challenges. SAN management can be like herding cats, especially when using a number of disconnected point utilities to manage the many components. More centralized SAN solutions have been available for high-end arrays, but at a high cost and exclusively for that vendor's arrays. ***It's a losing tradeoff between higher acquisition costs and higher operating costs.*** Though the SAN is a superior architecture for a storage infrastructure, these barriers of complexity and cost have hindered some market segments, such as the IT environments in mid-sized enterprises, from wholesale adoption.

TrueSAN of San Jose, California, wants to tear down that wall with its *Cloudbreak Storage Operating System*. Cloudbreak is a broad, integrated suite of software for managing, protecting, and optimizing SANs:

- **Storage Network Management** – discovers, monitors, and manages the SAN fabric,
- **Volume Management** – pools storage across multiple, heterogeneous devices,
- **Storage Resource Management** – reports and automates capacity and performance management, and
- **Data Protection** – provides synchronous mirroring, point-in-time copy, and data migration.

Cloudbreak addresses existing SAN challenges by enabling user-friendly, centralized, heterogeneous SAN management. TrueSAN targets mid-tier IT environments, especially those which have not implemented SANs, by focusing on modular storage and offering end-to-end solutions through VARs, OEMs, and system integrators. **If your enterprise wants the TCO benefits of SAN ownership without some of the costs and complexities of first-generation SANs, TrueSAN may have the right solution.** Read on for more details.

IN THIS ISSUE

- Toward More Cost-Effective Storage 2
- TrueSAN Cloudbreak for SAN Management 2
- Targeting Mid-Tier IT Environments 3
- Conclusion.....3

Toward More Cost-Effective Storage

The SAN has revolutionized storage. It used to be that all storage was attached directly to servers. As applications and servers proliferated, this led to an abundance of disconnected "islands of information". It became costly and labor-intensive to manage, protect, and fully utilize all of these islands. A SAN solved this problem by consolidating the storage in a common pool and making it broadly accessible over a network. As a result, SANs can greatly simplify storage management, increase utilization of capacity, speed backups, and ultimately lower TCO. **These benefits are not just good but necessary in a world where the amount of information is doubling each year in many enterprises.**

However, a close look reveals first-generation SANs are not yet perfect. **The greatest need is for an overarching management platform to direct, coordinate, and bring the most out of a given set of SAN resources – like a skilled conductor in front of an orchestra.** Aspects of this functionality have been available for some high-end arrays, but only applicable to that vendor's relatively costly storage. For the rest, there has been a bevy of product-specific point utilities for storage arrays, switches, host bus adapters (HBAs), servers, volume managers, tape backup systems, file systems, and so forth. In that case, SAN management becomes an awkward, time-consuming process of directing the orchestra one instrument at a time. **Truly centralized, heterogeneous management coupled with policy-based automation would be the ideal solution.**

Furthermore, heterogeneous support would give enterprises more bargaining power in purchasing (always better for the budget). It would also facilitate the deployment of tiered storage classes, allowing enterprise to match data with the appropriate storage resource and optimize the overall mix of cost, performance, and availability.[1]

These are more than technical criticisms; they are very real opportunities to make SANs even more cost-effective. Overcoming them will not only decrease storage acquisition costs but also lower management costs. Management is by far the largest component of storage TCO, and enterprises simply cannot afford to hire more legions of skilled administrators as data grows. **TrueSAN's *Cloudbreak* solution is intended to address these challenges and opportunities.**

TrueSAN Cloudbreak for SAN Management

The *TrueSAN Cloudbreak Storage Operating System* provides centralized, heterogeneous SAN management and advanced storage services for modular storage. It consists of four application modules that work together but can be deployed independently:

- **Storage Network Management** – discovers all SAN devices, maps topology, monitors health and performance, reports events, and zones the fabric to ensure data security.
- **Volume Management** – turns the SAN into a unified, fluid pool of storage. It spans volumes across multiple, heterogeneous devices and can dynamically add, reallocate, and resize capacity. It also provides LUN masking and mapping for data security as well as path failover and load balancing for enhanced performance and availability.
- **Storage Resource Management** – enables SAN resources to be used smartly and more efficiently. It reports historical and real-time utilization and performance statistics and automates provisioning based on user-defined policies.
- **Data Protection** – provides business continuance through synchronous mirroring, point-in-time copy, and data migration.

A key distinction is that the Cloudbreak modules are integrated and built upon a common data repository. Therefore, they can work together with a consistent view of the SAN to deliver a very broad set of features from a single, easy-to-use console. **It avoids**

[1] For a detailed discussion about tiered storage classes, see *Tiered Storage Classes Save Money – Getting the Most Out Of Your Storage Infrastructure* in **The Clipper Group Explorer** dated August 29, 2002, at http://www.clipper.com/publications.htm.

Copyright © 2002 by The Clipper Group, Inc. Reproduction prohibited without advance written permission. All rights reserved.

the interoperability risks and extra work associated with multiple, point solutions. Moreover, heterogeneous support avoids the cost and lock-in issues associated with SANs based on high-end storage.

In its initial release, Cloudbreak will support *Windows 2000*, Sun *Solaris 8*, and SGI *IRIX* operating systems, Brocade and QLogic switches, Emulex and QLogic HBAs, CA *Unicenter* and HP *OpenView* management frameworks, and LSI Logic, Mylex, and Sun *T3* storage arrays. LSI Logic and Mylex[2] are popular OEM storage suppliers, and their re-branded arrays are also available through IBM, Dell, StorageTek, Fujitsu Siemens, and many others. Support for additional vendors will be forthcoming.

The Storage Network and Resource Management modules are available now, and pricing is based on the number of switch ports in the SAN fabric. Volume Management and Data Protection will be available in early 2003, with pricing based on the storage capacity managed.

Targeting Mid-Tier IT Environments

While Cloudbreak is appropriate for large enterprise SANs, TrueSAN's go-to-market strategy targets mid-tier IT environments. This includes medium-sized enterprises and potentially remote offices, departments, and subsidiaries within large enterprises. Compared to large IT environments, the mid-tier:

- Has limited budgets and depth of staff,
- Values ease of installation and use,
- Prefers end-to-end solutions over in-house integration,
- Is price-sensitive, but
- Still faces the challenges of rapid data growth, and
- Likely will not have moved to SANs in a big way.

TrueSAN is targeting this profile by focusing on modular storage, offering competitive pricing for its software, and delivering full solutions through VARs, system integrators, and OEMs. Modular storage is less costly, though sufficiently robust, and scales in a granular, pay-as-you-grow fashion.

Cloudbreak's "Out-of-band" Architecture

Cloudbreak places storage intelligence in the network where it can span all application servers and storage devices, even from multiple vendors. Its "out-of-band" architecture means the Cloudbreak management server resides *outside of the data path*. This eliminates a concern some have about placing devices in the data path (as do competitive solutions), which might affect performance and availability.

The Cloudbreak management server is the central point of control. It connects to both the SAN and LAN and runs on a standard, Intel-based Linux platform that can be clustered for failover. Host servers run a lightweight Cloudbreak agent that interacts with the management server. To ensure security, "rogue" servers without the agent are prevented from accessing the SAN. **The solution is relatively easy to install and scale and does not require modifying the physical configuration of an existing SAN.**

Conclusion

TrueSAN's Cloudbreak has arrived at a fortuitous time. The mid-tier segment is on the verge of broad SAN adoption. They are inundated with information like everyone else and need what SANs have to offer, but only at the right price and level of simplicity. **By enabling a simpler, more cost-effective SAN with next-generation management features, TrueSAN has lowered the bar for SAN adoption.** If your mid-sized enterprise or business unit wants to get its arms around spiraling data requirements, TrueSAN's Cloudbreak may be the right solution at the right time.

[2] Now owned by LSI Logic.

Copyright © 2002 by The Clipper Group, Inc. Reproduction prohibited without advance written permission. All rights reserved.

About The Clipper Group, Inc.

The Clipper Group, Inc., is an independent consulting firm specializing in acquisition decisions and strategic advice regarding complex, enterprise-class information technologies. Our team of industry professionals averages more than 25 years of real-world experience. A team of staff consultants augments our capabilities, with significant experience across a broad spectrum of applications and environments.

- ***The Clipper Group can be reached at 781-235-0085 and found on the web at www.clipper.com.***

About the Author

Michael Fisch **is a Senior Storage and Networking Analyst with The Clipper Group.** He brings over six years of experience in marketing and engineering at computer hardware and software manufacturers. Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a market analyst. Prior to that, he worked in international channel development, manufacturing, and technical support at Extended Systems, Inc. Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

- ***Reach Michael Fisch via e-mail at MFisch@clipper.com or at 781-235-0085 Ext. 25.***

Regarding Trademarks and Service Marks

The Clipper Group Navigator, **The Clipper Group Explorer**, **The Clipper Group Observer**, **The Clipper Group** *Captain's Log*, and *"clipper.com"* are trademarks of The Clipper Group, Inc., and the clipper ship drawings, *"Navigating Information Technology Horizons"*, and *"teraproductivity"* are service marks of The Clipper Group, Inc. The Clipper Group, Inc., reserves all rights regarding its trademarks and service marks. All other trademarks, etc., belong to their respective owners.

Disclosure

Officers and/or employees of The Clipper Group may own as individuals, directly or indirectly, shares in one or more companies discussed in this bulletin. Company policy prohibits any officer or employee from holding more than one percent of the outstanding shares of any company covered by The Clipper Group. The Clipper Group, Inc., has no such equity holdings.

Regarding the Information in this Issue

The Clipper Group believes the information included in this report to be accurate. Data has been received from a variety of sources, which we believe to be reliable, including manufacturers, distributors, or users of the products discussed herein. The Clipper Group, Inc., cannot be held responsible for any consequential damages resulting from the application of information or opinions contained in this report.

Copyright © 2002 by The Clipper Group, Inc. Reproduction prohibited without advance written permission. All rights reserved.