

“New Backbone Networks: The Rise of SAN and iBAN”

“New Backbone Networks” is the fifth installment of the LAN Research Panel and provides primary, end-user data on the adoption and usage of Storage Area Network (SAN) and InfiniBand Area Network (iBAN) technologies in companies and organizations today. Panel members represent companies of all sizes and a range of industry verticals. Data for this report was collected in March and April of 2002, and includes information and analysis on the types of networking storage in use, implementation of various SAN technologies, such as Fibre Channel, iSCSI and InfiniBand, reasons for implementing SANs and for not implementing SANs, factors that influence the choice of a SAN equipment vendor, willingness to outsource SAN management, and iBAN implementation plans. Among the key findings: panelists cited disaster recovery and storage network uptime as prime reasons for implementing SANs. Conversely, many panelists stated their companies and organizations simply did not need SAN technology, and combined with other data points, which leads to the conclusion that there is a gap in market awareness of the benefits of SAN as well as iBAN technologies.

New backbone networks, such as NAS, SAN and iBAN, have gained increasing presence in the market in the last few years as companies and organizations have faced growing strain on their server and storage capabilities. Relative to NAS and SAN, the traditional server-attached storage (SAS) model entails disadvantages related to cost, manageability, scalability, uptime, access and speed. NAS and SAN both address these issues, albeit in different ways. In addition, iBANs fundamentally change the server-based computing model — moving away from independent, self-contained computers that are made to work together to building block components that are unaware of their physical boundaries and essentially operate as component-scalable mainframes.

The SAN and iBAN markets essentially differ from each other, with the SAN market made up primarily of specialty vendors, who are mostly based in the development of Fibre Channel switches, which is a key SAN technology, rather than the traditional networking vendors. The traditional networking vendors are heavy proponents of the development of alternate SAN interconnect technologies — iSCSI and InfiniBand — and In-Stat/MDR believes these companies see iSCSI and InfiniBand as a way to leapfrog the more established Fibre Channel vendors and thereby establish themselves in the SAN market. The market for iBAN equipment is still extremely new and primarily populated with vendors who have a skill base in servers and storage equipment, as well as a few specialty iBAN vendors.

As expected, most of the panelists reported the use of SAS, with most of the panelists further citing SAS as their company or organization’s primary storage solution. More panelists cited the use of NAS than SAN, yet in terms of primary storage solution, NAS and SAN received roughly equal mention. As storage solutions, NAS and SAN each provide differing benefits and pose separate problems. While NAS functions almost as

“spot storage” with easy plug n’ play implementation, it is also hard to centralize NAS management. On the other hand, SANs are easy to centralize, but are often complex to implement, particularly depending on the type of interconnect used, whether Fibre Channel, iSCSI or InfiniBand.

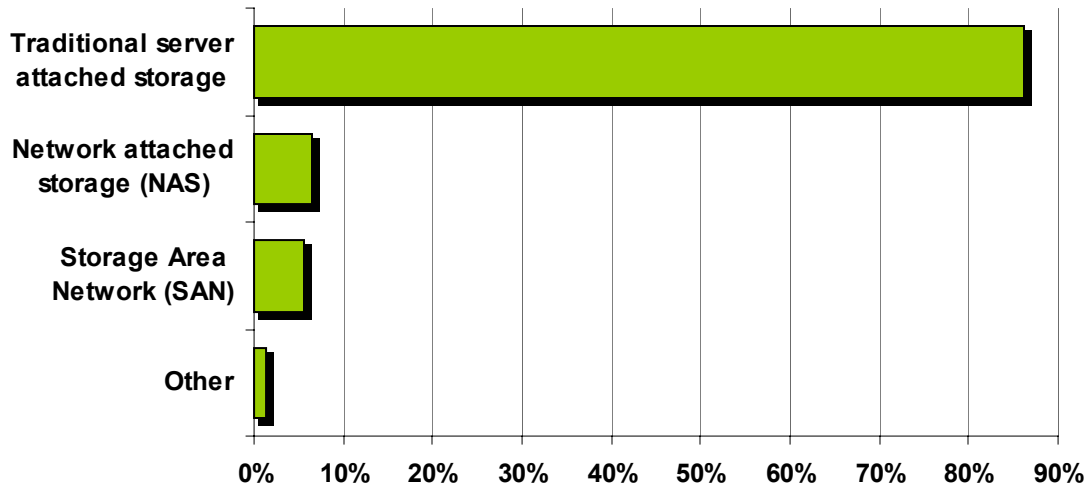
Reasons for implementing SANs centered on disaster recovery and storage network uptime. September 11th highlighted the need for companies and organizations of all sizes to implement resilient storage solutions that would prevent large chunks of valuable data from simply disappearing were a portion of a company’s server and storage infrastructure to suddenly be destroyed. On a more mundane note, SAS often involves significant network downtime as data is backed-up, new equipment is added to the network, and for various other reasons. The ability of SANs to limit such downtime was seen as a valuable benefit by members of the panel.

Conversely, the primary reason for companies and organizations represented in the panel to not implement SANs was simply the lack, or perceived lack, of a need for SANs. While there are various ways to implement SANs, some more complex and involved than others, SANs are fundamentally a “high-performance” technology. In other words, they can provide tremendous benefits to companies in terms of bandwidth, storage capacity, increased network efficiency, etc., yet this comes with a high price tag and complex implementation requirements. As such, SANs are often best suited to very large corporations with special storage needs. However, some the cause for this survey result can also be attributed to poor marketing and confusion in the marketplace over these new technologies.

SAN vendor equipment reliability and performance were the two leading factors influencing the selection of a SAN equipment vendor, in the minds of the panelists. This makes intuitive sense, given that panelists cited disaster recovery and storage network uptime as key reasons for implementing SANs in the first place. Potential customers are obviously concerned that the equipment they purchase will live up to these expectations.

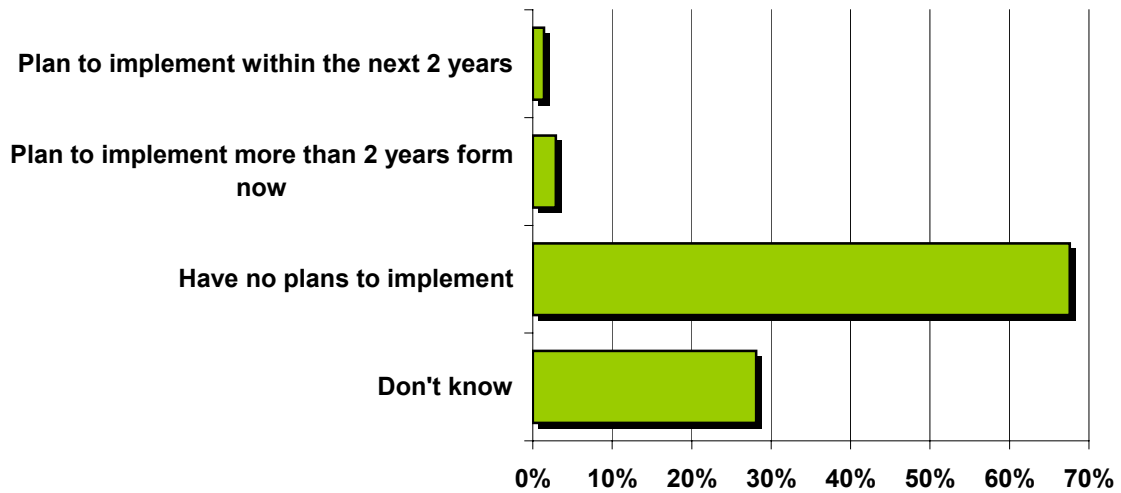
Most panelists reported that their companies and organizations had no plans to implement an iBAN. Further questioning of these panelists revealed that most simply saw no need for an iBAN at their companies. However, a very large percentage of the panelists stated that they did not know their companies’ iBAN implementation plans. In-Stat/MDR believes there is an overall lack of awareness as to the nature and benefits of iBAN technology. This poses a marketing challenge to iBAN vendors as well as to the InfiniBand Trade Association, which plans a series of road shows and a complete marketing program in 2002 to raise the awareness of InfiniBand in the marketplace.

And which of these is your company's primary storage solution? (n = 349)



Source: In-Stat/MDR, 4/02

Which of the following represents your company's implementation plans for InfiniBand server clusters? (n = 349)



Source: In-Stat/MDR, 4/02