

***The Emerging Storage Area Network Market –
An Opportunity for System Integrators and VARs***

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Executive Summary

As we approach the next millennium of storage technology, there is a trend toward re-centralization. The key drivers to this are the explosion of Internet web content, deployment of large database applications, enterprise data warehouses and data marts. These data-intensive applications have driven the storage market to double-digit growth. Based on a study at the University of California at Berkley¹ it has taken humans 300,000 years to accumulate 12 exabytes of information. It will take just 2.5 years to accumulate the next 12.

Over the last few years, the indirect channel has been the primary beneficiary of storage market growth with revenue increasing 19.3% CAGR or \$7.2 billion in additional revenue. With the forecast of the storage market growth expected to exceed 10% through 2003 combined with the growth of storage area networks, the opportunity for System Integrators and Value Added Resellers (VARs) is substantial.² As storage solutions become more sophisticated, they require a consultative sales approach and a better understanding of the customers' applications and business needs; thus the need for VARs and System Integrators to deliver this solution.

This paper discusses the storage market, describes Storage Area Network (SAN) technology and how it benefits the customers, the opportunity Fibre Channel Storage Area Networks provides to VARs and integrators, and concludes with an overview of how to choose the right partner.

The Market

As more and more businesses become dependent on their ability to store, process and retrieve data, the need for a high-speed storage network that provides scalable connectivity becomes imminent. The traditional approach to storage is simply unable to handle the sheer volume of today's information. The LAN/WAN networks can't handle the data-storage load or provide the data reliability, availability, scalability or management required today.

Storage Area Networks over Fibre Channel represent a major departure from the traditional distributed computing networks where storage is attached directly to its dedicated servers using SCSI's parallel bus interface technology. SANs extend the point-to-point SCSI protocol into network architecture encapsulating it into the Fibre Channel protocol that supports a many-to-many topology. In addition to liberating the storage by enabling storage and hosts to be networked together, Fibre Channel also provides a distance and speed improvement over SCSI.

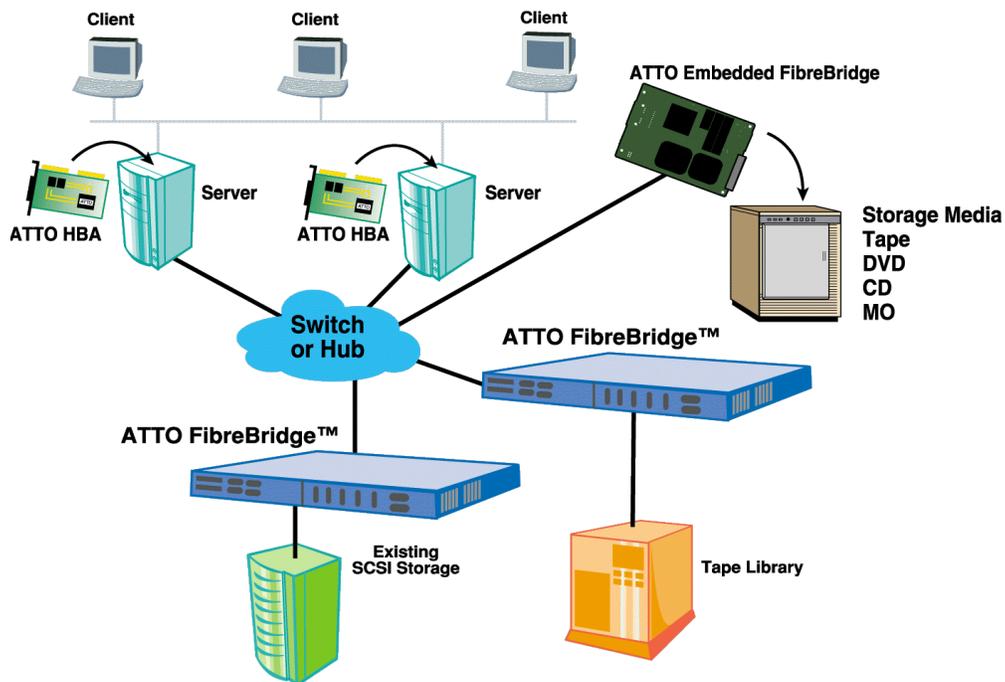
So what has changed that is driving the need for Storage Area Networks in the information infrastructure? The quantity and criticality of information that needs to be stored, managed, maintained and retrieved is growing at an astronomical rate. One of the hottest topics in IT today is how to manage the continuing growth of data. What should the storage strategy be? Should a

Storage Area Network be deployed? How will SAN technology benefit the business and customers?

To meet this need, IT managers have found that deploying storage in the traditional manner – either host captive or point-to-point – is becoming costly, but even more importantly, it's becoming an arduous task to manage. Because of this prolific growth of information, more and more IT decision-makers have determined that the best way to make data accessible is to make the storage decisions separate from server decisions. This is quite clear based on the reorganization of companies such as SUN, Dell and Compaq. Each of these major server vendors has developed separate storage units to drive the sale of storage products independent from their server business. As storage and server decisions become more independent, so too do the opportunities for System Integrators and VARs increase.

What a Storage Area Network is and how it benefits a customer

Essentially, a Storage Area Network is a dedicated storage network intended to optimize “any-to-any” communication between network servers and disk arrays. It allows multiple servers of different types and platforms to access the same storage. SANs leverage the high-performance Fibre Channel I/O and consist of a series of hardware and software components.



Many of the storage challenges faced by IT managers today significantly improve with the implementation of SANs.

Growth without disruption – with SANs, additional storage can be added independent of the server and the amount of storage that can be scaled up is virtually unlimited. Furthermore, additional storage can be added on the fly, allowing information to remain accessible while operations continue. There is no downtime; storage configurations can be changed regularly.

Efficient Backup Operations – Under the traditional approach to back-up, the data backup and restore functions take place over the LAN often bringing it to a crawl and severely impacting its operation. With a SAN serverless backup solution, data moves seamlessly across the SAN to tape devices without utilizing critical server Input/Output (I/O) or CPU resources. By combining high-performance backup and restore capabilities with device sharing and data availability, issues such as shrinking backup windows, performance degradation and extended downtime periods all can be alleviated. Serverless backup increases overall server efficiency, allowing the server to continue to process mission-critical applications when it would normally be solely processing backup or restore operations.

Total Cost of Ownership is Reduced – Managing a centralized storage pool can be much more cost effective than trying to manage the traditional client/server models. With a SAN, all storage and systems on the SAN can be monitored and managed from a single management console.

Lower Overall Storage Costs – By separating the servers from the storage, there is no need to let available disk space go unused since storage devices are now consolidated.

The Opportunity for VARs and System Integrators

Many early adopters of SANs bought pre-tested, pre-configured storage networks from storage and server vendors such as Dell and IBM. However, most IT managers prefer to build networks with best-of-breed hardware and software. Therefore, in the future, heterogeneity is going to be a fact of life and an excellent opportunity on which VARs and System Integrators can capitalize. As was the case with LANs and WANs, these heterogeneous Storage Area Networks will require close customer relationships that are the value-add System Integrators and VARs provide their customers.

As network-enabled storage solutions, each SAN has some degree of uniqueness requiring a face-to-face consultative selling approach to determine the right solution and timeframe for implementation. Because of the complexities of SANs they are often phased in over time. To

ensure a correct implementation strategy, customers will be seeking knowledgeable advice. Customers move slowly when building SANs and each phase represents a solution of its own. This provides additional consulting, service and revenue opportunities over time. The VAR or System Integrator that wins the customer's SAN business will be a partner in that business with a built-in return for many years as a customer evolves its SAN technology over time.

The need to access information will only increase as the requirements for data availability increase. SANs provide an opportunity to work directly with an end user to customize and design a storage strategy, allowing a VAR or System Integrator to either expand its consulting services or move beyond a traditional application-, server- or hardware-solution provider. Someone has to guide the end user through the barrage of products and technology questions. Who better than a VAR or System Integrator, a neutral, trusted partner?

The Right Partner

So how does a VAR/System Integrator select its partners for Storage Area Networks? There are three key elements for determining the right partner – 1) expertise in storage connectivity, 2) a partner that offers as many SAN connectivity components as possible and 3) a partner who will work as part of the team.

ATTO Technology, Inc.

ATTO Technology is a leading provider of fibre channel interconnectivity products and Storage Area Network (SANs) solutions, serving cutting-edge enterprises and many of the world's leading content creation, streaming media and internet companies.

The Right Vision

ATTO views the System Integrator and VARs as necessary to the development of the SAN market. SANs need to be planned and implemented over time. A customer needs to understand what the benefits and limitations will be from the start. SANs are orchestrated and allow for many opportunities to work with the customer and gain further traction into the account.

The Right Technology

ATTO offers host bus adapters, hubs, bridges and volume-management software – all critical storage connectivity building blocks for developing a Storage Area Network. Since its founding in 1988, ATTO has been designing, manufacturing and marketing storage connectivity solutions. A technological innovator of many award-winning products, ATTO has developed products for networking users directly to storage since 1996 and has been a recognized leader in Fibre Channel-based products and SAN solutions since 1997. ATTO's long experience developing

superior products, combined with an ability to anticipate a customer's needs, has propelled it to become a globally recognized name in storage-connectivity solutions.

The Right Partner

ATTO looks to its channel to drive end user sales. State-of-the-art testing facilities – where components necessary for building a SAN in-house are tested qualified and added to a compatibility list – combined with its team approach, provide VARs and System Integrators the product knowledge they need to select components for interoperability.

ATTO is committed to fostering long-term working relationships with channel partners in its endeavor to provide customers with superior Fibre Channel and SCSI storage connectivity solutions.

ATTO Technology, Inc offers the right vision, the right technology and the right partnership. For more information call 716.691.199 ext. 240 or email us at sls@attoech.com.

¹ School of Information Management, University of California at Berkley (study sponsored by EMC)

² IDC