

BUILDING STORAGE EFFICIENCY

Publication – Communications Today Edition – National Date – May, 2011

Communications Today, in their latest edition, has a detailed industry feature on the Storage market in India. Speaking to the publication, Sandeep Dutta, Vice-President (Storage, Systems and Technology Group), IBM India/SA talks about our investments in storage innovation and our focus on consolidating our leadership position in India.

Read the full story

Communications Today: Building Storage Efficiency

The phenomenal upsurge in the enterprise data is pushing the need for efficient storage management. Unstructured data has the highest growth, followed by replicated data. Structured data (databases for transactional workloads) is also growing, albeit at a slower rate. Organizations are accelerating storage investment to catch up with the fast growing capacity and performance requirements, and using advanced technologies to improve storage efficiency and address the complexity issues. Storage efficiency innovations allow smaller, more efficient storage systems to manage the issues associated with continuous data growth. Data storage products and solutions allow organizations to retain and manage rapidly growing, multi-faceted volumes of digital information and address critical client requirement for information retention and archiving, data de-duplication, availability and virtualization and security and compliance.

Market dynamics

In 2010-11, the total storage market has been pegged at Rs. 655 crore, which comprises the external disk storage and storage software. The overall external disk storage market in India is estimated at Rs. 325 crore in 2010-11. This includes Storage Area Networks (SAN) and Network-Attached Storage (NAS). The Direct-Attached Storage (DAS) segment has been shrinking and is now leveraged in a mixed storage environment and clubbed with SAN. The NAS segment, although constituting about 20% of the market, is growing at a faster pace and in turn indicating a strong demand for file-based storage. SAN captures the remaining 80% of the market. IBM, EMC, HP, NetApp, Sun Microsystems (Oracle), Hitachi Data Systems and Dell are the players dominating the Indian storage market. In 2011, the storage software market stood at Rs. 330 crore. This segment contributes significantly by increasing the operational efficiency of the organizations and maximizing the utilization of the storage capacity.

Storage peripherals

The total Indian storage peripherals market in 2010-11 has been pegged at Rs. 3,750 crore, registering a healthy growth over the previous fiscal and clearly indicating the heavy commoditization of the devices. The market comprises of flash drives, flash cards and sticks, external hard drives, MP3/MP4 players and digital cameras. The continued exponential growth of digital content, combined with convergence of storage and entertainment technologies, has shaped the growth of the vendors. The ability to create and store personal digital content and enterprise content in a secure manner will gain acceptance. The Indian storage peripherals market is expected to maintain the growth trajectory in 2011.

Gaining competitive advantage

The players have been active with acquisitions in the last year. HP's acquisition of 3PAR was one of the most sought after acquisitions in the data storage space in 2010. EMC acquired data warehousing vendor Greenplum and Isilon to gain prominence in video-storage equipment. Dell acquired Ocarina Networks for its storage optimization technology and Compellent for fluid data technology. Fluid data technology broadens Dell's storage solutions portfolio for scaling and managing more data with fewer resources in enterprise and cloud data centers. Also, Dell's acquisition of EqualLogic helps it to offer low-priced storage solutions. With the acquisition of Bycast, NetApp has extended its leadership position in unified storage by adding an object-based storage offering. IBM also joined the bandwagon by acquiring Storwize for real-time data compression. The strategy seems to leave these companies as standalone business units and integrate only when required.

APeJ scenario

In 2010, in the Asia Pacific excluding Japan region (APeJ), NAS grew 28%, indicating a strong demand for file-based storage; although it occupied only 13% of the total ECB storage market. Content-Addressed Storage (CAS) saw an exceptional 40% growth in APeJ, although it represented only 1% of the total ECB market. Amongst the major vendors, EMC was the biggest winner in the APeJ region. With 34.1% revenue growth in 2010 and 41.5% year-on-year growth, the company easily retained the top position. IBM's storage revenue grew 15.9% in 2010, but it still lost 0.9% market share. HP remained in third place, however, its traditional revenue generators, the EVA and MSA series, proved against the competition. Hitachi Data Systems performed well in the year 2010, especially in key markets like China.

Competitive market

The storage and data management markets are intensely competitive and are characterized by rapidly changing technology. In the storage market, EMC, Hitachi Data Systems, HP, IBM, NetApp, and Oracle Corporation (through its acquisition of Sun Microsystems) are direct competitors for storage system products and data management software. In addition, Dell, Inc. competes in this market through its business arrangement with EMC, which allows it to resell EMC storage hardware and software products. In the secondary storage market, which includes the disk-to-disk direct competitors.

Global storage software market

In 2010, sales of storage software increased by 10.3% to US\$ 12.7 billion, which is a striking contrast to the 3.2% contraction the market experienced in 2009. The storage infrastructure market experienced the highest calendar year growth of 23.6%, which took the functional market to US\$ 1.2 billion in total sales. Data protection and recovery remained the largest functional market by a considerable margin.

Building the momentum

Storage infrastructure modernization and consolidation driven by server virtualization, disk-based data protection, expanded disaster recovery projects, multimedia based applications and emerging cloud storage services are the engines that are driving the ECB disk storage market growth. The storage software market is driven by new product innovations and a strong desire to address inefficiencies related to storing, protecting and managing corporate data. A considerable increase in storage software designed to enable automated storage tiering, coupled with a continued market trend of addressing aging, inefficient storage deployments are also significant drivers of market growth.

Roadblocks

Data growth has been identified as the biggest hardware infrastructure challenge faced by large enterprise in 2011. Companies are relying too heavily on hardware upgrades to support continued data growth. Achieving the high performance required to support emerging applications while at the same time scaling industry-standard protocols is also one of the key challenges the organizations are facing today. While all the top data center hardware infrastructure challenges impact cost to some degree, data growth is particularly associated with increased costs relative to hardware, software, associated maintenance, administration and services. Given that cost containment remains a key focus for most organizations, positioning technologies to show that they are tightly linked to cost containment, in addition to their other benefits, is a promising approach.

Technology trends

Increasing storage demands, long backup and restoring time, and lack of space for storage in data center are fuelling the implementation of storage virtualization. It addresses these objectives by offering transparent integration with universal connectivity - allowing various servers and applications to simultaneously access the archives without the need of a hard drive for each individual system. Virtualization and tiered storage solutions together enable enterprise to strategically align their business applications with storage infrastructure. Storage virtualization allows non-disruptive data migrations, storage partitioning to isolate various workloads, and the attachment of other storage arrays to participate in this virtualized environment.

There is an upward demand for data de-duplication to minimize data which helps spare storage space and makes faster disk backup technology affordable. Enterprise flash technology has the potential to provide dramatic improvement in storage infrastructure economics and performance. Recent technological advancements are moving flash technology rapidly past simple commodity use and making it a strong storage alternative for the enterprise that can help rebalance system and storage I/O performance. Cloud storage is certainly an emerging trend in 2011. As more cloud-based storage solutions are being available, the foreseeable challenges to be faced by both vendors and customers are: whether enterprise customers have adequate broadband infrastructure for cloud based storage applications, factors that justify the need to move data to cloud storage, and data security measures and the extra cost needed after moving into cloud.

Enterprise IT storage systems need to confront an unprecedented and dramatic environmental shift. For most organizations around the world, green practices remain a high priority overall, as regulations and carbon trading schemes make green computing a governance issue in most developed countries. Enterprise will continue to focus on the efficient utilization of storage capacity, data protection, and back-up strategies to ensure data availability, reliability and security through the appropriate architecture which ultimately reduces IT overhead and improves ROI. To guarantee ongoing business continuity, enterprise need to build mechanisms of data backup and recovery that ensures seamless operation even in the event of system failures or disasters. Companies must take action and give greater care and comply with regulations which ensure information reliability, data leakage prevention, data consistency and long-term data protection beyond the life of any specific storage device. Storage investment can be best optimized by managing information and data-based on its lifecycle creation, use, reference, preservation and deletion.