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An iStor Prospective on Storage Trends

Interview with Jay Kramer
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What do you think are the key trends related to storage today – and why? What technologies are driving the market?

Storage has moved from being purely an IT cost to being a business investment with a quantifiable return. New applications such as regulatory compliance mandates, legal eDiscovery requirements and business continuity complemented by disaster recovery implementations are fueling a new generation of storage management and data protection technologies. Data protection is no longer simply having a backup but has advanced to being an intelligent part of an information ecosystem that includes increased levels of privacy and security without compromising accessibility based on the specific information requirements of the business. Quality of Service (QoS) is a key trend that is spawning the greater investment in network storage solutions enabled by SANs, NAS and CAS technologies. These technologies (SAN, NAS, CAS) demand a whole new suite of applications for effective information lifecycle management (ILM) such as intelligent archival and retrieval, integrated virtualization of the entire topology (Server, Network, Storage). Additionally the Killer App of distributed data protection is being enabled by a portfolio of products that combined deliver on the promise of an information strategy. These products include local and remote replication capabilities enabled with network acceleration with technologies like WAFS plus data protection features such as CDP, VTL, D2D and Data De-Dup. All these technologies contribute to solving the old story of a fundamental data backup strategy with a solution that meets the information system demands of the 21st century.

We're hearing more lately about improved quality of storage services. What's helping to improve these services?

Storage services is something that was hyped a few years ago as a new Killer App called Storage Service Providers (SSPs) to address the whole dot.com web server model. Not only did the dot.com bubble burst but the SSP solutions were not cost effective implementations. Now that high bandwidth is available at attractive price points and highly secure virtualized SANs have advanced, we are seeing cost effective ways for customers to buy solutions that deliver on the promise of quality of storage services. These applications are being driven by the demand for business continuity strategies and long term protection of information assets under the umbrella of Information Lifecycle Management (ILM). As customer IT budgets have exponentially grown on the OpEx portion representing primarily people costs, the incentives are compelling to consider outsourcing. Outsourcing storage could potentially free IT budget dollars to make CapEx investments in hardware and software solutions that have persuasive ROI justification for the highest priority business applications.

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We're also hearing more about storage systems that can transparently move data—for example, move stale data that hasn't been used in months. Why is this important?
Quality of Service (QoS) has emerged as an increasingly important criteria for information systems as defined by the CIO role in most organizations. To achieve QoS, high performance and high availability storage systems are an important enabler. Storage systems are perfectly well suited to mission critical systems with high I/O or bandwidth intensive applications that need fast response time and the highest levels of uptime yet the customer pays a premium to meet these high levels of Service Level Objectives (SLOs) should they deploy them for 100% of the data center. But what happens to these applications over time is that they have less frequent access requests and could be well served on less robust and more cost effective commodity storage systems. The savings could be significant when customers implement a tiered storage environment between enterprise, midrange and entry level storage arrays that utilize disk drives of various price/performance and availability specifications. At the end of the day, the customer can implement an automated system that manages data assets optimally based on the most appropriate data classification criteria for each specific business application. By utilizing classification criteria (ie. time, file or application type, user department, etc.) customers can utilize Storage Resource Management (SRM) software to intelligently integrate with automation tools that migrate data from one tier of storage to another for a more cost effective utilization of storage assets. As storage is becoming an increasingly larger budget item within the IT ecosystem, the use of tiered storage solutions represent real savings to the bottom line of the CapEx budget.

Any thoughts on NAS, CAS, and/or iSCSI? Where do you see these technologies headed in the coming year?
Most customers with storage information systems will find value implementing NAS, CAS and SAN as a part of an overall solution as these technologies are truly complementary. We will see convergence of storage arrays that consolidate and integrate file system applications with NAS, block level data base systems with SAN and fixed content archival and retrieval applications with CAS. iSCSI provides a ubiquitous technology to facilitate consolidated storage for NAS, CAS and SAN providing the best of all worlds. iSCSI technology will not only grow the adoption of SAN but will also make possible a compelling price point and ease of management of storage assets for both the NAS and CAS customer environment. The future of building effective information systems will eventually transcend these storage infrastructures (NAS, CAS and SAN) by become application aware. Then we will live up to the promise of storage networking by providing the customer with the holy grail of computing which is transparent access to information.