



Peter Wang,  
CTO and VP  
Engineering  
Intransa

## > From Static Storage To IP-SAN

With new advancements, there is a prerequisite for additional storage capacity and IP-SAN accomplishes this need. With the adoption of 10GbE and more technological advancements in the IP infrastructure, storage will be one of these infrastructure services.

**W**ith the advent of grid computing, new possibilities exist to free customers from the traditional earthly bounds of a static storage infrastructure. While SANs (storage area network) and FC (Fibre Channel) technology have been greatly liberated from the management and utilization constraints associated with DAS (direct attached storage), new advances leveraging the ubiquitous IP (Internet Protocol) network allow customers to dynamically provision and assign storage capacity and performance to various applications.

With the broad adoption of 10GbE, even the most demanding applications that were well served by FC will easily be served by a new world order where the IP infrastructure provides a multitude of dynamic services, with storage being just one of these infrastructure services. Customers will insist upon a dynamic, on-demand infrastructure that addresses the needs of the business and applications, without compromising performance.

The key attributes of dynamic storage services architecture are the simple and flexible provisioning of capacity, performance and availability to match the changing needs of enterprise applications. The traditional means of provisioning in FC environments with fixed binding between applications, HBAs and storage volumes has become a burden.

Customers desire their application servers

to have the ability to access data storage through standard server interfaces and over their standard IP network, where the quality of storage services can be centrally managed. The bounds around data volumes size, performance and availability are no longer constrained by proprietary array controller hardware technology.

Instead, in reality, the network assumes the intelligence, through applications resident within, which promotes and provides true N-way clustering of virtual controllers. Disk storage becomes a commodity network resource, virtualized and managed by the N-way clustered virtual controllers, forming the storage grid, which delivers the required storage services to the applications.

Technologies that will enable this new order have come to market. iSCSI will quickly enter the mainstream. Notable manufacturers are showing support and collaboration for the standard. Large enterprises that long rode the FC train are seriously looking at IP SANs, perhaps first for secondary storage, but many indicate that it's not a matter of if, but when, the technology will find its way up the food chain and be used for primary storage as well.

What will set manufacturers apart in the new world order would be their ability to support the grid computing initiative and truly view the offerings as services to get the most out of the network, delivering maximum ROI and meeting SLA expectations. ←

The author can be  
contacted at:  
[peter.wang@intransa.com](mailto:peter.wang@intransa.com)