

Best Best & Krieger LLP Presents a Winning Case for iSCSI Storage

Best Best & Krieger LLP (BB&K) is a full service law firm with over 185 attorneys located in eight offices throughout California. Established in 1891, BB&K serves a diverse range of public and private sector clients, including businesses, school districts and municipalities. The firm currently represents 30 California cities as contract city attorney — more than any other law firm in the state. In an industry that is governed by strict privacy and compliance standards, it was imperative that BB&K utilize storage solutions that offer the highest levels of protection, reliability and availability for its sensitive client and case data.

The Challenge: A Value-Driven E-Mail Archiving Solution

The firm's technology infrastructure was comprised mainly of HP servers running VMware ESX to virtualize a variety of environments including Microsoft Windows® Server 2003. The majority of the systems were already virtualized for maximum hardware utilization and flexibility. After implementing Symantec's Enterprise Vault for company-wide e-mail archiving, BB&K needed secondary storage to archive the data from a Microsoft Exchange application. Since the firm's operations are conducted 24x7x365, they needed a storage solution that would operate on the same basis, providing fast and reliable access to the archive data. BB&K systems engineer Ron Kauffman was tasked with finding the ideal system for his firm's needs. One of the key considerations in his selection process was connectivity. Although Fibre Channel-based storage solutions were popular, iSCSI technology had made enough headway in recent years to put itself on the map as a compelling alternative — especially for medium-sized businesses with midrange needs like BB&K.

"Fibre Channel solutions are the traditional route, but they are much more expensive and technically more challenging to implement and maintain," said Kauffman. "iSCSI is reaching maturity in the market place, costs less than Fibre Channel and is easier to implement."

BB&K took both capital and operating expenses into account when making its decision. Fibre Channel acquisition costs are not modest, reaching thousands of dollars per port with FC host bus adapters and switches. Over the long term, it was the overhead and support costs of Fibre Channel storage that would prove prohibitive for the firm. Specialized expertise in Fibre Channel technology is required for management and troubleshooting, which translates into higher labor costs and training expenses, including relevant certifications, continuing education and professional services contracts. Considering the overall costs and benefits of the two technologies, and BB&K's specific application, an investment in iSCSI storage made more economic sense. The firm could minimize hardware costs by leveraging familiar and existing network technologies such as IP networks and Gigabit Ethernet switches, as well as operating costs by utilizing the IT staff's expertise to minimize administration time. In addition to iSCSI's lower cost, BB&K solidified its decision based on the fact that it would not have to sacrifice the performance, reliability and availability features it needed. iSCSI technology had matured to the point that it could perform as well as, if not better than Fibre Channel, for applications to which it is ideally suited.

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“The iStor solution definitely provided the best value,” says Kauffman. “Other systems were more expensive, even though they used the same hard drive manufacturer. We have saved \$2,500 per month as a result of implementing the iS325 instead of other competing products in the iSCSI market.”

The Solution: iStor’s iSCSI Storage Array

“The next step was determining which iSCSI solution would provide the best value for the price,” continues Kauffman. BB&K enlisted the help of Agile360, a technology consulting and engineering firm. After reviewing its selection criteria, which included total cost of ownership (TCO), price/performance ratio, configuration flexibility and expandability, Agile360 recommended Irvine-based iStor Networks, a manufacturer of iSCSI network storage solutions. BB&K implemented iStor’s iS325 storage array with an integrated GigaStorATX™ iSCSI RAID controller. The system was fully populated with 15 high performance 750GB serial ATA (SATA) drives for 11.25TB of total capacity, and could be configured to take advantage of either the 4 or 8 port GbE, or 1 port of 10GbE iSCSI throughput — more than double the maximum 4Gb/s speed of any Fibre Channel product. At the core of the iS325 is a next generation Storage System on a Chip, which integrates full 10Gbps iSCSI/TCP/IP offload

with multiple embedded processors running an integrated storage virtualization firmware stack. An embedded IP-based management graphical user interface (GUI) enabled the creation, management, expansion and monitoring of storage pools, volumes and RAID.

“One of the iS325’s most innovative management features was the ability to create simultaneous multiple RAID volumes,” said Kauffman. “I can create a 2TB RAID 10 volume and a 1TB RAID 5 volume, and they both coexist within the array. Other storage solutions are all or nothing - they force the user to select only one RAID configuration per array.” The iS325’s RAID volumes were then connected to the VMware ESX servers via QLogic’s SANblade® QLA4050C host bus adapters. Once in ESX, they connected easily to the virtualized Windows Server 2003 environment.

Witnessing the Benefits of iSCSI

iStor’s iS325 array provided BB&K with a powerful secondary storage solution for its e-mail archive data. The benefits to the firm included:

- \$2,500 monthly savings in storage costs
- The ability to virtualize storage and connect to existing server and storage pools for maximum hardware utilization and flexibility
- Maximization of its existing network infrastructure
- Simplified IT management and reduction in administration time as a result of dealing with widely understood technologies

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