

Peer-to-Peer

Storage migration at Polaris Software

*Polaris' IT infrastructure had morphed into an increasingly complex and difficult-to manage collection of servers, storage and backup systems. High-speed disk-to-disk backup and recovery did the trick and solved its problems. By **Dominic K***

Headquartered in Chennai, India, Polaris Software Labs is a provider of products and solutions for the banking, financial services, and insurance domains. With about 8,000 solution architects, domain experts, and technology experts, Polaris contributes to the knowledge economy of the global financial services marketplace with eight major development centres in four cities.

The company provides services to financial services institutions from across the world such as ABN Amro, AIG, Citigroup, Commerzbank, DBS, Deutsche Leasing, Maybank, Shinsei Bank and UBS.

The challenges

Like many fast-growing global organisations, Polaris saw its IT infrastructure morph into an increasingly complex and difficult-to manage collection of servers, storage, and backup systems. Distributed across multiple facilities, the infrastructure included more than 300 servers accessed by some 6,000 desktops. Difficult to scale and protect, the Direct-Attached Storage (DAS) environment restricted the company's ability to reliably support 24x7 operations, respond to rapid growth which was approximately 70 percent CAGR, meet aggressive project schedules, and deliver on stringent SLAs.

The main facility at Chennai performed backups over the weekend but a full backup of 1.5 TB of data took three days, exceeding the available window. To ensure business continuity for IT services clients, Polaris routinely shipped backup tapes to an off-site archive. This process posed multiple logistics challenges and, because there was always a chance of a failed tape restore, it did not ensure complete data recovery

Defining availability SLAs is a critical requirement in Polaris' ability to deliver responsive client services. However, because backup and recovery processes vary from site to site, establishing and achieving SLAs was a next to impossible task. Some sites performed full daily backups, while other offices ran only incremental backups. Based on demand and necessity, recovery point objectives (RPOs) varied by site. Backup windows were also becoming an issue off late and were beginning to hinder the company's operations.

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an off-site archive. This process posed multiple logistics challenges and, because there was always a chance of a failed tape restore, it did not ensure complete data recovery.

Furthermore, recovery from a failure event could take two or three days which is too long in a demanding IT services environment. The process was also an administrative burden and imposed significant equipment and media costs.

Demanding project timelines, Polaris needed a storage infrastructure that could be quickly ramped up to deliver on-demand capacity. In the existing environment, servicing projects often meant implementing costly disk upgrades on the company's RISC servers. The upgrade process also made it impossible to respond dynamically to growth in messaging volumes. As the number of mail users and volumes grew, Polaris had to upgrade its mail servers frequently. Data migration could cost a full day of downtime, so upgrades increasingly jeopardised the availability of enterprise messaging services.

"Clearly, the rapid growth in the number of mail users and our expanding project needs were outpacing what our current storage architecture was capable of delivering," informs V Balakrishnan, Chief Information Officer at Polaris.

He adds, "Lack of a centrally controlled and uniform business continuity process was constraining our ability to meet the tough SLA demands of internal and external customers. We had to re-architect our entire storage infrastructure to address these challenges and build a foundation for future growth."

In a nutshell
Networking QoS Appliance - PacketShaper 6500 Routers - Cisco 3600 & 2600 series Switches - Cisco 6000 & 4000 series
Enterprise mailing solution Lotus Notes 7
Storage and Backup Storage - Filers - NetApp FAS940c, R200 Nearline storage Backup software - Veritas Netbackup Enterprise server 6.0
Servers High end development and test servers from HP, IBM, SUN Dell 2400 series, HP ProLiant DL380 series, VMware
Operating Systems Windows 2003, 2000, XP, SUN Solaris, HP UX and IBM AIX
Database SQL Server 2000, Oracle 10G
Security T1 Firewall -- Checkpoint NG AI R55 HFA17 T2 Firewall -- Nortel switched firewall (5109/5114) Checkpoint NG AI R55

The Solution



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- **V. Balakrishnan**
Chief Information Officer at Polaris

After detailed competitive analyses, Polaris selected a NetApp solution for data consolidation and high-speed disk-to-disk (D2D) backup and recovery.

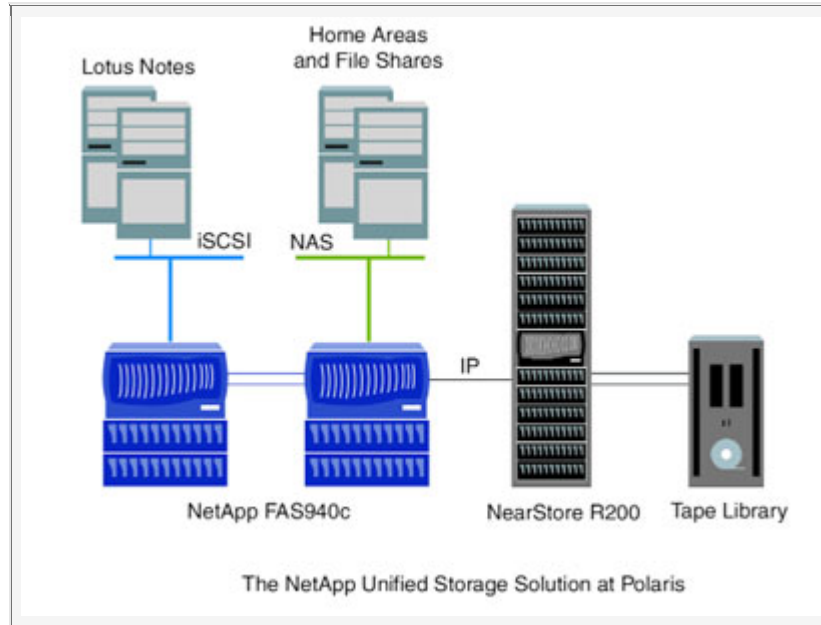
The implementation began on June 1 2005 and was completed on July 1 2006.

The company's Lotus Notes messaging and file services are now consolidated on clustered NetApp FAS940 systems deployed at all major Polaris facilities that support both block and file access.

The solution enabled simple and cost-effective consolidation of Lotus Notes accessed via IP SAN and file services through various NAS protocols. Balakrishnan says, "As we evaluated competing options, the other vendors that we considered offered only mix-and-match solutions for our requirements of NAS and SAN access. In addition, most vendors were not very confident of their solutions fitting into a Lotus Notes environment connected via an IP SAN. The choice of IP SAN for consolidating messaging was driven by the desire to leverage our existing Ethernet network and IP skill sets."

Polaris also required FC SAN capability in the same platform to support the company's Oracle-based applications.

While the clustered storage system ensures continuous system availability, a NetApp NearStore solution provides high-speed backup and restore functionality at Polaris headquarters. The NetApp NearStore system also enabled centralised backup of other locations, enabling implementation of uniform processes across all facilities. Disk-based backup and restore now allows Polaris to deliver tighter availability SLAs for both projects and messaging users.



Post migration results

In addition to improving access to project and mail data, Polaris has been able to better service specific applications running on SQL and Oracle databases, as well as ClearCase tools, with the migration from DAS to networked storage. Beyond multiprotocol support and improved access Polaris can now easily accommodate project ramp-up demands as well as growth in messaging volumes, leveraging a common set of provisioning and backup processes for both environments.

Post migration there has been hardly any instance when users have asked for data to be restored from tape. Balakrishnan observes, "Recovery time is almost instantaneous, and RPO is one hour for messaging and previous day for file shares and databases. The deployed solution has also allowed us to commit tighter availability SLAs to our demanding clients. Our ability to quickly ramp up project capacities has obviously given us an important tool to delight our clients. We have achieved all of our key objectives with the NetApp solution. The unified-storage solution has complemented the organisation to improve their efficiency of test and development operations."