

A FORSYTHE CASE STUDY

Data Center Migration via x86 Virtualization

Financial Institution–Consumer/Commercial Banking

Business Challenge

After Hurricane Katrina, our client recognized the need to move their disaster-prone data center and operations to a lower risk geographical zone. The goal was to migrate as many applications as possible before the start of the hurricane season, to avoid re-exposure of their revenue-generating and compliance-based applications to potential storms. As a part of this move, they wanted to virtualize as many x86 servers as possible and move via the WAN, rather than physically move servers. A traditional, physical relocation simply would not be completed within that time frame. Also, their current infrastructure utilized direct attached storage (DAS), while the new environment would need to leverage storage area network (SAN) for efficiency, flexibility and ease of replication.

Solution

Server virtualization with migration via WAN. Using the Forsythe Virtualization Methodology, Forsythe developed a physical-to-virtual migration plan to consolidate servers, minimize the timeline for the data center migration, decrease the need to migrate hardware, and provide a technology refresh during the process.

- Step 1 Capacity Planning–Forsythe gathered performance metrics on the 1120 physical servers and identified candidates for virtualization. Of the candidates for virtualization, 752 were identified as critical and were placed first in line to be virtualized and migrated.
- Step 2 Architecting and Implementing the Virtual Environment - Using our Rapid Infrastructure Deployment Framework, Forsythe designed a blade server solution to support the virtual environment and address data center space and power considerations. The blade server solution and the virtual backend environment were deployed using a phased approach determined by business-critical priority within the customer's required timeline. Forsythe also designed the SAN infrastructure, including boot from-SAN and mirroring technology, to prevent a catastrophic data center event from crippling critical operation in the future.
- Step 3 Server Virtualization–The client operates in a 24x7 environment so uptime and availability could not be compromised. Forsythe deployed a virtualization process

using industry standard server migration tools and migrated the servers in 45 days, with no downtime to the client's business-critical financial systems.

- Step 4 Support and Transition–With the new virtual server and SAN infrastructures fully operational, the important support-and-transition phase of the project still remained. Forsythe virtualization consultants helped the client understand the new virtual infrastructure from build to implementation to management. Forsythe documented procedures and best practices to support future changes to the virtualization environment. With solid knowledge transfer and instruction, the client was able to manage and deploy new virtual environments in their enterprise with ease.

Results

The server environment was migrated from standalone servers to virtual instances on a blade server infrastructure using a SAN with data replication technology. The virtualization and migration process resulted in a conservative 4:1 server consolidation ratio (with capacity up to 8:1), zero application downtime, and a drop in power consumption by over half compared to the original physical infrastructure. The new infrastructure brought two other critical advantages: rapid server deployment for new applications and a conduit to business continuity and disaster recovery. Virtualization simplified the process of changing server manufacturers during the migration and created pools of server resources that can be

instantly placed into service to offload performance demands of critical applications. Forsythe's comprehensive methodology helped the client mitigate all risks surrounding virtualization and, most importantly as a financial institution, provided continual access to applications throughout the process.

For more information about Forsythe's offerings, visit www.forsythe.com



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