

## SARCOM Gives a Large Regional Bank Server Consolidation

**The Challenge:** A large regional bank needs server consolidation.

The principal subsidiary of large financial institution is a \$30 billion regional bank holding company headquartered in Columbus, Ohio. Through its affiliated companies, the bank has more than 138 years of serving the financial needs of its customers. The bank provides innovative retail and commercial financial products and services through more than 300 regional banking offices in Indiana, Kentucky, Michigan, Ohio and West Virginia.

The bank hosts a large number of its application and database system on Windows-powered servers. Over the years, the number of supported systems grew enough to compel the bank to explore how to reduce operation costs through consolidation of this segment of its server population. SARCOM provided the bank with analysis and design services which identified efficient strategies for removing over one-fourth of the bank's nearly 400 servers.

The bank supports over 350 Windows powered servers, which provide mainly database (SQL Server) and IIS (Internet Information Server) services for the organization. While the server environment provides stable performance for the bank, the server population has grown to the point that device management and administration have become costly and difficult for the organization.

To address this problem, the bank's IT team evaluated options for reducing the server population through consolidation of support services onto a reduced number of physical systems. The ultimate goal was a significantly smaller server environment capable of providing levels of performance equal or superior to the original.

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**The Solution:** SARCOM analyzes and installs more efficient server population.

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**The Results:** The bank received improved availability and recoverability.

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Secondary goals included improved configuration consistency, improved performance management, a reduction in the number of configurations supported, and a consolidation of database and operating systems platforms.

In contrast to technology or hardware-focused approaches, SARCOM applied a phased, process-focused consolidation approach. This is designed to optimize around both business and technological factors, minimize risk, and to efficiently allocate effort.

During discovery, the SARCOM team identified relevant business and technical parameters, and surveyed the server, storage, network, and application environments. After pre-filtering the server community to eliminate poor candidates for consolidation, we conducted performance monitoring on the remaining population. We imported all discovery data into a central consolidation database in preparation for the analysis phase of the project.

In analysis, we queried the consolidation database both to identify consolidation communities (groupings of servers suitable for

consolidation based upon a variety of factors) and to derive the aggregate performance requirements by servers in each consolidation community.

Once SARCOM defined consolidation communities, we developed systems architecture specifications for each community, including server hardware OS, database implementation, network, and storage. We scaled systems within each consolidation community to meet aggregate performance requirements and to accommodate growth and availability requirements.

At an application level, the server population included a preponderance of SQL resources. This consolidation design provided for multi-instancing of SQL Server to improve scalability and to make more efficient use of hardware resources. We used virtualization strategies to accommodate test and development needs in the new architecture.

Significantly, despite a marked reduction in the number of servers, the new design also provided for improved redundancy through the utilization of Microsoft Cluster Services for systems determined to require especially high availability.

**The Solution:** SARCOM analyzes and installs more efficient server population.

To help the bank with this undertaking, SARCOM analyzed the existing server population, evaluated relevant business and technology factors, and provided a roadmap and system design for a newly consolidated server environment. SARCOM applied its own server consolidation methodology – derived from broad experience with infrastructure upgrades – to the bank’s environment. We arrived at a detailed set of recommendations regarding the processes and technologies best suited to efficiently consolidating the bank’s server population. Large SQL Server and IIS population drove unnecessarily high operational costs, was not performance optimized, and proved difficult to manage. SARCOM used the following software and services:

- Windows Server 2003
- SQL Server
- IIS
- Windows SharePoint Services
- Microsoft Access

**The Results:** The bank received improved availability and recoverability.

- 25% overall reduction in server population
- End-state architecture based upon 2 server chassis and 3 hardware configurations
- End-state architecture based upon a single operating system and database platform
- Improved availability and recoverability in the end-state design
- 74% reduction in server population within the targeted consolidation population
- Anticipated \$1.03 million reduction in operating costs over a five year period
- Significantly simpler hardware vendor/platform scenario: 2 chassis/3 configurations for entire server population
- Consolidation to a single server operating system: Windows Server 2003
- Improved guidelines for operational efficiency and new system provisioning