



Booz Allen Hamilton

Keeping ahead of e-mail growth with EMC

BUSINESS VALUE HIGHLIGHTS

Profile: Booz Allen Hamilton is a global strategy and technology consulting firm that provides services to major international corporations and government clients around the world. Privately held, the company has more than 17,000 employees on six continents and generated more than \$3.5 billion in sales in fiscal year 2005. Its corporate headquarters is in McLean, Virginia.

Challenge: With double-digit growth over the past seven years, Booz Allen was quickly outgrowing its old e-mail environment. Booz Allen needed to improve e-mail availability, increase storage scalability, and implement a more flexible and easy to use e-mail solution. As a result, Booz Allen turned to EMC Corporation to help consolidate its dispersed storage onto a storage area network (SAN), set up a new disaster recovery operation, and migrate its e-mail to Microsoft Exchange 2003.

Business value: With EMC software, storage, and services, Booz Allen achieved:

- Consolidation of eight direct-attached e-mail storage arrays to one centralized EMC Symmetrix SAN, providing improved scalability and economies of scale;
- Non-disruptive conversion of 23,000 e-mail boxes to Exchange 2003;
- More comprehensive protection of Exchange databases, extending full recovery of e-mail messages; and
- Reduced Exchange backup times (from hours to minutes).

Booz Allen Hamilton, one of the top performing global strategy and technology consulting firms in the world, has achieved an impressive annual double-digit growth rate over the past seven years. Because its information requirements were also growing, Booz Allen turned to EMC Corporation to help develop a more flexible and secure data storage infrastructure.

Booz Allen looked to EMC to improve e-mail availability, increase storage scalability, and create a company-wide backup and disaster recovery system that was fast and secure. Additional requirements included an e-mail system that would be easy to manage, provide shared calendaring, and give its widely dispersed work force flexible and remote access. To achieve these goals, EMC® Services worked with Booz Allen to consolidate information onto a storage area network (SAN), set up a new disaster recovery operation, and migrate its e-mail system to Microsoft Exchange 2003. This effort included the migration of 23,000 mailboxes and the upgrade of the operating system and application suite on 13,000 laptops and desktops.

BOOZ ALLEN HAMILTON ENVIRONMENT SNAPSHOT

- **Primary Applications:** Microsoft Exchange 2003, Oracle, time reporting, data warehousing, commercial and government financial applications
- **EMC Services:** EMC Recovery Optimization for Exchange, EMC Acceleration Service for Exchange, EMC Exchange Design Validation, EMCTimeFinder Exchange Integration Module (TEIM)
- **EMC Software:** EMC TimeFinder Exchange Integration Module (TEIM), SRDF/Data Mobility, EMC ControlCenter® EMC PowerPath®, Symmetrix Optimizer, Solutions Enabler.
- **Storage Infrastructure:** EMC Symmetrix DMX™, EMC CLARiiON CX, Centra Governance Edition (CE)
- **Processing Environment:** Windows 2000 and 2003 servers; Sun Solaris servers

Joao Blomberg, Booz Allen's Senior Manager of Integration and Standards, said, "EMC's staff assisted us in our migration to Exchange 2003. With EMC's extensive experience in storage consolidations and Exchange, they knew exactly what steps were required and what pitfalls to avoid. Now that the project is completed, our new infrastructure has shortened our backup windows and increased e-mail availability. Plus, we're able to more reliably and efficiently grow our e-mail environment to support business expansion."

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EMC's expertise and software ensure smooth consolidation and migration

EMC Services provided Booz Allen with a full range of assessment, planning, and implementation services to facilitate the SAN consolidation and Exchange migration. To kick off the project, EMC Services conducted an in-depth assessment of Booz Allen's growth, business, and disaster recovery requirements and helped determine what IT infrastructure was needed to address them. EMC Services then collaborated with Booz Allen Hamilton's IT department to map out and implement a two-phased strategic plan that would first consolidate its dispersed storage infrastructure onto a SAN and then migrate to Exchange 2003.

EMC's extensive SAN and Exchange experience, close partnership with Microsoft, and commitment to Booz Allen contributed to this project's success. EMC's Services team was onsite the entire time, showing Booz Allen's IT staff which best practices to perform and how to carry out a smooth deployment.

To prepare for the migration, EMC Services consolidated all business-critical storage residing on several direct-attached storage arrays onto an EMC Symmetrix® SAN infrastructure. This included the data from nineteen e-mail servers as well as the information from an additional twenty servers that stored time-reporting, data warehousing, commercial, and government financial applications, among others. A schedule was mapped out and each application was individually moved over to the new system.

With a consolidated infrastructure in place, EMC Services helped Booz Allen migrate 23,000 e-mail boxes to Exchange 2003. Using EMC's Symmetrix Remote Data Facility/Data Mobility (SRDF®/DM) software, old e-mail was replicated from an EMC Symmetrix system to the new Symmetrix SAN. The Microsoft Exchange server then was pointed to the new Symmetrix and company-wide e-mail became operational. Later, the original EMC Symmetrix was installed at a disaster recovery site 30 miles away.

"Our users barely noticed when their e-mail boxes were moved to the Symmetrix because the data replication occurred in the background while our e-mail service continued to run at full speed," remarked Blomberg.

The combination of EMC's advanced software, the consolidated EMC storage environment, and EMC's Services transformed a potentially disruptive migration into a seamless operation.

More comprehensive e-mail protection

Today, Booz Allen uses EMC TimeFinder® Exchange Integration Module (TEIM) software, SRDF/DM software, and Microsoft Volume Shadowcopy Service (VSS) to fully replicate its Exchange environment. EMC's TEIM gives VSS a command to temporarily hold all updates to the Exchange database stored on the Symmetrix system and then creates point-in-time business continuance volumes (BCVs) of the database. Once the BCVs are made, TEIM gives VSS a command to resume updates to the database. One BCV copy is backed up to tape and the other is stored on an EMC Symmetrix system, which is replicated to the disaster recovery site using the EMC SRDF/DM software.

EMC Services implemented a complex replication process involving advanced EMC and Microsoft software with ease and accuracy. As a result, Booz Allen is able to use the best features of EMC and Microsoft's software to achieve maximum reliability in the Exchange environment. By implementing EMC software, the replication of the Exchange database to a remote site has improved recovery-point objectives (RPOs) and recovery-time objectives (RTOs).

"Since we've been online with EMC and Exchange, we've had 99.9 percent uptime without any interruptions to employees' access to their e-mail and online calendars," said Blomberg. "Even with a major disruption, we can easily transfer our e-mail operations to our remote site."

"EMC's TEIM software allows us to create point-in-time copies of our Exchange 2003 database even as it's running and without any impact on production performance. As a result, we've shrunk our backup window from hours to minutes. This gives us the flexibility to perform backups more often and better protect our Exchange environment."

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E-mail backup reduced from hours to minutes

In addition to gaining more comprehensive protection of e-mail, Booz Allen has improved efficiency of the backup process itself.

Blomberg explained, "EMC's TEIM software allows us to create point-in-time copies of our Exchange 2003 database even as it's running and without any impact on production performance. As a result, we've shrunk our backup window from hours to minutes. This gives us the flexibility to perform backups more often and better protect our Exchange environment."

Fast, efficient ramp up of storage capacity

With the consolidated SAN environment, Booz Allen now manages its e-mail storage in a single location, significantly reducing the administrative tasks that were previously involved in increasing overall storage capacity.

Blomberg said, "Before, it was cumbersome and difficult to add storage in the direct-attached environment. The EMC SAN gives us the flexibility and scalability to add and allocate storage disks on the fly. We can easily and efficiently add storage capacity as we need it."

Economies of scale across the business

Serving as the infrastructure for Booz Allen's vital Exchange environment, the EMC SAN has delivered significant benefits to the company's other critical applications, such as Oracle, finance, and data warehousing.

Blomberg noted, "Making our EMC SAN the central storage pool for multiple applications provides better economies of scale and extends the benefits more broadly across our business."

In addition to the EMC Symmetrix-based SAN, Booz Allen uses EMC CLARiiON® to store lab development application data and is in the process of implementing EMC Centera™ Governance Edition storage to archive documents stored on company field office file servers.

"We're developing an ILM [information lifecycle management] strategy that will more sharply differentiate tiers of storage based on application category," explained Blomberg. "With Exchange, for example, we may move our older e-mails to EMC's mid-tier storage while keeping our current e-mails on the higher-end Symmetrix to lower our overall costs. EMC has the broad range of storage and software that will support our adoption of ILM."

A reliable and flexible information backbone

E-mail is extremely important for a company like Booz Allen Hamilton that provides services to international corporations and government clients around the world. To meet client expectations, it is vital that employees keep in constant touch with each other as well as their customers.

Said Blomberg, "For many employees at Booz Allen, e-mail is at the very heart of how they perform their jobs. Exchange 2003 provides a simple working environment for this vital area of communications. In fact, our Exchange solution received a 97 percent approval rating by employees in a recent survey. Our employees are especially happy with the shared calendar because it saves them from making phone calls and sending e-mails to set up meetings.

With EMC as Booz Allen's information backbone, users are able to access their e-mail 24 hours a day. The productivity improvements of increased e-mail availability—while difficult to measure—have been enormous at Booz Allen. The reliability and scalability of the EMC infrastructure give Booz Allen the confidence that it can keep employees online today and into the future even as the organization continues to grow."



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Customer Profile

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