

## Microsoft Corporation

### Improving Reliability and Saving Millions with Centralized Administration and Disk-based Data Protection

**Needing a solution that offered centralized administration and disk-based backups, Microsoft evaluated data protection software. Already the incumbent solution, Symantec Backup Exec 10 again beat out the competition. Symantec engineers worked closely with Microsoft to develop specific functionality that Microsoft needed. Now Microsoft is realizing tangible benefits, including \$2 million projected savings on tape hardware and media, while achieving high levels of reliability—99.5 percent success for backup jobs and 100 percent success for tape restores.**

#### World-class data protection for a world-class datacenter

To see best practices for managing a Windows-based information technology (IT) infrastructure, the place to look is Microsoft itself. Supporting an operation consisting of more than 60,000 employees in 464 locations worldwide is a challenge, and demands nothing less than world-class data protection.

Symantec fits that need perfectly. Microsoft IT has had a long and valued relationship with Symantec, going back to 1999. Over the years, the two companies have worked closely to ensure that Symantec data management software products support the newest features in Microsoft products as soon as they are released.

“With the sheer size of our operation, centralization is the logical way to achieve efficiency,” says Jason Watson, manager of data protection services engineering at Microsoft. “Symantec developed the Central Admin Server Option of Backup Exec™ for Windows Servers with our needs in mind. We were a major test site for the beta and provided them with suggestions for improving it to meet our needs. Symantec has been the standard data protection solution in the Redmond datacenter for seven years.”

#### The move to utility computing

With every change in the IT landscape, Symantec has met the challenge at Microsoft. The most recent instance came in 2003, when Microsoft moved to utility computing. “Utility computing is about cost management and service delivery,” says Watson. “By consolidating our infrastructure into a

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#### Jason Watson

Manager, Data Protection  
Services Engineering  
Microsoft Corporation

#### Company Profile

Microsoft Corporation is the world's largest software company, with global annual sales in the tens of billions of U.S. dollars and more than 60,000 employees in 85 countries and regions. Microsoft develops, manufactures, licenses, and supports a wide range of software products for computing devices.

#### Industry

Computer and Software

#### Solution

Data Protection

Backup Exec 10 drives IT resource consolidation and efficiency, reducing the number of central admin servers and eliminating 75 percent of tape drives.

utility model, we gain better control over costs and can provide higher levels of service.”

Utility computing puts new pressures on IT administrator to bill business units accurately for the datacenter resources they use and to meet service-level agreements. As part of the overall changes needed to the infrastructure, Microsoft took another look at its data management solution. Watson’s group solicited bids for a new generation of data protection software that would support its utility computing initiative. As the current solution, Microsoft looked to Symantec Backup Exec 10 for Windows Servers, which was in beta testing.

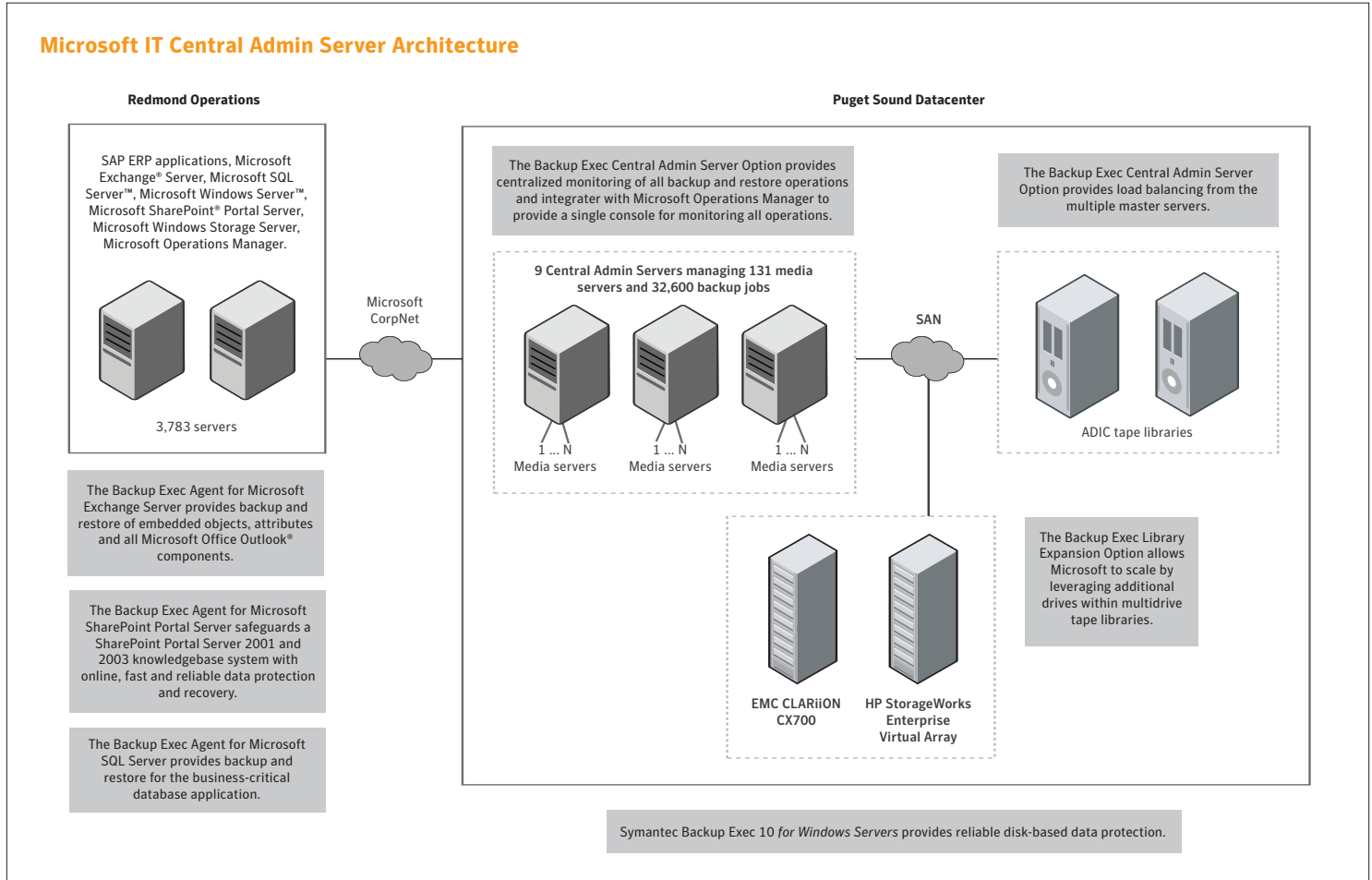
**Symantec proves its value again**

Backup Exec 10 came out on top. “The Central Admin Server Option of Backup Exec 10 was a key factor in choosing Symantec,” says Watson. “It allows us to back up over 5,000 servers worldwide, something we simply couldn’t do without centralized administration.”

An additional reason was Symantec’s enthusiastic support for disk-based backup and recovery. Disk-based backups offer a range of benefits, including faster backup and recovery, improved reliability, simplified IT administration, and lower total cost of ownership.

“Disk-based backups have a number of technical advantages,” explains

**Microsoft IT Central Admin Server Architecture**



**“Symantec Backup Exec 10 for Windows Servers had the best support for disk-based backups of all the solutions we considered.”**

**Scott Gerhke**  
Systems Engineer,  
Microsoft Corporation

Scott Gerhke, systems engineer for Microsoft IT. “Incremental and differential backups are hard on tape drives because the mechanism is constantly starting and stopping. Disk-based backups eliminate that problem, reducing maintenance and tape media costs. Symantec Backup Exec 10 for Windows Servers had the best support for disk-based backups of all the solutions we considered.”

**Smooth worldwide migration in only five months**

Microsoft’s rollout of Backup Exec 10 began in April 2005. “Symantec provided us with a smooth upgrade path from our previous version of Backup Exec, and we were able to roll it out worldwide within five months,” Watson recalls. “That’s a great time frame considering the size of Microsoft and the need to ensure ongoing data protection during the transition.”

Symantec Education Services helped in the transition by providing training for Microsoft’s IT staff based in Hyderabad, India. Six backup administrators attended a course on the Backup Exec Central Admin Server Option in May via Symantec Virtual Academy. Symantec Virtual Academy provides all the benefits of the

classroom—instructor, whiteboard, interaction—without the expense and inconvenience of travel.

**Centralized administration supports Microsoft’s utility computing**

Backup Exec 10 with the Central Admin Server Option is currently backing up more than 66 terabytes weekly from a range of enterprise applications, including SAP, Microsoft SQL Server, Microsoft Exchange Server, and Microsoft Sharepoint™ Portal Server. Two weeks of data is stored on disk arrays, EMC CLARiiON CX700 (Serial ATA) and HP StorageWorks Enterprise Virtual Array (Fast ATA). Microsoft also performs full tape backups twice a month using over 500 tape drives in ADIC Scalar 100, ADIC Scalar 1000, ADIC Scalar 1200, ADIC FastStore, and Compaq libraries. Backup tapes are archived offsite. The Backup Exec Library Expansion Option allows Microsoft to scale by leveraging additional drives within multidrive tape libraries.

Seventeen HP ProLiant Central Admin Servers (nine in the Puget Sound region, three in other U.S. locations, three in Europe, and two in Asia) and 213 managed media servers manage the worldwide backup process, running over 400,000 backup jobs a month. In Puget Sound alone, Microsoft has more than 32,600 different backup jobs, all managed by Backup Exec. The Backup Exec Central Admin Server Option provides load balancing from the Central Admin servers.

Backup Exec 10 has meshed well with Microsoft’s utility computing initiative. “To provide accurate bill-backs for data protection services, we

## SOLUTION AT A GLANCE

### Business Drivers

- Control costs and minimize complexity of IT administration
- Implement utility computing model for Microsoft IT services

### Technology Challenges

- Implement disk-based backup to reduce number of tape drives
- Incorporate backup statistics into Microsoft IT management tools
- Provide centralized administration of multiple Backup Exec servers

### Solution

Centralized administration and disk-based data protection using Symantec Backup Exec™ 10

### Symantec Products:

- Symantec Backup Exec™ 10 for Windows Servers with:
  - Central Admin Server Option
  - SAN Shared Storage Option
  - Library Expansion Option
  - Management Pack for Microsoft Operations Manager
  - Veritas Storage Exec™

### Technology Environment:

- Applications: SAP, Microsoft Exchange Server, Microsoft SQL Server™, Microsoft Windows Server™, Microsoft SharePoint™ Portal Server, Microsoft Windows Storage Server, Microsoft Operations Manager
- Storage: EMC CLARiiON CX700, HP StorageWorks Enterprise Virtual Array 5000
- Tape Libraries: 79 ADIC Scalar 100, 11 ADIC Scalar 1000, 3 ADIC Scalar i2000, 11 ADIC FastStore, and 4 HP/Compaq (475 tape drives total worldwide)

## BUSINESS VALUE AND TECHNICAL BENEFITS

### Reliability

- 99.5% success rate for 400,000 tape and disk-based backup jobs each month
- 100% success rate for 200 restores from tape per month

### Scalability

- 12-hour backup window maintained despite rapid data growth
- 5,000 servers protected worldwide by 17 Backup Exec Central Admin Servers managing 213 Backup Exec media servers

### Performance

- At least 50% projected decrease in time to restore files

### Cost of Ownership

- \$2 million in projected savings thanks to 75% reduction in number of tape drives
- 27% reduction in number of media servers needed

need access to the information about backup jobs,” says Watson. “Symantec and Microsoft codeveloped the Microsoft Operations Manager (MOM) Integration Pack to allow us to monitor Backup Exec 10 jobs from Microsoft Operations Manager. That simplifies our data-center administration by letting us do all monitoring operations from a single Microsoft Operations Manager console. It also feeds data about backup jobs directly into our billback system, streamlining the accounting process. It’s just another example of how Symantec helps us stay at the leading edge of data protection technology.”

### Backup Exec 10 Pays Off

Symantec Backup Exec is delivering tangible results for Microsoft IT. “Backup Exec 10 is highly scalable, so we have been able to consolidate our media servers,” explains Gerhke.

“Before, we had 15 media servers, but we’ve been able to eliminate 4 of them, a 26 percent reduction. Having fewer servers saves us time and money in maintenance and administration costs.”

Microsoft has also been able to consolidate tape hardware. “On the first media server that we converted to Backup Exec 10, we reduced the number of tape drives by 75 percent, from 48 to 12,” says Watson. “Overall, we expect to save over \$2 million by moving to disk-based backups.”

Backup reliability is meeting Microsoft’s targets, registering 99.5 percent successful job completion for backup to disk jobs in the most recent reporting period. And tape restores have been impressive: 100 percent success for 200 monthly restores.

**“Symantec Backup Exec 10 has played a major role by providing reliable, flexible data protection for our production data.”**

**Jason Watson**

Manager, Data Protection Services Engineering  
Microsoft Corporation

### A continuing partnership

Microsoft continues to look to Symantec for the newest technology for data protection. “We have deployed Veritas Storage Exec™ from Symantec on a number of servers and are evaluating how it can help us achieve further efficiencies in managing our storage resources,” says Watson. Microsoft is also evaluating the use of the Backup Exec Advanced Disk-based Backup Option as a way to use snapshots created by their EMC and HP storage systems, reducing the impact of backup operations.

“The move to a utility model is paying off for Microsoft,” says Watson. “Veritas Backup Exec 10 has played a major role by providing reliable, flexible data protection for our production data.” ■