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Case Studies

MGM MIRAGE

MGM MIRAGE Reduces E-Mail Servers by 50 Percent and Enhances Availability

CASE STUDY

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MGM MIRAGE is reducing its number of e-mail servers by 50 percent, enhancing availability, and enjoying easier e-mail administration since upgrading to Microsoft Exchange Server 2003, Enterprise Edition, running on Microsoft Windows Server 2003, Enterprise Edition. Exchange Server 2003 has helped MGM MIRAGE deploy geographically dispersed clusters to provide high-availability e-mail and disaster recovery. E-mail administrators have gained greater flexibility because they can create multiple user databases on a single server, which was not possible with the previous solution—Exchange Server 5.5 running on a mix of Microsoft Windows NT Server 4.0 and

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Solution Overview

Company
[MGM MIRAGE](#)
Customer Profile

MGM MIRAGE, headquartered in Las Vegas, Nevada, is an entertainment, hotel, and gaming company with 14 casino and resort properties worldwide, including the Bellagio, MGM Grand, The Mirage, Treasure Island, and New York --

Windows 2000 Server. And Windows Active Directory has made creating new mailboxes four times faster.

Situation

MGM MIRAGE, with some 43,000 employees, about 10,000 of whom have e-mail accounts, had gotten along well with Microsoft® Exchange Server version 5.5 running on a mix of Microsoft Windows NT® Server version 4.0 and Windows® 2000 Server operating systems—even after MGM Grand acquired Mirage Resorts in 2000, and the two companies began to manage separate Exchange Server 5.5 systems. But as demands on the company's e-mail system grew, it became clear that a better solution was needed.

MGM MIRAGE wanted to centralize and simplify the administration of its e-mail servers. Server administration was burdened by the inflexibility of Exchange Server 5.5, which allows only one database per server. The result was that each server's database became so large that it was difficult to maintain and took too long to restore. To compensate, the company was deploying and managing more servers than it would otherwise have needed, just to make the databases more manageable.

New York and others. MGM MIRAGE employs some 43,000 people.

Business Situation

MGM MIRAGE's e-mail system was based on Microsoft® Exchange Server 5.5 running in a mixed environment including the Microsoft Windows NT® Server 4.0 and Microsoft Windows® 2000 Server operating systems. The company needed a more flexible system that would support multiple databases per server and provide better backup and recovery options.

Solution Description

MGM MIRAGE upgraded to Exchange Server 2003 running on Microsoft Windows Server™ 2003, Enterprise Edition, and is upgrading client desktops to Microsoft Office Outlook® 2003. It consolidated its six servers at its Las Vegas headquarters, deploying three geographically dispersed, two-node, active-passive clusters.

Benefits

- Greater flexibility in managing e-mail servers and databases
- 50 percent reduction in the number of e-mail servers reduces administration and maintenance
- Four times easier to create and manage user mailboxes
- Easier to restore deleted e-mail and mailboxes
- Improved uptime and disaster recovery

Also, the company wanted to significantly enhance e-mail availability and recoverability with a geographically dispersed cluster solution, but this wasn't possible with the existing system. Finally, MGM MIRAGE wanted to upgrade its variety of Windows-based client operating systems.

Solution

MGM MIRAGE upgraded its server operating system to Microsoft Windows Server™ 2003, Enterprise Edition. The company consolidated its six e-mail servers running Microsoft Exchange Server 5.5 at its headquarters to three servers running Exchange Server 2003, Enterprise Edition. The three servers are deployed as the active nodes on three geographically dispersed, two-node, active-passive clusters supported by Microsoft Cluster Service (MSCS) and EMC GeoSpan for MSCS.

The company is still using six servers, but only three of them are active. The total number of servers remains the same; however, the company now has a highly available solution.

The solution collapses the old MIRAGE Exchange Server group into a single MGM MIRAGE group, centralizing and simplifying administration. The

- Better user experience

Partner(s)

[EMC](#)

Software and Services

- [Microsoft Exchange Server 2003](#)
- [Microsoft Office Outlook 2003](#)
- [Microsoft Office Professional Edition 2003](#)
- [Microsoft Windows Server 2003 Enterprise Edition](#)
- [Microsoft Windows XP Professional](#)

Hardware

- Dell PowerEdge 6650 for the 3 two-node clusters
- Dell PowerEdge 2650 for Outlook Web Access
- Microsoft Windows Mobile™ software for Pocket PC Phone Edition

Vertical Industries

Entertainment and Recreation
Media

Country/Region

United States

Audiences

Business Decision Makers



new solution also includes the Windows Active Directory® directory service.

MGM MIRAGE is in the process of upgrading desktops from a mix of operating systems, including Microsoft Windows 98, Windows NT Workstation, and Windows 2000 Professional, to Windows XP Professional and Microsoft Office Professional Edition 2003, which includes the Microsoft Office Outlook® 2003 messaging and collaboration client.

The company is also testing Sprint Hitachi G1000 devices running Microsoft Windows Mobile™ software for Pocket PC Phone Edition. The devices are supported by Microsoft Outlook Mobile Access (OMA) and use the Exchange ActiveSync™ technology to synchronize e-mail with the user's desktop PC. The 24-hour nature of business at MGM MIRAGE demands that some executives have access to their e-mail at all times.

Benefits

MGM MIRAGE is seeing a spectrum of benefits from its new solution. Administrators are enjoying greater flexibility in managing e-mail servers and databases, finding it easier to create and manage user mailboxes and simpler to restore deleted e-mail and mailboxes. MGM MIRAGE has also greatly enhanced its availability and disaster-recovery capabilities. The new interfaces and features for Outlook 2003 and Outlook Web Access are providing a better user experience.

Greater Flexibility in Managing E-Mail Servers and Databases

MGM MIRAGE wanted to upgrade to Exchange Server 2003 to support multiple databases and multiple storage groups per server. Exchange Server 5.5 had caused two major problems for administrators: Single-server databases grew to be too large to be managed and restored easily; and databases and storage groups couldn't be created to reflect the organization. The result was the deployment of more servers than would otherwise be needed, and some management strategies that couldn't be pursued.

Whenever possible, MGM MIRAGE had one Exchange Server database for each property—but this meant having separate servers for each property, too. The company wanted to divide the databases for each property into separate databases for day shift and night shift workers, but considered this impractical with Exchange Server 5.5 because it would have required the deployment of yet more servers.

The company operates around the clock, seven days a week, so Exchange Server 2003 was configured with one database for day workers and one for night workers at each property. In addition to providing smaller, easier-to-maintain databases, this setup allows the MGM MIRAGE Information Services department to schedule defragmentation and other maintenance for the night shift database during the day, and schedule daytime database work at night, to minimize the impact on users.

Easier to Restore Deleted E-Mail and Mailboxes

Recovery Storage Group, a feature new in Exchange Server 2003, simplifies the process of restoring a corrupted or deleted database. Earlier versions of Exchange Server required a separate recovery server, which could be difficult to deploy and lengthened the restoration process. Recovery Storage Group doesn't require a separate server and makes it easy to restore lost data using the Mailbox Merge Wizard.

Recovery Storage Group makes it easier for MGM MIRAGE Information Systems to respond to a user's request to restore deleted e-mail. These requests are often urgent, and the requests come in frequently.

In some cases, users request a critical piece of e-mail but don't contact administrators until the 14-day e-mail retention time has passed. With Exchange Server 5.5, the company had two overworked recovery servers.

Now MGM MIRAGE has a smaller database to restore because there are multiple databases per server, which means a restore will take less time. The company doesn't need a

separate recovery server because the Recovery Storage Group is right on the production server. Administrators can restore directly to a storage group without affecting anybody else on the server.

The Exchange Server Mailbox Retention feature helps guard against the inadvertent loss of entire mailboxes. Mailbox Retention allows administrators to specify a period of time (30 days is the default setting) that elapses before a deleted mailbox is permanently deleted. With Mailbox Retention, a deleted mailbox disappears from the interface; behind the scenes, however, the mailbox is flagged for permanent deletion only after the specified period expires. With Exchange Server 2003 and Mailbox Retention, the process to recover a deleted mailbox takes minutes instead of three to four hours.

Easier to Create and Manage User Mailboxes

MGM MIRAGE has found that it is significantly faster to create a new mailbox account now that Exchange Server is integrated with Active Directory.

Active Directory removes the problem of having a separate directory for e-mail users. Now, when a new mailbox is created, much of the user's information can be prepopulated from Active Directory. This makes the process faster and reduces the chance of errors.

Mailbox creation is now estimated to be four times faster, which is important because creating and updating mailbox accounts is an ongoing administrative task at the company.

MGM MIRAGE also likes the faster Move Mailbox functionality of Exchange Server 2003. Although Exchange Server 5.5 allowed moving several mailboxes at a time, it was difficult to do more than one Move Mailbox operation at the same time. Exchange Server 2003 makes such operations easy.

The company can now easily create multiple instances of Move Mailbox, enabling mailboxes to move about six times faster than before. This speed is important from a maintenance

standpoint, as administrators have had occasions when they spent three or four days moving all of the mailboxes from one server to another for preemptive maintenance, when it looked like something might be going wrong with a computer or database. Even if the new cluster architecture does away with such needs, administrators find convenience in being able to move mailboxes quickly if needed.

Improved Uptime and Disaster Recovery

MGM MIRAGE's upgrade to Exchange Server 2003 and Windows Server 2003 was key to enhancing e-mail availability and providing for disaster recovery.

Prior to deployment, the company didn't have high-availability architecture in place for e-mail. There was no clustering in the e-mail environment, so whenever administrators lost the server, or more importantly the Exchange Server store, they had to restore from tape. With Exchange Server 2003 deployed on clusters, MGM MIRAGE can replicate data to another storage array, to enable real-time replication and reduce the need for tape restorations. And because clusters with the active node are being deployed in one location, and the passive in another, the company gains the recoverability benefits of having a geographically dispersed solution.

Clustering will help MGM MIRAGE avoid unplanned downtime. Administrators found that, in the past, the majority of unscheduled downtime was due to hardware problems and other factors that could have been avoided with clustering.

Clustering also provides maintenance benefits.

In the past, the second cause of downtime was for maintenance. It was scheduled downtime, but administrators aimed to minimize scheduled downtime as well. Clustering allows the company to do maintenance when needed, without taking users offline. If an upgrade needs to be tested or a service pack needs to be deployed, it can be performed on a passive node, making sure that everything functions the way it's supposed to, and then

failed over to make it the active node. The company has gained a maintenance window that gives administrators time to do exactly what they need to do, without adversely affecting users.

Better User Experience

MGM MIRAGE users appreciate the new interface and features of Outlook, and the convenience and expanded functionality of Outlook Web Access.

Users enjoy the look and functionality of Outlook 2003, especially the different ways in which the inbox can be organized and the versatility of the Reading Pane. Their favorite feature is the alert that appears in the lower-right corner of the screen when they receive e-mail. It shows who the e-mail is from, the subject line, and the first few lines of text. Users also enjoy that that the alert fades away over time, and that they can configure how long it stays.

E-mail has evolved into an incredibly important tool for MGM MIRAGE. For many users, it is at the very heart of what they do. Outlook 2003 provides a better working environment for managing this vital area of communications.

Outlook Web Access will be helpful to users who frequently move between MGM MIRAGE properties. Instead of having to set up an Outlook profile at each location, users can easily access their e-mail through Outlook Web Access.

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