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White Paper

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Backup and Recovery Challenges with SharePoint

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Introduction

Almost 70 percent of organizations these days are either planning or already have SharePoint deployed as a platform for collaboration within their IT infrastructure. But with this success we are seeing SharePoint go through the same growing pains many other Microsoft products went through in their initial success stages. With the high-speed adoption of Exchange in the mid-1990s, we saw the volume of information grow to where the backup systems started to buckle under the ever-increasing amounts of data. As end users massively start to embrace SharePoint for their daily activities, the same growth trends are resulting in extreme growing pains for SharePoint. More and more business-critical information resides in SharePoint which means that SharePoint itself is rapidly getting higher on the list of mission-critical applications within the enterprise.

If this is the case in your organization, a proper data protection plan for SharePoint should be part of your daily operations. Since SharePoint itself consists of multiple components that can be highly distributed, simply leveraging the standard backup functionality that's available is becoming increasingly inadequate as a comprehensive solution to protect the entire farm and its valuable data.

Like with other solutions, with SharePoint the real challenge is not the backup part, but the recovery of information from the backup environment. SharePoint itself has become easier to deploy and to manage, but the protection of the valuable data in a SharePoint farm is a significant challenge. This whitepaper will discuss the challenges you can have to backup and protect using native tools and how you can successfully protect your SharePoint environment using Mimosa NearPoint™ for SharePoint.

SharePoint Backup and Recovery Challenges

With its great success, SharePoint is starting to contain more and more data. The data stored in SharePoint is diverse, containing more than simple Microsoft Office documents—since SharePoint is more of a content platform it can also contain blogs, discussions, and emails. The information is stored within a single environment in a collection of databases, allowing the content to be very effectively used for enhancing business processes like communication and collaboration.

Since SharePoint has become a mission-critical system within the enterprise, the demand is there to make the system available and improve protection against data loss. The users of a SharePoint deployment expect that IT can restore the content, whether an individual document or an entire site/farm. It isn't, however, as easy as it looks. A typical SharePoint deployment consists of a set of multiple SQL databases and some data on disk.

Each SQL database has a specific function:

Configuration

- The **Farm Configuration database** stores all of the configuration information about the servers that make up the SharePoint Farm, including security and configuration information.
- The **Administrator Content database** stores the data configured for use in the administrator interface. SharePoint doesn't use a standard Microsoft MMC, but rather a web-based interface using webparts in which the configuration settings for these webparts are in the database.
- The **Shared Service Providers Configuration database** contains all the configuration settings about the shared services that are used by SharePoint.

Search

- The **SSP Search database** is used by the Enterprise search service to store metadata about the information crawled and captured, including security information. Generally this is done for information stored external to SharePoint.
- The **WSS search database** is used by the core components of Windows SharePoint Services to store metadata about content stored within the SharePoint web application content databases.

Content

- The **Web Application Content database** needs to be created for the first user-based website in SharePoint. In other words, before you can create a site or site collection, you must first create a "Web Application" database, which stores all the information generated within this web application.
- New **Content databases** can be created at any time to host additional "Site Collections" and "Web Applications." A large-scale SharePoint farm could have a significant amount of content databases.
- The **SSP Console Content database** is required for the same reason as the administration console. The SSP also needs a website in order to allow you to configure the shared services. These also use webparts and lists with the settings are stored in their own content database.

While most of the SharePoint content and information (documents, images, text, security, site metadata, and so on), is actually stored in those SQL databases, there is a fairly large amount of information that is not stored on the SQL Server, but instead on the file system. A default SharePoint backup will not capture these. However, these files do have a critical role on a SharePoint server:

- SharePoint site definitions and XML files
- SharePoint .aspx template pages
- SharePoint script files
- Webparts that are custom designed or from a third-party

Besides the lack of capturing the above-mentioned custom content, there are other concerns. In TechNet's online article, "Choose backup and recovery tools (Office SharePoint Server)," it states:

If your system exceeds the following limits, or if backing up your system exceeds the maintenance window that you have available, we recommend that you consider using external backup and recovery tool:

- Content databases larger than 100 gigabytes (GB).
- Site collections that are larger than 15 GB that you want to back up by using the Stsadm command-line tool.¹

Native Backup and Recovery vs. Mimosa NearPoint for SharePoint

Many IT administrators choose to leverage the free native backup functionality that comes available with SharePoint 2007. Out of the box you have two options that could help you with creating a full-farm backup:

- Command line backup (STSAdm)
- Web-based Central Administration backup and restore

Both options give you a different level of functionality toward restoring content or a SharePoint environment. Unfortunately, as with any free tools there are drawbacks. As mentioned earlier, the tools that are available with SharePoint 2007 do not protect everything that is part of the SharePoint farm. The table below gives a quick list of what can be protected and restored with both the native SharePoint data protection tools vs. Mimosa NearPoint for SharePoint.

¹ TechNet. "Choose backup and recovery tools (Office SharePoint Server)," <http://technet.microsoft.com/en-us/library/cc263427.aspx#section3>; Updated 2009-07-16.

Feature	Central Administration backup tool	STSAdm tool	Mimosa NearPoint for SharePoint
Backup entire SharePoint Farm with single application	✓	✓	✓
Incremental Backup	✓	✗	✓
Backup SQL Databases	✓	✓	✓
Recover the server farm, except the configuration and Central Administration databases	✓	✓	✓
Recover the configuration and Central Administration databases	✗	✗	✓
Easy restore of data without using Recovery Farm	✗	✗	✓
Granular recovery of SharePoint data from full backup	✗	✗	✓
Backup Site Collections	✗	✓	✓
Centralized Backup and Recovery Administration	✓	✗	✓
Backup and Recovery Reporting	✓	✗	✓
Backup SharePoint websites	✓	✓	✓
Custom Webparts or customizations	✗	✗	✓
Schedule Backups	✗	✓	✓

Leveraging the Central Administration, which is based on the Stsadm functionality, to back up and recover SharePoint will give the following limitations:

- As part of a farm backup, it can back up the configuration and Central Administration content database but cannot restore either of them.
- The backup cannot be scheduled.
- The backup cannot write directly to tape. It will have to write to a UNC path or local drive.
- Previous created backup files will not be automatically purged.
- Configuration changes will not be in the backup. These include:
 - Internet Information Services (IIS) settings including host headers, dedicated IP addresses, and Secure Sockets Layer (SSL) certificates
 - Alternate access mappings
 - The Inetpub directory

- Application pool settings, including service accounts (all accounts that run as web applications, including the crawler account and the search account)
 - Farm-level search settings
 - External service connection settings
 - Workflow management settings
 - Email settings
 - A/V settings
 - Usage analysis processing settings
 - Diagnostic logging settings
 - Content deployment settings
 - Timer job settings
 - HTML viewer settings
 - Recycle Bin settings and other web application general settings
- Customizations are not backed up, including:
 - The template hive or 12/hive directory
 - Any customizations made to the web.config file.
 - Default quota templates
 - Blocked file types
 - Administrator-deployed form templates
 - Database names and locations
 - Web application names and databases. Be sure to document the content database names associated with each web application.
 - Crawler impact rules
 - Activated features

Stsadm command-line tool

The other option available in SharePoint 2007 is the Stsadm command-line tool for administration of servers and sites. The Stsadm tool can be used for backup and restore operations to protect and recover your data.

The Stsadm command-line tool offers the following features:

- The ability to back up and restore at farm level, web application level, or site collection level.
- Provides restorable backups for Search.
- Can be used with Windows Task Scheduler to schedule backups.

- For backups that initially run 17 hours, the system automatically restarts the backup and allots an appropriate amount of time for the process to perform (longer than 17 hours).

The Stsadm command-line tool has the following limitations:

- As part of a farm backup it can back up the configuration and Central Administration content database but cannot restore either of them.
- Site collection backups do affect performance and can cause access errors. These type of backups should only be used when the site collection is locked. Also site collection backups can be slow when working with collections larger than 15 GB thus Microsoft recommends that you use database backups if you are working with site collections larger than 15 GB. Also the recommendation is that if you want to backup a site collection that is larger than 15 GB that you move the site collection to its on database and then use a database backup.
- Also cannot back up directly to tape and the backup location must be a UNC path or local drive.
- Like the Central Administration backup, Stsadm does not provide automatic deletion of old backup files.
- Does not back up any configuration changes, including:
 - IIS settings including host headers, dedicated IP addresses, and SSL certificates
 - Alternate access mappings
 - The Inetpub directory
 - Email settings
 - Recycle Bin settings and other web application general settings
 - A/V settings
 - Usage analysis processing settings
 - Diagnostic logging settings
 - Content deployment settings
 - Timer job settings
 - HTML viewer settings
- Does not back up any customizations, including:
 - The template hive or 12/hive directory
 - Any customizations made to the web.config file
 - Default quota templates
 - Blocked file types

Mimosa NearPoint for SharePoint Architecture

Mimosa NearPoint provides a holistic solution to managing SharePoint data with integrated archiving, recovery, and eDiscovery. NearPoint is the only SharePoint management product to combine both archiving and recovery while maintaining easy end-user access to information. In addition, Mimosa NearPoint offers the most comprehensive SharePoint data capture available. With NearPoint, you can:

- Capture all content types and associated metadata.
- Perform continuous capture via Change Notification, and preserve the relationships between sites and content.
- Execute full-text indexing and global single-instancing on all archived content.
- Achieve storage cost savings, as content can then be offloaded from SharePoint while maintaining seamless end-user access via stubbing.
- Manage retention and disposition (disposal) of SharePoint content across the archive in accordance to your policies.

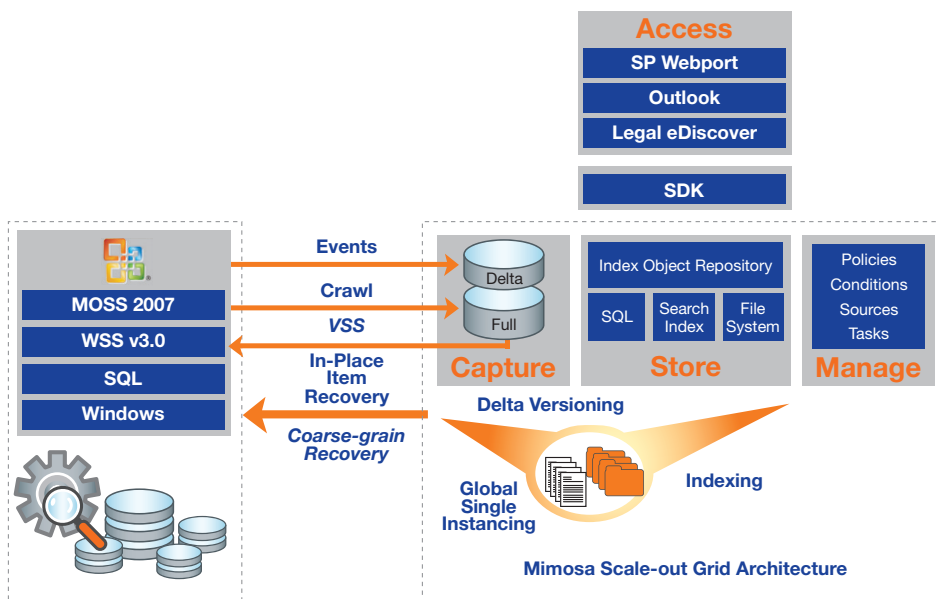


Figure 1: NearPoint for SharePoint Architecture

With comprehensive capture and archiving capabilities also comes the ability to provide robust SharePoint recovery functionality. Mimosa NearPoint allows both fine-grained and coarse-grained recovery (Figure 1).

Coarse- and Fine-Grained Recovery with Mimosa NearPoint

Mimosa Systems first made a name for itself in 2005 with an innovative approach to archiving Microsoft Exchange email. That approach combined both data protection and recovery with advanced archiving capabilities in one solution. It was a unique take on archiving that ultimately has led to more than 1,000 enterprise customers in less than four years. Mimosa brings this unique, integrated archiving and recovery approach to SharePoint. Because NearPoint captures the full SharePoint environment as well as incremental changes, the product enables both fine-grained and coarse-grained recovery. Fine-grained recovery refers to the ability to recover SharePoint content at a very granular level, for example recovering just a specific document or list without having to restore the full SharePoint environment or content database. To enable this, NearPoint captures the SharePoint hierarchy to the NearPoint database. Administrators can then browse and search the SharePoint hierarchy through the NearPoint Management Console to define the recovery scope (for example, a specific item) and destination (see Figure 2 and notice how the SharePoint hierarchy is displayed in the NearPoint Management Console). They can then restore the item(s) to the original location or to a new destination and NearPoint will automatically resolve any discrepancies and respect any assigned permissions. With this feature, NearPoint provides full fidelity, fine-grained recovery without the prerequisite of maintaining a separate full copy. Other solutions require a full backup copy to provide recovery and a separate copy for the archive to provide end-user access. NearPoint uses the same copy of the content for archiving and recovery.

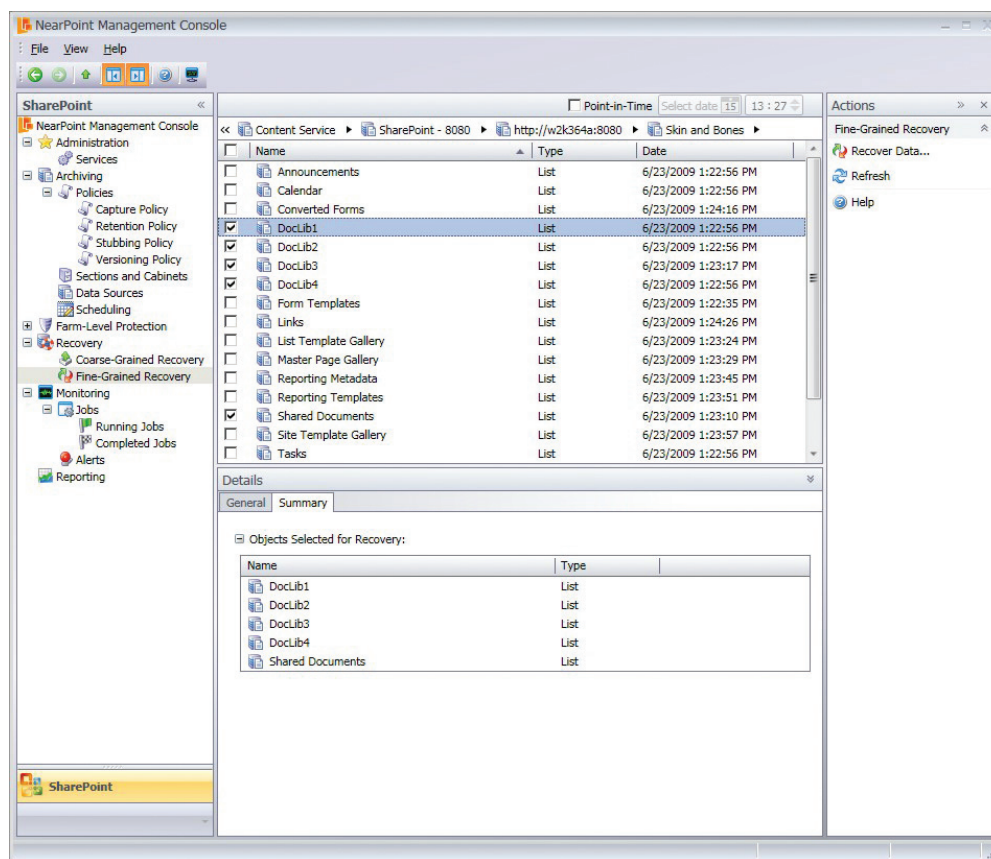


Figure 2. Mimosa NearPoint's Fine-Grained Recovery.

Coarse-grained recovery refers to restoration of a full SharePoint environment. NearPoint for SharePoint recovers not only the content within the SharePoint environment, but also all of farms components. NearPoint for SharePoint can recover the full environment, giving administrators a recovery/migration solution for SharePoint components such as Content and SSP databases, FE Web Server, config and admin database, search database, and search files.

Mimosa NearPoint for Microsoft SharePoint is the Right Choice for SharePoint

Mimosa Systems offers a SharePoint Archiving and Recovery solution that has the tightest integration with SharePoint of any product on the market. With Mimosa NearPoint for SharePoint, customers get all the benefits SharePoint has to offer, while gaining more control over the growth and management of SharePoint content and storage, better risk management with centralized retention policies and legal hold, and the ability to sleep well at night knowing recovery at any level of granularity is immediate. Mimosa NearPoint can perform recovery with the pre-requirements of a complete farm capture like other 3rd party vendors require. Mimosa NearPoint for SharePoint offers:

- The most comprehensive capture of SharePoint content
 - Capture all content types through the Object Model
 - Preserve relationships between sites and content (maintain context)
 - Continuous capture using Change Notification
- Integrated archive and recovery
 - In-place item-level recovery
 - Coarse-grain recovery
 - Full recovery of database and file systems data
 - Full-fidelity recovery including SharePoint workflows
- Easy end-user access to information through stubs and SharePoint search
- Storage of document version deltas to save storage costs
- Single-instance storage across all content-types – documents, images, sites
- Advanced eDiscovery workflow and in-place legal hold

About Mimosa Systems

Mimosa Systems, Inc. delivers next-generation email, file and SharePoint archiving solutions for information immediacy, discovery, and continuity. Mimosa NearPoint is the industry's most comprehensive unstructured information management software solution for email, files, collaboration systems and instant messages, enabling archiving, eDiscovery, storage management, and recovery in a unified solution. Mimosa is a Microsoft Gold Certified Partner, recognized for its competencies in networking infrastructure solutions, ISV/software solutions, and advanced infrastructure solutions. Mimosa was founded in 2003 and is based in Santa Clara, California, with offices in Canada, France, Germany, the United Kingdom, Japan, China, Australia, and India. For more information, visit <http://www.mimosasystems.com>.



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