CA XOsoft™ Replication for Windows

MS SharePoint Server 2007 Operation Guide

r12.5

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Note: CA XOsoft is sold in Japan under the names, CA ARCserve Replication and CA ARCserve High Availability.

Contents

Chapter 1: Introduction

This document outlines a disaster recovery solution for MS SharePoint Server 2007, based on replication to a local or remote replica server. In case of a critical failure where it is not possible to simply make the MS SharePoint Server 2007 data available again immediately (due to server crash, or worse - total site disaster), it is possible to recover from the backup server or to switch your users to the replica (backup) MS SharePoint Server 2007 server and resume operation in minimum time.

The goal is to provide a step-by-step guide to the procedures that must be carried out before and after failure, in order to achieve successful disaster recovery of your MS SharePoint Server 2007 server.

Important! CA XOsoft provides reliable MS SharePoint Server 2007 disaster recovery. However, since recovery is a manual process, you must follow the steps in this guide exactly to be successful. You should customize the steps listed in this guide only if:

1. You are very familiar with CA XOsoft and fully understand the potential impact.
2. You have fully tested the steps in a lab environment before implementing in a production environment.

For a fully automated solution, please review the *CA XOsoft HA for MS SharePoint Server 2007 Operation Guide*.

This section contains the following topics:

About This Guide

This document describes how to implement a Disaster Recovery solution for MS SharePoint Server 2007 Server using CA XOsoft. Please review each procedure before starting, to ensure you have the appropriate resources and permissions to carry it out.

Related Documentation

Use this Guide along with the *CA XOsoft Installation Guide* and the *CA XOsoft User Guide*.

Server Requirements

To implement CA XOsoft or CA XOsoft HA, refer to the appropriate list of requirements, depending on the server type you selected. These components are licensed separately. If you do not have the license required to access support for a specific server type, please contact Tech Support.

Base Configuration

Base Configuration

- Two servers running Windows Server 2000, 2003, or 2008 with the same level of service packs and hot fixes installed.
- All IP addresses are statically assigned (DHCP-assigned IP addresses on the Master or Replica server are not supported)
- The protected server is not a domain controller or DNS server
- Both servers should reside in the same Active Directory forest and also be members of the same domain or trusted domain.

MS SharePoint Sever Configuration Requirements

The system requirements CA XOsoft HA for MS SharePoint Server 2007 Standalone or Farm deployment are as follows:

- You must have two servers (production server and stand-by server) with Microsoft SQL Server 2000 SP3a or higher, SQL 2005 SP1 or later and SQL 2005 Analysis Services SP1 or later required for some advanced features; installed on both servers.
- Both servers should have the same SQL version, service packs, and hot fixes installed.
- Both servers should hold identical SQL Server instances-default or named.
- Both servers must have the same SharePoint version, service packs, and hot fixes installed.
- Drive letters containing database files should be identical on both servers.

- The full path to the default system database of each instance should be identical on both servers.
- You must verify that the port defined in the Network Configuration TCP/IP properties of the SQL instances is assigned statically and is identical on both master and replica servers.
- If you are installing SharePoint with SQL Server 2005 Express Edition, you must enable TCP/IP protocol for that SQL instance (i.e. OfficeServers) on both Master and Replica servers.
- If ODBC connections are made to the servers, you must verify that all such clients connect using the defined port.
- Stop SQL DB on replica server before you run the scenario.

MS SharePoint Deployment Requirements

At present the following typical SharePoint deployments are supported by CA XOsoft and CA XOsoft HA for MS SharePoint Server 2007:

Standalone

- Installation type: Stand-alone
- All components (WFE, Application, database) are on a single server
- Cannot add other server to create a server farm
- The SharePoint db is local SQL Server 2005 Express Edition

Server Farm (all-in-one)

- Installation type: Complete
- All components (WFE, Application, database) are on a single server
- Can add other servers to this server farm
- The SharePoint database is local SQL Server 2000/2005/2008

Server Farm (distributed)

- Installation type: Complete
- Each component (WFE, Application or database) can have its own dedicated server (i.e., a typical medium farm includes two servers, one for WFE + Application roles and another for database role.)
- Only the server which includes Application role can be protected by SharePoint DR or HA scenario.
- Can add other servers to this server farm
- The SharePoint database is local or remote SQL Server 2000/2005/2008

Log On Account Conditions

The CA XOsoft Replication and CA XOsoft HA Engine service must satisfy certain account conditions for successful communication with other components. If these requirements are not met, scenarios may not run. If you lack the permissions required, contact your local IS team.

- It is a member of the Domain Admins group. If the Domain Admins group is not a member of the built-in domain local group Administrators you must use an account that is.
- It is a member of the local machine Administrators Group. If the Domain Admins group is not a member, add the account manually.

- For servers in a workgroup, use the Local System account.
- Master and Replica servers must reside in the same Active Directory forest.
- If the account does not have built-in administrator permissions on all SQL Server instances, add appropriate permissions.
- The account must be able to modify the SQL Master and Replica DNS A-Record.

Important! For a SharePoint Farm deployment, the SharePoint server's Farm Admin account must employ the same log on account conditions

License Registration

CA XOsoft licensing policy is based on a combination of several parameters, which include: the operating systems involved, the required solution, the supported application and database servers, the number of participating hosts, and the additional modules - Assured Recovery and CDP Repository. The license key that is generated for you is therefore tailored to your exact needs.

After logging in for the first time, or if your old license has expired, you need to register CA XOsoft product using your license key. To register the product, you need to open CA XOsoft Manager, which does not depend on the existence of a valid registration key. Once the Manager opens, a License Warning message appears, prompting you to register the product. A License Warning message also appears when your license is about to expire during the next 14 days.

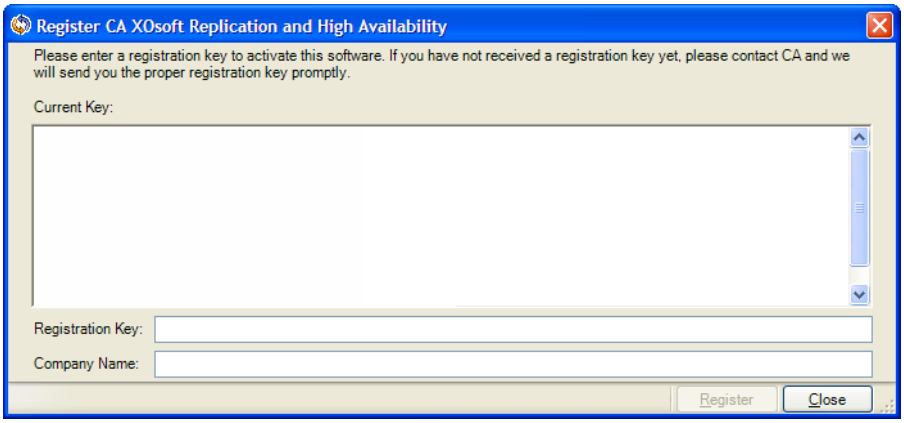
When you are creating a scenario, some of the options might be disabled following the terms of your license. However, you can create as many scenarios as you wish, since the validity of your license key is first checked when you try to run a specific scenario. Only when you click the **Run** button, the system checks whether you are allowed to run the selected scenario according to your license key. If the system determines that you do not have the required license for running this scenario, the scenario will not run and a message will appear on the Event pane informing you of the type of license you need.

To register CA XOsoft using the license key

1. Open the Manager. The **Welcome** message appears. Then, a **License Warning** message appears informing you that your product is not registered and prompting you to register it.

2. Click **OK** to close the message. Then, open the **Help** menu and select the **Register** option.

   The **Register CA XOsoft Replication and High Availability** dialog opens.



3. Enter the following information:
   - In the **Registration Key box** - enter your registration key.
   - [Optional] **Company Name** box - enter your company name
4. Click the **Register** button to register the product and close the dialog.

   Now you can start working with the CA XOsoft Manager according to your license permissions.

Chapter 2: Creating and Using Scenarios

This section describes how to create and use a replication and data recovery scenario for supported server types.

This section contains the following topics:

Prepare the SharePoint Replica Server

Before running a scenario, you need to prepare the Replica server. To prepare a SharePoint Replica server which meets the infrastructure requirements described in the previous chapter ensure the following are installed on the Replica.

- SQL Server 2000/2005/2008

  Note: You do not need to install SQL Server if either of the following conditions apply:

  - The production server is a standalone SharePoint deployment
  - The production server is a distributed Farm deployment and the SharePoint database is installed on a dedicated server.

- SharePoint Server 2007 SP1, with identical configurations as the Master server.

  Note: Do not configure SharePoint after installation.

- CA XOsoft Engine

Create a SharePoint Scenario

Creating scenarios is covered in full detail in the CA XOsoft User Guide. This section provides additional information specific to a MS SharePoint Replication and Data Recovery scenario. The Scenario Creation Wizard guides you through the steps required to create a high availability scenario. When completed, you should run your scenario to start data synchronization. Synchronization could take a while, depending on database size and network bandwidth. Once synchronization completes, your high availability scenario now maintains the Replica server so that it can take over for the Master the moment a failure is detected.

Notes:

- On Windows Server 2008 systems, the Microsoft Distributed Transaction Coordinator (MSDTC) service may prevent the Sharepoint COM+ application from starting properly. This may prevent SharePoint HA scenarios from performing critical operations. For example, database Auto-Discovery, Run this scenario, Assured Recovery (AR) testing, and so on. To remedy this problem, restart the server where the problem occurred (Master or Replica).
- When the CA XOsoft Engine is installed in a SharePoint environment that is joined to a SharePoint farm, the installation process installs CA XOsoft SharePoint COM+ and registers the corresponding service called CAXOSoftSPSCOMApp for all SharePoint Scenarios. When you uninstall the CA XOsoft Engine, the uninstallation process uninstalls and unregisters the corresponding components.

To create a SharePoint scenario

1. From the CA XOsoft Manager, choose Scenario, New or click the New Scenario button.
2. When the Welcome dialog opens, select Create New Scenario and click Next.
3. When the Select Scenario Type dialog opens, select SharePoint, Replication and Data Recovery.
4. When the Master and Replica hosts dialog opens, name your scenario and provide the hostname or IP address for the Master and Replica servers.
5. Wait for Engine Verification to complete and click Next. If needed, click Install to upgrade the Engine on one or both servers and then click Next.

   The Database for Replication dialog opens, listing all auto-discovered results for the specified Master. By default, all databases are included.
6. Change selections, as desired and click Next.

7. When the Scenario Properties dialog opens, configure additional properties, if needed. If you use NTFS ACLs with domain accounts for user access control, we recommend that you choose the Replicate NTFS ACL option and click Next. For more information, see Scenario Properties (see page 15) or the *CA XOsoft User Guide*.

   The Master and Replica Properties dialog opens.

8. Accept default settings or make the desired changes and click Next.

9. Click Next to initiate scenario verification. If errors are reported, you should resolve them before continuing. At successful verification, click Next to complete scenario creation.

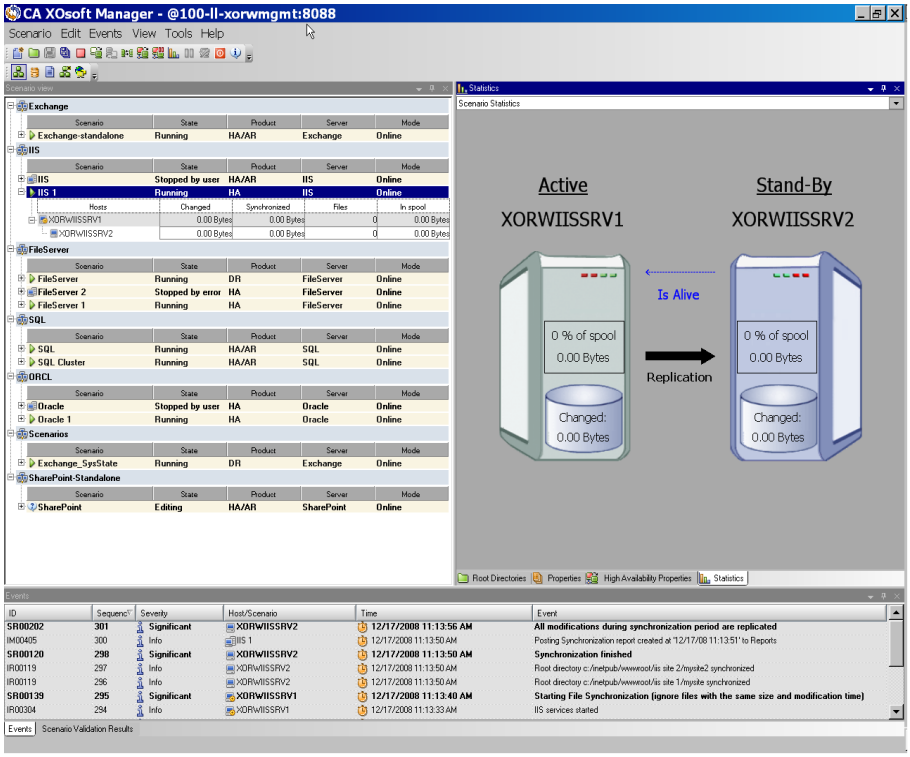
10. Choose Run Now or Finish, as desired. Run Now starts synchronization. Finish allows you to run the scenario later. See Run the Scenario from Outside the Wizard. (see page 20)

Scenario Properties

If you wish to change a scenario configured through the Wizard or configure additional settings, you can use the Properties pane to modify the scenario.

The Properties pane and its tabs are context-sensitive and change whenever you select a different node from a scenario folder. You must stop a scenario before configuring its properties. Certain values cannot be modified once set; they are noted. For full details on configuring scenario properties and their descriptions, see the CA XOsoft User Guide.

Properties are organized into tabs on the CA XOsoft Manager Framework pane. The tabs displayed are based upon server type, CA XOsoft solution, and scenario status. Select the scenario for which you wish to change properties, and then select the appropriate tab. The following screen shows an IIS scenario as an example:



Settings on the Root Directories tab

Select a Master Server from the Scenario Pane. Double-click its Directories folder to add or remove Master Root Directories. Select or clear checkboxes next to folders, as desired, to include or exclude them. You may also edit directory names.

Select a Replica Server from the Scenario Pane. For each Master Root directory, you must specify a Replica Root directory. Double-click the Directories folder for the Replica server. Select or clear checkboxes next to folders, as desired, to hold the corresponding Master directory.

Settings on the Properties Tab

Scenario Properties

These settings establish default behavior for the entire scenario.

- General properties -- cannot be changed once created
- Replication properties -- choose the replication mode (Online or Scheduled), synchronization values (File or Block, Ignore Files of Same Size/Type) and optional settings (Replicate NTFS Compress Attribute, Replicate NTFS ACL, Synchronize Windows Shares, Prevent Automatic Re-sync upon Error)
- Event notification properties -- specify a script to run, choose email notification, or write to event log.
- Report Handling -- specify report settings, email distribution or script execution

Master and Replica Properties

These settings establish server properties on both Master and Replica. Some settings vary by server type.

- Host connection properties -- Enter the IP address, Port number and Fully Qualified Name of the Master and Replica
- Replication properties -- These properties differ for Master and Replica. See the CA XOsoft User Guide for more information.
- Spool properties -- Set the size, minimum disk free size and directory path. See Spool Directory Settings (see page 37) for more information.
- Event notification properties -- specify a script to run, choose email notification, or write to event log.
- Report properties -- choose synchronization or replication reports, specify distribution or script execution
- (Replica) Scheduled Tasks -- set or suspend tasks, including Replica Integrity Testing for Assured Recovery. For more details, see the CA XOsoft User Guide.
- (Replica) Recovery properties -- set delay, data rewind properties, or scheduled task for replica.

Settings on the HA Properties Tab

These settings control how switchover and switchback are performed

- Switchover properties -- choose automatic or manual switchover, provide switchover hostname, and reverse replication settings
- Hosts properties -- specify the Master and Replica Fully Qualified Name
- Network Traffic Redirection properties -- choose Move IP, Redirect DNS, Switch Computer Name or User-defined scripts.

  Note: Network Traffic Redirection does not apply to Hyper-V HA scenarios.
- Is Alive properties -- set the heartbeat frequency and check method
- DB Management properties (does not apply to File Server scenarios) -- instructs CA XOsoft to manage shares or services on a database server
- Action upon Success properties -- defines custom scripts and arguments for use

Run the Scenario from Outside the Wizard

After you create a scenario, you need to run it to start the replication process. Normally, before data changes on the Master will begin to be replicated on the Replica, the Master and the Replica need to be synchronized. Therefore, the first step in initiating a replication is synchronizing the Master and Replica servers. After the servers have been synchronized, online replication starts automatically, continuously updating the Replica with all of the changes that occur on the Master.

Note: In order for the replication process to succeed, verify that the user under which the CA XOsoft Engine is running has Read permission on the Master, and Read and Write permissions on each replication root directory and included files, and on all participating Replica hosts.

To run the scenario from outside the wizard

1. From the Scenario pane, select the scenario you want to run.
2. Click **Run**  on the Standard toolbar.

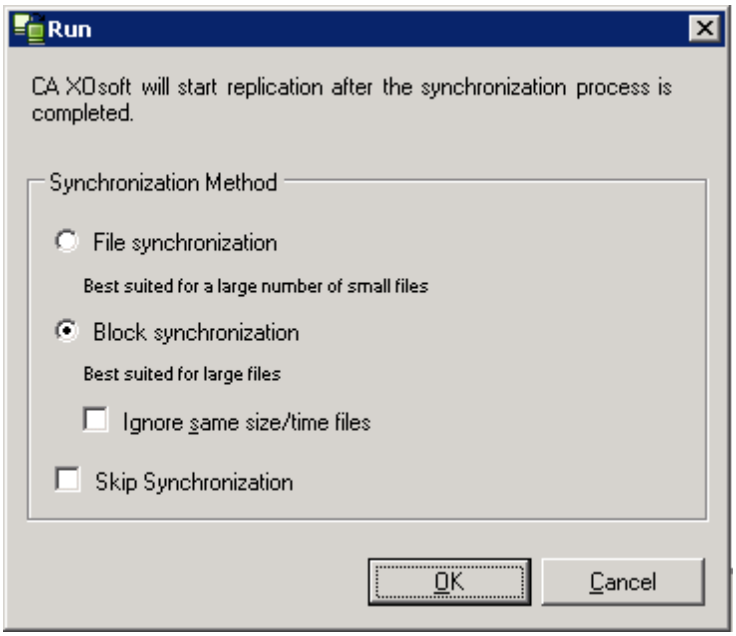
   Before initiating synchronization and replication, CA XOsoft verifies your scenario configuration. When verification completes successfully, CA XOsoft Manager displays the message: *Are you sure you want to run scenario "scenario_name?"* If problems are discovered, the top pane displays any warning and error messages resulting from verification.

Note: Scenario Verification checks many different parameters between the Master and Replica servers to ensure a successful switchover. If any errors or warnings are reported you should not continue until they are resolved.

3. Correct errors before you continue. Errors are reported on the Event pane.

   Note: Replication of mount points succeeds only if those were added to the Master before the Engine was started. If you included the mount points in the Master root directories when the Engine was already running, no error is reported but the replication does not start. In this case, you need to restart the Engine on the Master before initiating replication.

   When no error is reported, the **Run** dialog appears and contains synchronization options.



   Note: Do not use Skip Synchronization for any scenarios replicating a database.

4. Select Block Synchronization. Select the Ignore same size/time files to skip the comparison of files with the same path, name, size and modification time, which are generally identical, to reduce synchronization time. You should enable the Skip Synchronization option only when you are certain the files on both Master and Replica are identical.

5. Click the **OK** button. Synchronization may take a while, depending on database size and network bandwidth between the Master and Replica. You will receive the following message in the event window when the synchronization is complete: *All modifications during synchronization are replicated.*

At this point, the scenario is operational and active. By default, a Synchronization Report is generated when synchronization finishes. To view the report, refer to the topic, View a Report. You can also generate regular Replication Reports to monitor the replication process on each participating server. For more information, see the *CA XOsoft User Guide*.

Stop a Scenario

To stop a scenario

1. From the Scenario pane, select the scenario you want to stop.
2. To stop the scenario, click the **Stop** button on the Standard toolbar.

   A confirmation message appears prompting you to approve the scenario stopping.
3. Click **Yes** in the confirmation message. The scenario stops.

   After stopping the scenario, the Manager no longer shows the green play symbol to the left of the scenario, the scenario's state turns into **Stopped by user**, and the Statistics tab is no longer available on the Framework pane.

View a Report

CA XOsoft can generate reports on the replication and synchronization processes. These reports can be stored on your desired location, opened for view from the Report Center, sent by email to a specified address, or they can trigger script execution.

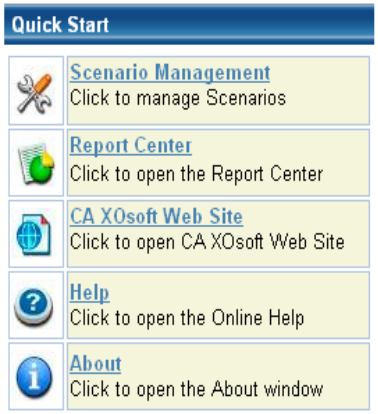
The default storage directory of the generated reports is:
[ProgramFilesFolder]\CA\XOsoft\Manager\reports

To view a report

Note: Though an Exchange report is shown for illustrative purposes, the steps and screens are similar regardless of scenario type.

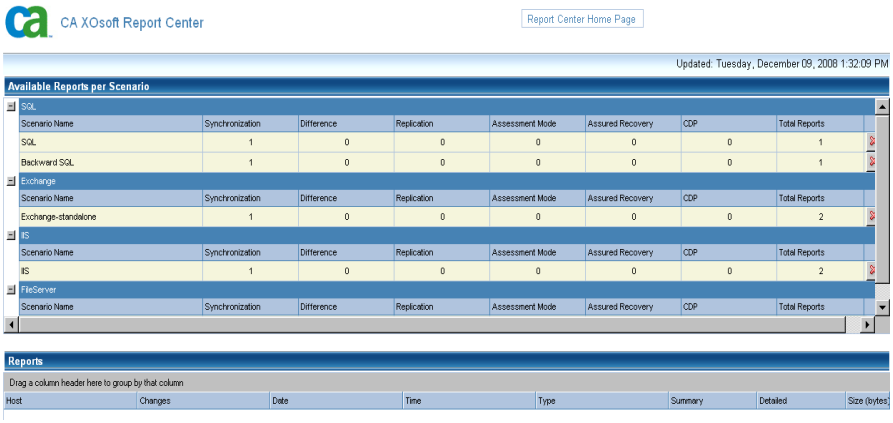
1. To view a report, first you need to open the Report Center. There are two ways to open it:

   - On the Overview Page, click the **Report Center** link on the **Quick Start** pane on the left:



2. From the **Tools** menu, select the **Reports** option and then **Show Scenario Reports**.

   The Report Center opens in a new window:



   The Report Center consists of two tables:

   - The upper table - **Available Reports per Scenario** - contains a list of all scenarios that have reports, along with the type and number of available reports for each scenario.
   - The lower table - **Reports** - contains a list of all the reports that are available for the scenario selected in the upper table.

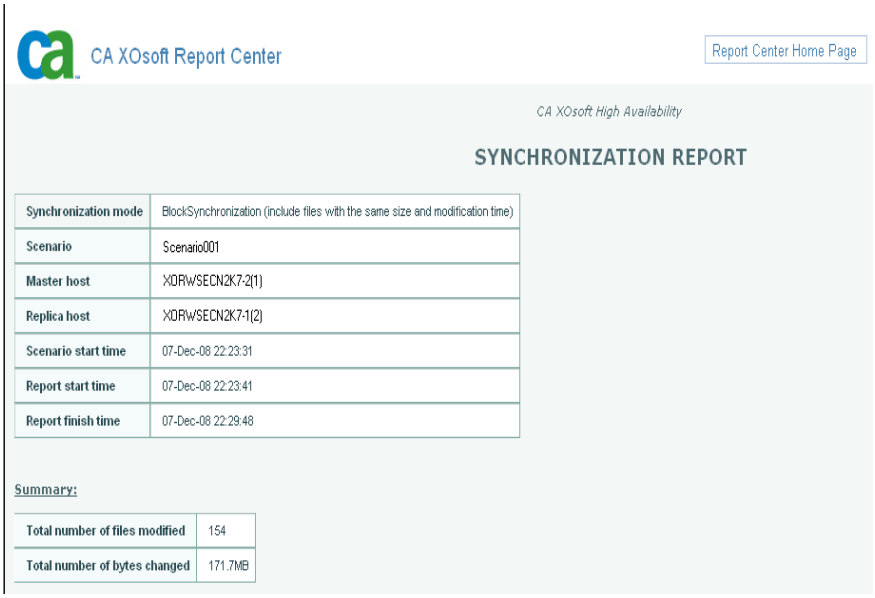
3. To view a specific report, select from the **Available Reports per Scenario** table the scenario that this report represents. Then, from the **Reports** table below, click the report you want to open:

Drag a column header here to group by that column

Host	Changes	Date	Time	Type	Summary	Detailed	Size (bytes)
XORWEXCH2K7-1	UnKnown	Today	03:29:37	Assured Recovery			811
XORWEXCH2K7-1	Changes found	12/07/08	22:29:48	Synchronization			28415

Note: Depending on your settings, for Synchronization and Replication reports a **Detailed** report can be generated in addition to the **Summary** report. Both reports represent the same process, but the **Detailed** report also provides a list of the files that participated in the process.

The report you selected appears in a new window:



CA XOsoft Report Center

Report Center Home Page

CA XOsoft High Availability

SYNCHRONIZATION REPORT

Synchronization mode	BlockSynchronization (include files with the same size and modification time)
Scenario	Scenario001
Master host	XORWSECN2K7-2(1)
Replica host	XORWSECN2K7-1(2)
Scenario start time	07-Dec-08 22:23:31
Report start time	07-Dec-08 22:23:41
Report finish time	07-Dec-08 22:29:48

Summary:

Total number of files modified	154
Total number of bytes changed	171.7MB

Chapter 3: Recovering Data

This section contains the following topics:

The Data Recovery Process

When an event causes loss of Master data, the data can be restored from any Replica. The recovery process is in fact a synchronization process in the reverse direction - from a Replica to the Master.

CA XOsoft enables you to recover data in two ways:

- Recover lost data from the Replica to the Master -- this option is a synchronization process in the reverse direction and requires you to stop the scenario. (This option is not recommended for Oracle, SQL or Exchange scenarios.)
- Recover lost data from a certain event or point in time (Data Rewind) -- This option uses a process of stamped checkpoints and user-defined bookmarks to roll corrupt data on the Master back to a time before corruption occurred.

Important! You must stop replication in order to initiate recovery.

Recover Lost Data from Replica

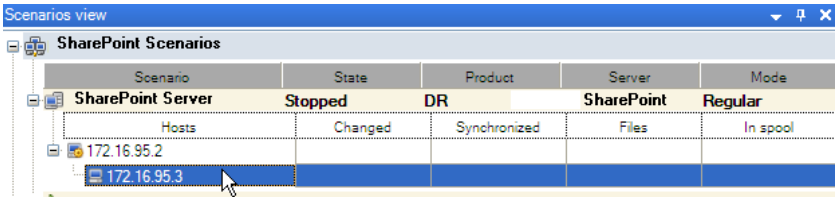
In the following steps, File Server scenario screens are used as examples, but the procedures are similar for all server types.

To recover lost data from a Replica

1. On the Manager, from the Scenario pane select the desired scenario and stop it.

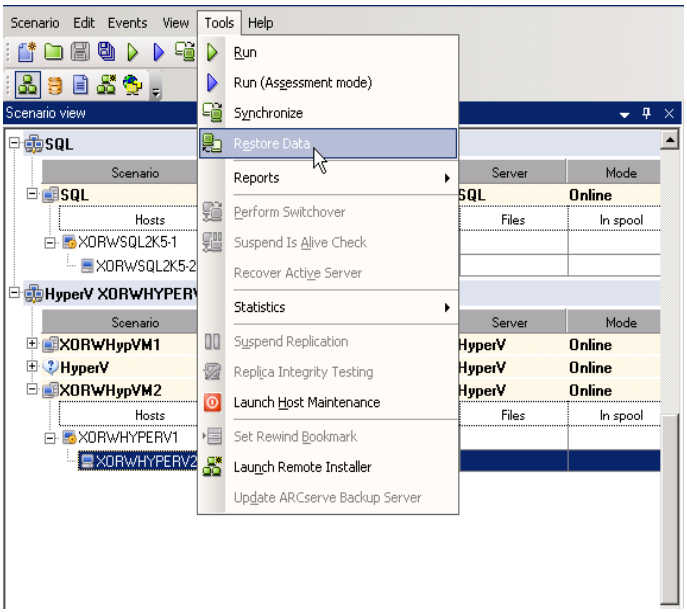
2. On the Manager, from the scenario folder select the Replica host:

   Note: If multiple Replica servers participate in the required scenario, select the Replica from which you want to recover data.

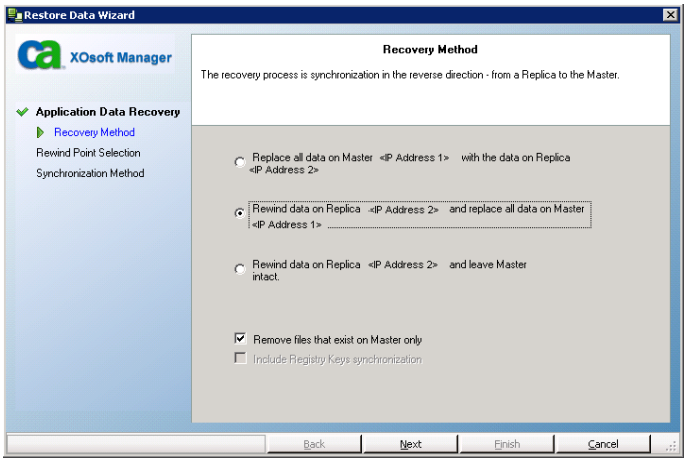


3. From the **Tools** menu, select **Restore Data**, or click the **Restore data** button on the Standard toolbar:

   Note: If the user credentials you used to log in to the Manager are different than the ones required for working with the Engine on the Replica, a **User credentials** dialog appears, asking you to enter log on account details for the selected Replica.

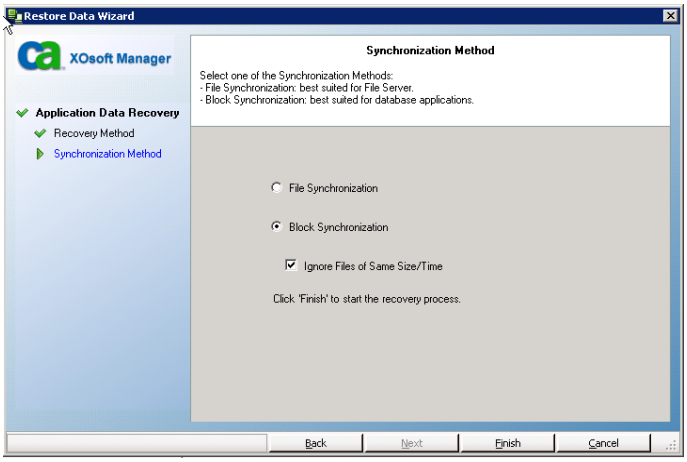


The **Recovery Method** page of the Restore Data wizard appears:



Note: If the Data Rewind property is set to On, another Restore Data dialog will appear. In this case, select the first option - **Replace all data on Master with the data on Replica**. This option simply restores data without a rewind.

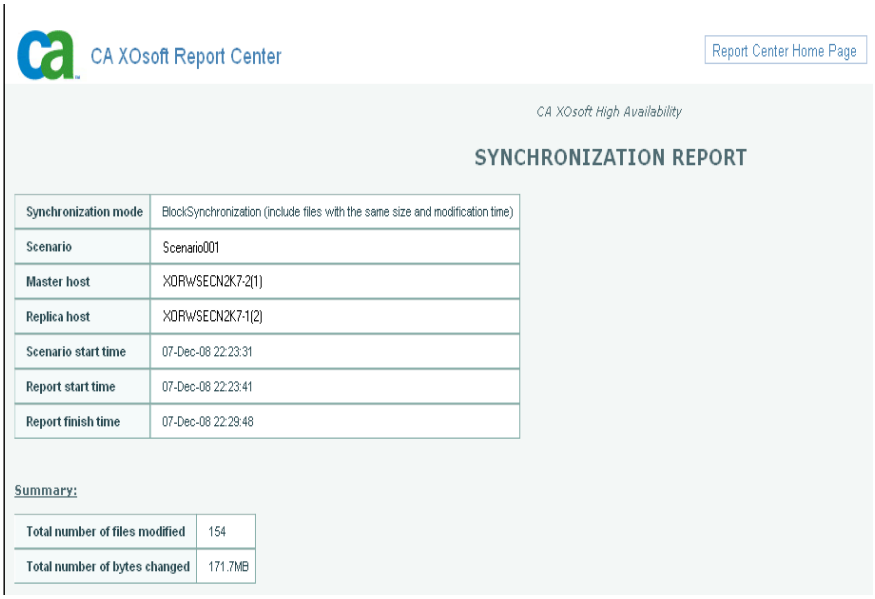
4. Click **Next**. The **Synchronization Method** page appears:



5. Make sure that the appropriate Synchronization method is selected. For more details, see the CA XOsoft User Guide. Click **Finish.**

   Once you finished initiating the recovery process, CA XOsoft builds a temporary reverse tree using the selected Replica as the root, and the Master as the terminating node. After the Master recovery process ends, the temporary scenario is deleted, and you receive the following message in the Event pane: **Synchronization finished**.

6. By default, once a data recovery occurs a Synchronization Report is generated:



CA XOsoft Report Center

Report Center Home Page

CA XOsoft High Availability

SYNCHRONIZATION REPORT

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Report finish time	07-Dec-08 22:29:48

Summary:

Total number of files modified	154
Total number of bytes changed	171.7MB

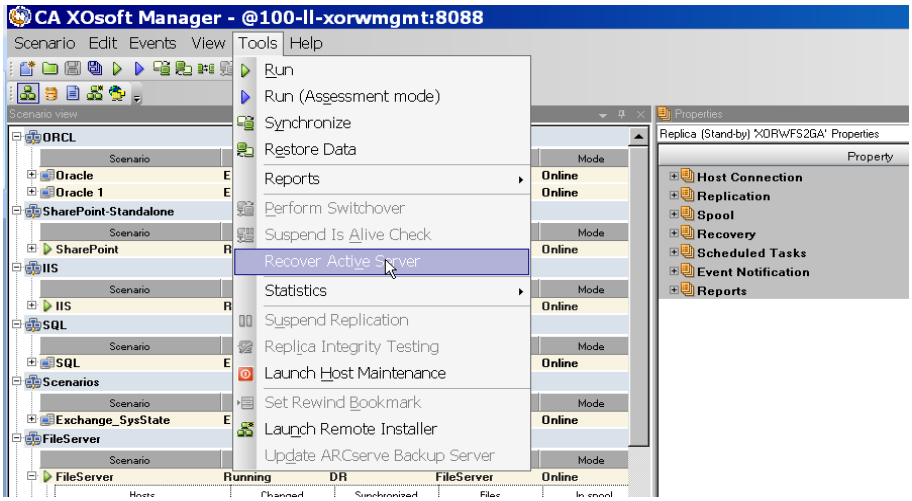
Now, the replication process can restart following the original scenario.

Recover Active Server

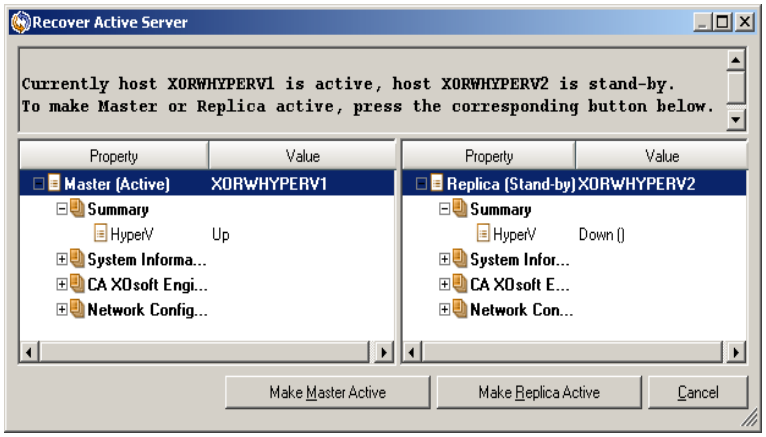
In certain circumstances, it may be necessary to forcibly make the Master or Replica server the active server without completing the data synchronization process. For example, if switchover occurred but no data was changed on the Replica server. In this case you may even have newer data on the Master server making it undesirable to synchronize data from the Replica to the Master server. CA XOsoft HA allows for this option through a process called Recover Active Server. To use this option, ensure that the scenario is stopped, and select *Recover Active* Server from the Tools menu.

Important! While this option is the right choice in many situations, use it with caution. If used improperly data loss can occur. Normally, CA XOsoft HA will not allow switchover from one host to another until all data is synchronized. It is designed this way so users are not redirected to an out of date data set that then overwrites what may be a more current data set. When using Recover Active Server, CA XOsoft HA is forcing users to one server or the other with no regard as to which server has the correct data set. Thus, as an administrator, you must manually ensure that the server you are making active has the most up to date data set.

Recover Active Server is not available if you are using the Switch Computer Name redirection method. Refer to the topic, Recover Failed Server, for more information on recovering data when Switch Name or Move IP redirection methods are used.



Select either *Make Master Active* or *Make Replica Active* depending onto which server you want to force the active role.



Important! If a legitimate switchover in a disaster situation occurs and users are redirected to the Replica server for any period of time, it is important to replicate all changes on the Replica back to the Master before making the Master server active. Using *Recover Active Server* in such a situation results in loss of data.

Setting Bookmarks

A *bookmark* is a checkpoint that is manually set to mark a state that you may want to rewind back to. We recommend setting a bookmark just before any activity that may cause data to become unstable. Bookmarks are set in real-time, and not for past events. For SharePoint high availability, Volume Shadow Copy Service (VSS) technologies are used to create bookmarks. This help you ensure that all SharePoint data (databases and search index files) is in a consistent state at the time the bookmark is generated.

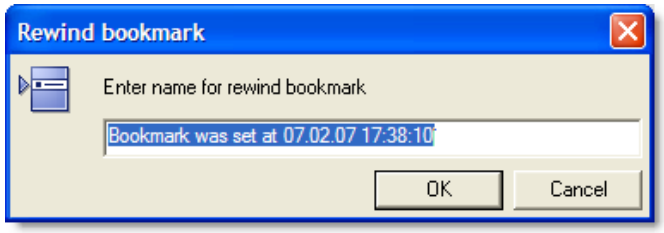
Notes:

- You can use this option only if you set in the Replica Properties list the **Recovery - Data Rewind** option to **On**.
- You cannot set bookmarks during the synchronization process.

To set a bookmark

1. When the required scenario is running, select **Tools, Set Rewind Bookmark**.

   The **Rewind bookmark** dialog appears:

   The text that appears in the **Rewind bookmark** dialog will appear in the **Rewind Points Selection** dialog as the bookmark's name. The default name includes date and time.

2. Accept the default name, or enter a new name for the bookmark. It is recommended to give a meaningful name that will later help you recognize the required bookmark. Then, click OK.

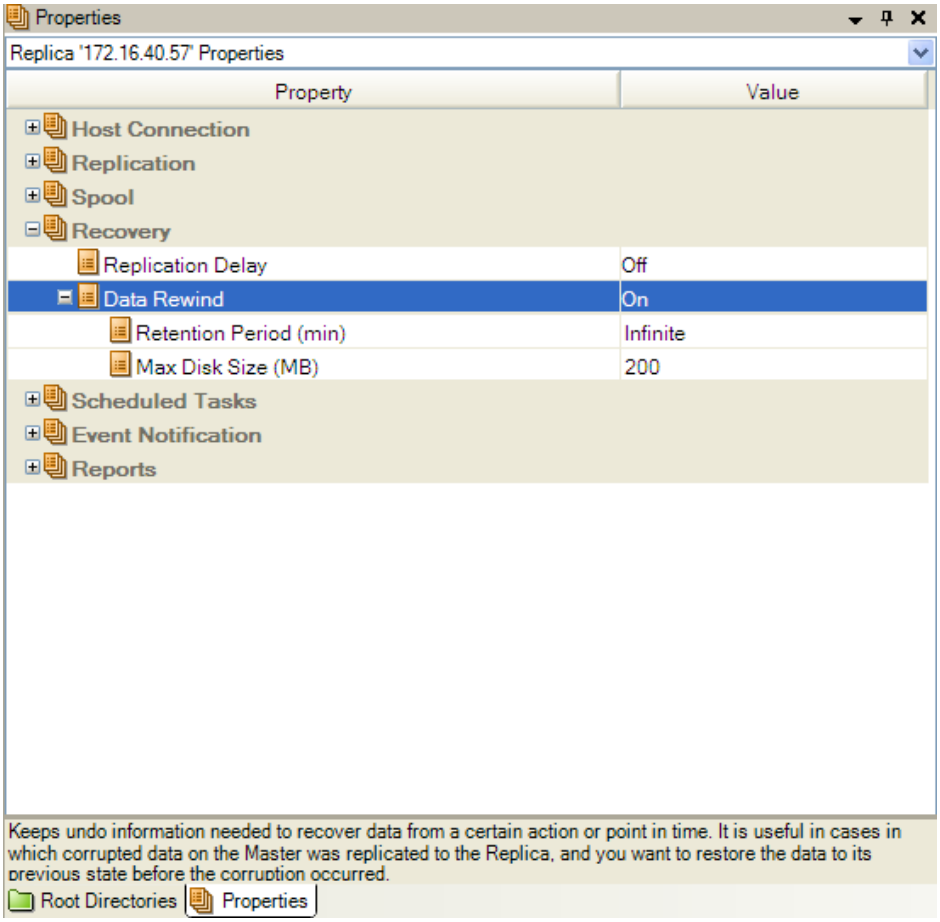
   The bookmark is set.

   Note: Any errors will be displayed in the Event View on the Control Manager.

Data Rewind

The Data Rewind recovery method allows you to rewind data to a point in time before it was corrupted. The rewind process takes place on the Replica server before the reverse synchronization process starts. The Data Rewind method uses rewind points or bookmarks that enable you to reset the current data back to a previous state.

You can use this option only if you set the **Recovery - Data Rewind** option to **On**:



If this option is set to Off, the system will not register data rewind points. For more information about Data Rewind parameters (Retention Period, Max Disk Size), see the *CA XOsoft User Guide*.

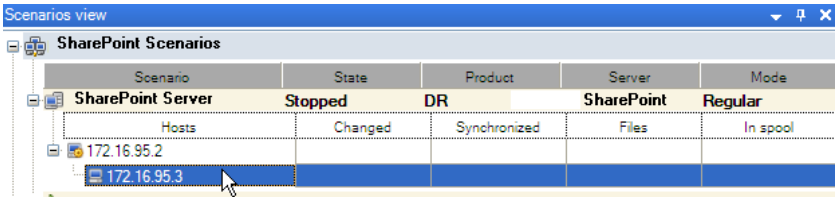
Important! The data rewind process operates in one way only - there is no replay forward. After rewind, all data subsequent to the rewind point will be lost, since data after the rewind point will be overwritten with new data.

Note: The automatic registration of the rewind points starts only after the synchronization process is completed, and the message **All modifications during synchronization period are replicated** appears on the Event pane. Similarly, you cannot manually set bookmarks during synchronization. In the following example, a File Server scenario is used, but the steps are the same for all scenario types.

To recover lost data using rewind points

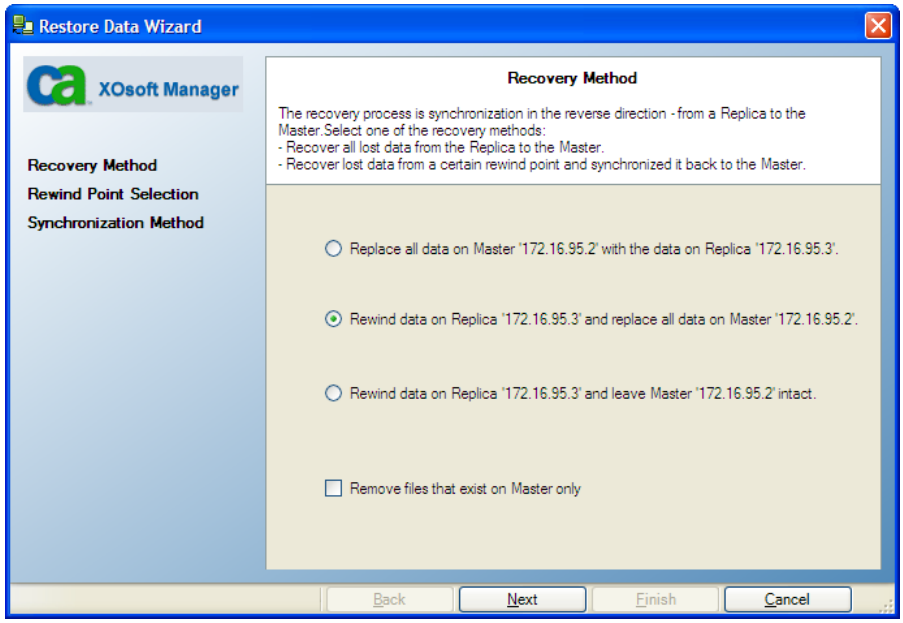
1. On the Manager, from the Scenario pane select the desired scenario and stop it.
2. [For database applications only] stop the database services on the Master host.
3. On the Manager, from the scenario folder select the Replica host:

   Note: If multiple Replica servers participate in the required scenario, select the Replica from which you want to recover data.



4. From the **Tools** menu, select **Restore Data**, or click the **Restore Data** button. If you are prompted for user credentials, enter the appropriate information and click OK.

   The **Recovery Method** page of the Restore Data Wizard appears:

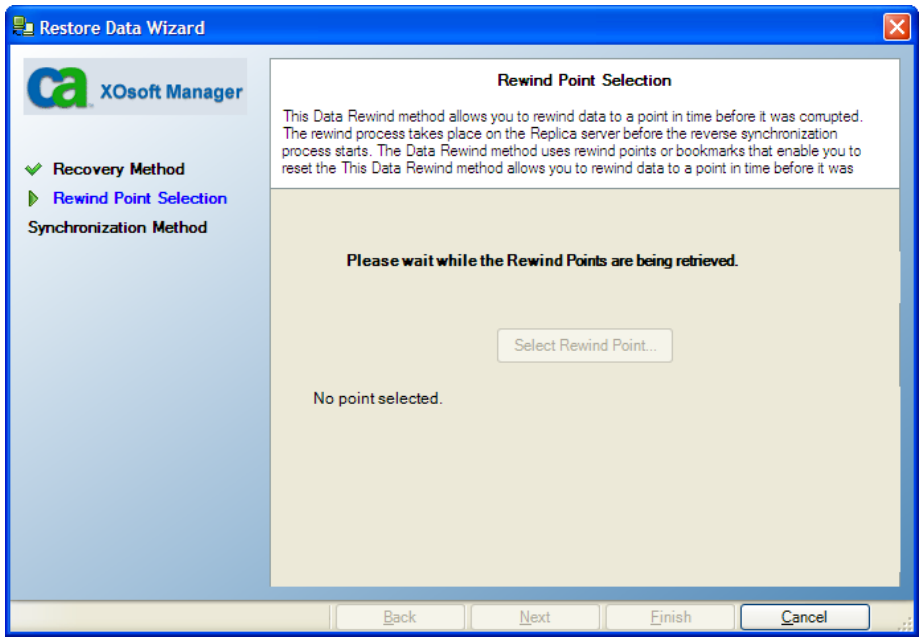


5. Select one of the Rewind data options, depending on whether you want the rewind data synchronized back to the Master (option 2) or left on the Replica only (option 3).

   Note: If the user credentials you used to log in to the Manager are different than the ones required for working with the Engine on the Replica, a **User credentials** dialog appears, asking you to enter log on account details for the selected Replica.

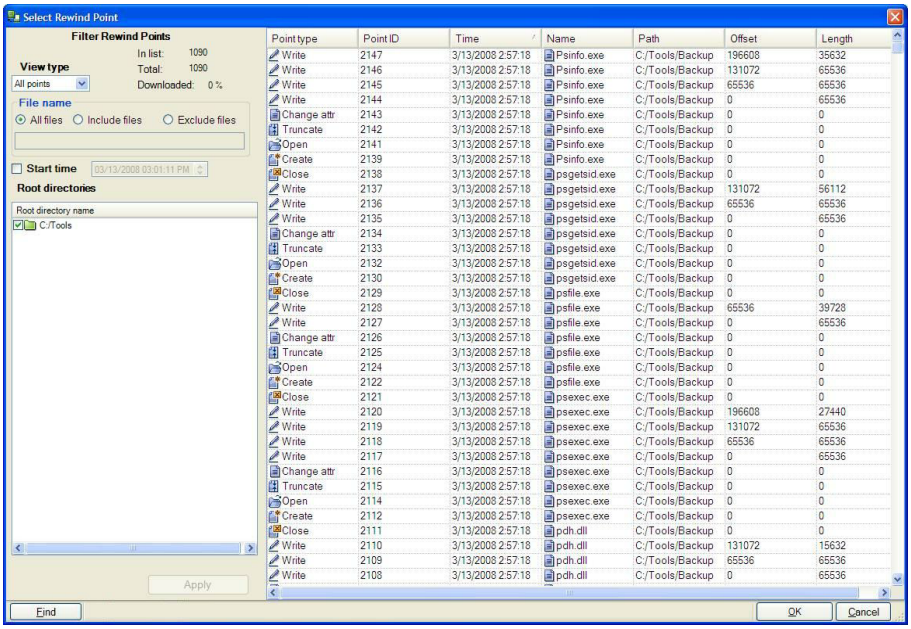
   After you select a Rewind data option, a Recovery scenario is automatically created. This Recovery scenario will run until the end of the rewind process.

6. Click **Next**. The **Rewind Point Selection** page is displayed:



7. Wait until the **Select Rewind Point** button is enabled, and click it to view the existing rewind points.

The **Select Rewind Point** dialog appears:



The **Select Rewind Point** dialog displays a list of all rewind points. These include modifications of folders and files that were automatically registered by the system and user-defined bookmarks.

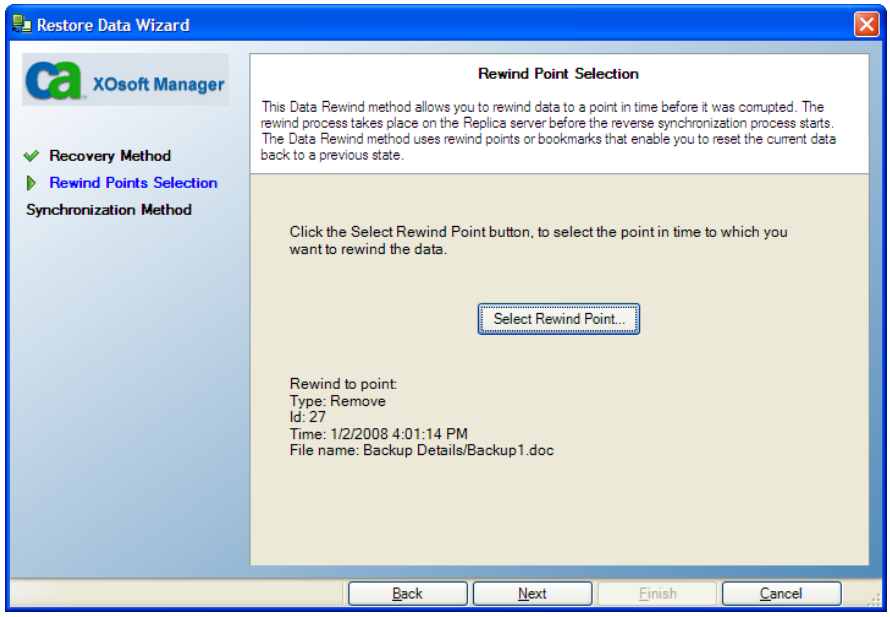
The list can be filtered according to the rewind point type or other criteria, using the **Filter Rewind Points** pane on the left.

Note: If the **Select Rewind Points** dialog is empty, make sure that the **Data Rewind** property is enabled.

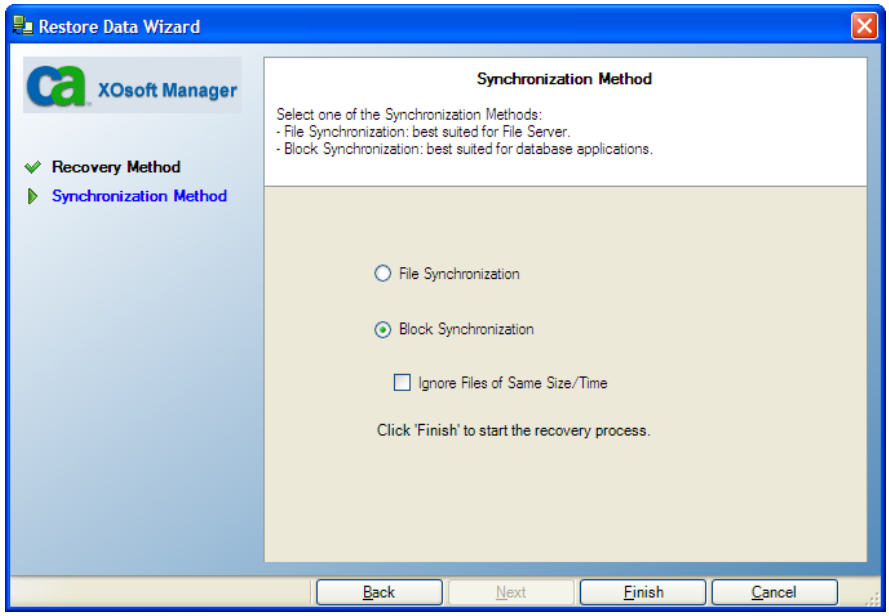
8. Select the required rewind point, and click **OK.**

   Note: If you want to use a Bookmark as the rewind point, select the closest rewind point that indicates an actual event. However, it is best practices for a SharePoint recovery to select a bookmark as a rewind point. Using a bookmark guarantees all SharePoint data is in a consistent state.

You return to the **Rewind Point Selection** page, now displaying information about the rewind point you selected:



9. Click **Next**. The **Synchronization Method** page is displayed:



10. Select the **Block Synchronization** method and click **Finish**.

    Note: If the user credentials you used to log in to the Manager are different than the ones required for working with the Engine on the Replica, a **User credentials** dialog appears, asking you to enter log on account details for the selected Replica.

    CA XOsoft rewinds the data to the point you selected. After the rewind process ends, you receive the following message in the Event pane: **Rewind process is completed successfully**.

    If you chose to replace the data on the Master with the data on the Replica, CA XOsoft starts a synchronization process from the Replica to the Master. Once the process ends, the temporary Recovery scenario is stopped and then deleted.

11. By default, once a data recovery occurs a Synchronization Report is generated:

CA XOsoft Report Center

Report Center Home Page

CA XOsoft High Availability

SYNCHRONIZATION REPORT

Synchronization mode	BlockSynchronization (include files with the same size and modification time)
Scenario	Scenario001
Master host	XORWSECN2K7-2(1)
Replica host	XORWSECN2K7-1(2)
Scenario start time	07-Dec-08 22:23:31
Report start time	07-Dec-08 22:23:41
Report finish time	07-Dec-08 22:29:48

Summary:

Total number of files modified	154
Total number of bytes changed	171.7MB

Now, the Replication process can restart on the original scenario.

Appendix A: Additional Information and Tips

This section contains the following topics:

Spool Directory Settings

The CA XOsoft spool is a folder on disk where data to be replicated is backed up (spooled) if bandwidth is not sufficient to transfer the amount of changes in real-time. Data can spool due to temporary network disconnections, network congestion, or simply because the network bandwidth is not sufficient to transfer the amount of data changing over on the server. In addition to storing changes waiting on available bandwidth, spool space is also used as part of the normal synchronization process. Thus, some spool build up during synchronization is normal.

Place the CA XOsoft spool folder on a drive with relatively low use such as a dedicated volume or boot/system volume. Do not place the spool folder on a volume containing frequently accessed system (OS), user, or application data. Examples include volumes containing databases, shared files, or the system pagefile. By default, the spool folder is located in the tmp folder under the CA XOsoft installation directory. The spool parameters, located in the properties tab (on both master and replica) or set with the New Scenario Wizard, determines how much disk space is available for the spool. In most cases the default values are sufficient. However, if you choose to change this value, it should be at least 10% of the total dataset size. For example, if you are replicating 50 GB of data on a server you should ensure that at least 5 GB of space is available for spool. Please note that this space is not pre-allocated.

Important! If you change the spool location, please remember to remove the new path from file level antivirus scans: both scheduled and real time.

Note: The CA XOsoft Spool Directory is not a pre-allocated space folder and will be used only if needed.

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