EMC® SourceOne™ for File Systems

Version 6.8

Administration Guide

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Contents

Preface

As part of an effort to improve its product lines, EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features.

Contact your EMC technical support professional if a product does not function properly or does not function as described in this document.

Note: This document was accurate at publication time. Go to EMC Online Support (https://support.emc.com) to ensure that you are using the latest version of this document.

Audience

This document is part of the EMC SourceOne documentation set, and is intended for use by administrators and end users who need to search their archived email and other archived content types.

Related documentation

Related documents include:

- *EMC SourceOne Email Management Installation Guide*
- *EMC SourceOne Email Management Administration Guide*
- *EMC SourceOne for File Systems Administration Guide*
- *EMC SourceOne for File Systems Release Notes*
- *EMC SourceOne Search User Guide*
- *EMC SourceOne Products Compatibility Guide*
- *EMC SourceOne Release Notes*

Conventions used in this document

EMC uses the following conventions for special notices.

Note: A note presents information that is important, but not hazard-related.

CAUTION

A caution contains information essential to avoid data loss or damage to the system or equipment.

IMPORTANT

An important notice contains information essential to operation of the software.

WARNING

A warning contains information essential to avoid a hazard that can cause severe personal injury, death, or substantial property damage if you ignore the warning.

DANGER

A danger notice contains information essential to avoid a hazard that will cause severe personal injury, death, or substantial property damage if you ignore the message.

Typographical conventions

EMC uses the following type style conventions in this document:

Normal	Used in running (nonprocedural) text for: • Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus) • Names of resources, attributes, pools, Boolean expressions, buttons, DQL statements, keywords, clauses, environment variables, filenames, functions, utilities • URLs, pathnames, filenames, directory names, computer names, links, groups, service keys, file systems, notifications
Bold:	Used in running (nonprocedural) text for: • Names of commands, daemons, options, programs, processes, services, applications, utilities, kernels, notifications, system call, man pages

	Used in procedures for: • Names of interface elements (such as names of windows, dialog boxes, buttons, fields, and menus) • What user specifically selects, clicks, presses, or types
Italic:	Used in all text (including procedures) for: • Full titles of publications referenced in text • Emphasis (for example a new term) • Variables
`Courier:`	Used for: • System output, such as an error message or script • URLs, complete paths, filenames, prompts, and syntax when shown outside of running text
`Courier bold:`	Used for: • Specific user input (such as commands)
`Courier italic:`	Used in procedures for: • Variables on command line • User input variables
< >	Angle brackets enclose parameter or variable values supplied by the user
[ ]	Square brackets enclose optional values
|	Vertical bar indicates alternate selections - the bar means “or”
{ }	Braces indicate content that you must specify (that is, x or y or z)
...	Ellipses indicate nonessential information omitted from the example

Where to get help

EMC support, product, and licensing information can be obtained as follows:

Product information — For documentation, release notes, software updates, or information about EMC products, go to EMC Online Support at:

https://support.emc.com

Technical support — Go to EMC Online Support and click Service Center. You will see several options for contacting EMC Technical Support. Note that to open a service request, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

Guide to using this document

This document supports online reading using Adobe Reader version 7.0 or above. For optimal performance, you should download and install the latest free Adobe Reader version:

(http://get.adobe.com/reader/)

Simplifying navigation

This document uses hyperlinks to other relevant sections. You can simplify navigation by enabling an optional Web browser-like navigation feature in Adobe Acrobat Reader (version 7.0 or above):

1. On the Acrobat toolbar, right-click the **Page Up** or **Page Down** icon.


Page Up


Page Down

2. Click **Show All Tools**. The **Previous View** and **Next View** navigation buttons are displayed on your toolbar.


Previous View


Next View

The **Previous View** and **Next View** navigation buttons function similar to your Web browser navigation buttons, enabling you to navigate between views using document hyperlinks.

More information

For more information about Adobe Reader navigation and other features, refer to the product help system.

Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to:

`techpubcomments@emc.com`

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EMC SourceOne for File Systems Concepts

Provides an overview of EMC SourceOne for File Systems concepts and is organized as follows:

Introduction to EMC SourceOne for File Systems

EMC SourceOne for File Systems allows you to archive, search, and shortcut files, and can help you comply with legal requirements for archiving from supported file systems.

Supported file systems include both Windows NTFS and UNIX, as well as files located on CIFS, DFS, or NFS shares. Network attached storage devices such as EMC Celerra are also supported.

The software also supports indexing of content archived by separate archiving solutions, such as EMC Cloud Tiering Appliance (CTA) or EMC DiskXtender for Windows (DiskXtender). Refer to the *EMC SourceOne Product Compatibility Guide* for the details on this support.

You process files using activities which you define using the EMC SourceOne console. Refer to the *EMC SourceOne Email Management Administration Guide* for more information on activities and the core EMC SourceOne technologies. Refer to Chapter 4, "Configuring File Activities," for information on the file processing activities that are available and how to create, configure, and use them.

You install EMC SourceOne for File Systems after installing the core EMC SourceOne Email Management product. Refer to the following for more installation information:

- For new installations refer to the *EMC SourceOne for File Systems 6.8 Installation Guide* for information on the installation process.
- If you are upgrading from a previous version of EMC SourceOne for File Systems, refer to the update instructions in the *EMC SourceOne for File Systems 6.8 Release Notes*.

When you install EMC SourceOne for File Systems, you add file processing activities to the EMC SourceOne system that you can use to process file content.

Note: File archiving is not intended as a replacement for a backup tool and it is not intended to archive active content.
If active content is archived, temporary files may be unintentionally archived. This may be mitigated by explicitly excluding certain types of files. For example, temporary Office documents will have the Hidden and System attributes set. Files with these attributes can be excluded using the File Attributes page of the File Archive - Historical activity.

The following topics provide additional information on how to use EMC SourceOne for File Systems:

- "File archiving concepts" on page 12 provides additional information on archiving files.
- "File shortcutting concepts" on page 18 provides additional information on shortcutting files.
- "Changes in EMC SourceOne for File Systems 6.8" on page 20 lists the major changes you may encounter after upgrading to EMC SourceOne for File Systems 6.8.
- Chapter 2, "Using In-Place Indexing," describes how to use the In-Place Indexing feature that is new in EMC SourceOne for File Systems 6.8.
- Chapter 3, "Best Practices for File Processing Activities," describes selected best practices for using file processing activities.
- Chapter 4, "Configuring File Activities,"describes how to configure the file activities to process files.

File archiving concepts

The following sections describe how files are archived, and some considerations to keep in mind when performing that archiving.

- "Comparing typical archiving and in-place indexing" on page 12
- "How do files get archived?" on page 13
- "Understanding manifest files" on page 15
- "Archiving considerations and limitations" on page 16

Comparing typical archiving and in-place indexing

You archive files using the File Archive - Historical activity. Typically you also index those files for searching, and you may shortcut those files to save space on the storage device.

When defining the File Archive - Historical activity, one of the options you select is whether to archive files in the EMC SourceOne Native Archive, or to leave them on an existing archiving device, such as the EMC Cloud Tiering Appliance (CTA) or EMC DiskXtender.

Indexing files without moving them into the EMC SourceOne Native Archive is referred to as *in-place indexing*. You select in-place indexing by selecting the **index only** option on the Behaviors page of the File Archive - Historical activity.

Refer to Chapter 2, "Using In-Place Indexing," for more information on in-place indexing.

Although in-place indexing allows you to index and search files, it does not allow you to shortcut those files. Typically such shortcuts are not needed since the archiving device creates stubs for those files before moving them to secondary storage.

Table 1, "Comparison of standard archiving and in-place indexing archiving," lists the major differences between standard archiving and in-place indexing.

Table 1 Comparison of standard archiving and in-place indexing archiving

Standard archiving	In-place indexing archiving
File is copied to the EMC SourceOne Native Archive.	File remains on archiving device.
File can be replaced by a shortcut on the storage device, since it exists in the Native Archive.	File cannot be shortcut by EMC SourceOne.
File can be indexed and searched.	File can be indexed and searched.

How do files get archived?

You archive files using the File Archive - Historical activity. The following sections describe:

- "Overview of the file archiving process" on page 13
- "What qualifies a file for archiving?" on page 14

Overview of the file archiving process

When a file qualifies for archiving by the File Archive - Historical activity, the following occurs:

1. A unique identifier for the file is calculated based on the name of the file, the content of the file and other information.
2. Two special files are created in each file directory as they are processed:
   - A Hidden manifest file is created in the file directory with the name sourceonefilesmanifest.xml. The manifest file is used by EMC SourceOne for file processing and should not be deleted. Refer to "Understanding manifest files" on page 15 for more information on manifest files.
   - A temporary lock file, named SourceOneFALock.lck is created while processing the directory. It is deleted when the activity is done processing the directory.

3. The file is either archived in the Native Archive, or if in-place indexing is used, it is left on the archive device, such as on an EMC CTA or EMC DiskXtender managed device. Refer to "Comparing typical archiving and in-place indexing" on page 12 for the differences between the two types of processing.

   - If in-place indexing and archiving is selected, by selecting the **index only** option on the Behaviors page of the File Archive - Historical activity, the file is not archived in the Native Archive, but remains in the current location, such as on a server accessed from EMC CTA or from EMC DiskXtender.
   - If archiving in the Native Archive is selected and the file does not already exist in the Native Archive, the file is archived. If the file already exists, a pointer to that file's location is placed in the Native Archive rather than archiving the same file again. Optionally, once archived the file may be deleted from the file server.

     Storing only a single instance of archived content, such as a file, is called single instance storage and allows EMC SourceOne to save space in the Native Archive. The process that EMC SourceOne uses to compare content and keep only that single copy of each is called deduplication.

4. If the **Shortcut files** option is specified for the File Archive - Historical activity (not available when using in-place indexing), the file is removed from it's location and replaced by a shortcut (or link) that indicates the location of the file in the Native Archive.

What qualifies a file for archiving?

A file is archived by the File Archive - Historical activity when the following conditions are all met:

- The file meets the archiving criteria specified in the File Archive - Historical activity.
- The file is either not encrypted, or encrypted using the EMC SourceOne primary service account.
- The file does not exceed 2 GB in size. Files larger than 2 GB are not supported for archiving.
- The file does not already exist in the archive based on the file identifier computed by the activity.

In some cases, a file that is similar to an archived file will be considered a different file and so archived again if it meets all other criteria.

A file is considered to be different from the original file and will be archived separately when the file identifier is changed.

The file identifier is changed when either of the following occurs:

- The file is renamed. This means that the same file with two different file names will be archived twice.

  When EMC SourceOne computes the file identifier, the file name that is used is case-sensitive. This means that the file named File.TXT would have a different file identifier than the file named File.txt, and so each would be archived separately.

- The file data is modified and the Last Modified time value is updated. This includes modifying the file contents, the file alternate data streams (ADS), or the file extended attributes.

Changing the location, owner, attributes, security, or date information (other than the Last Modified date), will not cause the file to be considered to be a different file and so will not cause the file to be archived again.

Understanding manifest files

When EMC SourceOne processes files in a directory, a *manifest* file is created in the file directory with the name sourceonefilesmanifest.xml. Typically, users cannot see this file since it is marked with the Hidden attribute.

The manifest file is used by EMC SourceOne to track the processing of files in the directory and should not be deleted. Deleting the manifest file from a directory causes EMC SourceOne to no longer be able to identify what files have been deleted from the directory by EMC SourceOne.

Deleting the manifest file has the following impact on the two kinds of archiving:

- When using the File Archive - Historical activity and storing the archived files in the EMC SourceOne Native Archive, deleting the manifest file can cause the archiving performance to decrease.

- When using the File Archive - Historical activity with the Index Only option set on the Behaviors page (referred to as *in-place indexing*), deleting the manifest file causes EMC SourceOne to no longer be able to remove references to these files when they are removed from the file server, and so the files may be incorrectly returned as search results, even though they no longer exist on the file server. Refer to Chapter 2, "Using In-Place Indexing," for more information on in-place indexing.

If an entire directory including the hidden manifest file is deleted by the user for some reason, this does not cause a problem for EMC SourceOne since there are no files in that directory that need to be tracked by EMC SourceOne.

Archiving considerations and limitations

When archiving files, you should be aware of the following considerations and limitations:

- Encrypted files can only be archived if they were encrypted using the EMC SourceOne primary service account.
- Files that are larger than 2 GB are not archived and are not supported for file archiving. When EMC SourceOne encounters a file larger than 2 GB that file is skipped and a message is written to the detailed job log, if it is enabled, similar to the following:

  ```
  2011/03/31 15:50:07.085  Unsupported or non-beneficial
  file was skipped.
       Name: \\pc1\dev2\folder1\File.txt
     Reason: Unsupported file size (greater than 2GB)
  ```

  To collect detailed information on message processing by activities, select the **Enable Detailed Logging** option on the Activity Name page. Refer to the *EMC SourceOne Email Management Administration Guide* for more information about job logging.
- File links are not archived. By design, you cannot archive file links (filename.url) such as those created for file shortcuts. The File Archive - Historical activity skips file links during the archiving process and a message is written to the detailed job log, if it is enabled, similar to the following:

  ```
  2011/03/31 15:40:01.016 Unsupported or non-beneficial
  file was skipped.
       Name: \\pc1\dev2\folder1\File.doc.url
  ```

```
Reason: Non-beneficial file class or extension.
```

To collect detailed information on message processing by activities, select the **Enable Detailed Logging** option on the Activity Name page. Refer to the *EMC SourceOne Email Management Administration Guide* for more information about job logging.

- When a file is archived, a snapshot of the file attributes (Read Only, Hidden, and so on) and timestamps (Created, Accessed, and so on) is stored in the archive. Since these attributes and timestamps are considered to be of less importance than the actual file data, any changes to these attributes or timestamps will not result in the file being archived again, unless the file content (and the Last Modified date) of the file are changed as well.

  If additional instances of a file are found on the file server the timestamp of the first instance of the file is stored and the attributes for each file location are stored.

  If the File Restore - Historical activity is used on the file, it restores the attributes and timestamps of the first archived instance of the file.

File shortcutting concepts

The following sections describe the file shortcut process, how to configure support for shortcuts, and changes to how shortcuts work.

- "What is a file shortcut?" on page 18
- "Configuring file shortcut support" on page 19
- "Changes to file shortcut processing" on page 19

What is a file shortcut?

A file shortcut is a link to an archived file. Note that file shortcuts cannot be created to files archived using in-place indexing. Refer to "Comparing typical archiving and in-place indexing" on page 12 for more information on in-place indexing.

When you create a File Archive - Historical activity, you can select the **Replace files on the file source with shortcuts after archived** option on the Behaviors page to create a shortcut. The **Replace files on the file source with shortcuts after archived** option creates a link on the file share to the archived file. The link is an Internet shortcut file, named using the following format:

```
Original_file_name.url
```

Note: The .url extension displays if you view the file names from the command prompt. Windows Explorer displays the Internet shortcut files with the standard file extension, not the .url extension.

When a user clicks on a link, a login page appears (once per session). If the single sign on capability is configured, this login page does not appear. Configuring single sign on is described in the *EMC SourceOne Email Management Installation Guide.*

The link permits the user to view searchable content from the file's original location, without having to use EMC SourceOne Search. The original file content is not restored when a user accesses the file through the link. The link contains a shortcut that uses the EMC SourceOne Universal URL.

Configuring file shortcut support

For the **Shortcut files** option to function, you must configure support for file shortcuts as follows:

1. Install the EMC SourceOne Mobile Services as described in the *EMC SourceOne Email Management Installation Guide*.
2. Configure the EMC SourceOne Universal URL to specify the SourceOne Web Services, as described in the *EMC SourceOne Email Management Administration Guide*.

IMPORTANT

When you specify the EMC SourceOne Web Services, specify the DNS CNAME alias of the server that is running the SourceOne Web Services. Do not specify a fixed IP address or a hostname, because IP addresses and hostnames can change. File links that have incorrect URL information cannot be updated.

If you do not configure file shortcut support as described, and you attempt to create a File Archive - Historical activity with the **Shortcut files** option selected, a warning message will display when you click **Next** on the Behaviors page and you will not be able to finish creating the activity.

Changes to file shortcut processing

When you have created a file shortcut link using the **Shortcut files** option in the File Archive - Historical activity, and that file gets archived again because the contents have changed but it has maintained the same file name, the file shortcut specifies only the most recently archived version of the file.

In previous versions of EMC SourceOne for File Systems, multiple versions of the shortcut were created, such as Test.doc.url and Test.doc(1).url. This is no longer the case.

When a shortcut file is restored to a location, that file replaces the shortcut to the file. If there were multiple versioned shortcuts to the file, all of those shortcuts are deleted when the file is restored.

Changes in EMC SourceOne for File Systems 6.8

If you have not yet upgraded, refer to the *EMC SourceOne for File Systems 6.8 Release Notes* for upgrade instructions.

If you have upgraded to EMC SourceOne for File Systems 6.8, you will notice some differences in the activities and the behavior of the product.

The following sections describe the major changes introduced in EMC SourceOne for File Systems 6.8.

Support added for files managed by EMC CTA and EMC DiskXtender

EMC Cloud Tiering Appliance (CTA) and EMC DiskXtender for Windows (DiskXtender) are now supported for use. Refer to Chapter 3, "Best Practices for File Processing Activities," for best practices when using CTA or EMC DiskXtender.

Refer to the *EMC SourceOne Products Compatibility Guide* for the versions of CTA and DiskXtender that are supported.

File Removal activity added to support in-place indexing and virtual archive folders

The File Removal activity was added to allow users of in-place indexing to maintain the virtual archive folders used with in-place indexing, which is a new feature of EMC SourceOne for File Systems 6.8.

Refer to Chapter 3, "Best Practices for File Processing Activities," for more information about using the File Removal activity.

New options to simplify archiving and deleting

The File Types page used by the File Archive - Historical and File Delete - Historical activities has been simplified to more easily allow all file types to be processed.

Two new options and behaviors have been added:

- Select the **Process Everything** option to process all files of all types, and not perform any additional filtering based on file age, size, attributes or ownership. When **Process Everything** is selected, the following pages are not displayed for the activity since no filtering is done by these pages:
  - File Age
  - File Size
  - File Attributes
  - File Ownership
- Select the **Process all file types (*.*)** option to process files of all types (with any extension or no extension) and also allow additional filtering based on file age, size, attributes or ownership. This is the default option.

Refer to the description of the File Types page in Chapter 4, "Configuring File Activities," for more information.

New options to allow preview of deletions and deletion of orphaned shortcuts

The File Delete - Historical activity also has added the following abilities using options on the Behaviors page:

- To delete orphaned shortcuts, select the **Cleanup orphaned shortcuts** option.
- To preview the files to be deleted before actually deleting them, select the P**review mode only (no files are removed)** option.

Versioned shortcuts no longer created

In previous versions EMC SourceOne for File Systems, multiple versions of the shortcut were created, such as Test.doc.url and Test.doc(1).url. This is no longer the case.

When a shortcut file is restored to a location, that file replaces the shortcut to the file. If there were multiple versioned shortcuts to the file, all of those shortcuts are deleted when the file is restored.

Refer to "File shortcutting concepts" on page 18 for more information.

Changes to the File Archive Access activity page

The File Archive Access page has been redesigned in EMC SourceOne for File Systems 6.8, and so the options you had selected when performing a File Archive - Historical activity have changed. Existing activities would be changed after upgrade as described in Table 2, "Changes to File Archive Access page after upgrade."

Table 2 Changes to File Archive Access page after upgrade

Option selected prior to version 6.8	After upgrade to version 6.8
Permit access only to users with Administrative permissions on the mapped folder	No option is selected, no users or groups are selected. This behavior is the default.
Permit access to the original file owner	**Include original file system owner** option selected. No users/groups selected.
Permit access to specified users and/or groups	No options selected, Any previously selected users or groups are selected.

Changes to the documentation set

The EMC SourceOne for File Systems product is now documented in a separate set of manuals, rather than being merged with the documentation for the EMC SourceOne Email Management product as it was in the 6.6 SP1 version. The new documentation set components include:

- *EMC SourceOne for File Systems Administration Guide*
- *EMC SourceOne for File Systems Installation Guide*
- *EMC SourceOne for File Systems Release Notes*

Core and common information on administering and installing EMC SourceOne products is still contained in the *EMC SourceOne Email Management Administration Guide* and in the *EMC SourceOne Email Management Installation Guide*.

2

Using In-Place Indexing

This chapter describes the EMC SourceOne for File Systems in-place indexing feature that allows archiving files outside of the Native Archive, using remote archiving solutions such as the EMC Cloud Tiering Appliance (CTA) or EMC DiskXtender. This section is organized as follows:

Benefits of in-place indexing

EMC SourceOne for File Systems allows you to archive and index file content. By default, this content is archived into the EMC SourceOne Native Archive and then indexed. However, using a process called *in-place indexing* allows EMC SourceOne for File Systems to index data that is stored in an external archive, such as one managed by the EMC Cloud Tiering Appliance (CTA) or by EMC DiskXtender.

In-place indexing allows EMC SourceOne for File Systems to index data archived by an external archive without first moving it to the Native Archive. This saves storage space (by not storing the same data twice) and EMC SourceOne processing time (by not performing the second archiving operation).

For more information on CTA, refer to the EMC Cloud Tiering Appliance documentation. For more information on EMC DiskXtender, refer to the EMC DiskXtender for Windows documentation.

For information on configuring CTA or DiskXtender to be used by EMC SourceOne for File Systems, refer to "Configuring file archiving devices for in-place indexing" on page 29.

For information on best practices for using activities to process files on CTA or DiskXtender devices, refer to Chapter 3, "Best Practices for File Processing Activities."

For information on launching the CTA console from within the EMC SourceOne console, refer to the EMC SourceOne console online help or the *EMC SourceOne Email Management Administration Guide*.

Overview of the in-place indexing process

When content is archived by EMC SourceOne for File Systems, it is placed in an archive folder in the EMC SourceOne Native Archive, and then that folder is indexed for searching.

When using in-place indexing, the content is stored in an external archive such as a CTA or DiskXtender archive, and that content is defined to appear in EMC SourceOne in a new type of archive folder, called a *virtual archive folder*. The virtual archive folder is linked to the archived content and is indexed by EMC SourceOne for File Systems just as content in a Native Archive archive folder is indexed.

When EMC SourceOne indexes the virtual archive folder data, the data is copied from the external storage for local index processing. Only the File Archive - Historical activity that is part of EMC SourceOne for File Systems is supported for use with in-place indexing, and virtual archive folders.

The following is a summary of the steps needed to perform in-place indexing, assuming all software is already installed and configured:

1. Configure the file archiving device to use in-place indexing, including excluding the EMC SourceOne for File Systems manifest file from being archived. Refer to "Configuring file archiving devices for in-place indexing" on page 29 for more information.
2. In EMC SourceOne, configure a virtual archive folder and associated mapped folder using the EMC SourceOne console as follows:
   a. Define a virtual archive folder by selecting Virtual Container as the **Storage Type** on the Storage Options page of the New Archive Folder wizard.
   b. Associate an Organization type of Mapped Folder with the virtual archive folder you defined previously.

   Refer to "Configuring in-place indexing from the console" on page 33 for more information.
3. In EMC SourceOne, create your File Archive - Historical activity with the **Index Only** option selected on the Behaviors page of the New Activity Wizard.

   Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for a description of the general file archiving process.

Refer to Chapter 3, "Best Practices for File Processing Activities," for more information on the best practices for using this file activity.

Refer to Chapter 4, "Configuring File Activities," for more information on the File Archive - Historical activity pages.

Configuring file archiving devices for in-place indexing

The File Archive - Historical activity places a manifest file in every directory on the source file server. When this source file server is a file archiving device, such as EMC CTA or EMC DiskXtender, this means that the manifest file is placed on that device. To maintain the best performance, the file archiving device should, if possible, exclude the manifest file from being archived to secondary storage.

The following sections describe how to configure both CTA and DiskXtender for use with in-place indexing:

- "Configuring CTA for use with in-place indexing" on page 29
- "Configuring DiskXtender for use with in-place indexing" on page 30

Configuring CTA for use with in-place indexing

When using CTA with in-place indexing, the CTA rules should be configured to exclude the manifest file, `sourceonefilemanifest.xml`, from being archived to secondary storage by using the Add File Matching Expression page (or the Edit File Matching Expression page) on the Policies tab of the Cloud Tiering Appliance Console.

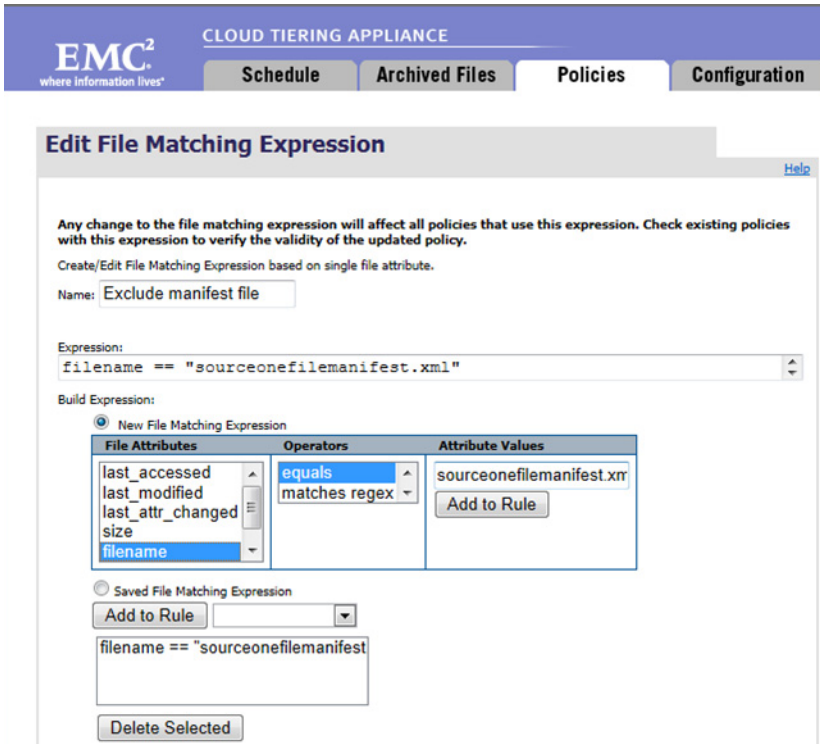

Figure 1 **CTA Edit File Matching Expression page**

For more information on using CTA, refer to the EMC Cloud Tiering Appliance documentation.

Configuring DiskXtender for use with in-place indexing

Before using EMC DiskXtender with in-place indexing, you need to:

- Configure full backup mode on each DiskXtender drive to use in-place indexing. Refer to "Configuring full backup mode on the DiskXtender drive" on page 31.
- Configure a DiskXtender move rule to exclude the manifest file, `sourceonefilemanifest.xml`, from being archived to secondary storage by DiskXtender. Refer to "Configuring a move rule to exclude the manifest file" on page 31.

Configuring full backup mode on the DiskXtender drive

Before using EMC DiskXtender with in-place indexing, each DiskXtender extended drive that is to be used with in place indexing must be defined to be in what DiskXtender calls full backup mode. This is because EMC SourceOne for File Systems reads files from the DiskXtender extended drive in full backup mode.

If full backup mode is not set on the drive, EMC SourceOne would only read and index the stubs of the files and not the files themselves.

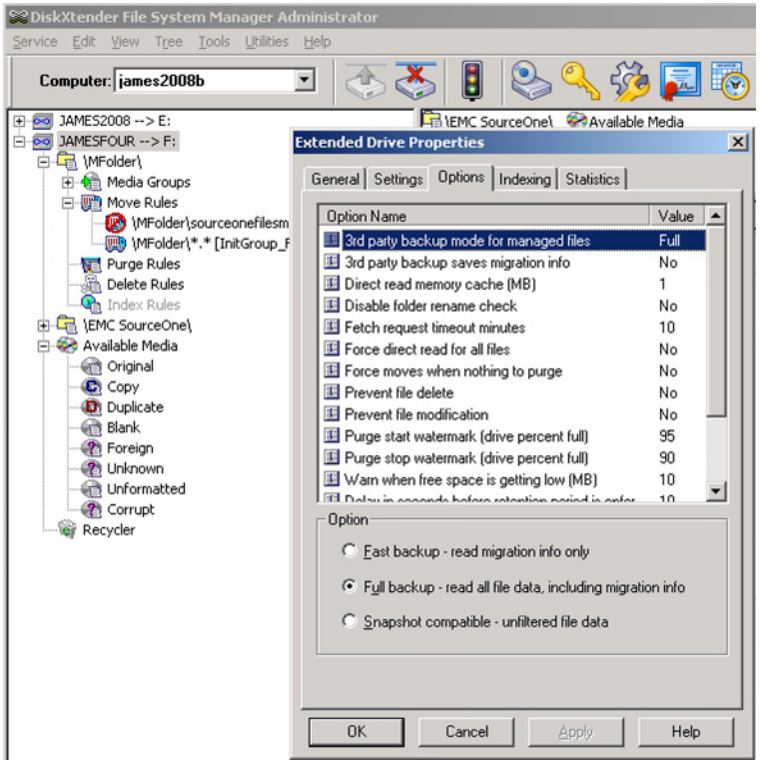

Figure 2 **Setting DiskXtender extended drive to full backup mode**

Configuring a move rule to exclude the manifest file

Before using EMC DiskXtender with in-place indexing, configure a DiskXtender move rule to exclude the EMC SourceOne for File Systems manifest file, `sourceonefilemanifest.xml`, from being archived to secondary storage by DiskXtender.

The exclude move rule instructs DiskXtender to not archive the manifest file. Note that this move rule should be set as the highest priority (topmost) move rule in the Move Rules list displayed by the DiskXtender File System Manager Administrator.

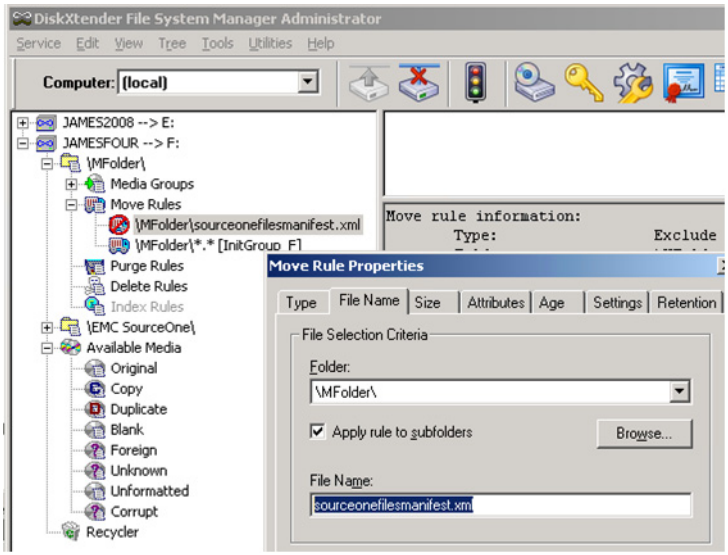

Figure 3 **DiskXtender exclude move rule for in-place indexing**

Configuring in-place indexing from the console

In-place indexing and virtual archive folders can only be selected from the EMC SourceOne console when using the File Archive - Historical activity with the **Index only** option selected on the Behaviors page. Once a mapped folder is assigned to a virtual archive folder, that mapped folder will not be displayed for selection by any activity that does not support virtual archive folders.

When configuring this activity for use, the following archive folder pages are used:

- "In-place indexing changes to Archive Folder Storage Options page" on page 33
- "In-place indexing changes to New Archive Folder Large Content page" on page 34

In-place indexing changes to Archive Folder Storage Options page

To support in-place indexing, the **Virtual Container** option was added to the **Storage Type** field on the New Archive Folder Storage Options page. You specify this option to create the virtual archive folder required by in-place indexing.

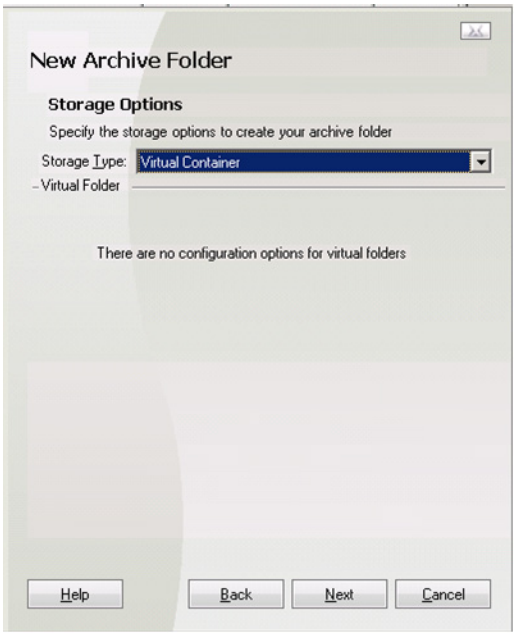

Figure 4 **Changed New Archive Folder Storage Options page**

The **Virtual Container** option should be selected when using the File Archive - Historical activity with the **Index only** option selected.

No other options are available when the **Virtual Container** option is selected. Neither retention or automatic disposition can be enabled on virtual archive folders, because files stored in a virtual archive folder are managed by an external storage system, such as EMC CTA or EMC DiskXtender, and not the EMC SourceOne Native Archive.

This means that retention and automatic disposition are always disabled on virtual archive folders, since they cannot be enabled.

In-place indexing changes to New Archive Folder Large Content page

When creating a virtual archive folder, the New Archive Folder Large Content page is displayed. However, no options are displayed on this page since the files are not added to the EMC SourceOne Native Archive when virtual archive folders are used.

Instead, the message “Large content settings are not applicable for virtual folders” is displayed on the Large Content page.

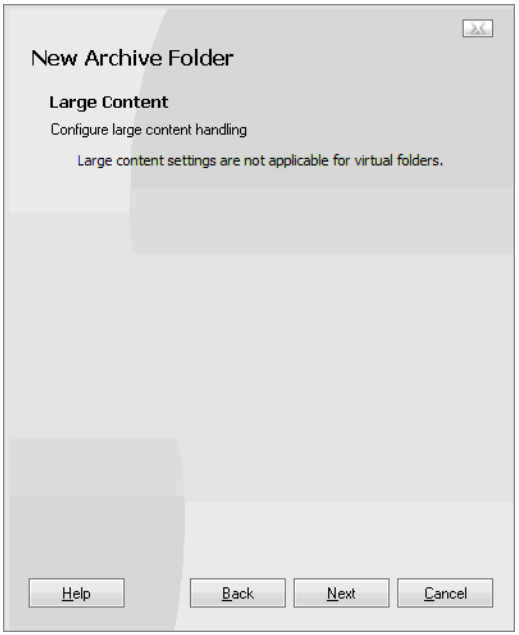

Figure 5 New Archive Folder Large Content page for Virtual Container

3

Best Practices for File Processing Activities

This chapter provides best practice information for using the file processing activities:

Best practices for deleting files using File Delete - Historical

When you use the File Delete - Historical activity to delete files, you should test the file deletion before actually deleting the files. This allows you to verify that the delete settings are correct since the files that would have been deleted are listed in the detailed log.

To test your deletions before actually performing them, do the following:

1. Create the File Delete - Historical activity as follows:
   - Enable the **Preview mode only (no files are removed)** option on the Behaviors page to cause the files to not be deleted, but instead be listed in the detailed log.
   - Use the Schedule page to set the activity to run daily.
   - Enable the **Enable Detailed Logging** option on the Activity Name page to cause the list of files that would be deleted to be viewable.
2. If the list of files that would have been deleted is correct, modify the activity as follows:
   - Disable the **Preview mode only (no files are removed)** option before the next run to allow the deletions to occur.
   - Change the schedule of the activity to have it actually delete the files when you want them deleted.
   - You may also want to disable the **Enable Detailed Logging** option on the Activity Name page if you have no other reason to collect detailed logs, since that would reduce the amount of work performed by the activity.
3. If the list of files that would have been deleted is not correct, review the activity, make the needed corrections, and test it again.

Best practices for deleting invalid file shortcuts

You can use the File Delete - Historical activity to delete invalid (also known as orphaned) shortcuts. These shortcuts are created when the shortcut references a file that no longer exists in the Native Archive.

When you use the File Delete - Historical activity to delete invalid (orphaned) shortcuts, you should test the deletion before actually deleting the invalid shortcuts. This allows you to verify that the delete settings are correct since the shortcuts that would have been deleted are listed in the detailed log.

To test your deletions before actually performing them, do the following:

1. Create the File Delete - Historical activity as follows:
   - Enable the **Cleanup orphaned shortcuts** option on the Behaviors page to cause the deletion of orphaned shortcuts.
   - Enable the **Preview mode only (no files are removed)** option on the Behaviors page to cause the file shortcuts to not be deleted, but instead be listed in the detailed log.
   - Use the Schedule page to set the activity to run daily.
   - Enable the **Enable Detailed Logging** option on the Activity Name page to cause the list of shortcuts that would be deleted to be viewable.
2. If the list of shortcuts that would have been deleted is correct, modify the activity as follows:
   - Disable the **Preview mode only (no files are removed)** option to allow the deletions to occur.
   - Change the schedule of the activity to have it actually delete the shortcuts when you want them deleted.
   - You may also want to disable the **Enable Detailed Logging** option on the Activity Name page if you have no other reason to collect detailed logs, since that would reduce the amount of work performed by the activity.
3. If the list of shortcuts that would have been deleted is not correct, review the activity and make the needed corrections, and test it again.

Best practices using File Removal and virtual archive folders

Use the File Removal activity to delete references in the EMC SourceOne database and indexes to files in virtual archive folders that have had their underlying storage removed. Virtual archive folders are used with in-place indexing of file content on storage devices, such as EMC CTA or EMC DiskXtender.

Deleting these references needs to be performed when a storage device is removed, replaced, or renamed. Removing these references prevents EMC SourceOne from reporting on files that no longer exist, such as returning them in search results.

Refer to Chapter 2, "Using In-Place Indexing," for more information on in-place indexing and virtual archive folders.

Best practices processing files managed by CTA or DiskXtender

EMC SourceOne for File Systems can process files on CTA or DiskXtender devices in one of two ways:

- Files can be copied to the EMC SourceOne Native Archive and indexed for searching. This is the standard way that EMC SourceOne archives content, and is selected by specifying the **Archive** option on the Behaviors page.
- Files can be left on the CTA or DiskXtender device, and then indexed using in-place indexing. This is called in-place indexing and is selected by specifying the **Index only** option on the Behaviors page. Refer to Chapter 2, "Using In-Place Indexing," for more information on in-place indexing.

When archiving and indexing files from a CTA or DiskXtender device using EMC SourceOne for File Systems, be aware of the following considerations:

- When file stubs (created by CTA or DiskXtender) are archived by EMC SourceOne for File Systems, the full file data is archived and (if selected) indexed by the EMC SourceOne software. This means that the file is stored twice: once by the file device (CTA or DiskXtender) and once in the Native Archive.
- When using the File Archive - Historical activity to archive files from CTA or DiskXtender devices, review the following information on using the options on the Behaviors page:
  - Select the **Leave files on the file source after archived** option for CTA or DiskXtender devices when archiving using EMC SourceOne (specified by selecting the **Archive** option).

    The **Leave files on the file source after archived** option is not available if the **Index only** option is specified.
  - Select the **Process offline files** option for CTA or DiskXtender devices if you wish offline (stubbed) files to be processed. Note that to archive or index in place CTA or DiskXtender offline files, the file data will be recalled from secondary storage, causing the primary storage device to contain the files until the files can be stubbed again.
  - Select the **Open offline file using no-recall semantics** option. Selecting this option prevents files from being recalled to primary storage from the remote storage device managed by CTA or DiskXtender.

When this option is selected, the archiving or in-place indexing operation will read file data for offline files directly from secondary storage, without recalling it to primary storage first.

If this option is not selected, files will first be restored to primary storage, and then archived or in-place indexed, which will increase the amount of storage needed until the file can be stubbed again using DiskXtender or CTA.

- Do not select either of the following options for CTA or DiskXtender devices, when archiving using EMC SourceOne (by selecting the **Archive** option) since choosing either of these options causes file stubs to be deleted:
  - **Delete files from the file source after archived**
  - **Replace files on the file source with shortcuts after archived**

  These two options cannot be selected when the **Index only** option is selected.

◆ When restoring files previously stored on a CTA or DiskXtender device using the File Restore - Historical activity, any existing file stub with the same name as a stub being restored will be overwritten (and so deleted) by the restored file. This will cause CTA or DiskXtender to archive and stub the file again the next time a matching CTA policy or DiskXtender rule is processed.

4

Configuring File Activities

This chapter describes how to create and configure file activities using EMC SourceOne for File Systems to process files and is organized as follows:

Introduction to file activities

A policy groups together one or more *activities*. An activity is a user-named definition for performing a specific type of work with EMC SourceOne, including the environment it will be performed in and when it will be performed. Activities, like policies, are defined using the EMC SourceOne console.

The following sections describe:

- "Prerequisites for creating and using file processing activities" on page 44 describes what tasks need to be completed before creating file processing activities.
- "Summary of file processing activity types" on page 45 describes the types of file processing activities you can create.
- "Summary of New Activity wizard pages for file activities" on page 47 summarizes the New Activity wizard pages that are part of each type of activity.

Prerequisites for creating and using file processing activities

Before you create an activity to process files, do the following:

- ❑ Verify that the EMC SourceOne system is ready to create the activity.

  Refer to the *EMC SourceOne Email Management Administration Guide* chapter "Planning and Initializing Content Processing" for more information.

- ❑ Verify that the file shares you will use with the file activities have adequate permissions.

  Refer to the *EMC SourceOne for File Systems Installation Guide* for information about accounts and permissions required on file shares.

- ❑ Verify that the archive folders you will use have been created. If you want to search the archived files, verify that the **Attachment Indexing** option is enabled on the archive folder, otherwise the files will not be indexed. The **Attachment Indexing** option applies to file content as well as email and SharePoint content, even though files do not have attachments.

Refer to the *EMC SourceOne Email Management Administration Guide* for information on configuring archive folders.

- ❑ Map the archive folders to EMC SourceOne mapped folders of the Organization type. Assign users the My Files permission on the mapped folders.

  Refer to the *EMC SourceOne Email Management Administration Guide* for information on configuring mapped folders.

- ❑ If you plan to use EMC SourceOne to shortcut files, then you must configure the Universal URL to support the shortcut process.

  Refer to the *EMC SourceOne Email Management Administration Guide* for more information on configuring shortcut support.

- ❑ Review the description of the activity type to make sure you are aware of all prerequisites, considerations and limitations associated with the activity.

- ❑ Consider the processing load that may be created by the activity.

  If the CPU on an EMC SourceOne worker computer is being completely consumed by a single activity, you should break that activity into a set of smaller activities that will process separately and not completely consume the CPU.

  Refer to Chapter 3, "Best Practices for File Processing Activities," for best practices in creating file activities. Refer to the *EMC SourceOne Email Management Administration Guide* for general best practice information in creating and managing activities.

Summary of file processing activity types

This section summarizes the types of activities you can create. Refer to "Summary of New Activity wizard pages for file activities" on page 47 for the New Activity wizard pages that are used by the file processing activities.

The activity types available for you to select are determined by which EMC SourceOne products are installed:

- **If EMC SourceOne for File Systems is installed:**

  Refer to Table 3, "File activity types," for the list of activity types for processing file content.

- **If EMC SourceOne for Microsoft SharePoint is installed:**

Refer to the *EMC SourceOne for Microsoft SharePoint Administration Guide* for the list of activity types for processing SharePoint content.

- **If EMC SourceOne Email Management is installed:**

  Refer to the *EMC SourceOne Email Management Administration Guide* for the list of activity types for processing email content.

Table 3 File activity types

File activity type	Description
File Archive - Historical	Archives files located on file servers or other networked disk resources. into the Native Archive and can then be searched and retrieved. Optionally, if the **Shortcut files** option is selected on the Behaviors page it also creates shortcuts to these files. Alternatively, if the **Index Only** option is selected on the Behaviors page, allows files to be indexed while stored in a virtual archive folder on a storage device, rather than in the Native Archive. This is referred to as in-place indexing. Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for more information.
File Delete - Historical	Deletes files from selected file servers and other networked disk resources. This activity does not delete files from the EMC SourceOne Native Archive. **Note:** The File Delete - Historical activity is not compatible with in-place indexing. If a particular directory has been processed with in-place indexing selected, using the File Delete - Historical activity on that same directory will result in an error. Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for more information on file deletion.
File Removal	Removes references to deleted files from the database and indexes. This activity is used when a storage device associated with a virtual archive folder (used for in-place indexing) has been removed. Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for more information on removing file references.
File Restore - Historical	Restores files to a file server from the Native Archive. **Note:** The File Restore - Historical activity is not compatible with in-place indexing since it restores files from the Native Archive, and in-place indexing does not cause files to be stored in the Native Archive. Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for more information on file archiving.

Summary of New Activity wizard pages for file activities

This section summarizes the New Activity wizard pages for each of the email management activity types.

You use the New Activity wizard to create new activities, as described in "Introduction to file activities" on page 44. The pages that appear in the New Activity wizard depend on the activity type that you select. Not all pages appear for every activity type. Refer to "Summary of file processing activity types" on page 45 for a list of the possible file processing activity types.

Table 4 on page 47 lists the pages in the New Activity wizard in the order in which they are displayed by the wizard (top to bottom) for each file processing activity.

For email archiving or SharePoint archiving activity pages, refer to either the *EMC SourceOne Email Management Administration Guide* or the *EMC SourceOne for Microsoft SharePoint Administration Guide.*

Table 4, "New Activity wizard pages for file activities," lists the pages in the New Activity wizard. A plus sign (+) in a table cell indicates that the page is used for the activity.

Table 4 New Activity wizard pages for file activities

Page in New Activity wizard	File Archive - Historical	File Delete - Historical	File Removal	File Restore - Historical
Activity Type	+	+	+	+
File Sources	+	+	+	
File Types	+	+		
File Age	+	+		
File Size	+	+		
File Attributes	+	+		
File Ownership	+	+		
Behaviors	+	+		+

Table 4 New Activity wizard pages for file activities (continued)

Page in New Activity wizard	File Archive - Historical	File Delete - Historical	File Removal	File Restore - Historical
Archived File Access	+			
Mapped Folder(s) **[1]**	+			+
Schedule	+	+	+	+
Activity Name	+	+	+	+
[1] For the File Archive - Historical activity, the Mapped Folder page appears after the Archived File Access page. For the File Restore - Historical activity, the Mapped Folders page appears after the Activity Type page.				

Adding file activities to an organizational policy

To add a file activity to an organizational policy:

1. In the EMC SourceOne console, select the Organizational Policies node.
2. In the **Organizational Policies** list, select the policy to which you want to add a file activity.
3. Select **Action > New Activity**.

   The New Activity wizard starts.

   The checkboxes in the left column indicate your progress through the wizard. You cannot select them.
4. Continue to "Activity Type" on page 50.

Activity Type

The Activity Type page of the New Activity wizard appears for all activity types.

Depending on the EMC SourceOne components that are installed, you may see email management and SharePoint activities in addition to file activities listed.

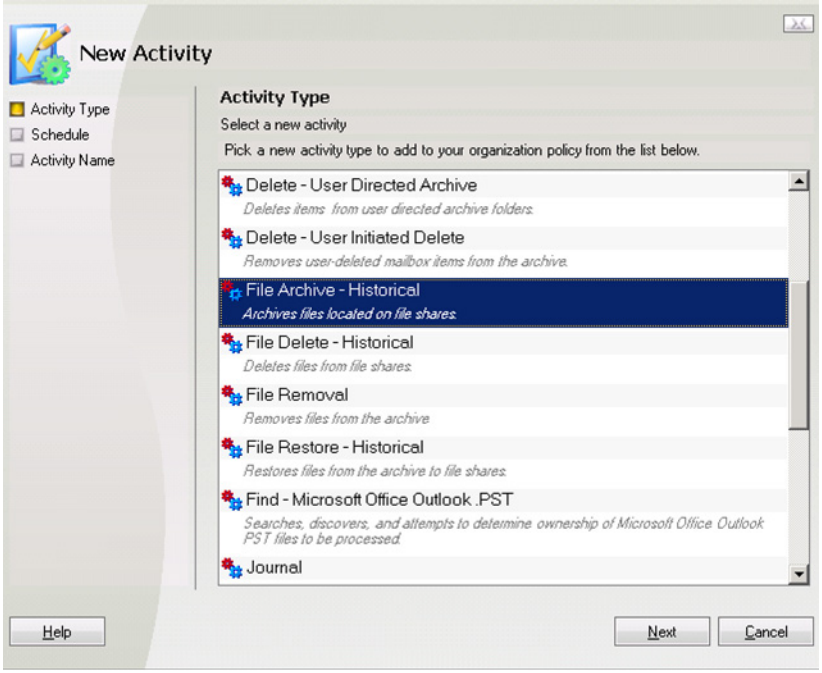

Figure 6 **Activity Type showing file activities**

Specify the type of activity you want to create:

1. Select the type of file activity to create from the displayed list.

   Only one activity type can be selected for an activity. The activities available depend on the EMC SourceOne components installed. Refer to "Summary of file processing activity types" on page 45 for a list of available file processing activity types.

2. Click **Next**.

In the left column, the **Activity Type** checkbox is selected automatically to indicate that you completed that step.

3. The next page that appears depends on the type of file activity. Refer to Table 4 on page 47 for a list of pages that appear for each file activity type.

   Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for best practice information on how best to use some of these activities.

File Sources

The File Sources page allows you to view, add or delete the file sources used by an activity. A *file source* specifies the location of files to be processed by the activity. If you have not specified any file sources, then the list is empty.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Sources page.

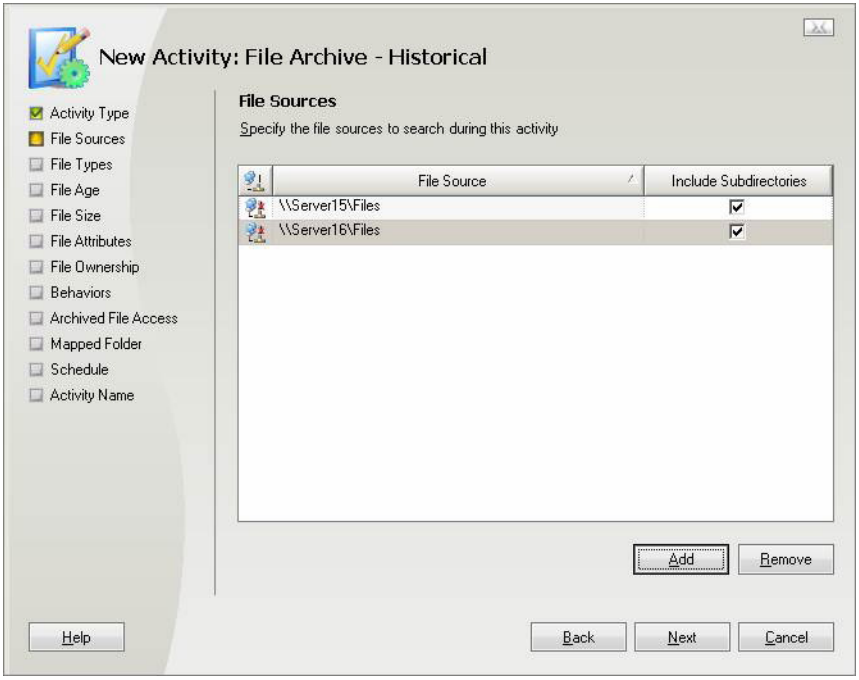

Figure 7 **File Sources page**

Use the File Sources page to add or remove file sources for an activity. You much specify at least one and no more than 4096 sources from which to process files:

1. Determine whether to include subdirectories when adding or removing file sources.

The root directory is always included for the selected file source. Specify whether or not to include subdirectories for each selected file source:

- To include subdirectories of the selected file source, select the **Include Subdirectories** checkbox for that file source. This option is selected by default when you add a new file source.
- To exclude subdirectories of the selected file source, clear the **Include Subdirectories** checkbox for that file source.

2. Add or remove file sources:
   - To add files sources to the list, refer to "Adding file sources" on page 53.
   - To remove file sources from the list, refer to "Removing file sources" on page 54.
3. When the list of file sources is complete, review the status of the file sources as described in "Understanding status of file sources" on page 54.
4. Click **Next**. The next activity page is displayed.

   In the left column, the **File Sources** checkbox is selected automatically to indicate that you completed that step.

Adding file sources

To add a file source to the list on the File Sources page:

1. On the File Sources page, click the **Add** button.

   The Add File Source dialog box displays.

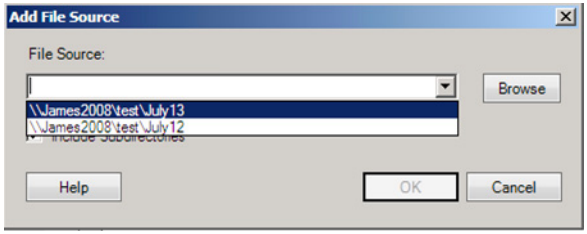

Figure 8 **Add File Source dialog**

2. Do one of the following:

- In the File Source field, type the name of the new file source, specifying it as a UNC path. Previously processed file source paths are available from the drop down list.
- Click the **Browse** button, select a UNC file share as a file source, then click **OK** to close the Browse For Folder dialog box.

Note: Do not select a local path. If you select a local path, an error message displays.

3. Do one of the following steps:
   - To save your changes and close the Add File Source dialog box, click **OK**.

     The File Sources page refreshes to list the new file sources.
   - To cancel your changes, click **Cancel**.

Removing file sources

To remove a file source from the list on the File Sources page:

1. Select one or more file sources in the list.
2. Click **Remove**.
3. In the Remove File Source dialog box, do one of the following steps:
   - Click **OK** to confirm removing the file source.
   - Click **Cancel** to cancel removing the file source

Understanding status of file sources

When the list of file sources is displayed initially, and when you add or edit file sources, the system:

- Validates the UNC format.
- Verifies that the file sources are available.

When you place the cursor over a file source icon in the first column, a tool tip appears that describes the status of the file source (online or offline).

A red X icon indicates that a file source is unavailable to the account that is currently using the EMC SourceOne console.

If the red X is displayed, correct the access problem for the account. Also verify that the file source is accessible to the worker service account if it is different from the account using the EMC SourceOne console.

Note that since the account used with the EMC SourceOne console may be different than the worker service account, the worker service account (and any activities running under that account) may be able to access the file source when the account using the EMC SourceOne console cannot. Similarly, the account accessing the EMC SourceOne console may be able to access the file share, but the worker service account (and activities) may not.

File Types

Use the File Types page to specify the types of files the activity should process. Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Types page.

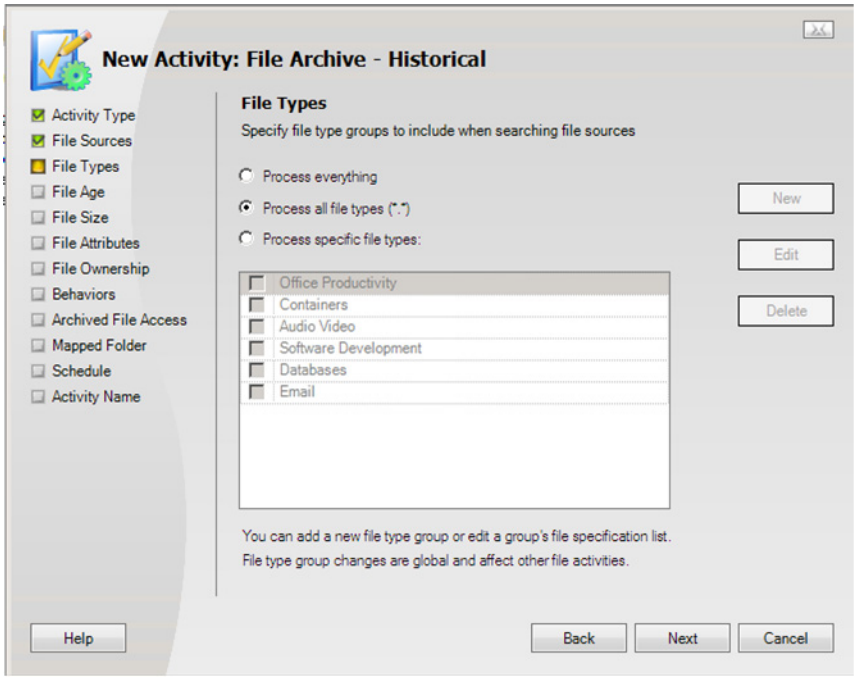

Figure 9 **File Types page for File Archive - Historical activity**

1. Specify the types of files to archive:
   - Select the **Process Everything** option to process all files of all types, and not perform any additional filtering based on file age, size, attributes or ownership.

     This option is new with EMC SourceOne for File Systems Version 6.8. The file type group area is not needed and so is not enabled.

When **Process Everything** is selected, the following pages are not displayed for the activity since no filtering is done by these pages:

- File Age
- File Size
- File Attributes
- File Ownership

- Select the **Process all file types (*.*)** option to process files of all types (with any extension or no extension) and also allow additional filtering based on file age, size, attributes or ownership. This is the default option.

  This option is new with EMC SourceOne for File Systems Version 6.8. The file type group area is not needed and so is not enabled.

- Select the **Process specific file types:** option to process files of selected types, and also allow additional filtering based on file age, size, attributes or ownership. Selecting this option provides the same behavior as the previous version of the File Types page.

  When the **Process specific file types:** option is selected, the file type group area is enabled. The file type group area lists the default system file groups, and file type groups that you have defined. For easier management, you define and select groups of file types instead of individual file types.

  Note: The file type groups that you define are available for all file archiving activities. The file type groups that you select from the list are specific to the activity.

  a. Specify the types of files to process by selecting the checkbox next to that file type group.

  b. To define new groups of file types, refer to "Defining new file type groups" on page 58.

  c. To edit file type groups in the list, refer to "Editing file type groups" on page 60.

  d. To delete file type groups from the list and from the system, refer to "Deleting user-defined file type groups" on page 61.

Note: To see the file types that are in a group, move the mouse pointer over the name of the group in the list. The tooltip displays the file types in that group.

2. Click **Next**.

   In the left column, the **File Types** checkbox is selected automatically to indicate that you completed that step.

Defining new file type groups

To define a new group of file types:

1. On the File Types page, click **New**. The New File Type Group dialog displays.
2. In the New File Type Group dialog, do the following:
   a. In the **File Type Group Name** field, type a unique name for the group, up to a maximum of 64 characters. The name cannot be a blank.
   b. In the **File Type Specification List**, type each file type in the following format:

      `*.extension`

      Note: You must include the asterisk as a wildcard character in the file name portion of the file type. If you do not include the wildcard, then the activity interprets the file type as a literal file name.

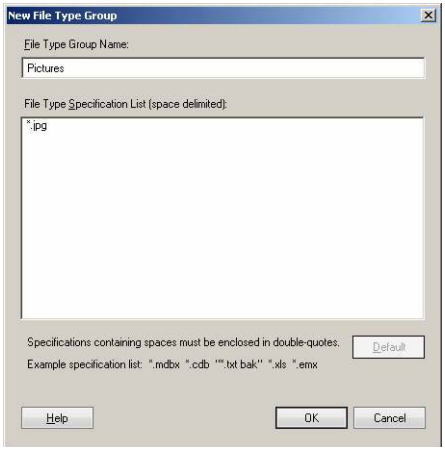

Figure 10 **File Type Group dialog box - example**

- You must specify at least one file type in a group.
- Type a space between each pair of file types.
- You can include literal text and spaces in a file type. If a file type includes a space, you must enclose the file type in double quotes (for example, “FY 2009 *.xls”
- You can use the following wildcards:

Wildcard character	Description	Example
* (asterisk)	Matches zero or more characters.	*.doc
? (question mark)	Matches zero or one character.	?.doc

c. Do one of the following steps:

- Click **OK** to save your changes. The File Types page lists the new file type group.
- Click **Cancel** to cancel your changes.

Note: After you add a new file type group, it is not automatically selected on the File Types page. If you want to use the new file type group for this activity, select it on the File Types page before you click **Next**.

Editing file type groups

Since your edits affect the file type groups that are available for future activities and for activities which have not yet run, you must confirm your changes.

Note: Editing a file type group does not affect any running activities that use that file type group. To have your changes affect activities that are running, you must stop (not pause or suspend) the running activities, and then restart them. Refer to "Controlling activities" on page 94.

To edit a file type group:

1. On the File Types page, select the file type group.
2. Click **Edit**.
3. In the File Type Group dialog box, edit the appropriate fields, as described in "Defining new file type groups" on page 58.

   Note: You cannot edit the File Type Group Name of default system groups.

4. At the confirmation prompt, do one of the following steps:
   - To confirm the changes, click **Yes**.
   - To cancel the changes, click **No**.

Figure 11 **File type groups - confirmation of edit**

Deleting user-defined file type groups

You can delete user-defined file type groups. You cannot delete default system groups.

Note: Deleting a file type group does not affect any running activities that use that file type group. To have your changes affect activities that are running, you must stop (not pause or suspend) the running activities, and then restart them. Refer to "Controlling activities" on page 94.

Note: Since your deletions affect the file type groups that are available for future activities and for scheduled activities that have not yet run, you must confirm your changes. If you delete all the file type groups that have been selected for a scheduled activity that has not yet run, then that activity will fail, since every file activity requires at least one file type group.

To delete file type groups from the list and the system:

1. On the File Types page, select the file type groups to delete.
2. Click **Delete**.
3. At the confirmation prompt, do one of the following:
   - Click **Yes** to confirm the deletion.
   - Click **No** to cancel the deletion.

Figure 12 **File type groups - confirmation of delete**

File Age

Use the File Age page to specify the files to process based on the age of the files.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Age page.

Figure 13 **File Age (file activity)**

Specify the files to process by their age:

1. Select one of the following options:
   - **Include files of any age**

     Select this option if the file age does not matter.
   - **Include files ___old or older, since ___**

     Select this option if you want to filter files based on age.

     Then:

     a. In the first field, specify the amount of time as an integer in the range 1 - 25000.

     b. In the second field, select the unit of time (Days, Weeks, Months, or Years).

     c. In the third field, select the timestamp on which to base the age of the file (Last Accessed, Last Modified, or Created).

The Archived timestamp is available for File Restore - Historical activities.

2. Click **Next**.

   In the left column, the **File Age** checkbox is selected automatically to indicate that you completed that step.

File Size

Use the File Size page to specify the size of files to process.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Size page.

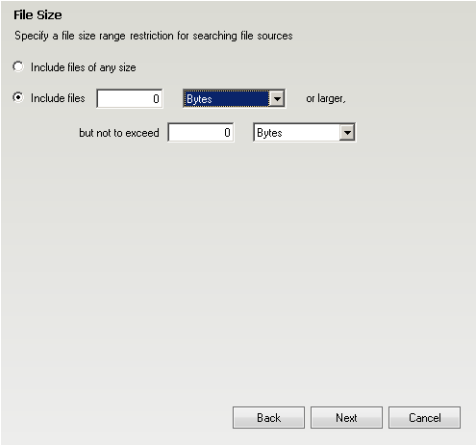

Figure 14 **File Size (file activity)**

Specify the size of files to process:

1. Select one of the following options:
   - **Include files of any size**

     Select this option if the file size does not matter.
   - **Include files ___ or larger, but not to exceed___**

     Select this option to filter files based on size.

     Then specify a size range:

     a. In the first field, specify an integer for the lower limit of the size range, in the range 0 - 2147483647.

     This value must be less than the value that you specify in the third field.

     b. In the second field, select the unit of size for the lower limit of the size range (Bytes, Kilobytes, Megabytes, or Gigabytes).

c. In the third field, specify an integer for the upper limit of the size range, in the range 0 - 2147483647.

   This value must be greater than the value that you specify in the first field.

d. In the fourth field, select the unit of size for the upper limit of the size range (Bytes, Kilobytes, Megabytes, or Gigabytes).

2. Click **Next**.

   In the left column, the **File Size** checkbox is selected automatically to indicate that you completed that step.

File Attributes

Use the File Attributes page to specify which files to process by their system attributes.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Attributes page.

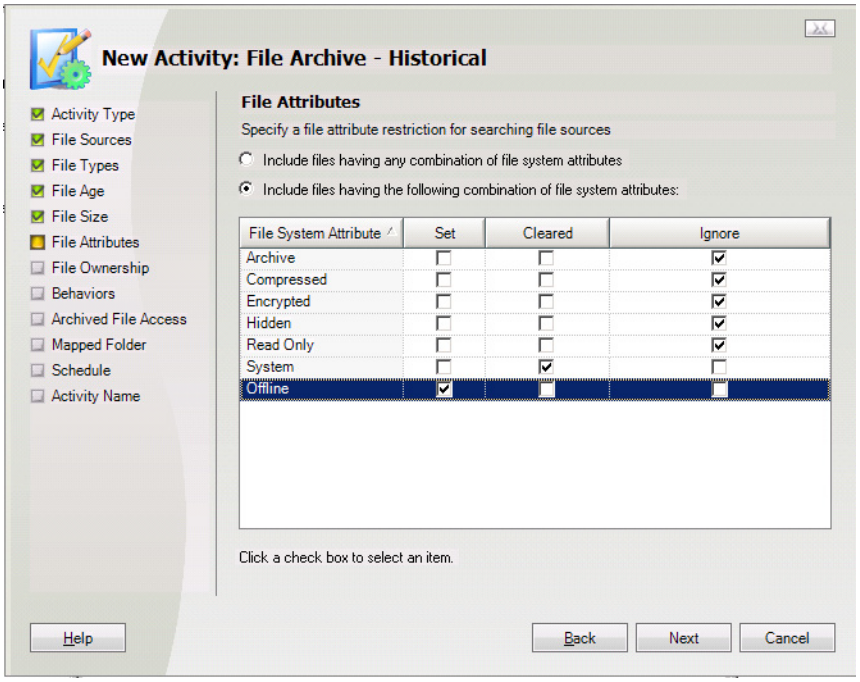

Figure 15 **File Attributes page**

Specify the system attributes for the files you want to process:

1. Select one of the following options:
   - **Include files having any combination of file system attributes**

     Select this option if the system attributes on the files do not matter for this activity.

- **Include files having the following combination of file system attributes**

  Select this option if you want to filter files based on their system attributes.

  Then, for each file system attribute listed (Archive, Compressed, Encrypted, Hidden, Read Only, System, and Offline), select one of the following checkboxes:

  – Select the **Set** option to process those files that have the system attribute set.

  – Select the **Cleared** option to process those files that have the system attribute cleared (not set).

  – (Default) Select the **Ignore** option if it does not matter whether the system attribute is set or cleared.

2. Click **Next**.

   In the left column, the **File Attributes** checkbox is selected automatically to indicate that you completed that step.

File Ownership

Use the File Ownership page to optionally specify which files to process based on the owners for those files.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the File Ownership page.

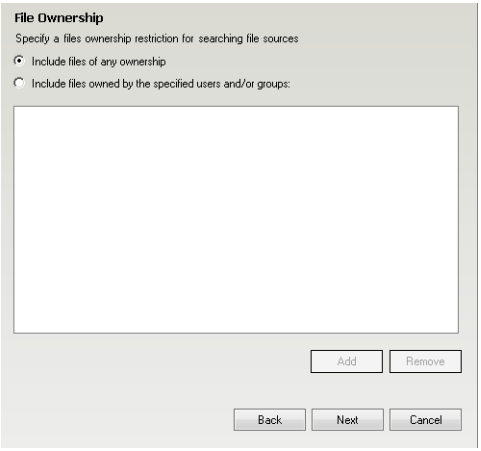

Figure 16 **File Ownership (file activity)**

A *file owner* is the sole domain user or group that currently owns the file. All files must belong to an owner.

Note: The presence of other users and groups in a file's ACL does not imply that those users and groups are owners.

The File Ownership page lists all file owners that you have specified for the activity. If you have not specified any file owners, then the list is empty.

File ownership is an optional filter. If you choose to use file ownership as a filter, you can specify a maximum of 4096 file owners in an activity.

Specify the owners of the files that you want to process:

1. Select one of the following options:
   - **Include files of any ownership**

Select this option to not filter files based on file ownership.

- **Include files owned by the specified users and/or groups**

  Select this option to filter files based on ownership.

2. To add file owners to the list, refer to "Adding file owners" on page 69.
3. To remove file owners from the list, refer to "Removing file owners" on page 70.
4. For information about status indicators, refer to "Understanding status of file owners" on page 70.
5. Click **Next**.

   In the left column, the **File Ownership** checkbox is selected automatically to indicate that you completed that step.

Adding file owners

To add a file owner to the list on the File Owners page:

1. On the File Ownership page, click the **Add** button.

   The Select Users, Contact, or Groups dialog box opens.

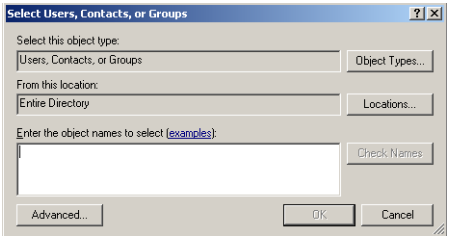

Figure 17 **Select Users, Contacts, or Groups**

2. To specify where to search for users or groups, click **Locations**.
3. In the **Enter the object name to select** field, type the name of the user or security group listed in Active Directory, using the formats described in the examples link, up to a maximum of 64 characters. Select only security groups or users in this dialog box. Do not select distribution lists or contacts.

Specifying a security group will only match files for which that group is the owner, it will not match files owned by the individual members of the group. To match files owned by individual members of a security group, you must specify those members individually.

Searching for archived files is based on security group membership.

4. Click **Check Names**.
5. Click **OK** to copy your selections to the File Ownership page and to close the Select Users dialog box.

Removing file owners

To remove a file owner from the list on the File Ownership page:

1. Select one or more file owners in the list.
2. Click **Remove**.
3. At the confirmation prompt, do one of the following steps:
   - Click **Yes** to confirm the removal.
   - Click **No** to cancel the removal.

Understanding status of file owners

When the list of file owners is displayed initially, and when you add or edit file owners, the system validates the file owners.

The icon in the first column indicates whether the file owner is a user or a group.

A question mark icon indicates that the user or group no longer exists.

Behaviors

Use the Behaviors page of the New Activity wizard to specify behavior options for an activity.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the Behaviors page.

The options available on the Behaviors page depend on the type of file activity being defined. The different forms of the Behaviors page are described in the following sections:

- "Behaviors: File Archive - Historical" on page 71
- "Behaviors: File Delete - Historical" on page 75
- "Behaviors: File Restore - Historical" on page 79

Behaviors: File Archive - Historical

Use the File Archive - Historical activity Behaviors page to select options for how files should be archived by the activity you are defining.

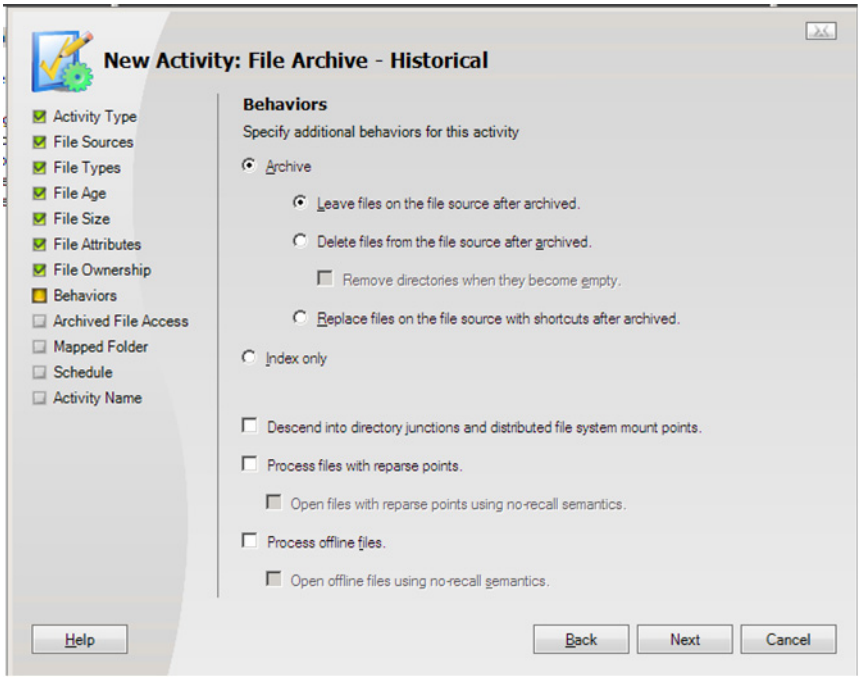

Figure 18 **Behaviors page for the File Archive - Historical activity**

Select the archiving options as follows:

1. Select whether to archive the files in the EMC SourceOne Native Archive, or to leave the files on an existing archiving device, such as the EMC Cloud Tiering Appliance (CTA).
   - Select the **Archive** option to archive the files in the EMC SourceOne Native Archive.
   - Select the **Index only** option to leave the files on the existing archiving device, and index them for subsequent searching.
2. If the **Archive** option was selected, specify one of the following options to determine how to handle the files after they are archived.
   - Select the **Leave files on the file source after archived** option to leave the files in their current locations after they are archived.

- Select the **Delete files from the file source after archived** option to delete the files from their current locations after they are archived. The deletion occurs only after the file has been successfully archived and the file being deleted is verified as being identical to the one in the archive, based on the last write time.

  Alternatively, you can use the File Delete - Historical activity to delete files from the file source after they have been archived. The File Delete - Historical activity can be scheduled to run after the File Archive - Historical activity to allow time for files to be processed on the file source or potentially replicated.

  When the **Delete files from the file source after archived** option is selected, the **Remove directories when they become empty** option is made selectable.

  Use the **Remove directories when they become empty** option to remove empty directories after successfully archiving and deleting the files in those directories.

  An empty directory will not be removed when this option is selected if:

  – The directory was defined as a file source for the activity on the File Sources page for the activity.
  – The activity performed no processing on files in that directory, for example, if the directory was empty before the activity ran.

- Select the **Replace files on the file source with shortcuts after archived** option to replace the files with a shortcut that indicates the archived file in the Native Archive.

3. To process files in directories that have an NTFS reparse point associated with those directories, select the **Descend into directory junctions and distributed file system mount points.** checkbox.

4. To process files that have an NTFS reparse point:

   a. Select the **Process files with reparse points** checkbox. These files are usually associated with a foreign archive service and may not be physically present on the disk (for example, redirected files or remote storage files).

b. To prevent the files from being recalled from remote storage, select the **Open files with reparse points using no-recall semantics** checkbox.

5. To process offline files and directories select the **Process offline files** option. These files are usually associated with a remote archive service, such as EMC CTA or EMC DiskXtender and may not be physically present on the disk, such as a remote storage file.

   The **Process offline files** option is not always selectable. Whether it can be selected depends on the settings for offline files on the File Attributes page as follows:

   - The **Process offline files** option is available for selection when:
     - The **Include files having any combination of file system attributes** option is selected on the File Attributes page.
     - The **Include files having the following combination of file system attributes** option is selected and the Offline file system attribute **Ignore** is selected on the File Attributes page.
   - The **Process offline files** option is automatically selected and cannot be disabled when the **Include files having the following combination of file system attributes** option is selected and the Offline file system attribute **Set** is selected on the File Attributes page.
   - The **Process offline files** option is not available for selection when the **Include files having the following combination of file system attributes** option is selected and the Offline file system attribute **Cleared** is selected on the File Attributes page.

   Refer to "File Attributes" on page 66 for more information on the Offline file system attribute.

6. If the **Process offline files** option is selected, the **Open offline files using no-recall semantics** option is available for selection.

   Use the **Open offline files using no-recall semantics** option to prevent files from being recalled to primary storage from remote storage during the File Archive - Historical activity, such as when they are on managed remote file devices such as EMC DiskXtender or EMC CTA. When this option is selected, the

archive or index in place operation will read file data for offline files directly from secondary storage, without recalling the files to primary storage first.

If this option is not selected, any files archived will first be restored to primary storage, and then archived or indexed in place, which will increase the amount of storage needed until the file can be stubbed again using EMC DiskXtender or EMC CTA.

If you are processing files stored remotely on EMC DiskXtender or EMC CTA devices, it is recommended that you enable the **Open offline files using no-recall semantics** option.

7. Click **Next**.

   In the left column, the **Behaviors** checkbox is checked automatically to indicate that you completed that step.

Behaviors: File Delete - Historical

Use the File Delete - Historical activity Behaviors page to select options for how files or shortcuts should be deleted.

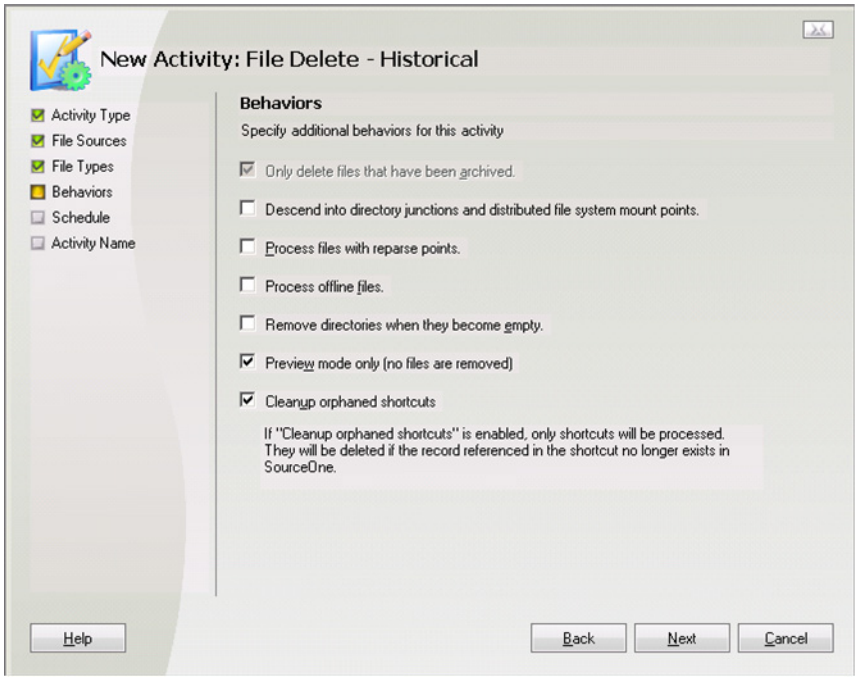

Figure 19 Behaviors (File Delete - Historical activity)

1. Select zero or more of the options for deleting files or shortcuts as listed in Table 5, "File Delete - Historical Behaviors options."

Table 5 File Delete - Historical Behaviors options

Option	Description
Only delete files that have been archived	Use the **Only delete files that have been archived** option to select whether to delete files based on whether the files were archived: • Select the **Only delete files that have been archived** option to delete only the files that have been archived by EMC SourceOne. This is selected by default. Selecting this option deletes files from the source only if the file has been archived and the file being deleted is identical to the one in the archive, based on the last write time. EMC SourceOne makes use of manifest files that it creates in the directories being processed to verify that files have been archived. The manifest file has the Hidden file attribute and is named sourceonefilesmanifest.xml. If a manifest file does not exist in the directory being processed, EMC SourceOne assumes that the files in that directory have not been archived and so does not delete the files. • Do not select the **Only delete files that have been archived** option to have all files deleted, whether or not they have been archived. When you unselect the **Only delete files that have been archived** option, a confirmation prompt appears asking you to verify that this is the behavior you want.
Descend into directory junctions and distributed file system mount points	To process files in directories that have an NTFS reparse point associated with those directories, select the **Descend into directory junctions and distributed file system mount points** option.
Process files with reparse points	To process files that have an NTFS reparse point, select the **Process files with reparse points** option. These files are usually associated with a foreign archive service and may not be physically present on the disk (for example, redirected files or remote storage files).
Process offline files	To process offline files and directories, select the **Process offline files** option. These files are usually associated with a foreign archive service and may not be physically present on the disk, such as a remote storage file.

Table 5 File Delete - Historical Behaviors options (continued)

Option	Description
Remove directories when they become empty	To remove empty directories after successfully deleting the files in those directories, select the **Remove directories when they become empty** option. An empty directory will not be removed when this option is selected if: • The directory was defined as a file source for the activity on the File Sources page for the activity. • The activity performed no processing on files in that directory, for example, if the directory was empty before the activity was run.

Preview mode only (no files are removed)	To determine what files would be deleted, but not actually delete them, select the **Preview mode only (no files are removed)** option.
	When this option is selected, each file that is a candidate for deletion is listed in the detailed log. To view this information, the activity must have the **Enable Detailed Logging** option selected on the Activity Name page.
	The list of files that would be deleted is displayed in the detailed log in a summary format, such as the following:
	`Preview mode - files that match for deletion`
	`\\R2D3J4\Dir1\File1.txt.url`
	`\\R2D3J4\Dir1\File2.docx.url`
	`\\R2D3J4\Dir1\File3.mov.url`
	Refer to Chapter 1, "EMC SourceOne for File Systems Concepts," for more information on file deletion.

Cleanup orphaned shortcuts	To remove shortcuts to files that no longer exist, select the **Cleanup orphaned shortcuts** option. Shortcuts to be deleted are selected by matching the criteria used to match files to be deleted, except that only shortcut files (ending with .url) are processed. For example, if .docx and .xlsx file types are selected when this option is selected, only .docx.url and .xlsx.url files will be matched. Once a shortcut is matched, EMC SourceOne determines if the file still exists in the EMC SourceOne Native Archive. If the file does not exist, the shortcut is removed (or an entry is added to the detailed log, if the **Preview mode only (no files are removed)** option is selected). Checking this option causes the **Only delete files that have been archived** option to be disabled since it is not applicable when deleting shortcuts.

2. Click **Next**.

   In the left column, the **Behaviors** checkbox is checked automatically to indicate that you completed that step.

Behaviors: File Restore - Historical

For a File Restore - Historical activity, use the options on the Behaviors page to specify how and where to restore archived files.

Note: File Restore - Historical activity performance may degrade as the amount of data increases in the mapped folder being processed.

Files are restored with:

- Their name and (depending on the restore options used) the file path.
- All content, including alternate data streams (ADS) and extended file attributes.
- Default permissions and ownership in the target directory, based on the current Windows security policy.
- Any existing System, Hidden, Read-only, or Archive file attributes.

Files are not restored with:

- File system permissions (including owner)
- Encrypted, Compressed, or Offline file attributes.

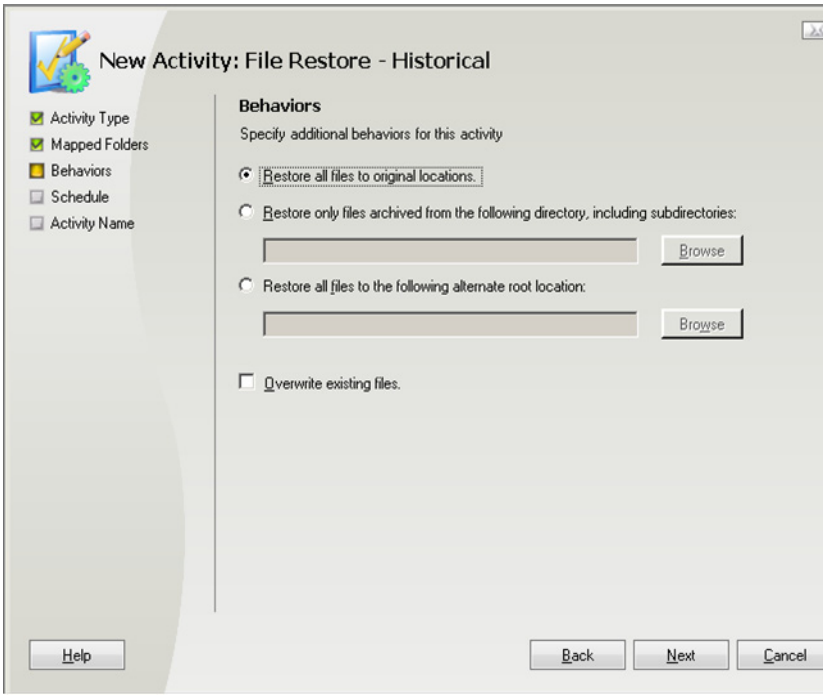

Figure 20 **Behaviors (File Restore - Historical activity)**

To use the Behaviors page of the File Restore - Historical activity, do the following:

1. Select where to restore the archived files:
   - To restore all files archived to the selected Mapped Folder to the original locations, select the **Restore all files to original locations** option.
   - To restore only the files archived from a specified directory and the contained subdirectories:
     a. Select the **Restore only files archived from the following directory, including subdirectories** option.
     b. Specify the directory location by entering the UNC path for the new location in the text box, or by clicking the **Browse** button and selecting a directory location using the Browse For Folder dialog box.

When specifying the directory, it is best to add a final backslash to the directory path so that the path is unambiguous. For example, specifying the directory `\\MyServer\MyShare\MyDir` would match `\\MyServer\MyShare\MyDir` and `\\MyServer\MyShare\MyDir1`.

You can make this match only the intended directory by specifying a final backslash for the directory as in `\\MyServer\MyShare\MyDir\`.

- To restore all files archived to the selected Mapped Folder to an alternate specified root directory and the contained subdirectories:

  a. Select the **Restore all files to the following alternate root location** option.

  b. Specify the root directory location by entering the UNC path for the new location in the text box, or by clicking the **Browse** button and selecting a directory location using the Browse For Folder dialog box.

2. Select whether to overwrite the existing files. To overwrite existing files in the specified location, select the **Overwrite existing files** checkbox. Any existing files that are older than the files being restored will be overwritten.

   By default, existing files are not overwritten.

3. Click **Next**.

   In the left column, the **Behaviors** checkbox is checked automatically to indicate that you completed that step.

Archived File Access

Use this page to specify users and groups who can access the files archived by the File Archive - Historical activity. Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the Archived File Access page.

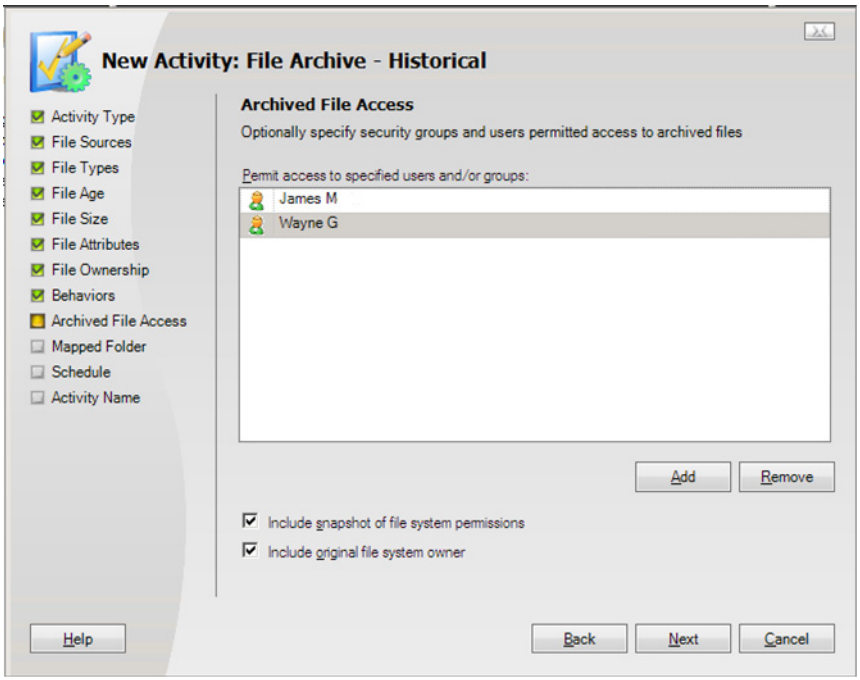

Figure 21 **Archived File Access (file activity)**

File access includes the ability to access shortcut files and the ability to search for and open files using EMC SourceOne Search. Unless the user or group is granted access using the Archived File Access page, only users with Administrator or Read All permissions on the mapped folder can access files archived by the File Archive - Historical activity into that mapped folder.

In addition to being granted access using the Archived File Access page, users or groups must also have My Files permissions on the associated mapped folder. Refer to the section "Permissions on

mapped folders used for file archiving" in the *EMC SourceOne Email Management Administration Guide* for more information on the need for My Files permissions.

To specify users and groups that can access files archived by the File Archive - Historical activity, do the following:

1. Create a list of one or more users or groups to the list of users allowed access to the archived files. This list is displayed in the Permit access to specified users and/or groups list box.

   Note that users with Administrator or Read All permissions on the mapped folder associated with the archive can also access the files.

   a. Click the **Add** button to begin adding users or groups.

      The Select Users, Contacts, or Groups Active Directory dialog displays. Use this dialog to select users or groups to be added.

      This is a standard Active Directory dialog, and help on how to use this dialog can be accessed by clicking the question mark (?) icon and then clicking the field on which you need information.

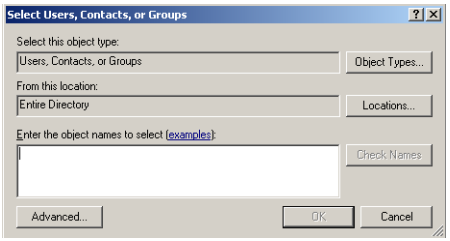

Figure 22 **Select Users, Contacts, or Groups dialog**

If you use the **Enter the object name to select** field on the Select Users, Contacts, or Groups Active Directory dialog, be aware of the following restrictions:

- The text you enter for the name of the user or security group can have a maximum of 64 characters.
- Select only security groups or users in this dialog box. Do not select distribution lists or contacts.
- Specifying a security group gives access to that group as well as to the individual members of the group. Searching for archived files is based on security group membership.

b. When done adding users or groups, click **OK**. Your selections are copied to the list on the Archived File Access page and the Select Users, Contacts, or Groups dialog closes.

c. To remove users or groups from the list, select one or more users or groups from the Permit access to specified users and/or groups list box and click the **Remove** button.

2. Select the **Include snapshot of file system permissions** option to have the Active Directory file system permissions applied as EMC SourceOne permissions on the file when it is archived.

   The specified file owner must be listed in the Active Directory forest in which EMC SourceOne is installed. If the specified file owner is a local user or local group, they will not be able to access or search for the files after archiving. Note that users with Administrator or Read All permissions on the mapped folder associated with the archive can also access the files.

3. Select the **Include original file system owner option** to have the original owner permissions retained on the file when it is archived.

   The specified file owner must be listed in the Active Directory forest in which EMC SourceOne is installed. If the specified file owner is a local user or local group, they will not be able to access or search for the files after archiving. Note that users with Administrator or Read All permissions on the mapped folder associated with the archive can also access the files.

4. Click **Next**.

   In the left column, the **Archived File Access** checkbox is checked automatically to indicate that you completed that step.

Mapped Folder(s)

Use the Mapped Folder(s) page to select the mapped folder to use with the activity.

Refer to "Summary of New Activity wizard pages for file activities" on page 47 for a list of activities that make use of the Mapped Folder(s) page.

The following sections provide more information on using the Mapped Folder(s) page for the appropriate activity:

- "File Archive - Historical - selecting a mapped folder" on page 85
- "File Restore - Historical - selecting mapped folders" on page 86

For information on how to define mapped folders, refer to the *EMC SourceOne Email Management Administration Guide*.

File Archive - Historical - selecting a mapped folder

For the File Archive - Historical activity, do the following:

1. On the Mapped Folder page, select the checkbox next to the mapped folder in which to archive files. You can select one mapped folder.

   Note that only Organization type mapped folders are supported for use with the File Archive - Historical activity.

   The list of mapped folders from which you can select may be a subset of all the mapped folders available:

   - Only mapped folders associated with virtual archive folders will be displayed for selection if you are using the in-place indexing feature (by selecting the **Index Only** option on the Behaviors page).
   - Only mapped folders associated with traditional archive folders will be displayed for selection if you are using traditional archiving (by selecting the **Archive** option on the Behaviors page).

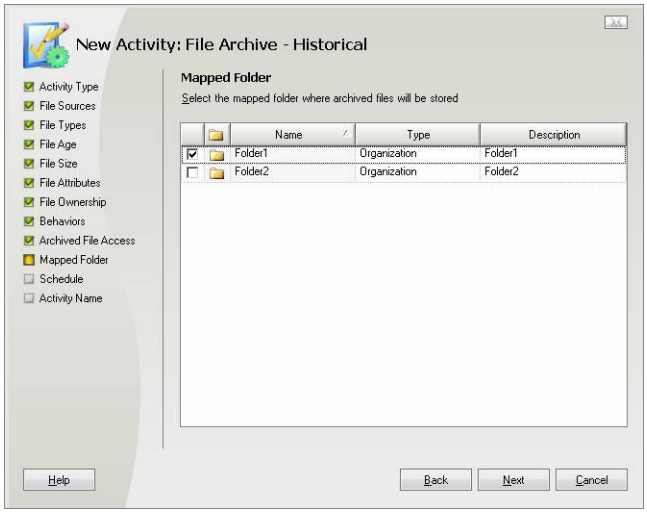

Figure 23 **Mapped Folder (File Archive - Historical activity)**

2. Click **Next**.

   In the left column, the **Mapped Folder** checkbox is selected automatically to indicate that you completed that step.

File Restore - Historical - selecting mapped folders

For the File Restore - Historical activity, on the Mapped Folders page:

1. Select the checkbox next to each mapped folder that you want to search for archived files. You must select at least one mapped folder. You can select more than one mapped folder.
2. Clear the checkboxes next to the mapped folders that you do not want to search for archived files.

   Note that only Organization type mapped folders are supported for use with the File Restore - Historical activity.

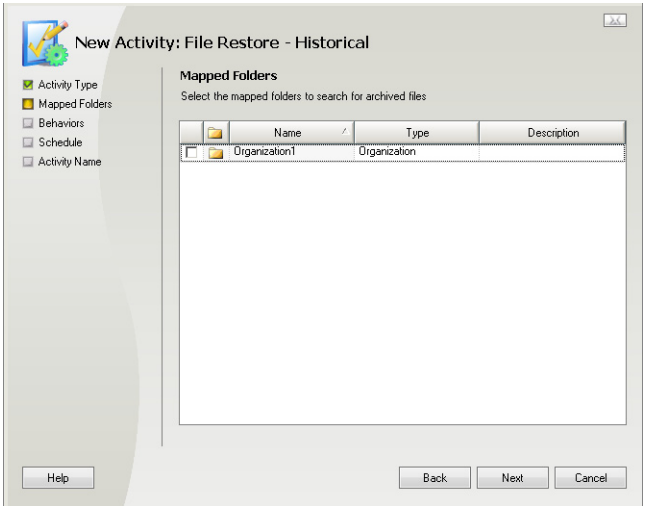

Figure 24 **Mapped Folders (File Restore - Historical activity)**

3. Click **Next**.

   In the left column, the **Mapped Folders** checkbox is selected automatically to indicate that you completed that step.

Schedule

Use the Schedule page to select the schedule for when the activity should be run. This page is used by all file processing activities.

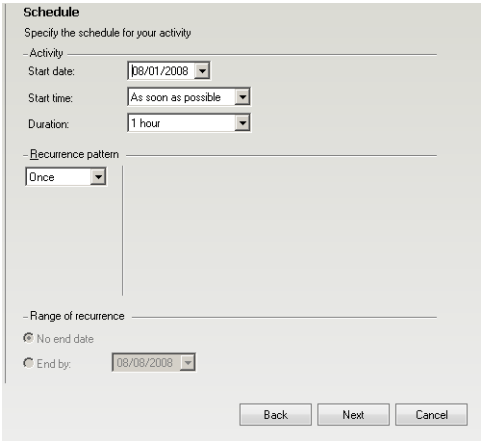

Figure 25 **Schedule - Recur Once**

To specify the schedule on which to run the activity:

1. In the **Start Date** field, select the date on which the activity should start. Click the dropdown arrow, then select the start date from the calendar.
2. In the **Start Time** field, select the time at which the activity should start. Click the dropdown arrow, then select one of the following options:
   - To start the activity as soon as possible, select **As soon as possible** (default).
   - To specify a time, select the time from the list.
3. In the **Duration** field, select one of the following options:
   - Select the number of hours the activity is allowed to run (default = 1 hour).
   - Select **1 day**.
   - Select **Run to completion**.

When using file processing activities, the default duration of 1 hour may not allow enough time for the activity to complete. Instead, for most file processing activities, select **Run to completion** as the value for the **Duration** field.

4. In the Recurrence Pattern area, specify one of the following intervals:

   - To specify a one-time occurrence.
     a. Select **Once** (default).
     b. Click **Next**.
   - To specify a daily occurrence:
     a. Select **Daily** from the dropdown list.
     b. In the **Every_day(s)** field, specify the number of days between occurrences of the activity (default = 1 day).

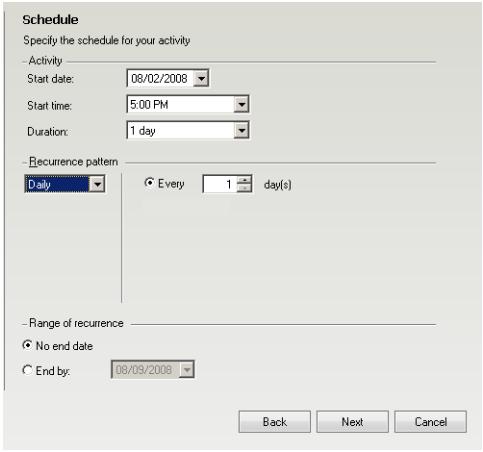

Figure 26 **Schedule - Recur Daily**

   - To specify a weekly occurrence:
     a. Select **Weekly** from the dropdown list.
     b. In the **Every _week(s) on** field, specify the number of weeks between occurrences.
     c. To specify the day of the week on which the activity should occur, select one or more checkboxes.

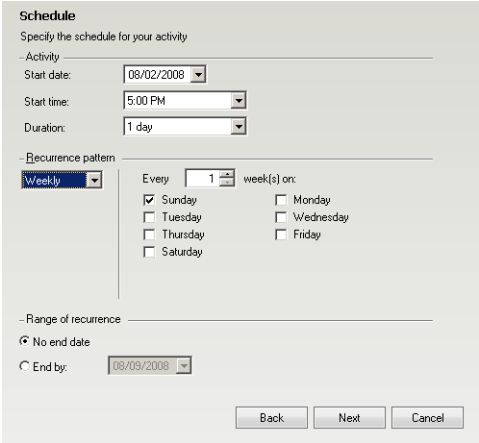

Figure 27 **Schedule - Recur Weekly**

- To specify a monthly occurrence:
  a. Select **Monthly** from the dropdown list.
  b. Do one of the following steps:
  – Select the **Day_of every_month(s)**. In the first field, specify the day of the month on which you want the activity to occur. Valid values are 1 through 31. In the second field, select the number of months between occurrences. Valid values are 1, 2, 3, 4, 6, and 12.
  – Select **The _ _of every_month(s)**. In the first field, select the week (first, second, third, fourth, or last). In the second field, select the day of the week. In the third field, specify the number of months between occurrences. Valid values are 1, 2, 3, 4, 6, and 12.

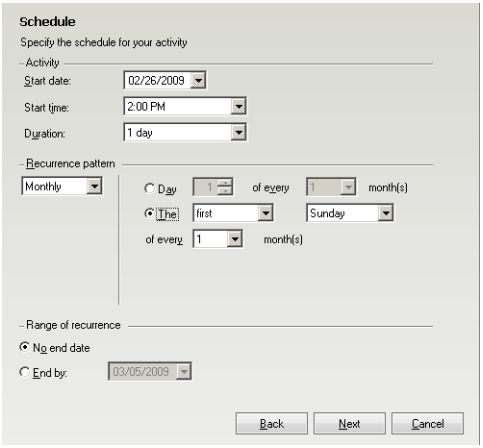

Figure 28 **Schedule - Recur Monthly**

5. In the Range Of Recurrence area, select one of the following options:
   - **No end date** - The activity will first occur on the start date and time you specified. The activity will reoccur according to the information you specified in the Recurrence area.
   - **End by** - The activity will first occur on the start date and time you specified. The activity will reoccur according to the information you specified in the Recurrence Pattern area, until the end date you specify in this option. Click the dropdown arrow, then select an end date from the calendar.
6. Click **Next**.

   In the left column, the **Schedule** checkbox is automatically selected to indicate that you completed that step.

Activity Name

Use the Activity Name page to specify the name of the activity and optionally to enable detailed logging. The Activity Name page is used with all file activities.

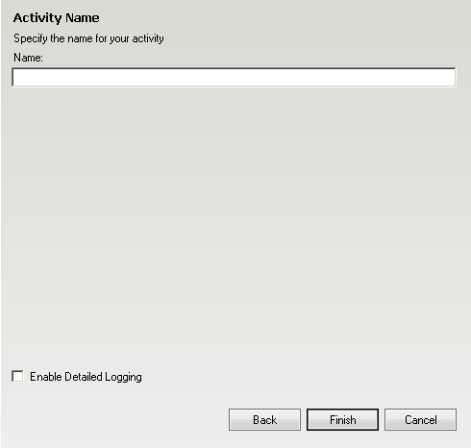

Figure 29 **Activity Name (file activity)**

Use the Activity Name page as follows:

1. In the **Name** field, enter a name for the new activity.
2. To collect detailed information on the processing performed by the activity, select the **Enable Detailed Logging** checkbox.

   This option is also used when using the **Preview mode only (no files are removed)** option on the Behaviors page of the File Delete - Historical activity. Refer to "Behaviors: File Delete - Historical" on page 75 for information on using the **Preview mode only (no files are removed)** option.

   Refer to "Using Job Logs" in the *EMC SourceOne Email Management Administration Guide* for more information about job logging.
3. Click **Finish**.

The results pane lists the new activity below the policy to which it belongs. The status of the new activity is Active.

Editing activities in an organizational policy

To edit an activity:

1. In the EMC SourceOne console, select the Organizational Policies node.
2. In the Organizational Policies area:
   a. Expand the organizational policy that contains the activity you want to edit.
   b. Select the activity you want to edit.
3. Do one of the following steps:
   - To edit a specific property:
     a. Click the link for that property in the activity summary.

        A dialog box opens, which corresponds to the page in the New Activity wizard that contains the property.

     b. Edit the property, as described in the topic for the corresponding New Activity wizard page.

     Note: You cannot edit the Activity Type or Activity Name properties of an activity.

   - To review all properties using the Edit Activity wizard:
     a. Select **Action > Edit Activity**.

        The Edit Activity wizard starts.

     b. Click **Next** until you reach the page containing the property that you want to edit.
     c. Edit the property, as described in the topic for the corresponding New Activity wizard page.

     Note: You cannot edit the Activity Type or Activity Name properties of an activity.

     d. Click **Next** until you reach the last page of the Edit Activity wizard, then click **Finish**.

Controlling activities

You can control an activity and its jobs by using the Stop, Pause , and Resume actions.

The action applied to an activity also applies to the activity's jobs. To control multiple jobs, control the activity associated with those jobs.

The status of an activity is derived from the status of the activity's jobs. For example, if any jobs associated with a run once activity fail, then the status of the activity will be shown as failed.

Refer to:

- "About activity status and actions" on page 94
- "Pausing activities" on page 97
- "Stopping activities" on page 97

About activity status and actions

The actions available for each activity status depend on the recurrence pattern specified in the activity's schedule:

- Once - "Run once" on page 95
- Daily, Weekly, or Monthly - "Periodic" on page 96

Run once

Figure 30 shows the actions for a run-once activity.

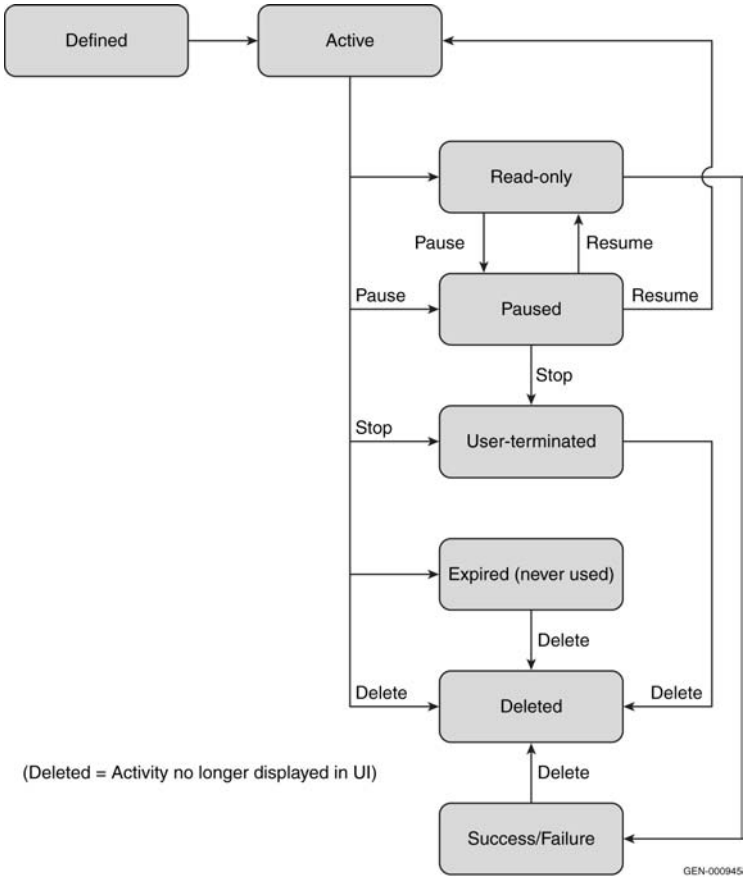

Figure 30 Activity actions and status - run once

Periodic

Figure 31 shows the actions for a periodic activity.

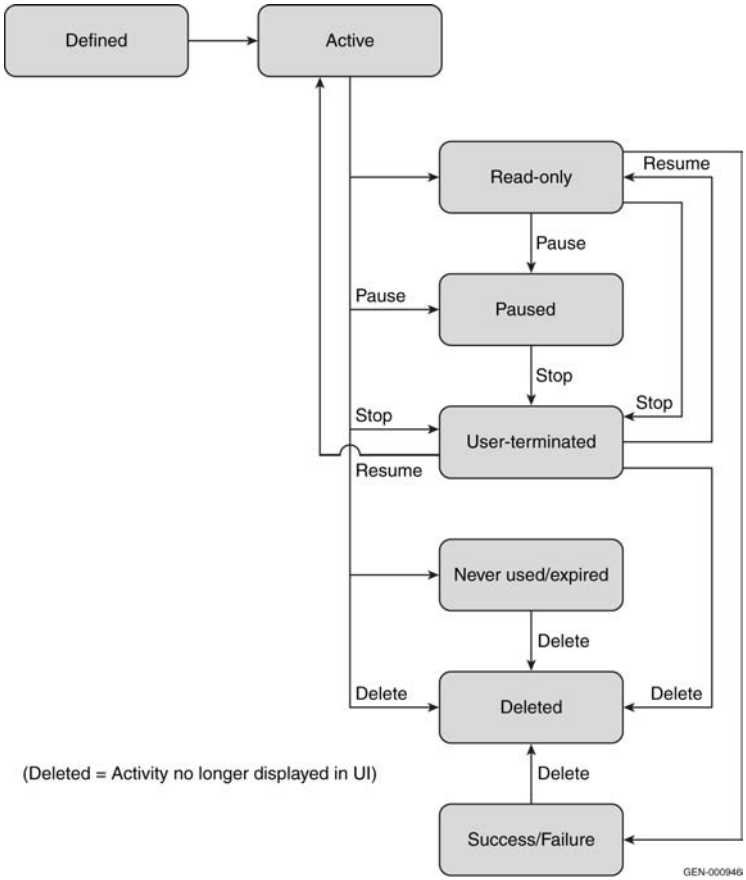

Figure 31 Activity actions and status - periodic

Pausing activities

To pause an activity in an organizational policy:

1. In the EMC SourceOne console, select the Organizational Policies node.
2. In the Organizational Policies area:
   a. Expand the organizational policy that contains the activity you want to pause.
   b. Select the activity.
3. Select **Action > Pause**.

   In the Organizational Policies area, the status of the activity changes from Active to Paused.

To resume a paused activity:

1. Select the activity.
2. Select **Action > Resume**.

Stopping activities

To stop an activity in an organizational policy:

1. In the EMC SourceOne console, select the Organizational Policies node.
2. In the Organizational Policies area:
   a. Expand the organizational policy that contains the activity you want to stop.
   b. Select the activity.
3. Select **Action > Stop**.

   In the Organizational Policies area, the status of the activity changes from Active to User Terminated.

You can resume a User Terminated activity if the activity has a periodic schedule:

1. Select the activity.
2. Select **Action > Resume**.

Deleting activities from an organizational policy

To delete an activity:

1. In the EMC SourceOne console, select the Organizational Policies node.
2. In the Organizational Policies area, select the activity you want to delete.
3. Select **Action > Delete Activity**.
4. At the *Are you sure you want to delete the selected activity?* prompt, click **Yes**.

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