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# Peer Global File Service Help

# **Using This Help File**

This help is designed to be used online. It is cross-linked so that you can find more relevant information to any subject from any location. If you prefer reading printed manuals, a PDF version of the entire help is available from our website. This may be useful as a reference, but you will probably find that the active hyperlinks, cross-references, and active index make the on-screen electronic version of this document much more useful.

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# Terminology

# Introduction

Before getting started, it is important to have a good understanding of key concepts and terminology used throughout this help system.

### Terms

Term Definition
-----------------

Active-Active	Two or more file servers that hosts data sets that are in active use, as opposed to an active-passive environment where only one file server hosts active data. Made possible by real-time file synchronization to keep all file servers in sync.	
Agent	See Peer agent	
Cloud Backup and Replication job	and folders and files to be replicated to a cloud storage device. Replication	
DFS (Distributed File System)	A set of client and server services that allow an organization using Microsoft Windows servers to organize many distributed SMB file shares into a distributed file system.	
DFS namespace (DFS-N)	A namespace that enables you to group shared folders located on different servers into one or more logically structured namespaces.	
DFS Namespaces	A Windows Server feature that allows multiple SMB shares across different file servers (and even locations) to be combined into a single unified namespace. DFS Namespaces simplifies access to files, especially in large, distributed environments. When combined with Peer file synchronization technology, DFS Namespaces can provide redundancy to file shares across file servers and locations.	
DFS-N Management job	A job type that enables the creation and management of DFS namespaces.	
Event	A single operation performed by a user on a file server.	
Failback	ailback The process of redirecting previously displaced users from a secondary file server back to the primary after a failure state has been resolved.	
Failover	The process of redirecting users from one file server to a secondary in the event of a failure.	
File access event	An event that is triggered from the opening or closing of a file.	

File change event	An event that causes a file to be changed in some way, for example, file modify, file delete, file rename, file attribute change.
File Collaboration job	A job type that combines file synchronization with distributed file locking to prevent version conflicts across multiple active file servers.
File Collaboration session	A communication session made up of two or more hosts, each with a designated root of folders and files that are to be shared or collaborated on. A collaboration session coordinates the primary functions of file locking and synchronization.
File filter	A type of filter used to include or exclude specific files from replication and locking.
File lock conflict	A file collaboration condition that exists when two users open a file at the same time, and both hold exclusive locks on the file.
File Locking job	A job type that prevents users on different file servers (usually at different locations) from opening different copies of the same file at the same time.
File Replication job	A job type that involves real-time and/or scheduled copying of files and folders from one file server to another.
File Synchronizati on job	A job type that involves multi-directional real-time replication so that two or more file servers are always up to date with each other.
Filter	Three types of filters: file, folder, and list.
Filter expression	See list filter.
Folder filter	A type of filter used to include or exclude specific folders (and the files they contain) from replication and locking.
Heartbeat	A communication mechanism used between the Peer Management Center and all connected Peer Agents to ensure that Peer Agents are alive and responsive. Heartbeats share information about the Peer

	Agent host server with the Peer Management Center, aid in verifying when a Peer Agents is no longer available, and signal when a disconnected Peer Agent has reconnected. All heartbeat information is sent through the Peer Management Broker.
Host (also host participant or participating Host)	A server that a Peer Agent is installed upon. When active in a job, it is called the host participant.
Initialization process	The steps executed whenever a job is started in the Peer Management Center. Each job type has a different set of steps for its initialization process.
Initial synchronizati on process	The background process that occurs at the start of a file collaboration session, where the directory watch set is recursively scanned on all participating hosts, file conflict resolution is performed, and any files that require updating are synchronized with the most current copy of the file.
List filter	A type of filter used to show or hide information from various views in the Peer Management Center.
Management Agent	A server running the Peer Agent. Can manage storage devices or a DFS namespace.
Master host	In file synchronization and collaboration, the master host will always win in a split-brain scenario.
Malicious Event Detector (MED)	Leverages the same real-time event detection that powers all job types to detect and alert administrators to malicious user and application behavior. For more information, see: https://kb.peersoftware.com/tb/introduction-to-peer-med.
Participant	A participant consists of an Agent and the volume/share/folder to be replicated. The server that the Agent is installed upon is called the host participant or simply host. Applies to File Collaboration, File Locking, File Replication, and File Synchronization jobs.
Peer Agent (or Agent)	A lightweight piece of software that is installed on Windows Servers to perform the storage and file management functions used by the entire Peer Global File Service solution suite. Typically installed on or

	alongside the file servers that will be managed by the Peer Management Center.
Peer Management Center (PMC)	The focal component of Peer Global File Service. Responsible for configuration, management, and monitoring of Peer Agents and the various solutions configured in Peer Global File Service. The Peer Management Center runs as three parts: a Windows Service that is always running, along with a rich client application and a web server component, both used for configuration and monitoring.
Peer Management Broker	The central messaging system of Peer Global File Service. The Peer Management Broker serves to connect the Peer Management Center and the Peer Agents, forming a Peer Management Center "network" that can be cast over local or wide-area networks via TCP/IP. A Peer Management Center environment will deploy one or more Peer Management Brokers.
Quarantined file	A file that has been removed from a File Collaboration or File Synchronization job as a result of a lock or replication conflict that could not be automatically resolved. This file will not be deleted from any location but will be ignored while it remains in quarantine. An administrator or help desk user must manually remove files from quarantine.
Quorum	Requirement for a minimum of two participants must be available and connected. If that number dips to one or less, quorum will not be met. Applies to File Collaboration, File Locking, File Replication, and File Synchronization jobs.
Real-time event detection	A key technology that backs all job types in the Peer Management Center. The PMC receives notifications as end users interact with the file servers that are being monitored. These notifications will usually result in replication or locking between file servers.
Scan	The initial process of comparing data sets on two or more file servers to ensure that they match. As differences are discovered, replication will occur to bring each file server "in sync" with one another.
Seeding target	Smart data seeding helps to efficiently integrate a host that has been disconnected for a long period of time or a new host into a File Collaboration job. Such existing hosts or new hosts with pre-seeded data (using methods like shipping a drive or server) should be set as Seeding Targets within a collaboration job. When the scan starts, non-

	Seeding Targets will become the masters and bring the Seeding Targets up to date. Stale updates, deletes, and renames will NOT be brought back from the Seeding Targets. All local real-time activity will be quarantined. Once that initial scan is complete, the Seeding Targets will become full participants with real-time enabled. For more information on Smart Data Seeding and its potential options, see <u>Smart</u> <u>Data Seeding</u> or contact support@peersoftware.com.
SMB/CIFS	Server Message Block or Common Internet File System, an application- layer protocol used for providing shared access to file data and other networked resources.
Source host	The file server hosting a file from which file access or change event originated.
Target host	One or more Management Agents of file servers where file access and change events will be propagated to.
TLS	Transport Layer Security, a successor to Secure Socket Layer (SSL) that secures network traffic between a client and server.
UNC Path	A UNC path can be used to access network resources and MUST be in the format specified by the Universal Naming Convention. A UNC path always starts with two backslash characters (\\).
View	Individual sections of the Peer Management Center's user interface, each providing unique information and control. Examples: Main View, Jobs View, Peer Agent Summary View, Alerts View, Job Alerts View.
Volume Shadow Copy Service (VSS)	Shadow Copy is a technology included in Microsoft Windows that allows taking manual or automatic snapshots of computer files or volumes, even when they are in use. It is implemented as a Windows service called the Volume Shadow Copy service.
Watch set	The configured root folder and all subfolders on a file server that are being scanned and/or monitored by a FC, FS, FL, FR or Cloud Backup and Replication job.

# Installation and Configuration

This topics in this section provide information about:

**Requirements and Prerequisites** 

Installing the Peer Management Center and Peer Management Broker

Installing Peer Agents

7

Updating the Peer Management Center

Updating Peer Agents

Configuring and Using the Web Interface

For information about Peer Global File System licensing, see Licensing.

### **Requirements and Prerequisites**

Before you get started, review the environmental requirements and platform prerequisites for using Peer Global File Service:

- Peer Global File Service environmental requirements
- Dell EMC Prerequisites
- <u>NetApp Prerequisites</u>
- <u>Nutanix Prerequisites</u>

### **Dell EMC Prerequisites**

In addition to the standard <u>Peer Global File Service environmental requirements</u>, the following prerequisites must be met:

- Dell EMC Isilon Prerequisites
- Dell EMC Unity Prerequisites

Dell EMC Celerra | VNX | VNX 2 Prerequisites

# **CEE Server Configuration**

See the following guides for steps on setting up a CEE Server on which the Peer Agent will be running:

- Dell EMC Isilon Configuration Guide
- Dell EMC Unity Configuration Guide
- Dell EMC Celerra | VNX | VNX 2 Configuration Guide

#### NetApp Prerequisites

In addition to the standard <u>Peer Global File Service environmental requirements</u>, the following prerequisites must be met:

- <u>NetApp Data ONTAP 7-Mode Prerequisites</u>
- <u>NetApp ONTAP | Clustered Data ONTAP Prerequisites</u>

#### **Nutanix Prerequisites**

In addition to the standard <u>Peer Global File Service environmental requirements</u>, the following prerequisites must be met:

• Nutanix Files prerequisites

#### Installing the Peer Management Center and the Peer Management Broker

Peer Management Center can be installed in numerous ways based on your needs and environment. The Peer Management Center installation consist of two separate installers, both of which are available for download from our website:

- <u>Peer Management Center installer, containing the Peer Management Center and the Peer</u> <u>Management Broker</u>
- <u>Peer Agent installer</u>

Both the Peer Management Center and Peer Management Broker are packaged with the main Peer Management Center installer and by default, will be installed on the same server.

### Requirements

See <u>Requirements</u> for more detailed information.

# Software Installation and Launching

- 1. Run the **PMC\_Installer\_win64.exe** installer and follow all instructions.
- 2. After the installation finishes, both the Peer Management Center and Peer Management Broker will be installed. The Peer Management Broker will automatically be installed as a running Windows service and set to auto-start. The Peer Management Center is installed in three parts:
  - A Windows service that is set to auto-start.
  - A web service for granting access to the Windows service via web browsers.
  - A rich client for interacting with the Windows service. The rich client is started as a normal Windows application.
- 3. Start the Peer Management Center Client by launching the **PL-Hub.exe** executable located in the base installation directory. If both the Peer Management Broker and Peer Management Center Service are up and running as background services, then the Peer Management Center should successfully start. If not, please make sure that both the Peer Management Broker Service and Peer Management Center Service are running as Windows services via the Windows Service Panel (services.msc).

# Uninstalling

Peer Management Center ships with an uninstaller for the environment it is running in. Please use the standard platform-specific method for removing programs/applications to uninstall Peer Management Center.

#### Enabling a Secure Encrypted TLS Connection

By default, the Peer Management Center and <u>Peer Management Broker</u> are installed on the same host machine that does not require secure TLS communication between each other. However, if they are not installed on the same host machine, then a secure TLS connection between the Peer Management Center and Peer Management Broker needs to be enabled.

To enable a secure TLS connection between the Peer Management Center and Peer Management Broker:

- 1. Stop the Peer Management Center Service via the Windows Service Panel (services.msc).
- 2. Once stopped, navigate to the directory **Hub\workspace\prefs**, relative to the installation directory.
- 3. Within this directory, open the **com.ci.pl.hub.runtime.prefs** file in a text editor.
- 4. If the file does not contain a line starting with **hub.jms.providerURL**, then add the following line in its entirety:

hub.jms.providerURL=failover\:(ssl\://localhost\:61617)? jms.alwaysSyncSend\=true

5. Otherwise, make the following changes to the line starting with **hub.jms.providerURL** (changes are bold):

From: hub.jms.providerURL=failover\:(**tcp**\://localhost\:**61616**)? jms.alwaysSyncSend\=true

To: hub.jms.providerURL=failover\:(**ssl**\://localhost\:**61617**)? jms.alwaysSyncSend\=true

6. Once these changes are complete, save the file, and then restart the Peer Management Center Service.

#### **Installing Peer Agents**

You will need to install a Peer Agent on each server you plan to include in any of your jobs.

# Software Installation and Launching

- 1. Run the **P-Agent\_Installer\_win64.exe** or **6P-Agent\_win64.exe** installer on the target server and follow all instructions.
- 2. During installation you will need to specify the Peer Management Broker Host Name (computer name, fully qualified domain name, or IP Address) of the server where the Peer Management Broker is running, as well as the configured TCP/IP port number (the default port for TLS communication is 61617).
- 3. After the installation finishes, the Peer Agent will be installed as a Windows service. You will need to verify that the Peer Agent is running, and that it was able to

successfully connect to the Peer Management Broker. You can do this by opening Windows Service Panel (services.msc) and making sure that the **Peer Agent Service** is started.

4. Make sure that the Peer Agent was able to successfully connect to the <u>Peer Management</u> <u>Broker</u> by going to the Peer Agent installation folder, opening the **output.log** text file, and making sure that **Ready** is displayed on the first line.

### **Secure Encrypted TLS Connections**

By default, the Peer Agent is installed with TLS encryption enabled, where the Peer Agent connects to the Peer Management Broker through a secure, encrypted connection. If you are running Peer Management Center on a secure LAN or via a corporate VPN, you might want to disable TLS to boost performance. For more details on disabling or enabling encryption for the Peer Agent, see <u>Broker Configuration</u>.

If AES-256 support is required, please contact <u>support@peersoftware.com</u> to obtain the necessary installers.

# Uninstalling

Peer Agent ships with an uninstaller for the environment it is running in. Please use the standard platform-specific method for removing programs/applications to uninstall the Peer Agent.

#### **Updating the Peer Management Center**

You can easily check for updates to the Peer Management Center and install minor releases. Minor releases can be automatically downloaded and installed. Major releases require a new license key and must be requested from Peer Software Support.

You can also configure the Peer Management Center to automatically check for updates and download the updates. For more information, see <u>Installation Updates</u>.

To check for updates:

1. From the **Help** menu, select **Check for Updates**.

The **Check for Updates** dialog appears. If a minor update is available, the dialog identifies the new version (and your current version) and provides a link to the release notes. If a major update is available, the dialog presents a link to an information page on the Peer Software website.

🙆 Che	eck for Updates				$\times$
?	A minor update is avail	able.			
	Current Version:	v4.5.0.20190809			
	New Version:	v4.5.0.20190812			
	Release Notes				
	Would you like to down	nload the installer for v4.5.0.2019	0812 now?		
			Yes	No	

2. Click **Yes** to download the PMC installer.

As the update is downloaded, a progress bar appears in the lower right corner of the Peer Management Center window. After the download is complete, the **Check for Updates** dialog displays information about the upgrade process.

🙆 Che	ck for Updates				$\times$
?	The new PMC installer has bee	n downloaded and is ready to l	be installed.		
	Current Version: New Version: <u>Release Notes</u>	v4.5.0.20190809 v4.5.0.20190812			
	2. Upon completion of the up 3. After upgrading the PMC, a	ing steps: er services are stopped, which st grade, Peer Management Cente I available Agents must be upg ed, you can restart existing jobs.	r services are restarted. raded centrally from th		
	To upgrade at a later time, yo	be automatically stopped as pa u can find the installer here: vare\Peer Management Center			
	Would you like to start the ugr	ade now?	Yes	No	

3. Click **Yes** to install the upgrade; click **No** to install the update at a later time.

If you clicked  $\mathbf{No},$  you can install the update later by going to the folder shown in the dialog.

If you clicked **Yes**, the **Setup** wizard appears.

- 4. Follow the prompts in the **Setup** wizard to install the update.
- 5. After the PMC upgrade is installed, update the Peer Agents. See <u>Updating Peer Agents</u> for details.

#### **Updating Peer Agents**

You can view the status of your Peer Agents in the <u>Agents</u> view. If the Agents appear in red, a software update is required.

To update your Peer Agents:

1. Select the Agents in the **Agents** view.

Agents			🧖 🏹 📎 🗖	
type filter text				?
▲ Agent	Avg. Bandwidth	Version 4.5.0.20190812 4.5.0.20190812	JVM Architecture amd64 amd64	

2. Right-click and select Install Software Updates.

<u>∲</u>	Restart Agent Service Remote Desktop to all selected Agents	
eg al an	Install Software Updates	
× = 0	Edit Agent Configuration on selected Agents Remove Selected Agents View Properties Edit Properties Assign Tags	
	Technical Support Tools	>
	Test Agent Bandwidth Speed Transfer Rate Report	

#### A confirmation dialog appears.

Install Age	nt Software Update	$\times$
?	Are you sure you want to install the latest software update on the following Agents?	
	DGAgent1, DGAgent2	
	You can install an update on an Agent only if it is currently connected and if no jobs are currently running.	
	Yes No	

- 3. Click Yes.
- 4. Follow the prompts in the **Install Agent Software Update** dialog to complete the update.

After the Agents are updated, the Agents appear in green. The Agents will automatically restart as part of the upgrade. Any jobs set to auto start will restart once Agents have reconnected.

Agents			<u>a</u> 7 📎 🗆 🗆
<ul> <li>▲ Agent</li> <li></li></ul>	Avg. Bandwidth	Version 4.5.0.20190813 4.5.0.20190813	JVM Architecture amd64 amd64

### Configuring and Using the Web Interface

This section describes:

- <u>Setting Up the Web Interface</u>
- Securing Access to the Web Interface
- Modifying the Web Interface Configuration
- Accessing the Web Interface
- <u>Managing Web Interface User Accounts</u>

#### Setting Up the Web Interface

During the Peer Management Center installation process, you configure access to the web interface. You can modify these options at a later date. See <u>Modifying the Web Interface</u> <u>Configuration</u>.

🧔 Setup - Peer Mar	nagement C	Center 4.2.1.2018	1102	—		$\times$
Peer Management Provide the name of Management Cente	or IP address	through which di	-	t to the Peer		
<ul> <li>Local Access -</li> <li>Public Access -</li> <li>Disable Web Set</li> </ul>	Make Web S	ervice accessible Service accessible				k
Hostname or IP:	using Port:		]			0
			< Back	Next >	Ca	ancel

The web interface configuration options are shown in the following table.

Local Access	Allows access to the web interface only when remotely connected into and using a web browser on the local Peer Management Center server.
Public Access	Allows access to the web interface via the configured hostname or IP address. Note that <b>Public Access</b> does not necessarily mean that anyone on the Internet will be able to access the web interface. This access should be further limited via NAT and network firewall policies. As an option, "0.0.0.0" can be used in the <b>Hostname</b> or <b>IP</b> field in conjunction with the <b>Public Access</b> option to fully open up web access on your network.
Disable Web Service	Completely disables the web interface and sets the Peer Management Center Web Service to manual.
Hostna me or IP	Identifies the hostname or IP address via which clients can access the web interface. If <b>Local Access</b> is set, this will be forced to use "localhost".

Enable HTTP (using Port)	Enables HTTP access to the web interface using the specified port.
Enable HTTPS (using Port)	Enables HTTPS access to the web interface using the specified port and a built-in TLS certificate. See <u>Securing Access to the Web</u> <u>Interface</u> for details on changing TLS certificates.

#### Securing Access to the Web Interface

There are several important things to keep in mind when it comes to securing access to Peer Management Center's web interface:

- The default **admin** account password should be changed immediately. For details, see <u>User Management</u>.
- Access to the web interface can be in the form of both HTTP and HTTPS. The latter will ensure that all communication between the client browser and the service hosting the web interface is encrypted. Regardless of which is enabled, the hostname or IP address through which clients can reach the web interface can be configured to limit access. See <u>Setting Up the Web Interface</u> for more details.
- While HTTPS access to the web interface is secured out of the box with a built-in certificate, this certificate can be swapped for a custom one. For more details on this process, please contact Peer Software's support team via email: <u>support@peersoftware.com</u>

#### Modifying the Web Interface Configuration

You can modify the configuration of the PMC web interface by modifying a config.ini file.

To modify the web interface configuration:

- 1. Stop the Peer Management Center Web Service via the Windows Service Panel (services.msc).
- 2. Use Notepad to modify the **config.ini** file.

The **config.ini** file is located in Peer Management Center\_INSTALL\_FOLDER\Hub\webconfiguration\ (where PMC\_INSTALL\_FOLDER represents the root installation directory of Peer Management Center).

- 3. Modify the settings. See <u>Modifying the Web Interface Configuration</u> for details.
- 4. Once modifications are complete, save the file.
- 5. Restart the **Peer Management Center Web Service**.

# Modifying the config.ini File

E.

The important items to configure in the config.ini file are:

org.eclipse.equ inox.http.jetty. http.enabled	Set to "true" to enable HTTP access to the web interface. If set to "true", the <b>org.eclipse.equinox.http.jetty.http.host</b> and <b>org.osgi.service.http.port</b> items must also be configured in order to enable HTTP access to the web interface. If set to "false", HTTP access is disabled, and the other HTTP-related settings are ignored.
org.eclipse.equ inox.http.jetty. http.host	Set to the hostname or IP address via which the web interface can be accessed using HTTP. Set to "localhost" to enable local access only for HTTP.
org.osgi.servic e.http.port	Set to the port to be used for HTTP access.
org.eclipse.equ inox.http.jetty. https.enabled	Set to "true" to enable HTTPS access to the web interface. If set to "true", the <b>org.eclipse.equinox.http.jetty.https.host</b> and <b>org.osgi.service.http.port.secure</b> items must also be configured in order to enable HTTPS access to the web interface. If set to "false", HTTPS access is disabled, and the other HTTPS-related settings are ignored.
org.eclipse.equ inox.http.jetty. https.host	Set to the hostname or IP address via which the web interface can be accessed using HTTPS. Set to "localhost" to enable local access only for HTTPS.
org.osgi.servic e.http.port.sec ure	Set to the port to be used for HTTPS access.

 All settings listed above must be followed by an "=" and a value. For example, to enable HTTP access, the line in the config.ini file with org.eclipse.equinox.http.jetty.http.enabled should look like: org.eclipse.equinox.http.jetty.http.enabled=true

- HTTP and HTTPS are configured independently of one another in the **config.ini** file and as such, can be set to different modes. For example, HTTPS could be configured in a public mode, while HTTP is set to private ("localhost").
- DO NOT modify any other settings in the **config.ini**. Doing so may result in the inability of the web interface to start.
- Duplicate entries in the **config.ini** file may also result in the inability of the web interface to start.

#### Accessing the Web Interface

Once Peer Management Center has been installed and all services have been started, you can access the web interface.

To access the PMC web interface:

1. Open a web browser and enter the following URL:

http://localhost:8081

Note that the exact URL will vary depending on the settings you selected during the installation process (for example: http vs https, appropriate hostname or IP, and appropriate port). These options are described in <u>Setting Up the Web Interface</u>.

2. In the page that appears, select the **Peer Management Center Portal** link.

The login page is displayed.

dgpmc1:8081/hub × +		- 0 ×
← → C ▲ Not secure   dgpmc1:8081/hub		☆ <b>0</b> :
	Peer Management Center Authentication	
	Please enter your login credentials	
	Username	
	Password	

3. Enter a user name and password.

The default user name is **admin**; the default password is **password**. We highly recommend that you change the password. See <u>User Management</u> for more information on changing account passwords.

4. Click Login.

If logged in with an **admin** account, the following is displayed:

<ul> <li>         → C A Not secure   lab12a-hub-12r2:8081/     </li> </ul>	'hub																어 ☆ 😩
Window Help																	
1 🕫 📽 😐 🛊 🙆 🚸																: 🗈 🍕	Jobs 🕼 Agent
Jobs 🛛 🏹 💽 🔳 🔕 🗵 🗆	C Environmental An	alyzer Summary	-< Collab and Sy	nc Summary 🕅	🔓 Names	ace Sum	mary										
pe filter text 🕜	Summary																
D2D-7m2cdot-win-test06	Runtime Summary	(auto-update disabled	9														
<ul> <li>D2D-editPathPrefix</li> </ul>	Filter by: Expre	ssion	*					⑦ Actions							Auto-Update   Ref	resh 10	🌲 secon
<ul> <li>marcustest</li> </ul>															inder opdater ( )		Ψ.
size test disk to disk	Name	Overall Status	Job Type	Failed Ho Quar	antir Retries	Errors	Warning	gs Open File I	Pending E	Queued	I Backgr	ou Scan Status	Elapsed T	Session Structure			
SQL Cred test	1. test1 - cloud2 1	Stopped	File Collaboration	0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped	00:00:00	Size: 0 bytes, Files			
test01-S3-job1	2. test2 -cloud 7m	Stopped	File Collaboration	0	0	0	0	0	0 bytes	▼ 0	0	Stopped	00:00:00	Size: 0 bytes, Files			
test2	afs4-afs3	Stopped	File Collaboration	0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped		Size: 0 bytes, Files			
<ul> <li>testAzure</li> </ul>	AFS4-Win19 Testir	Running	File Collaboration	0	0	0	0	2	0 bytes	<b>v</b> 0	0	Completed - 00:0	0 21:44:57	Size: 1.03 MB, File			
testing1	test1-isi_19Win	Stopped	File Collaboration	0	0	0	0		0 bytes	<b>v</b> 0	0	Stopped		Size: 0 bytes, Files			
testing123	tt	Stopped	File Collaboration	0	0	0	0			• 0	0	Stopped		Size: 0 bytes, Files			
B DFS-N Management (0)	AFS3-Win19-cDOT	Stopped	File Collaboration	0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped	00:00:00	Size: 0 bytes, Files			
Environmental Analyzer (1)																	
19a-T_Nutanix																	
File Collaboration (7)	h:																
1. test1 - cloud2 12a-19a-7m	1																
2. test2 -cloud 7m-cdot-isi																	
AFS3-Win19-cDOT TestFile3.5.1	1																
afs4-afs3																	
AFS4-Win19 Testinn	•																
Agents 🧏 🍸 📎 🗵 🗆																	
rpe filter text 💿																	
Agent Avg. Bandwidth Version																	
Dell990h (Connected) 4.5.0.2																	
Lab12a-19a (Connected) 4.5.0.2																	
Lab12A-7M-12R2 (Connect 4.5.0.2																	
Lab12A-AFS-16 (Connecter 4.5.0.2																	
Lab12A-cDOT-12R2 (Conne 4.5.0.2																	
Lab12A-Win-12R2 (Connec 4.5.0.2																	

#### Managing Web Interface User Accounts

Management of users with access to Peer Management Center's web interface can be performed through either the Peer Management Center's rich client or through an admin account logged into the web interface. See <u>User Management</u> for more information about managing web interface accounts.

### **Basic Concepts**

The topics in this section provide information on advanced functionality and configuration options available in the Peer Management Center.

• Email Alerts

- File and Folder Filters
- List Filters
- Logging and Alerts
- SNMP Notifications
- Tags

### **Email Alerts**

### **Overview**

An email alert notifies recipients when a certain type of event occurs, for example, file quarantined, session aborted, host failure, system alert. When an email alert is applied to a job, an alert is sent to all listed recipients whenever a selected event type is triggered by the job.

An email alert consists of a unique name, a selection of event types, and a list of email addresses. The available event types depend on the job type.

When you create a job, you can select an existing email alert to apply to the job or you can create a new alert and apply it to the job. Multiple email alerts can be applied to a job. You cannot modify an email alert while it is applied to a running job. You cannot delete an email alert while it is applied to any job. An alert can be applied to multiple jobs of the same type. Email alerts are defined in the <u>preferences</u> for a job type.

See <u>Email Configuration</u> for configuring an SMTP email connection. This must be configured before email alerts can be sent.

# **Managing Email Alerts**

You can create, edit, copy, and delete alerts.

To manage email alerts:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select the job type from the navigation tree and expand it.
- 3. Select **Email Alerts** from the navigation tree.

The **Email Alerts** page lists existing email alerts for that job type.

#### **File and Folder Filters**

### **Overview**

A file filter enables you to specify which files (and folders) should be included and/or excluded from a job's <u>watch set</u>. Included files are subject to scan(s) and real-time event detection, while excluded files are not. Initially, all files are included and no files are excluded from a job, except for files matching the <u>predefined file filters</u> and <u>automatically excluded file types</u>.

Filters can also operate on folders, allowing you to include and exclude folders from a job's watch set. For more information on folder filters, see <u>Folder Filters</u>.

A file filter consists of a unique name and one or more <u>filter patterns</u>. A filter can also be based on a file's <u>last modified time</u> and <u>file size</u>. For more information on defining a filter pattern, see <u>Defining Filter Patterns</u>. For more information on defining a filter pattern that can be used to filter folders, see <u>Filtering Folders</u>.

### **Types of File Filters**

There are three types of file filters:

- General Can be applied to any job type.
- **Synchronization Only** Can be applied to File Collaboration jobs only. Select this filter type to exclude file types from being locked when a file open is detected on a participant in a File Collaboration job.
- **Locking Only** Can be applied to File Collaboration jobs only. Select this filter type to exclude synchronization across the entire File Collaboration job so that only opens and closes are detected and acted on without any synchronization being performed.

For more information, see <u>Creating and Applying File Filters</u>.

#### **Creating and Applying File Filters**

### **Creating and Applying File Filters**

You create a file filter in the <u>Preferences</u> for a job type; the filter can then be applied to individual jobs of the same type. For example, a file filter created in <u>Cloud Backup and</u> <u>Replication Preferences</u> can be applied to any Cloud Backup and Replication job; a file filter created in <u>File Collab, Sync, and Lock Preferences</u> can be applied to any File Collaboration, File Locking, File Replication, or File Synchronization job. Multiple file filters can be applied to a single job.

In addition, there are also <u>predefined filters</u> that are applied to jobs; some of these predefined filters are automatically applied to certain job types.

For more information about creating a file filter, see:

- Creating File Filters for a Cloud Backup and Replication Job
- Creating File Filters for File Collaboration, File Locking File Replication, and File Synchronization Jobs

#### **Predefined File Filters**

In addition to defining your own file filters, there are predefined file filters that can be applied to jobs. The predefined filters vary per job type.

Vame	Туре	Exclusions	Inclusions	Date Filter	Size Filter
Default	General	~*.*, *.BAK, *.BCK, *.WBK, *.ASD, *.XLK, *.DWL*, *.AC\$, *.SV\$, <<^.*	None Selected	Include all dates	None
File Collaboration Sync Only	Synchronizati	None Selected	*.LOG, *.EXE, *.DLL, *.OTF, *.TTF, *	Include all dates	None
Invalid Characters	General	< [.]*. >	None Selected	Include all dates	None
Linux User Profile Exclusions	General	/home/*/.local/share/Trash, /home/*/.cache, /home/*/.config	None Selected	Include all dates	None
Locking Only	Locking Only	None Selected	\*	Include all dates	None
MacOS Exclusions	General	*\MACOSX, *\.Temporaryltems,*, <<.+:.+\$>>, .DS_Store, .smb	None Selected	Include all dates	None
Synchronizing Only	Synchronizati	None Selected	\*	Include all dates	None
User Profile Exclusions	General	*\AppData\Roaming\Microsoft\Windows\Cookies, *\AppData\Loc	None Selected	Include all dates	None

Two of the predefined filters, **Default** and **Invalid Characters**, are applied to all jobs by default. However, you can deselect a predefined filter for a specific job. Only the **Default** filter can be modified; none of the predefined file filters can be deleted.

In addition to these predefined filters, there are <u>file types that are automatically excluded</u> from a watch set for all job types.

To upgrade a predefined filter:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand Cloud Backup and Replication or File Collab, Sync, Repl, and Locking in the navigation tree, and then select File Filters.

Existing file filters are listed in the **File Filters** table.

type filter text	File Filters						- 🔶 🕶 🔿 🤜
ype filter text  Cloud Backup and Replicat  DFS-N Management File Collab, Sync, Repl, and DFS-N Management Email Alerts File Filters File Retries Locking Performance Real-time Event Detecti Revit Enhancements SIMP Notifications Scan Manager General Configuration Licensing MED Configuration Real-time Event Detection NAS Configuration Real-time Event Detection Task Scheduler User Management	File Filters           Name           Default           File Collaboration Sync Only           Invalid Characters           Linux User Profile Exclusions           Locking Only           MacOS Exclusions           Synchronizing Only           User Profile Exclusions	Type General Synchronization Only General Locking Only General Synchronization Only General	Exclusions ~*,*,*BAK,*BCK,*WBK, None Selected <<.*[1]S>> /home/*/.local/share/Tra None Selected *\_MACOSX, *\.Tempora None Selected *\_AppData\Roaming\Mic	Inclusions None Selected *.LOG, *.EXE, *.DLL, *.OTF, None Selected \* None Selected \* None Selected	Date Filter Include all dates Include all dates Include all dates Include all dates Include all dates Include all dates	Size Filter None None None None None None	Create Edit Copy Delete Update
x >							

3. Select the filter to upgrade, and then click **Upgrade**.

If an updated filter definition is available, a confirmation message lists the changes to the filter definition.

4. Click **OK** in the confirmation message.

The new file filter is listed in the **File Filters** table and can now be applied to jobs.

#### **Defining Filter Patterns**

A **filter pattern** is a character string that defines a logical expression that is evaluated to determine which files and folders match the pattern. A file filter pattern can contain <u>complex</u> regular expressions and <u>wildcards</u>. See <u>Folder Filters</u> for more information about what a folder filter pattern can contain.

Files and folders that match an **exclusion pattern** are excluded from the <u>watch set</u>; files and folders that match an **inclusion pattern** are included the watch set. For example, in the following file filter definition, files with names ending in \*.dotx are excluded and files with names ending with \*.docx are included:

🕺 Create File Filter				) ×
Name:				
Filter Type: General				~
Auto Excluded				
View file types that are automatically excluded Excluded Patterns				
		Add	Edit	Delete
Included Patterns				
		Add	<b>5.0</b>	Dalata
		Add	Edit	Delete
Included Last Modified Dates	Excluded File Sizes			
Include all dates $\sim$	None			$\sim$
0 days		0 bytes		
		OK	C	ancel

You can use complex regular expressions in filter patterns. Use the following format for a regular expression:

### <<regEx>>

For example, the following filter pattern contains a regular expression that finds AutoCAD temporary files (atmp files):

<<^.\*\\atmp[0-9]{4,}\$>>

Using the following regular expression in an exclusion pattern excludes any path containing a folder **XX** that also contains a child folder **YY**:

<<^.\*\\XX\\YY(\\.\*\$|\$)>>

The following files and folders MATCH the above expression:

\projects\xx\yy

\accounting\projects\xx\yy\file.txt

\accounting\projects\xx\yy\zz\file.txt

The following files and folders DO NOT MATCH the above expression:

\projects\accounting\file.txt

\projects\xx\y

\projects\xx\yyy\file.txt

\accounting\projects\xx\file.txt

\accounting\projects\yy\xx\zz\file.txt

For a good reference on regular expressions, see <u>http://www.regular-expressions.info/reference.html</u>

You can use the following wildcards in a file filter pattern to more easily cover well-known file extensions or names that follow established patterns.

*	Matches zero or more characters of any value
?	Matches one character of any value

The following examples show the use of a wildcard:

**\*.ext** Filter files that end with the **.ext** extension
- **ext**\* Filter files that begin with the string **ext**
- **ext** Filter files that contain the string **ext**

You will generally want to exclude all temporary files created by the applications you use so they are not propagated to the target hosts.

For example, if your <u>watch set</u> contains files created by AutoCAD applications, you should create a file filter to exclude the temporary files created by these applications. Typically, AutoCAD files have the following extensions:

.AC\$

.SV\$

.DWL

.BAK

To create a file filter that excludes these temporary files, you would add these extensions (with <u>wildcards</u>) to the **Excluded Patterns** field:

1. Click the **Add** button under the **Excluded Patterns** field.

The Add Wildcard Exclusion dialog appears.

Add Wildcard Exclusion		×
Enter a file name or path wildcard expression:		
String cannot be empty		
	ОК	Cancel

- 2. Enter **\*.AC\$**, and then click **OK**.
- 3. Repeat Step 2 to add **\*.SV\$**, **\*.DWL\*** and **\*.BAK**.

The patterns are listed in the **Excluded Patterns** field.

🧔 Create F	ile Filter	– 🗆 X
Name:	AutoCAD Temp Files	
Filter Type:	General	~
Auto Exclu		
	pes that are automatically exclu	ded
Excluded P	atterns	
*.AC\$ *.SV\$		
*.DWL* *.BAK		
		Add Edit Delete
Included P		
	atterns	
		Add Edit Delete
Included	Last Modified Dates	Excluded File Sizes
Include a	ll dates 🗸 🗸	None $\checkmark$
	0 days	0 bytes
		OK Cancel

You have now created a file filter that excludes temporary AutoCAD files—all files ending in \*.SV\$ or \*.AC\$ or \*.DWL\* or \*.BAK will be excluded from any running job that uses this filter.

The following wildcard expressions are automatically applied as exclusion patterns and cannot be modified.

Temporary files	~\$*.*
generated by	*.tmp
common	*.\$\$\$
applications	Any file without a file extension, e.g., abcdefg
Explorer System Files	desktop.ini, thumbs.db, and Windows shortcut file, e.g., *.lnk

In addition to filtering on file names, file extensions, folder paths, or partial path wildcard pattern matching, you can filter based on a file's last modified date. Peer Management Center only supports filtering on a file's last modified date and does not support filtering on a folder's last modified date. In addition, if you have a folder hierarchy that contains files that are all being filtered based on last modified date, then all folders will still be created during the initial scan process on all hosts. If a file is excluded from collaboration based on its last modified date, then the initial scanning process will not synchronize the file even if the file's last modified time and size do not match, or the file does not exist on all hosts. However, the file will be synchronized, if and when the file is modified in the future, and if a user deletes or renames the file on any host, the file will be deleted or renamed from all other hosts where the file exists.

Note that a file filter cannot combine filtering on last modified date with inclusion or exclusion patterns or <u>file size</u>. The last modified date is the sole criteria used to identify matching files.

Include all dates	This is the default option and will include all files regardless of last modified date.
<b>Include</b> <b>today</b> <b>and past</b> Includes all files whose last modified date are more recent then specified number days. For example, you can exclude all files to not been modified within the last year (365 days).	
Include older than	Includes all files whose last modified date are older than the specified number days.

# **Options for Included Last Modified Date Filter**

You can also filter based on an individual file's size, excluding files that are greater or less than a specified size. Peer Management Center does not support filtering on a folder's total size. In addition, if you have a folder hierarchy that contains files that are all being filtered based on size, then all folders will still be created during the initial scan process on all hosts. If a file is excluded from collaboration based on size, then the initial scanning process will not synchronize the file even if the file's last modified time and size do not match, or the file does not exist on all hosts. However, if a user deletes or renames the file on any host, the file will be deleted or renamed from all other hosts where the file exists.

However, you cannot define a file filter that combines filtering on file size with inclusion or exclusion patterns or <u>last modified date</u>. The file size is the sole criteria used to identify matching files.

None	Default option. Select this option to include all files regardless of file size.
Exclude files greater than or equal to	Select this option to exclude all files whose size is greater than or equal to the specified number of bytes. For example, you can configure a job to exclude all files greater than 1 GB.
Exclude files less than	Select this option to exclude files whose size is less than the specified number of bytes.

## **Options for Excluded File Sizes**

### **Filtering Folders**

In addition to creating file filters, you can create folder filters. Folder filters allow you to include and exclude folders from a job's watch set. See <u>Folder Filter Examples</u> for examples of folder filters. Folder filters are created in the same way as file filters.

# **Reduce the Number of Jobs Using Folder Filtering**

For management purposes, we recommend keeping the total number of jobs as low as possible. Using folder filters, you can reduce the total number of jobs without sacrificing efficiency. This process involves analyzing all existing jobs, identifying all the folders and hosts that will be collaborating, and consolidating them into fewer jobs by watching a few root

folders at a higher level. Filters will then be added to include or exclude only the folders of interest.

# **Folder Filter Syntax**

When defining a filter pattern to use on folders, use the following syntax:

### \Folder or \Folder\* or \Folder\\*

Presently, Peer Management Center supports included expressions for a full folder path only and does not support wildcard matching on parent paths. For example, the following expression is not valid:

\Folder\*\Folder

## **Example of a Simple Folder Filter**

The following example reduce the number of existing jobs from four to two:

			Server 1		Ser	ver 2
			Drive D	Drive E	Drive D	Drive F
	Old	Job 1	D:\General		D:\General	
	Jobs	Job 2		E:\Common		F:\Common
		Job 3	D:\Projects		D:\Projects	
		Job 4		E:\Documents		F:\Documents
After consolidation:						
					Filter Option 1	Filter Option 2
			Server 1	Server 2	INCLUDE	EXCLUDE
	New	Job 1	D:\	D:\	\General\*	All other files
	Jobs				\Projects\*	



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Job 2	E:\	F:\	\Common\*	All other files
			\Documents\*	

Jobs 1 and 3 were merged into a single job watching the root D drive on both servers while using Filter Option 1 or 2.

Jobs 2 and 4 were merged into a single job watching the root E drive on Server 1 and the root F drive on Server 2 while using Filter Option 1 or 2.

Please note the following regarding regular expressions:

- Peer Management Center does not support the ability to use regular expressions for multi-level folder inclusions such as \Level1\Level2\FolderName.
- Peer Management Center does not currently support the ability to filter on certain parts of a path, like \Folder\\*\Folder and \Folder\*\.

# **Additional Examples of Folder Filters**

To exclude a specific folder from anywhere within the watch set:	*\FolderName *\FolderName\FolderName
To exclude a specific folder from the ROOT of the watch set:	\FolderName \FolderName\FolderName
To exclude folders that end with a specific name from anywhere within the watch set:	*FolderName\
To include a specific folder from the root of the watch set:	\FolderName \FolderName\FolderName

File Filter Usage Notes

## **Conflicting Patterns**

Since inclusions and exclusions patterns are expressed separately, it is possible to submit conflicting patterns. The pattern evaluator addresses this by exiting when a file is determined to be excluded. Therefore, exclusions patterns override inclusion patterns.

## **Rename Operations**

Rename operations may subject files to an inclusion status change. Renaming a file out of the watch set will trigger a target deletion, while renaming into the Rename operations may subject files to an inclusion status change. Renaming a file out of the <u>watch set</u> triggers a target addition.

## **Folder Deletions**

Folder deletions only affect included files, possibly leading to folder structure inconsistencies. When a session participant deletes a folder, the target outcome will vary depending on whether excluded files are present. Folder deletions are propagated in detail to the targets as to the exact files that have been affected.

### **List Filters**

The Peer Management Center provides the ability to filter lists throughout the Peer Management Center interface. List filters can help you quickly find jobs, Agents, and sort through summary reports

To use a list filter, enter a filter expression in the filter expression box. The search results of your filter are displayed in the window below the expression.

You can save the list filters and reuse them. For more information, see <u>Saving and Managing</u> <u>List Filters</u>. This is useful when you frequently use the same list filter or when you create complex list filters.

Use the **Ctrl + Space** keyboard shortcut to list all possible list filters and predefined labels, which can be selected to refine your search quickly.

## **Basic Filter Expressions**

The simplest filter expressions contain words you are looking for. For example, to find all items related to sales, simply type the word *sales* in the filter expression box. All items from the list that contain the word *sales* in their name, tag names, or tag categories will be

displayed, and all other items will be hidden. The agent attribute fields (see attr below) are not included in generic searches.

If you want an exact word match or the words contain a space, enclose the terms in double quotes. For example, if you want to search for the words *North America*, the two words must be contained in double quotes. If you want to search for the word *agent* only without showing *USAgent* or *Agent2015* in results, the word *agent* must be contained in double quotes.

For information about creating more complex filter expressions using operators and labels, see <u>Creating Complex Filter Expressions</u>.

## **Predefined List Filters**

- Default job filters include Failed Jobs, Jobs with Backlog, and Running Scans.
- Default Agent filters include **Connected** and **Disconnected** (e.g. filter:"Running Scans").

### **Creating Complex Filter Expressions**

You can create more sophisticated list filters by using operators and labels.

# **Using Operators**

Operators allow you to combine multiple simple expressions into a single compound expression. Supported operators are: OR, AND, and NOT. For example, typing tag:Americas AND sales in the Filter Expression will show only Agents with the word *Americas* in their tag(s) AND the word sales in their name, tags, or tag categories. Parentheses can be used to build more complex expressions by grouping simple expressions.

# **Using Labels**

Use predefined labels to specify in which field your filter word should appear. Use the following format to take advantage of labels in your filter expression:

#### <label>:<search string>.

List of possible labels include:

name List only items that match the string (e.g. name:"Design Data")

tag Show only items with the word specified in their tag(s) (e.g. tag:Americas)

cat	Search for items that have been assigned a specific category (e.g. search for Jobs that were categorized as Design - cat:Design)
host	Filter through Jobs and list only those that contain the host in the list of job participants (e.g. host:WIN12R2A)
attr	Search for the specified string in the following Agent fields: Connection Status, Operating System, JVM Architecture, and Agent Version (e.g. attr:x86)
filter	List items that have been assigned a default or user-created filter.

Example 1: Show all Agents with the word *Sales* in their name, tag name, or tag category:

### Sales

Example 2: Show all Agents with a tag that has *North America* in the tag name and *Location* in the tag category:

cat:Location AND tag:"North America"

Example 3: Show all Agents with the word *Sales* in their name, tag name, and tag category and with a tag that has *North America* in the tag name and *Location* in the tag category.

Sales AND (cat:Location AND tag:"North America")

### Saving and Managing List Filters

Throughout the Peer Management Center interface, you will have the opportunity to save your filter expression by clicking the **Manage, Save, and Load filters** button, usually located above the **Filter Expression** field or in the **Actions** drop-down menu. The **Manage, Save, and Load filters** button is available in the <u>Jobs view</u> panel, the <u>Agent Summary</u> view, the and the <u>Collaboration Summary</u> panel.

### **Removing List Filters**

To remove a list filter and show all items in the list, click the pencil icon to the right of the filter expression.

### Logging

## **Overview of Logging**

PeerGFS performs an extensive amount of logging to track events and activities processed by PeerGFS. The results are stored in log files that are useful for troubleshooting and analytics. PeerGFS tracks and logs many types of information and activities, including file events, preferences, job-specific configuration files, and analytics files. See <u>File Event Logs and Alerts</u> for more information about job-related file event logging.

## **Accessing Log Files**

Many of the log files have an .log extension; these are text files that can be opened in a text editing application. Other log files are stored in other file formats such as .xml, .csv, and .prefs. Log files are stored in the **workspace** folder in the PMC and Agent installation directories:

**PMC Log Files** 

Agent Log Files



If you want to review these files for troubleshooting or analytical purposes, you can retrieve them as a single, compressed file, which is then stored in the **support** folder in the PMC installation directory. The <u>retrieval process</u> compiles the various log files into a single zip file that is easy to review and send to others for review. When retrieving log files, you have various options, such as choosing which log files are included, whether to encrypt log files (which may contain sensitive information), and whether to have the zip file automatically sent to Peer Software Support.

# **Retrieving Log Files**

To retrieve log files:

- 1. Open the PMC.
- 2. From the Help menu, choose Retrieve PMC/Agent Logs.

The Retrieve PMC/Agent Log Files dialog is displayed.

ø	Retrieve PMC/Agent Log Files	$\times$
	Log Collection Options Include logs newer than Run Event Detection Analytics before log file collection Collect only statistics files	
	Agent Log Options O Do not include any agent log files Include all connected agent log files O Include the log files from the connected agents selected below:	
	Name   DGWin16B   DGWin16C   DGWin16d	
	Select All Clear Selected   Encryption and Support Options   ✓ Encrypt log files   ✓ Automatically upload log files to Peer Software Support	
	Log retrieval can take a while based on network speed and log file sizes. You will be notified when this operation completes. Are you sure you want to proceed with this operation? Yes No	

3. Select the logging options.

There are three sets of options:

- Log Collection Options
- Agent Log Options
- Encryption and Support Options
- 4. Click **Yes** to start the log retrieval process.

It may take some time for the log files to be collected and compiled into a single, compressed file. When the retrieval is finished, a message is displayed. The retrieved log file is stored as a zip file in the **support** subfolder in the PMC installation directory.

Log Files G	Gathering Status	×
1	Retrieve PMC/Agent Logs task completed successfully. The zip file is located on host DGWin16A at the following location:	
	C:\Program Files\Peer Software\Peer Management Center\Hub\workspace\support\PL-Hub-Logs-DGWin16A-06-08-2020. 17.19.0-NO_ENC.zip	
	ОК	

### **Log Collection Options**

Include logs newer than X days	Use this option to restrict the logs retrieved to a certain time period.
Run Event Detection Analytics before log file collection	Select this option to run event detections analytics immediately before the log files collected. PeerGFS can perform event detection analysis every night; however, this option allows you to receive the most up-to-date analytics.
Collect only statistics files	Select this option to retrieve log files that contain statistics only.

## **Agent Log Options**

Do not include any agent log files	Select this option if you do not want to retrieve log files for any agent.
Include all connected agent log files	Select this option if you want to retrieve log files for all connected agents.

Include the log files from the connected agents selected belowSelect this option if you want to retrieve log files for selected connected agents.	
---	--

### **Encryption and Support Options**

Encrypt log files	Select this option if you want to encrypt the log files in the zip file.
Automatically upload log files to Peer Software Support	Select this option if you want to automatically upload the zip file containing the log files to Peer Software Support.

### File Event Logs and Alerts

# File Event Logging

PeerGFS records various types of file events for file collaboration, file replication, file synchronization, and file locking jobs. The events are written to to the **fc\_event.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory. All log files are stored in a tab-delimited format that can easily be read by Microsoft Excel or other database applications. The events are also displayed in the **Event Log** tab located within the runtime summary view for the selected job.

## **Logging Fields**

Below is a list of logging fields and their descriptions:

Enable d	Selecting this option will enable file event logging based on the other settings. Deselecting this option will completely disable all logging.
Severit	Determines what severity levels will be logged. There are two options:
Y	• All (Informational, Warnings, Error, Fatal)

	• Errors & Warnings (Warnings, Error, Fatal)
Event Types	If checked, the corresponding event type will be logged.
File Open	A file was opened by a remote application on a source host.
File Lock	A file lock was acquired on a <u>target host</u> when a file open is detected on another host.
File Close	A file was closed.
File Add	A file was added to the <u>watch set</u> .
File Modify	A file was modified in the watch set.
File Delete	A file was deleted.
File Renam e	A file was renamed.
Attribu te Chang e	A file attribute was changed.
Securit Y (ACL) Chang e	The security descriptor of a file or folder was changed.
Direct ory Scan	Indicates when a directory was scanned as a result of the <u>initial</u> synchronization process.

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File ADS Transf er	The Alternate Data Stream of a modified file was synced to target host(s).
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# **Configuring Job Logging and Alerts**

You can configure the logging and alert settings for a job when you edit a job. By default, all file collaboration and synchronization activity is logged for all severity levels. You can enable or disable file event logging, as well as select the level of granularity.

Edit File Collaboration Job			$\times$
Participants General	Logging and Alerts		
File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Enabled: Severity: All Alerts Severity: INFO		
	OK	Cancel	I

# Log Entry Severity Levels

Infor mati onal	Informational log entry, e.g., a file was opened.
Warn ing	Some sort of warning occurred that did not produce an error but was unexpected or may need further investigation.
Error	An error occurred performing some type of file activity.
Fatal	A fatal error occurred that caused a host to be taken out of the session, a file to be quarantined, or a session to become invalid.

## **Job Alerts**

Various types of alerts will be logged to a log file and to the **Alerts** table located within the job's runtime summary view for the selected job. Each job will log to the **fc\_alert.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory.

The default log level is WARNING, which will show any warning or error alerts that occur during a running session. Depending on the severity of the alert, the job may need to be restarted.

### **SNMP** Notifications

### **Overview**

The Peer Management Center provides support for SNMP v1 messaging. A SNMP notification notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert.

When an SNMP notification is applied to a job, a SNMP trap is sent to the destination IP address or hostname whenever a selected notification type is triggered by the job.

An SMNP notification consists of a unique name, a selection of notification types, source IP address, along with a trap prefix and destination. The available notification types depend on the job type.

When you create a job, you can select an existing SNMP notification to apply to the job or you can create a new notification and apply it to the job. You cannot modify or delete a notification while it is applied to a job. An SMNP notification can be applied to multiple jobs of the same type. SNMP notifications are defined in the <u>preferences</u> for a job type. An SNMP notification can be applied to all job types except File Locking and File Replication.

## **Managing SMNP Notifications**

To manage SMNP notifications:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select the job type from the navigation tree and expand it.
- 3. Select **SMNP Notifications** from the navigation tree.

The **SMNP Notifications** page lists existing SMNP notifications for that job type. You can create, edit, copy, and delete notifications.

### Tags

Tags can be used to categorize resources and customize a user's workspace or perspective. Examples of resources include Agents, jobs, and web roles. Tagging helps when managing large number of resources. Tagging resources helps when managing large number of resources.

You can assign tags to:

- Jobs
- Resources
- User roles
- Agents

You can also assign resources to tags.

#### Creating Tags and Categories

Tags and categories are created globally in <u>Tags Configuration</u> in Preferences. The **Assign Tags** dialog also offers the option to create tags and categories.

#### **Assigning Tags**

You can:

- Assign tags during job creation
- Assign tags while editing an existing job
- Assign tags to one or more resources
- Assign tags to user roles

• Assigning resources to one or more tags

# Assigning Tags to Jobs

- During job creation You can assign tags during the creation of a brand new job from the <u>Tags</u> page of the job creation wizard.
- During job editing You can assign tags to individual jobs by right-clicking on the job, selecting **Edit Configuration(s)**, and navigating to the **Tags** page of the job edit wizard.

## **Assigning Tags to Resources**

To assign tags to one or more resources:

- 1. Click the **Assign Tags** button from the Summary view, <u>Jobs view</u>, or <u>Agent Summary</u> <u>view</u> toolbar.
- 2. In the **Assign Tags** dialog, click the **Tags** radio button.
- 3. Select the tag that needs to be assigned to one or more resources.
- 4. Click the **Edit** button to the right.
- 5. From the **Unassigned Resources** table on the left side, select the resources that need to be assigned the selected tag, and then click the right-arrow button (Add One) to move it to the table on the right side (hold down the Shift key on the keyboard when selecting resources to select more than one).
- 6. Click the **Save** button to commit your changes and close the dialog.
- 7. Repeat the preceding steps for all the tags that need to be assigned to one or more resources.

### **Assigning Tags to User Roles**

User roles can be assigned tags that customize a user's Jobs perspective when they log in via the <u>Web Interface</u>. For example, in a very large deployment scenario, a user that is part of the Help Desk role can be assigned tags that limit their view to only jobs that are part of their region.

To assign tags to user roles:

- 1. Create tags and categories as outlined in Step 1 above.
- 2. Assign tags to one or more jobs as outlined in Step 2 above.
- 3. Go to <u>User Management</u> in the <u>Preferences</u> page.

- 4. Select the desired role to which you wish to assign specific job tags.
- 5. Click the **Edit** button.
- 6. In the **Tags** window, from the **Unassigned Tags** table on the left side, select the tags that need to be assigned the selected role, and then click the right-arrow button (Add one) to move it to the table on the right side (hold down the Shift key on the keyboard when selecting tags to select more than one).
- 7. Click **OK** to commit your changes and close the dialog, and then close the **Preferences** page.

The user will see only the jobs that were tagged in the user's role.

### **Assigning Resources to One or More Tags**

To assign resources to one or more tags:

- 1. Click the **Assign Tags** button from the Summary view, <u>Jobs view</u>, or <u>Agent Summary</u> <u>view</u> toolbar.
- 2. In the **Assign Tags** dialog, click the **Resources** radio button.
- 3. On the left-hand side, click inside the **Resource Name Filter** or **Type Filter** fields and press the CTRL + Space keys on the keyboard to list all possible filters and predefined labels, which can be selected to refine your search quickly.
- 4. Select the resource that needs to be assigned to one or more tags.
- 5. Click the **Edit** button to the right.
- 6. From the **Unassigned Tags** table on the left side, select the tags that need to be assigned the selected Resource, and then click the right-arrow button (Add one) to move it to the table on the right side (hold down the Shift key on the keyboard when selecting tags to select more than one).
- 7. Click the **Save** button to commit your changes, and then close the dialog.
- 8. Repeat the preceding steps for all the resources that need to be assigned to one or more tags.

#### Using Tags to Filter Resources

You can use tags to filter resources:

- Filter jobs
- Filter agents

To filter Resources using tags, use the tag label in any list filter field throughout the Peer Management Center interface.

### **Filter Jobs**

To filter through a large list of jobs, use the filter field located below the toolbar buttons in the **Jobs** view. For more details on how to filter through resources, see <u>List Filters</u>.

Example:

Show all jobs with a tag that has "North America" in the tag name and "Location" in the tag category:

tag:"North America" AND cat:Location

### **Filter Agents**

To filter through a large list of Agents, use the **Filter** field located below the toolbar buttons in the <u>Agent Summary View</u> panel. For more details on how to filter through resources, see <u>Filter</u> <u>Expressions</u>.

### **Advanced Topics**

This section discusses the following topics:

- DFS Namespace Failover and Failback
- File Conflict Resolution
- File Metadata Synchronization
- <u>Managing Peer Agents</u>
- Smart Data Seeding
- <u>TLS Certificates</u>

### **DFS Namespace Failover and Failback**

You can manage <u>DFS namespaces</u> through a dedicated job type in the Peer Management Center, the <u>DFS-N Management job</u>. The PMC controls <u>failover</u> and <u>failback</u> by automatically disabling and enabling DFS namespace folder targets.

## Failover

The Peer Management Center and Agents are constantly looking for connectivity issues and other failures across linked file servers, the Peer Agents themselves, and entire sites. If the PMC detects a failure, it can be set to automatically disable a linked DFS namespace folder target from a namespace folder. This will prevent end users from accessing the associated folder target. If configured to do so, <u>DFS Namespaces</u> will automatically redirect clients to another available folder target.

# Failback

While DFS Namespaces itself can automate the disabling of folder targets, it does not automate the re-enabling of disabled targets. When configured to talk to DFS namespaces, the Peer Management Center can automate this process. When the PMC determines that a file server, Peer Agent, or entire site is back online, it automatically runs the following process to re-integrate that file server:

- 1. Kicks off a re-scan to ensure the disconnected site or file server is brought back in sync with the others.
- 2. Re-enables the associated folder target once the re-scan is complete. Once this is done, DFS Namespaces begins to direct end users back to this file server.

### **Conflicts, Retries, and Quarantines**

Making unstructured data active at multiple locations introduces the chance of users making conflicting changes to different copies of the same file. The real-time synchronization and locking engines built into Peer Global File Service are designed to prevent these conflicts by ensuring that only one user can modify a file at a time while also making sure that all locations always have the most up to date version of a file. There are scenarios, however, where the synchronization and locking engines may not be able to prevent version conflicts. Such scenarios include network outages and file system issues.

The conflict resolution engine in Peer Global File Service is designed to handle these circumstances with a three-tiered approach backed by a combination of scans and real-time activity:

- **File Conflicts** The initial state of detection of a potential version conflict. Depending on user activity, these can often be resolved automatically.
- **File Retries** If certain errors are thrown when trying to synchronize a file between locations, this file will be automatically put into a retry list. Synchronization of this file will be retried every minute for a maximum of 60 attempts. The frequency of attempts and the maximum number of attempts are configurable.
- **File Quarantines** These are file conflicts that could not be automatically resolved, as well as file retries that have failed after the maximum number of attempts. Files in the quarantine list will no longer be synchronized or protected with file locks until a winning file is picked through the PeerGFS user interface.

File conflicts (and potentially quarantines) can occur for any of the following reasons:

- Two users open a file at the same time or in-and-around the same time.
- A file is open at the start of a job and has been modified on a host where the configured conflict resolution strategy selects a different host as the winner.
- Two or more users have the same file open on different hosts when a collaboration job is started.
- A file was modified on two or more hosts between job restarts or network outages.
- Peer Management Center is unable to obtain a lock on a target host file for various reasons.
- Peer Management Center may conflict a file when an unexpected error occurs, or a file is in an unexpected state.

File retries can occur for any of the following reasons:

- The transfer of a file between locations is interrupted for any reason.
- The renaming of a temp file after a successful file transfer is blocked for any reason.

An example of a file conflict versus a file quarantine is as follows:

Two users have the same file open at two different locations prior to a Peer Global File Service job being enabled. When starting the job, PeerGFS will track this file as a potential conflict. If only one or no users make a change to the file, this conflict will automatically be resolved. If both users make a change, the conflict will become a quarantine.

### File Metadata Synchronization

### **Overview**

File metadata is additional information stored as part of a file. The primary component of file metadata is Security Descriptor Information, also known as access control levels (ACLs).

The Security Descriptor Information elements that can be synchronized are:

- **Owner**: NFTS Creator-Owner. By default, the owner is whomever created the object. The owner can modify permissions and give other users the right to take ownership.
- **DACL**: Discretionary Access Control List. It identifies the users and groups that are assigned or denied access permissions to a file or folder.
- **SACL**: System Access Control List. It enables administrators to log attempts to access a secured file or folder and is used for auditing.

## File Metadata Conflict Resolution

File metadata conflict resolution occurs only the first time a file is synchronized during the initial scan, and only when one or more security descriptors do not match the designated master host.

If the file does not exist on the designated master host, then no conflict resolution is performed. If a master host is not selected, then no file metadata synchronization is performed during the initial scan.

### **ACL Requirements**

- Enabling ACL synchronization requires that all participants be members of any referenced domains that are configured in the ACL(s) or as the owner of the file. Failure to do so may render the file unreadable on the offending target host.
- All Peer Agents must be run under a domain Administrator account and cannot be run under a local or System account.
- To ensure accurate and consistent ACL propagation, the security settings for the watch set must match EXACTLY across all the participants. The best and easiest way to ensure the security settings match is to compare the permissions in the Microsoft **Advanced Security Settings** dialog for the root folder being watched.

### Managing Peer Agents

The ability to remotely manage the configuration for connected <u>Peer Agents</u> is available from within the Peer Management Center.

Right-clicking one or more host names in the Peer Agent list will open a pop-up menu with the following options:

Remove	Removes the selected Peer Agent(s) from the view, but if the Peer Agent is still running or connects again, then it will be added back to the list when the next heartbeat is received.
View Properties	Displays properties for the selected Peer Agent, for example, heartbeat information, host machine configuration, messaging statistics, performance statistics. See <u>View Peer Agent Properties</u> for more details.
Edit Configurati on	Clicking this menu item will display a dialog where you can edit user configurable properties for the selected Peer Agent.
Restart Agent Service	If the selected Peer Agent is connected, restarts the Peer Agent Windows service running on the corresponding host. If the Peer Agent is not connected to the Peer Management Broker, an attempt is made to restart the Peer Agent Windows service using the Windows sc command. Note that this option works only if the user running the Peer Management Center can access the remote Peer Agent system and has the appropriate domain permissions to start and stop services on the remote Peer Agent system.
Remote Desktop	Launch a Windows Remote Desktop connection to the selected Peer Agent.
Edit Agent Configurati on	Displays a dialog through which the selected Peer Agent can be configured. Configurable options include Peer Management Center connectivity, Peer Agent logging, Peer Agent memory usage, among others. For more information, see <u>Advanced Peer Agent</u> <u>Configuration</u> .
Retrieve Log Files	Retrieves log files for the selected Peer Agent containing information used by our technical support staff to assist in debugging issues. The log files are encrypted and are located in the support folder of the Peer Management Center installation

	directory. Log files can optionally be uploaded to our technical support team.
Test Agent Bandwidth Speed	If the selected Peer Agent is connected, starts a bandwidth speed test to be performed in the background. You will be notified at completion with the results of the test.
Generate Thread Dump	Generates a thread dump for the selected Peer Agent that can be used by our technical support to debug certain issues. The debug file is located in the Peer Agent installation directory.
Generate Memory Dump	Generates a memory dump for the selected Peer Agent that can be used by our technical support to debug certain issues. The debug file is located in the Peer Agent installation directory.
Memory Garbage Collection	Forces a garbage collection operation to attempt to reclaim memory that is no longer used within the Peer Agent's JVM.
Copy File	Copies a specified file from the Peer Management Center to the designated target folder on each selected Peer Agent. The target folder is relative to the Peer Agent installation directory.
Transfer Rate Report	Displays a time series performance chart of average transfer rate for the selected Peer Agent over the last 24 hours. Note: Not available in web client.

### Peer Agent Connection Statuses

Valid connection statuses are:

Conn	Indicates Peer Agent is currently connected to the <u>Peer Management</u>
ected	<u>Broker</u> .
Disco nnect ed	Indicates that Peer Agent has disconnected from the Peer Management Broker. This can be a result of stopping the Peer Agent, or if the network connection between the Peer Agent and the Peer Management Broker was severed.

Pendi	This indicates that a <u>heartbeat</u> for the Peer Agent was not received
ng	within the configured threshold and that the Peer Agent is in the process
Disco	on being disconnected if a heartbeat is not received soon. This status
nnect	can also occur if the Peer Agent does not respond to a pending ping.
Unkn own	If no connection status is displayed, then either the Peer Agent was not running on that host when the Peer Management Center was started, or the first heartbeat message has not been received from that host.

### Editing an Agent Configuration

The ability to remotely manage the configuration of connected <u>Peer Agents</u> is available from within the Peer Management Center.

To edit an Agent:

1. Right-click any connected Peer Agent in the Agents view:



- 2. Select Edit Agent Configuration.
- 3. Click **OK** in the dialog that appears:



### The **Agent Configuration** page appears.

Agent Configuration				$\times$
Broker Configuration General	Broker Configuration	DN		
Logging Performance VM Options		to this page may make the Agent u ly take affect after the Agent is restar		t.
in options	Primary Broker Host:	DGPMC1		
	Connection Type:	ssl		$\sim$
	Broker Port:	61617		*
	Use Compression:			
		ОК	Cancel	

- 4. Select a tab to edit and make the desired changes:
  - Broker Configuration
  - <u>General</u>
  - Logging
  - <u>VM Options</u>
- 5. Click **OK**.

For any configuration change to take effect, the selected Peer Agent must be restarted. If no jobs are running, you will have the option of restarting the Peer Agent at the close of the configuration dialog.

**Warning:** Changes to any of these options may result in problems when the Peer Agent restarts. Ensure all settings are correct before saving the dialog and restarting the selected Peer Agent.

The settings in **Broker Configuration** apply only to communication between the selected Peer Agent and Peer Management Broker and not to communication between the Peer Management Center and Peer Management Broker.

Agent Configuration				×
Broker Configuration General	Broker Configuration	D <b>n</b>		
Logging Performance VM Options	These changes will on	to this page may make the Agent ly take affect after the Agent is rest		<b>t.</b>
	Primary Broker Host:	DGPMC1		
	Connection Type:	ssl		$\sim$
	Broker Port:	61617		*
	Use Compression:	$\checkmark$		
		ОК	Cance	I

Primary Broker HostThe IP address or fully qualified host name of the server in the Peer Management Center Broker.	
Connection Type	The type of connection to use when communicating with the Peer Management Center Broker. Types include SSL (encrypted) and TCP (not encrypted).
Broker Port	The port on which to communicate with the Peer Management Center Broker.

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Use Compressio n	When enabled, all communication between the selected Peer Agent and the Peer Management Center Broker is compressed.
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Agent Configuration				×
Broker Configuration General Logging Performance VM Options	General Workspace Agent Workspace Directory:	workspace		
		OK	Cancel	

Agent	Peer Agent workspace directory where log files and other
Workspace	application data is stored. This path is relative to the Peer Agent's
Directory	installation directory. This can also be set to an explicit full path.

Agent Configuration			$\times$
Broker Configuration General Logging Performance	Logging   Archiving of Agent Logs   Max number of days to keep before archiving:   7		
VM Options			
	OK	Cance	2l

Max number of days to keep before archiving	Log files that are older than this date will automatically be zipped up and archived to reduce required space on disk.
---	---

Broker Configuration General	Performance		
Logging Performance	Blob Transfers Blob Command Threads:	4	•
VM Options	Blob Command Prefetch Size:	8	•
	Processor Affinity Max Number of Processors to Use (4 available)	-1	

Blob Command Threads	Enter the maximum number of threads to handle data transfer between each Agent and the PMC server. Increasing this typically improves replication performance but often increases memory consumption.
Blob Command Prefetch Size	Modify this setting only at the instruction of the Peer Software Support Team.
Max Number of Processors to Use (x available)	Enter the maximum number of processors the Peer Agent service will be able to use. If set to -1, all processors will be available. The label for this setting displays how many total processors are available.

The first option on the page allows for the ability to tune the maximum amount of system memory that the Peer Agent service will use on the server where it is installed. The maximum amount is 1.5 GB. We strongly recommend that this value not be set below 512 MB.

The text field below this option should only be used under the direction of the Peer Support Team.

Broker Configuration General	VM Options				
Logging Performance	Maximum Agent Memory (in MB):	2048			
VM Options	For 32-bit Agents, the maximum memory cannot be larger than 1.5GB For 64-bit Agents, we recommend contacting us before setting memory to values above 16GE				

#### **Viewing Agent Properties**

To view properties of an Agent:

- 1. Right-click the Agent in the **Agents** view.
- 2. Select View Properties.

The View Agent Properties dialog opens.

View Agent Properties			_		×
General Heartbeat Ma	chine Messaging	Performance	JVM Perfor	rmance	
Agent Host Name	DGWin16	В			
Connection Status	Connecte	d			$\sim$
Custom Description					
Description					
Discovery Time	11-28-20	18 14:35:17			
Heartbeat Enabled	~				
JVM Architecture	amd64				
JVM Version	1.8.0_152	·b16			
Local Time	02-12-20	19 15:48:29 EST			
Local TimeZone	Eastern St	andard Time			
SSL Enabled	$\checkmark$				
Start Time	02-11-20	19 14:24:29			
Username	administr	ator			
Version	4.3.0.2019	0208			
		Ok		Cancel	

This dialog displays Peer Agent and host machine information across the following categories:

Gen eral	Displays general Peer Agent run-time information such as discovery time, local time, TLS use, Peer Agent start up time, Peer Agent version, and the user name Peer Agent service is running as.
Hear tbea t	Displays heartbeat information and statistics such as heartbeat frequency, average heartbeat time, last heartbeat time, total Peer Agent disconnects, total missing heartbeats.
Mac hine	Displays machine information of the host that the Peer Agent is running on such as number of processors, computer name, domain name, IP address, installed memory, O/S.
Mess agin	Displays general Peer Management Center Broker messaging statistics for the selected host, such as total messages received, total messages sent, #

g	errors.
Perf orm ance	Displays general performance statistics for the underlying host machine such as available virtual memory, available physical memory, memory load.
JVM Perf orm ance	Displays JVM performance statistics for the running Peer Agent application such as active number of threads, heap memory used, non-heap memory used.

#### **Editing Agent Properties**

Selecting **Edit Properties** menu item for a selected host will result in the opening of the following Peer Agent **Properties** dialog:

General			
Connection Type		 	~
Preferred Host			
RDP Connection String			

This dialog displays the following configurable Peer Agent and host machine options:

Connec tion Type	Allows for the selection of a connection type between selected Peer Agent and its associated Peer Management Center Broker. When set, optimizations are made to the communication between the two parties based on the selected connection type.
Preferr ed Host	A best practice optimization for selecting which Peer Agent has the fastest connection to the Peer Management Center Broker (or in appropriate cases, for selecting which Peer Agent are on the same subnet as the Peer Management Center Broker).
RDP Connec tion String	The connection string to use when activating an RDP session to this Peer Agent.

#### Re-enabling a Disabled Agent Within a Job

Once disabled within a job, an Agent will not be involved in replication or locking. After the malicious activity that triggered MED is investigated and it is safe to re-enable the afflicted Agent, it will need to be re-enabled on a per job basis.

To review the status of an Agent within a job and to re-enable it, navigate to the **Participants** tab in the job's Runtime Summary view.

If an error is disabled because of a MED action, the message will be similar to the following:
lost	Root Path		Status	State	M	lessage		
ellT110a	\\svm9x-1\cifs1\Departmen		nts\Sales	Disabled	Disabled	N	lalicious Event Detection (MED) - E	Bait File Alert
ellT3610b	C:\Department	s\Sales	Participant Det	ails		~		
			Host Name:	DellT110a				
			Directory:	\\svm9x-1\cifs1\Depa	artments\Sales			
			Status:	Disabled				
			State:	Disabled				
			Monitoring:	false				
< III Host Participant State Change Log Filter by : Host:		Message:	and Disable Host: Ple before re-enabling) A appld=113, appSessio msg=TriggerAlertFile 1\cifs1\Departments\ med.docx - EventNan Detected=DellT110a/ Message=TriggerAler	ttion (MED) - Bait File Alert ase check for unwanted acti lert Message info=BAIT File nId=144 path=See Message Found: Path=\\svm9x- Sales\.pc-med_bin\Doc_001 ne: RENAME details= Particip Alert FileFound: Path=\\svm9x- Sales\.pc-med_bin\Doc_001	vity ALERT Field - pant			
Date	Host	Status		med.docx - EventNan	ne: RENAME Time Detected:	=Mon		
	DellT110a	Disabled		Mar 12 19:36:14 EDT 2018 User Detected=MattM IP Detected=ActiveCounterValue= Process		P t	(Alert and Di	
	DellT3610b	Not Part Disabled	cij	Detected=SMBVersion	n=31 Share Detected=cifs1 J	ob		
	DellT110a	Not Part	cir	Session ID=324914979	)7			
	DellT3610b	Not Part	ci					
	DellT3610b	Participa	Status Date:	03-12-2018 19:36:18				
		Message Date:	03-12-2018 19:36:18					

Summary Session Event Log File Conflicts (0) 🕴 Alerts (2) Participants (2) Configuration

To re-enable the Agent, right-click it within this view, and select **Enable Host Participant**.

#### Updating a Peer Agent

If the Peer Agent software running on a host is out of date, the host is shown as having a pending update in the <u>Agents view</u>.

When right-clicking the host, the option to automatically update the Peer Agent software is also available. This process can be done from the Peer Management Center and usually does not require any additional actions on the host server itself.

## **Smart Data Seeding**

## **Overview**

Smart data seeding applies to File Collaboration, File Replication, and File Synchronization jobs.

Occasionally, a new host or a host which has been removed from the session for a long time, needs to be introduced into an existing collaboration. Smart Data Seeding supports integrating new hosts into a collaboration seamlessly. Conventional seeding methods take a long time over typically slow WAN connections and require a cut-over with a final scan to get the data synchronized. With Smart Data Seeding's default settings, real-time events are processed from the Smart Data Seeding hosts while the initial one-way background scan ensures the target(s) have all the files in place.

Smart Data Seeding provides the ability to set one or more participants in a Smart Data Seeding mode. Smart Data Seeding hosts are considered the hosts from where files will be copied to all the other participants in the session. When a host is in Smart Data Seeding mode, it follows the rules of the job's Smart Data Seeding Mode configuration (see below). Initial scans run in a one-way mode to avoid bringing back deleted files. It is not recommended to have active (Active-Active) users on the target hosts. Once the initial scan is completed, the Smart Data Seeding host(s) are set back to their default full collaboration mode with no user interaction or final scan.

To enable advanced settings in the Conflict Resolution window, add the following fc.ini option and restart the Peer Management Center Client:

fc.scan.enable.preseeding.ui=true

# **Smart Data Seeding Options**

From the **Conflict Resolution** window, select from one of the following Smart Data Seeding modes:

PASSIVE (Default )	<ul> <li>Initial scan will be one-way only with any host in Smart Data Seeding mode:</li> <li>Real-time activity on Smart Data Seeding host is disabled.</li> <li>Real-time events on that host will be quarantined.</li> <li>Renamed files will be restored.</li> </ul>
PASSIVE _WITH_ RESTOR E	<ul> <li>Initial scan will be one-way only with any host in Smart Data Seeding mode:</li> <li>Real-time activity on Smart Data Seeding host is disabled.</li> <li>Any activity on that host will be restored to its original state.</li> </ul>
ACTIVE_ LIMITED	<ul> <li>Initial scan will be one-way only with any host in Smart Data Seeding mode:</li> <li>Real-time activity on Smart Data Seeding host is enabled in a limited mode (real-time file adds are processed).</li> </ul>

	<ul> <li>Unsynchronized file updates will be quarantined.</li> <li>Unsynchronized file renamed will be restored.</li> <li>Unsynchronized file deletes will be restored.</li> </ul>
ACTIVE_ FULL	<ul> <li>Initial scan will be one-way only with any host in Smart Data Seeding mode except for updates (updates will be processed as Latest Modified wins):</li> <li>Real-time activity on Smart Data Seeding host is enabled with latest modified file wins, regardless if latest file is on the Smart Data Seeding host.</li> </ul>
REACTIV ATION	<ul> <li>Initial Scan will be one-way only with any host in Smart Data Seeding mode:</li> <li>Real-time activity on Smart Data Seeding host is enabled with Quarantine (Added and Updated Files will be quarantined during the scan).</li> <li>Unsynchronized file updates will be quarantined during real-time.</li> <li>Unsynchronized file renames will be restored.</li> <li>Unsynchronized deletes will be restored.</li> </ul>

The default setting is ACTIVE\_LIMITED, which will initiate a one-way scan with any host in Smart Data Seeding mode. During the scan, new files will be deleted, newer files will be overwritten, and deleted files will be restored on the Target(s). During real-time activity, add events will be processed, but updates will be quarantined if the files are unsynchronized. Renames and deletes will be restored if the files are unsynchronized.

The ACTIVE\_LIMITED setting is recommended in most cases in which a new host or a host which has been removed from the session for a long time needs to be introduced into an existing collaboration.

## **TLS Certificates**

You can use custom or private TLS certificates to connect Peer Agent to the Peer Management Center Broker. The Keytool certificate management utility will be used to store the key and certificate into a keystore file, which protects the private keys with a password. Note the paths in the following topics reference a default install directory for both the Peer Management Center and Peer Agent.

For more information, see:

- Creating New Certificates
- Using Existing Certificates

#### **Creating New Certificates**

Perform the necessary commands using the keytool application bundled with your Peer Management Center or Peer Agent installation.

Keytool location on Peer Management Center system:	PMC_INSTALLATION_FOLDER\jre\bin
Keytool location on Peer Agent system:	PEER_AGENT_INSTALLATION_FOLDER\jre\bin

# **Broker Keystore Generation**

Step 1. Using keytool, create a certificate for the Peer Management Center.

```
keytool -genkey -alias broker -keyalg RSA -keystore broker.ks -storepass plBroker4321 -validity 3000
```

broker	The alias of the new broker keystore containing the new certificate.	
broker.k s	Destination broker keystore that will be created containing the new certificate.	
plBroker 4321	The password you assign to the new broker keystore.	

**Note:** The broker.ks file will be created in the \jre\bin folder.

## Example:

```
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -genkey -alias
broker -keyalg RSA -keystore broker.ks -storepass plBroker4321 -validity 3000
What is your first and last name?
  [Unknown]: Monika Cuellar
What is the name of your organizational unit?
  [Unknown]: Peer Software, Inc.
What is the name of your organization?
  [Unknown]: Peer Software, Inc
What is the name of your City or Locality?
  [Unknown]: Centreville
What is the name of your State or Province?
  [Unknown]: VA
What is the two-letter country code for this unit?
  [Unknown]: US
Is CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA, C=US
correct?
  [no]: yes
Enter key password for <broker>
        (RETURN if same as keystore password):
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>
```

Step 2: Export the broker's certificate so it can be shared with clients.

keytool -export -alias broker -keystore broker.ks -file broker.cer

broker	The alias of the new broker keystore containing the new certificate.
broker.ks	Destination broker keystore that will be created containing the new certificate.
broker.ce r	The name of the broker's certificate to be created.

**Note:** The broker.cer file will be created in the \jre\bin folder.

## Example:

```
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -export -alias
broker -keystore broker.ks -file broker.cer
Enter keystore password: plBroker4321
Certificate stored in file <broker.cer>
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>
```

Step 3: Create a certificate/keystore for the client.

```
keytool -genkey -alias client -keyalg RSA -keystore client.ks -storepass
plClient4321 -validity 3000
```

client	The alias of the new client keystore containing the new certificate.
client.ks	Destination keystore for the client that will be created containing the new certificate.
plClient4 321	The password you assign to the new client keystore.

**Note:** The client.ks file will be created in the \jre\bin folder.

#### Example:



**Step 4:** Create a truststore for the client and then import the broker's certificate. This establishes that the client "trusts" the broker.

keytool -import -alias broker -keystore client.ts -file broker.cer storepass plClient4321

broker	The alias of the broker keystore created in step 1.	
client.t s	Destination truststore for the client that will be created containing the broker's certificate.	
broker. cer	The broker's certificate created in step 2.	

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plClient 4321	The password assigned to the client keystore in Step 3.
------------------	---

#### Example:

C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -import -alias broker -keystore client.ts -file broker.cer -storepass plClient4321 Owner: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA, C
=US
Issuer: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA,
C=US
Serial number: 4fa7f34f
Valid from: Mon May 07 12:07:43 EDT 2012 until: Fri Jul 24 12:07:43 EDT 2020
Certificate fingerprints:
MD5: 2C:18:DD:B5:CD:C5:3D:B2:9B:E3:93:50:D6:74:2B:64
SHA1: 30:77:94:9B:34:63:6C:DE:2C:98:9C:00:C2:B9:F6:21:AE:22:D7:DE
Trust this certificate? [no]: yes
Certificate was added to keystore
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>

**Optional:** List the certificates in the broker keystore.

keytool -list -v -keystore broker.ks -storepass plBroker4321

#### **Example:**

```
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -list -v -
keystore broker.ks -storepass plBroker4321
Keystore type: jks
Keystore provider: SUN
Your keystore contains 1 entry
Alias name: broker
Creation date: May 7, 2012
Entry type: keyEntry
Certificate chain length: 1
Certificate[1]:
Owner: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA, C=US
Issuer: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA, C=US
Serial number: 4fa7f34f
Valid from: Mon May 07 12:07:43 EDT 2012 until: Fri Jul 24 12:07:43 EDT 2020
Certificate fingerprints:
        MD5: 2C:18:DD:B5:CD:C5:3D:B2:9B:E3:93:50:D6:74:2B:64
        SHA1: 30:77:94:9B:34:63:6C:DE:2C:98:9C:00:C2:B9:F6:21:AE:22:D7:DE
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>
```

## **Verify Client Certificate**

If you want to verify client certificates, you need to take a few extra steps.

**Step 1:** Export the client's certificate so it can be shared with broker.

```
keytool -export -alias client -keystore client.ks -file client.cer -
storepass plClient4321
```

**Note:** The client.cer file will be created in the \jre\bin folder.

#### Example:

C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -export -alias client -keystore client.ks -file client.cer -storepass plClient4321 Certificate stored in file <client.cer> C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>

**Step 2:** Create a truststore for the broker, and import the client's certificate. This establishes that the broker "trusts" the client:

```
keytool -import -alias client -keystore broker.ts -file client.cer -
storepass plBroker4321
```

#### **Example:**

```
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -import -alias
                       er.tx -file client.cer -sto
client -k
            store bro
Owner: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA, C
=US
Issuer: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=VA,
C=US
Serial number: 4fa7f982
Valid from: Mon May 07 12:34:10 EDT 2012 until: Fri Jul 24 12:34:10 EDT 2020
Certificate fingerprints:
         MD5: A7:D9:6E:78:8B:A9:AD:32:96:2D:51:6B:53:0B:E4:BD
SHA1: 16:05:7C:C4:D5:AB:E7:D3:7D:5B:2E:02:B5:3B:69:54:D1:C3:53:52
Trust this certificate? [no]: yes
Certificate was added to keystore
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>
```

**Optional:** List the certificates in the client keystore.

keytool -list -v -keystore client.ks -storepass plClient4321

Example:

```
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>keytool -list -v -
keystore client.ks -storepass plClient4321
Keystore type: jks
Keystore provider: SUN
Your keystore contains 1 entry
Alias name: client
Creation date: May 7, 2012
Entry type: keyEntry
Certificate chain length: 1
Certificate [1]:
Owner: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=NY,
C=US
Issuer: CN=Monika Cuellar, OU="Peer Software, Inc.", O="Peer Software, Inc.", L=Centreville,
ST=NY,
C=US
Serial number: 4fa80618
Valid from: Mon May 07 13:27:52 EDT 2012 until: Fri Jul 24 13:27:52 EDT 2020
Certificate fingerprints:
MD5: 06:11:97:71:D6:23:91:63:2F:19:F4:05:EA:2F:9D:14
        SHA1: A7:26:80:9E:18:2B:46:8E:92:BB:AD:89:44:0A:8A:9C:8C:1F:62:38
C:\Program Files\Peer Software\File Collaboration Enterprise\jre\bin>
```

# **Copy the Generated Keystore Files into Their Appropriate** Location

**On the Peer Management Center system:** Copy the following files from the "C:\Program Files\Peer Software\Peer Management Hub\jre\bin" directory into the "C:\Program Files\Peer Software\Peer Management Hub\Broker\keys" directory on the Peer Management Center system. Overwrite the existing files.

broker.ks

broker.ts

**On the Peer Agent system:** Copy the following files from the "C:\Program Files\Peer Software\Peer Management Hub\jre\bin" directory into the "C:\Program Files\Peer Software\Peer Agent\keys" directory on the Peer Agent systems. Overwrite the existing files.

client.ks

client.ts

# **Restart All Peer Management Center Services for the Changes to Take Effect**

We recommend you create a folder outside the Peer Management Center/Peer Agent installation directories in which to store the keystore files. This will ensure that upgrades will not clear/overwrite these files. The steps outlining this process will be posted shortly.

## **Using Existing Certificates**

Perform the necessary commands using the keytool application bundled with your Peer Management Center or Peer Agent installation.

Keytool location on Peer Management Center system:	PMC_INSTALLATION_FOLDER\jre\bin
Keytool location on Peer Agent system:	PEER_AGENT_INSTALLATION_FOLDER\jre\bin

# **Peer Management Broker and Peer Agent Keystore Generation**

You will need to have two custom/private certificates. One for the Peer Management Broker and one for all the participating Peer Agents. You may select different algorithms and encryption key size (i.e., RSA, DSA with 1024 or 2048 key size).

**Step 1.** View/list the contents of the custom/private certificates. Perform these steps for both certificates (Peer Management Broker and Peer Agent. Make a note of the Alias of the certificate, if it exists.

keytool -list -v -keystore HubCert.pfx -storetype pkcs12

HubCert.	Represents the custom/private certificate for the Peer
pfx	Management Center Broker.
AgentCe rt.pfx	Represents the custom/private certificate for the Peer Agents.

**Note:** The command will prompt you to enter the password you set on your custom certificate, if applicable.

**Step 2.** Add the custom/private Peer Management Center Broker certificate into the Peer Management Center Broker keystore.

```
keytool -importkeystore -deststorepass plBroker4321 -destkeypass
plBroker4321 -destkeystore broker.ks -srckeystore HubCert.pfx -
srcstoretype PKCS12 -srcstorepass PASSWORD -alias ALIAS -destalias broker
```

plBroker 4321	The password you assign to the new Broker keystore.	
broker.k s	Destination keystore that will be created containing the custom/private certificate.	
HubCert.       Custom/private certificate being imported into the new keyst         pfx       Pfx		
PASSWO RDThe password of the custom/private certificate, if it exists. omit the -srcstorepass command, you will be prompted for certificate password if needed.		
ALIAS The Alias of the custom/private certificate you discovered in 1 above.		
broker	broker The Alias of the new keystore containing the custom/private.	

**Note:** The broker.cer and broker.ks files will be created in the \jre\bin folder where the keytool application resides.

**Step 3.** Add the custom/private Peer Agent certificate into the Client keystore.

```
keytool -importkeystore -deststorepass plClient4321 -destkeypass
plClient4321 -destkeystore client.ks -srckeystore AgentCert.pfx -
srcstoretype PKCS12 -srcstorepass PASSWORD -alias ALIAS -destalias client
```

plClient 4321	The password you assign to the new Broker keystore.
------------------	---

client.ks	Destination keystore that will be created containing the custom/private certificate.	
AgentCe rt.pfx		
PASSWO RD	The password of the custom/private certificate, if it exists. If you omit the -srcstorepass command, you will be prompted for the certificate password if needed.	
ALIAS The Alias of the custom/private certificate you discovered in S 1 above.		
client The Alias of the new keystore containing the custom/priva		

**Note:** The client.cer and client.ks files will be created in the \jre\bin folder where the keytool application resides.

**Step 4.** Export the broker's certificate so it can be shared with clients.

keytool -export -alias broker -keystore broker.ks -file broker.cer

broker	The Alias of the broker keystore containing the custom/private certificate created in Step 2 above.
broker .ks	The keystore file created in Step 2 above containing the custom/private certificate for the Broker.
broker .cer	The certificate file created in Step 2 above.

The command will prompt you to enter the password for the broker keystore (e.g. plBroker4321).

**Step 5.** Export the client's certificate so it can be shared with broker.

```
keytool -export -alias client -keystore client.ks -file client.cer
```

client	The Alias of the client keystore containing the custom/private certificate created in Step 3 above.
client. ks	The keystore file created in Step 3 above containing the custom/private certificate for the Peer Agents.
client. cer	The certificate file created in Step 3 above.

The command will prompt you to enter the password for the client keystore (e.g., plClient4321).

**Step 6.** Create a truststore for the broker and import the client's certificate. This establishes that the broker "trusts" the client:

keytool -import -alias client -keystore broker.ts -file client.cer

clie nt	The Alias of the client keystore containing the custom/private certificate created in Step 3 above.	
bro ker. ts	The broker trust store to be created.	
clie The certificate file created in Step 3 above. nt.c er		

The command will prompt you to enter the password for the broker keystore (e.g., plBroker4321).

**Step 7.** Create a truststore for the client and import the broker's certificate. This establishes that the client "trusts" the broker.

keytool -import -alias broker -keystore client.ts -file broker.cer

brok er	The Alias of the client keystore containing the custom/private certificate created in Step 3 above.
er	certificate created in Step 3 above.

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clien t.ts	The client truststore to be created.
clien t.cer	The certificate file created in Step 2 above.

The command will prompt you to enter the password for the client keystore (e.g., plClient4321).

# **Copy the Generated Keystore Files into Their Appropriate** Location

On the Peer Management Center system: Copy the following files from the

"PMC\_INSTALLATION\_FOLDER\jre\bin" directory into the "PMC\_INSTALLATION\_FOLDER\Broker\keys" directory on the Peer Management Center system. Overwrite the existing files.

broker.ks

broker.ts

# **On the Peer Agent system:** Copy the following files from the "PMC\_INSTALLATION\_FOLDER\jre\bin" directory into the "PEER\_AGENT\_INSTALLATION\_FOLDER\keys" directory on the Peer Agent systems. Overwrite the existing files.

client.ks

client.ts

# **Restart All Peer Management Center Services for the Changes to Take Effect**

We recommend you create a folder outside the Peer Management Center/Peer Agent installation directories in which to store the keystore files. This will ensure that upgrades will not clear/overwrite these files. The steps outlining this process will be posted shortly.

## **Storage Capacity**

The storage capacity available for your jobs is based on your Peer Global File Service license. Automated alerts will notify you when you close to reaching your licensed storage capacity. If you exceed your licensed storage capacity, contact your Peer Software sales representative. Total capacity consumed is defined by the total number of unique TBs under management across all participants rather than the total capacity used by all participants. In this unique TB model, a 1 TB file that is synchronized across 10 participants only counts as 1 TB and not 10 TBs. For example, if your licensed storage capacity is 100TB and you have a job with 5 participants totaling 20 unique TBs, you have used total of 20% of your storage capacity, not 100%.

# Preferences

# **Overview**

The **Preferences** dialog enables you to configure global settings, as well as settings specific to a job type. Before creating any jobs or configuring individual aspects of a job, Peer Software recommends first configuring a number of settings. Some settings are global and apply program-wide and/or to all job types; others are specific to a job type.

Preferences				$\times$
type filter text	General Configuration	¢	•	• •
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locki</li> <li>General Configuration         <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         <ul> <li>User Management</li> </ul> </li> </ul>	<ul> <li>✓ Launch Runtime Summary view(s) at start</li> <li>Always run tasks in background</li> <li>Auto expand job resources</li> <li>✓ Display job types when no jobs are configured</li> <li>Hub Alerts</li> <li>Severity: INFO</li> <li>✓ Auto Popup Alerts View</li> <li>Browsing Files/Folders</li> <li>Remote browser page size: 5000</li> <li>Show system folders</li> <li>Show hidden items</li> </ul>			×
< >>				
	OK Cancel		Apply	,

# **Configuring Global Settings**

Peer Software strongly recommends configuring the following settings before creating any jobs:

- Email Configuration
- Contacts and Distribution Lists
- System Alerts

Modify other global settings as needed. You may want to consult with Peer Software Technical Support when modifying the other global settings.

## **Configuring Job Type Specific Settings**

Cloud Backup and Replication	<ul> <li>Email Alerts</li> <li>File Filters</li> <li>Proxy Configuation.</li> </ul>	
File Collaboration, File Locking, File Replication, and File Synchronizati on	<ul> <li><u>Email Alerts</u></li> <li><u>File Filters</u></li> </ul>	

## **Configuring Preferences**

To modify settings:

1. Click a category on the left to see its corresponding options appear on the right side of the dialog.

For example, click the **General Configuration** category to view and configure general program-wide settings.

Preferences	-	- [		$\times$
type filter text	General Configuration	⇔ ◄	÷ •	•
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locki</li> <li>General Configuration         <ul> <li>Agent Connectivity</li> <li>Broker Configuration</li> <li>Software Updates</li> <li>System Alerts</li> <li>Tags Configuration</li> </ul> </li> <li>NAS Configuration         <ul> <li>Real-time Event Detection</li> <li>Task Scheduler</li> <li>User Management</li> </ul> </li> </ul>	<ul> <li>✓ Launch Runtime Summary view(s) at start</li> <li>Always run tasks in background</li> <li>Auto expand job resources</li> <li>✓ Display job types when no jobs are configured</li> <li>Hub Alerts</li> <li>Severity: INFO</li> <li>✓ Auto Popup Alerts View</li> <li>Browsing Files/Folders</li> <li>Remote browser page size: 5000</li> <li>Show system folders</li> <li>Show hidden items</li> </ul>			× ▲
	OK Cancel	4	Apply	

- 2. Make as many changes as you like to the category settings, and then click:
  - **OK** to save the new settings and return to the program.
  - **Cancel** to close the dialog without saving your changes.
  - Apply to save your changes and keep the **Preferences** dialog open.

## **Cloud Backup and Replication Preferences**

You can modify the following Cloud Backup and Replication settings:

- <u>Cloud Backup and Replication</u>
- Destination Credentials
- Database Connections
- Email Alerts

- File Filters
- <u>Performance</u>
- Proxy Configuration
- Retry and Source Snapshots
- <u>Replication and Retention Policies</u>
- <u>SNMP Notifications</u>
- <u>Scan Manager</u>

## Cloud Backup and Replication

Cloud Backup and Replication settings control the overall performance of all Cloud Backup and Replication jobs.

To modify these settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Select **Cloud Backup and Replication** in the navigation tree.

Preferences		
type filter text	Cloud Backup and Replication	⇔ ▼ ⇔ ▼ ▼
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Locking</li> <li>General Configuration         <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         <ul> <li>User Management</li> </ul> </li> </ul>	Cloud Backup and Replication Reporting Automatic Reporting Interval (Seconds): Show Volumes in Jobs View 24-hour format Hide Internal Volumes	10
	OK Cancel	Apply

3. Modify the settings as needed.

Automatic Reporting Interval (Seconds)	Each Peer Agent automatically reports its statistics to the Peer Management Center at regular intervals. Select the number of seconds between these intervals. The default is 10 seconds.
Show Volumes in Jobs View	Select this checkbox if you want volumes to be displayed in the Jobs view.
<b>Use 24-hour</b> <b>format</b> Select this checkbox if you want times to be displayed i hour format rather than a 12-hour format.	
Hide Internal Volumes	Select this checkbox if you don't want internal volumes displayed when choosing which volumes to replicate.

4. Click **OK** or **Apply**.

#### **Database Connections**

Cloud Backup and Replication uses a Microsoft SQL Server or SQL Server Express database to track files and folders that have been replicated, individual file versions, and snapshots. When creating a Cloud Backup and Replication job, the Management Agent that you select for the job must have a connection to your SQL Server. You can set up the connection in advance on this page; otherwise, you will be prompted to set up the connection when you create a job.

You cannot modify or delete a database connection while a job using the connection is run.

To create a new database connection:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Database Connections**.

The existing database connections are listed in the **Database Connections** table.

pe filter text	Database (	Connections					🦕 🔻 🍚 🤻
Cloud Backup and Replicat							
<b>Database Connections</b>	Name	DB Host Name	Management	Instance Name	Database Name	User Name	Create
Destination Credentials	DBC1	DGAgent1	DGAgent1	SQLExpress2	peercloud	Integrated Security	
Email Alerts	DBC2	DGAgent2	DGAgent2		peercloud	Integrated Security	Edit
File Filters							Delete
File Retries and Source !							D Grate
Performance							
Proxy Configuration Replication and Retenti							
SNMP Notifications							
Scan Manager							
DFS-N Management							
Email Configuration							
File Collab, Sync, Repl, and							
General Configuration							
Licensing							
MED Configuration							
NAS Configuration							
Real-time Event Detection							
Task Scheduler							
User Management							
>							

3. Click the **Create** button.

The Create Database Connection dialog appears.

🙆 Create Database Connection 🛛 🗌 🗙				
Configure connection information for MS SQL Server.				
*Database Connection Name:	Name for this Da	tabase C	onnectio	n co
*Management Agent:				~
*DB Host Name:	Hostname of the	DB serve	er	
Port:	The port to conn	ect to th	e DB Serv	er
Instance Name:	SQL Server Instar	nce name	e for nam	ed ir
*Database Name:	peercloud			
		<u> </u>		
Authentication:	Integrated	⊖ Cr	edentials	
Authentication: Username:	Integrated	() Cre	edentials	
	Integrated	() Cr	edentials	
Username:	Integrated	() Cri	edentials	

4. Enter the required values.

Databas e Connecti on Name	Enter a name for this database connection.
Manage ment Agent	Select the Management Agent that will use this connection. The Agent must be the same one as managing the job.
DB Hostnam e	Enter the name of the SQL Server hosting the database. If the database is installed on the Agent server itself, enter the name of the Agent server.
Port	Optional. Enter the port to be used to communicate with the specified SQL Server. If not defined, the connection defaults to port 1433.
Instance Name	Optional. Enter the database instance name to use on the specified SQL Server. If no named instances are installed on the specified SQL

	Server, leave this blank.
Databas e Name	Enter the name of the database that Cloud Backup and Replication will create. The default name is "peercloud" but it can be changed to a name that follows your company's naming conventions.
Authenti cation	Select <b>Integrated</b> if the Agent service account is granted admin rights on the selected SQL instance. Otherwise, select <b>Credentials</b> to enter the user name and password of a database administrator.
User Name	Required when <b>Credentials</b> is selected for <b>Authentication</b> . Enter the user name of an account to be used by Cloud Backup and Replication to connect to the database. This can be a locally defined account such as "sa" or a domain account. The account must have adequate privileges to manage the database, such as database owner.
Passwor d	Required when <b>Credentials</b> is selected for <b>Authentication</b> . Enter the password for account being used to connect to the database.

- 5. Click **Validate** to test the connection, and then click **OK** in the confirmation message that appears.
- 6. Click **OK** to close the dialog.

The new database connection is listed in the **Database Connections** table.

7. Click **OK** or **Apply**.

#### **Destination Credentials**

When you create a Cloud Backup and Replication job, you can select existing destination storage account credentials to apply to the job or you can create new credentials and apply them to the job. This <u>Preferences</u> page lists the existing credentials. From this page, you can view, create, edit, and delete credentials. However, you cannot edit or delete credentials while they are applied to a job.

To create new destination storage account credentials:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Destination Credentials**.

pe filter text	Destination Credentials				🔶 🕶 🔿 👻
Cloud Backup and Replicat					
Database Connections	Account	Description	Platform Type	In Use?	Create
<b>Destination Credentials</b>	5CQN9TJ2QQN6O82XS7GL	NetApp StorageGRID Cr	NetApp StorageGRID	No	
Email Alerts	AKIAUECJ2ECX5HMK3TXL	S3-NOVA	Amazon S3	Yes	Edit
File Filters	AKIAUECJ2ECX5HMK3TXL	Amazon S3 Account	Amazon S3	No	Delete
File Retries and Source !	peerdebrag1	Azure Storage	Microsoft Azure Blob Storage	No	Derece
Performance	st4AYJkkSehYQ-hL9zMp1WjrnnzN	Nutanix Objects Creden	Nutanix Objects	Yes	Validate
Proxy Configuration Replication and Retenti					
SNMP Notifications					
Scan Manager					
DFS-N Management					
Email Configuration					
File Collab, Sync, Repl, and					
General Configuration					
Licensing					
MED Configuration					
NAS Configuration					
Real-time Event Detection					
Task Scheduler					
User Management					
>					

The existing credentials are listed in the **Cloud Platform Credentials** table.

3. Click the **Create** button.

The **Storage Account** dialog appears.

🙆 Create Destina	ation Credentials			×		
Platform:						
Micros	Microsoft Azure Blob Storage					
🔿 🕋 Amazo	O Amazon S3					
	o StorageGRID					
O 🔀 Nutani	x Objects					
S3 Com	npatible					
*Description:						
*Account:						
*Shared Key:						
			Show	N Key		
*Endpoint Type:	Public			$\sim$		
Use SSL						
	O	(	Cance	:1		

- 4. Enter the required values. For information about the required values, see <u>Step 8:</u> <u>Destination Credentials</u> in the <u>Creating a Cloud Backup and Replication Job</u> section.
- 5. Click **OK** or **Apply**.

## **Email Alerts**

When you create a job, you can select existing email alerts to apply to the job or you can create new email alerts and apply them to the job. This <u>Preferences</u> page lists the existing email alerts. From this page, you can view, create, edit, and delete email alerts. However, you cannot edit or delete an email alert while it is applied to a job. See <u>Email Alerts</u> in the <u>Basic Concepts</u> section for more information about email alerts.

**Note:** An SMTP email connection must be configured before email alerts can be sent. See <u>Email Configuration</u> for information about configuring SMTP email settings.

To create an email alert:

1. Select **Preferences** from the **Window** menu.

2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Email Alerts**.

Any existing Cloud Backup and Replication email alerts are listed in the **Email Alerts** table.

e filter text	Email Alerts			← ▼	÷ •
Cloud Backup and Replicat Database Connections	Edit Email Configuration	n			
Destination Credentials	Name	Event Types	Recipients	Cr	reate
Email Alerts File Filters	All Alerts	Session Abort, Failed Even	None Selected		
File Retries and Source !	Job Aborts	Session Abort, Failed Even	None Selected	E	Edit
Performance	MEDs	Failed Events, MED Alerts,	None Selected	C	ору
Proxy Configuration				D	elete
Replication and Retenti					LICLE
SNMP Notifications Scan Manager					
DFS-N Management					
Email Configuration					
File Collab, Sync, Repl, and					
General Configuration					
Licensing					
MED Configuration					
NAS Configuration Real-time Event Detection					
Task Scheduler					
User Management					
-					
>					

3. Click the **Create** button.

The **Create Email Alert** dialog appears.

😰 Create Email Alert		$\times$
Name: New Email Alert		
Event Types Session Abort Substitution System Alerts M	ED Alerts	
Report Types     Scan     Destination Snapshot		
Recipients Enter email, contact, or distribution list:		
Start typing to filter contacts/lists or add a new email	Add t	o List
Recipients:		
	Del View D	
ОК	Cancel	

- 4. Enter a name for the alert.
- 5. Select the event types to be alerted.

The event type determines what will trigger the email alert to be sent.

Ses sion Abo rt	Sends an alert when the Cloud Backup and Replication job stops unexpectedly.
Hos t Fail ure	Sends an alert when the Management Agent of a Cloud Backup and Replication job disconnects or stops responding.
Sys tem Aler ts	Sends an alert when a system event such as low memory or low hub disk space occurs.

ME D Aler ts	Sends an alert when a <u>malicious event</u> is detected.
-----------------------	---

6. Select the report types to be sent.

Sca n	Sends scan statistics after a scan has completed.
Des tina tion Sna psh ot	Sends the information about the snapshot after the snapshot is taken.

7. Enter alert recipients, and then click **Add to List**.

The recipients are listed in the **Recipients** field.

## 8. Click **OK** or **Apply**.

The new email alert is listed in the **Email Alerts** table and can now be applied to jobs.

## File Filters

When you create a job, you can select existing file filters to apply to the job or you can create new file filters and apply them to the job. This <u>Preferences</u> page lists the existing file filters. From this page, you can view, create, edit, and delete file filters. However, you cannot edit or delete a file filter while it is applied to a job. See <u>File and Folder Filters</u> in the <u>Basic Concepts</u> section for more information about file filters.

To create a file filter:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **File Filters**.

Any existing Cloud Backup and Replication file filters are listed in the **File Filters** table.

pe filter text	File Filters						수 👻 🤿 👻
Cloud Backup and Replicat							
Database Connections	Name	Туре	Exclusions	Inclusions	Date Filter	Size Filter	Create
Destination Credentials	Invalid Characters	General	<<.*[.]*.>>	None Selected	Include all dates	None	
Email Alerts	AutoCAD Temp Files	General	*.AC\$, *.SV\$, *.DWL*, *.BAK	None Selected	Include all dates	None	Edit
File Filters	Default	General	*\Windows, *\Program Files, *\Program Files, *\Pro	None Selected	Include all dates	None	Сору
File Retries and Source !	MacOS Exclusions	General	*\_MACOSX, *\.Temporaryltems,*, <<.+:.+\$>>,	None Selected	Include all dates	None	
Performance	Linux Default	General	/bin, /etc, /lib, /proc, /srv, /usr, /boot, /root, /var/t	None Selected	Include all dates	None	Delete
Proxy Configuration Replication and Retenti							Update
SNMP Notifications							opuare
Scan Manager							
DFS-N Management							
Email Configuration							
File Collab, Sync, Repl, and							
General Configuration							
Licensing							
MED Configuration							
NAS Configuration							
Real-time Event Detection							
Task Scheduler	<					>	
User Management							
>	<						

3. Click the **Create** button.

The Create File Filter dialog appears.

🙆 Create F	ile Filter	- 🗆 X
Name:		
Filter Type:	General	~
Auto Exclu <u>View file ty</u>	ded pes that are automatically exclude	<u>d</u>
Excluded P	atterns	
		Add Edit Delete
Included P	atterns	
		Add Edit Delete
Included l	ast Modified Dates	Excluded File Sizes
Include a	II dates $\vee$	None ~
	0 days	0 bytes
		OK Cancel

- 4. Enter a unique name for the filter.
- 5. Select the <u>filter type</u>.
- (Optional) Click Add to enter a filter pattern for files that you want excluded from the job. See <u>Defining Filter Patterns</u> for information about filters patterns. Repeat to add more filter patterns.
- 7. (Optional) Click **Add** to enter a filter pattern for files that you want included from the job. Repeat to add more filter patterns.
- 8. (Optional) Select a value for <u>Included Last Modified Dates</u>.

9. (Optional) Select a value for Excluded File Sizes.

**Note:** A filter cannot use **Excluded File Sizes** in conjunction with excluded or included patterns.

10. Click **OK** or **Apply**.

The new file filter is listed in the **File Filters** table and can now be applied to jobs.

#### File Retries and Source Snapshots

This page allows you to specify two sets of options:

- File Retries Settings that are used when retry issues that arise while replicating a file or folder.
- **Source Snapshot Replication** Settings that control how and when source snapshots are used.

To modify these options:

- 1. From the **Window** menu, select **Preferences**.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **File Retries and Source Snapshots**.

Preferences				- 🗆 X
type filter text	File Retries and Source Snap	oshots		← → ⇒ → →
<ul> <li>Cloud Backup and Replicat Database Connections Destination Credentials Email Alerts</li> <li>File Filters</li> <li>File Retries and Source ! Performance</li> <li>Proxy Configuration</li> <li>Replication and Retenti SNMP Notifications</li> <li>Scan Manager</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration</li> <li>Iccnsing MED Configuration</li> <li>NAS Configuration</li> <li>Task Scheduler User Management</li> </ul>	Retry Options Max Number of Retry Threads: Max Number of Retries: Retry Interval in Seconds: Multi-part Upload Retry Count: Multi-part Upload Retry Interval in Source Snapshot Replication Optic Max Number of Transfer Threads: Max Number of Transfer Retries: Transfer Retry Interval in Minutes: Managed File Extensions:	Milliseconds:		
< >>				
			ОК	Cancel Apply

3. Modify the **Retry Options** as needed:

Max Number of Retry Threads	Enter the maximum number of threads available for handling retries of failed file or folder transfers.
Max Number of Retries	Enter the maximum number of retries to perform on a file or folder that has failed to be replicated. If the number of retries is exceeded, the file or folder will be added to the Failed Events view and will need to be manually processed.
Retry Interval in seconds	Enter the number of seconds to wait in between retries of the failed replication of a file or folder.

4. Modify the **Source Snapshot Replication Options** as needed:

Max Number of Transfer Threads	Enter the maximum number of threads available for replicating files from a source snapshot.
--------------------------------------	---

Max Number of Transfer Retries	Enter the maximum number of retries to perform on a file or folder that has failed to be replicated from a source snapshot. If the number of retries is exceeded, the file or folder will be added to the Failed Events view and will need to be manually processed.
Transfer Retry Interval in Minutes	Enter the number of minutes to wait in between retries of the failed replication of a file or folder from a source snapshot.
Managed File Extensions	Enter the extensions for managed files that should be read from a source snapshot.

5. Click **OK** or **Apply**.

## Performance

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Performance settings allow you to adjust the performance of Cloud Backup and Replication jobs.

To modify the Cloud Backup and Replication performance settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Performance**.

Performance Max Number of Real-time Replication Threads:	_	⇔ - ⇔
Max Number of Real-time Replication Threads:	[	
Max Number of Scan Replication Threads: Max Number of Upload Threads: Max Number of Restore Threads:	1 1 -1 -1	

3. Modify the settings as needed:

Max Number of Real-time Replication Threads	Enter the maximum number of threads available for replicating files as they are updated in real-time on the source storage device.
Max Number of Scan Replication Threads	Enter the maximum number of threads available for replicating files during scheduled and on-demand scans of the source storage device.
Max Number of Upload Threads	Enter the maximum number of threads available for uploading files to the destination storage device.
Max Number of Restore Threads	Enter the maximum number of threads available for restoring from the destination storage device.

4. Click **OK** or **Apply**.

#### **Proxy Configuration**

This page allows you to create a proxy to be used with Microsoft Azure Blob Storage, Amazon S3, and S3 Compatible storage accounts.

To create a proxy configuration:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Proxy Configuration**.
- 3. The existing proxies are listed in the **Proxy Configuration** table.

e filter text	Proxy Configuration					⇔ ◄ ⇔
Cloud Backup and Replicat Database Connections Destination Credentials	Target Hostname DGAgent1	Type Manual proxy	Address 192.168.167.105	Port 8088	Use Authentication Yes	Create
Email Alerts	· · · · · · · · · · · · · · · · · ·					Edit
File Filters File Retries and Source !						Delete
Performance Proxy Configuration Replication and Retenti SNMP Notifications Scan Manager DFS-N Management Email Configuration File Collab, Sync, Repl, and General Configuration Licensing MED Configuration NAS Configuration Real-time Event Detection Task Scheduler User Management						Validate
>						

## 4. Click the **Create** button.

The Create Proxy Configuration dialog appears.

🙆 Create	Proxy Con	figuration				$\times$
Agent:						
						$\sim$
Address:						
Port:						
Use Au	thenticati	on				
Domai	n:					
Userna	me:					
Passwo	ord:			Sh	ow Passw	vord
			0	К	Cance	el

- 5. Select the agent that that manages your storage device.
- 6. Enter values for the following fields:

Address	Enter the IP address or fully qualified domain name of the proxy server.
Port	Enter the port number.
User Authenti cation	Select this checkbox if your proxy server requires authentication. This option does not apply for proxy servers connecting to an Azure storage device

7. If your proxy server requires authentication, click the **User Authentication** checkbox and supply the necessary values; .

Domain	Enter the domain name on the proxy server.
Usernam e	Enter the user name for the proxy server.
Passwor d	Enter the password for the proxy server.

Г

## 8. Click **OK**.

The new proxy configuration is listed in the **Proxy Configuration** table.

Preferences						- 🗆 ×
type filter text	Proxy Configuration	1				⇔ • ⇔ • •
<ul> <li>Cloud Backup and Replication</li> <li>Database Connections</li> </ul>	Target Hostname	Туре	Address	Port	Use Authentication	Create
Destination Credentials	DGAgent1	Manual proxy	192.168.167.105	8088	Yes	
Email Alerts	DGAgent2	Manual proxy	192.168.167.105	8088	No	Edit
File Filters File Retries and Source Snapshots						Delete
Performance						16.5.1.1.
Proxy Configuration						Validate
Replication and Retention Policies						
SNMP Notifications						
Scan Manager > DFS-N Management						
> Email Configuration						
File Collab, Sync, Repl, and Locking						
> General Configuration						
Licensing MED Configuration						
> NAS Configuration						
Real-time Event Detection						
> Task Scheduler						
User Management						
					OK Cance	I Apply

9. Click **OK** or **Apply**.

#### **Replication and Retention Policies**

Each Cloud Backup and Replication job must have a Replication and Retention Policy applied to it. When you create a job, you can select an existing policy to apply to the job or you can create a new policy and apply it to the job. You cannot modify a policy while it is applied to a running job. You cannot delete a policy while it is applied to any job. For more information about policies, see <u>Step 10: Replication and Retention Policy</u>.

To create a new replication and retention policy:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Replication and Retention Policies**.
| Preferences  |                                   |   |                                  |                                    |                       | – 🗆 X                            |
|--|-----------------------------------|---|----------------------------------|------------------------------------|-----------------------|----------------------------------|
| type filter text   | Replication and Rete              | ention Policies   |                                  |                                    |                       | ⇔ • ⇔ • •                        |
| <ul> <li>Cloud Backup and Replicat<br/>Database Connections<br/>Destination Credentials<br/>Email Alerts<br/>File Filters<br/>File Retries and Source !<br/>Performance<br/>Proxy Configuration<br/>Replication and Retenti</li> </ul> | Description<br>Daily 4x<br>Weekly | Backup Type<br>Destination Snapshots<br>Destination Snapshots | Backup Policy<br>Daily<br>Weekly | Retention Configured<br>Yes<br>Yes | In Use?<br>Yes<br>Yes | Create<br>Edit<br>Copy<br>Delete |
| SNMP Notifications<br>Scan Manager<br>DFS-N Management<br>Enail Configuration<br>File Collab, Sync, Repl, and<br>General Configuration<br>Licensing<br>MED Configuration<br>NAS Configuration  |                                   |   |                                  |                                    |                       |                                  |
| Real-time Event Detection Task Scheduler User Management   |                                   |   |                                  |                                    |                       |                                  |
|  |                                   |   |                                  | ОК                                 | Cancel                | Apply                            |

3. Click the **Create** button.

# The Replication and Retention Policy Wizard opens.

🕺 Replication and Retentio	n Policy Wizard		$\times$
Replication and Retent	ion Policy		
8 You must enter a name for the second se	or the policy.		
Replication and Retention	<sup>1</sup> *Description:		
Replication Schedule Retention			
Source Snapshots	Enable Backup with Destination Snapshots		
< >			
	< Back Next >	Can	cel

4. Enter the required values, and then click **Finish**.

See <u>Step 10: Replication and Retention Policy</u> for assistance in completing the wizard.

#### **SNMP** Notifications

When you create a job, you can select an existing SMNP notification to apply to the job or you can create a new notification and apply it to the job. You cannot edit or delete an SMNP notification while it is applied to a job. See <u>SMNP Notifications</u> in the <u>Basic Concepts</u> section for more information about SMNP notifications.

To create an SMNP notification:

- 1. From the **Window** menu, select **Preferences**.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **SNMP Notifications**.

Preferences					
type filter text	SNMP Notificati	ons			⇔ • ⇔ • •
<ul> <li>Cloud Backup and Replicat Database Connections Destination Credentials Email Alerts File Filters File Retries and Source ! Performance</li> </ul>	Name Session Abort	Destination 255.255.255.255:162	Trap Prefix 1.3.6.1.4.1.733	Notifications Session Abort, Failed Events	Create Edit Copy
Proxy Configuration Replication and Retenti SNMP Notifications Scan Manager > DFS-N Management > Email Configuration					Delete
<ul> <li>&gt; File Collab, Sync, Repl, and</li> <li>&gt; General Configuration Licensing MED Configuration</li> <li>&gt; NAS Configuration Real-time Event Detection</li> <li>&gt; Task Scheduler</li> </ul>					
User Management	<			>	
				OK Cancel	Apply

The existing SNMP notifications are listed in the **SNMP Notifications** table.

3. Click the **Create** button.

The Add SNMP Notification dialog appears.

🙆 Create SNMP N	otification $ \Box$ >	<				
Name:	New SNMP Notification					
Source IP Address:		$\sim$				
Destination:	255.255.255.255					
Trap Prefix:	1.3.6.1.4.1.733					
Notification Types Session Abort I Host Failure System Alerts MED Alerts						
Test SNMP Setting	5					
	OK Cancel					

- 4. In the **Source IP Address** field, select or manually enter the IP address over which the trap will be sent.
- 5. In the **Destination** field, enter the destination host name, IP address, or broadcast address.
- 6. For **Trap Prefix**, enter a prefix that will help to identify whether the message is coming from different instances of the Peer Management Center or from different jobs.
- 7. For **Notification Types**, select the types of events that will trigger the generation of an SNMP trap:

Sess ion Abor t	Sends a notification when the Cloud Backup and Replication job stops unexpectedly.
Host Fail ure	Sends a notification when the Management Agent of a Cloud Backup and Replication job disconnects or stops responding.
Syst em Aler ts	Sends a notification when a system event such as low memory or low hub disk space occurs.
MED Aler	Sends a notification when a <u>malicious event</u> is detected. For more information, see <u>MED Configuration</u> .

ts		

- 8. Click **Test SNMP Settings**, and then click **OK** in the **Test Connection** dialog.
- 9. Click **OK** or **Apply**.

The new notification is listed in the **SNMP Notifications** table and can now be applied to jobs.

#### Scan Manager

The Cloud Backup and Replication Scan Manager is responsible for handling all scheduled and on-demand scans of the source storage device.

To modify the Scan Manager settings for Cloud Backup and Replication jobs:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **Cloud Backup and Replication** in the navigation tree, and then select **Scan Manager**.

ype filter text	Scan Manager		4	 Ŧ
<ul> <li>Cloud Backup and Replicat Database Connections Destination Credentials Email Alerts File Filters File Retries and Source ! Performance Proxy Configuration Replication and Retenti SNMP Notifications Scan Manager</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration Licensing MED Configuration</li> <li>NAS Configuration Real-time Event Detection</li> </ul>	Scan Item Limit: Max Number of Scan Threads: Max Number of Concurrent Scans:	5000 50 4		

3. Modify the settings as needed.

Scan Item Limit	Enter the maximum number of files and folders to obtain from a folder structure at a time during a scan.
Max Number of Scan Threads	Enter the maximum number of threads available for scanning files and folders. This number should be set to at least the maximum number of jobs running on any single Management Agent.
Max Number of Concurren t Scans	Enter the maximum number of scans that can run in parallel. If the number of active scan threads is greater than this number, scan threads will process on a rotating basis. Increasing this number can increase scan performance but will also increase system memory and CPU utilization.

4. Click **OK** or **Apply**.

## **DFS-N Management Preferences**

To modify settings for DFS-N Management jobs:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Select **DFS-N Management** in the navigation tree.

Preferences			— 🗆 🗙
type filter text	DFS-N Management		← ▼ ⇒ ▼ ▼
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration         <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         <ul> <li>User Management</li> </ul> </li> </ul>	DFS Namespace Roots Folder: Timeout: Namespace Checking Period: Namespace Checking Retries: Namespace Search Timeout: Install DFS-N Management To Show Resources	C:\DFSRoots\ 120  seconds 30  Seconds 5  10  minutes ols	
		OK Cancel	Apply

3. Modify settings as needed.

DFS Name space Roots Folder	Enter the path to the default local parent folder for namespaces on the namespace server.
Timeo ut	Enter the number of seconds to wait for a response from any agent.
Name space Checki ng Period	Enter the number of seconds to delay between checking namespace information calls. This check catches any changes made to a namespace using the Microsoft DFS Management tool. Selecting a low value will negatively affect performance but will reflect changes to the user interface more quickly.
Name space Checki ng Retrie s	Enter the maximum number of times for checking namespace information if the namespace is not found. Once the maximum number is exceeded, the job is stopped.
Name space Searc h Timeo ut	Enter the number of minutes before timing out after search.
Install DFS-N Manag ement Tools	Select this option if you want Microsoft's DFS-N Management tools installed when creating or importing a namespace.
Show Resou rces	Select this option if you want to display individual namespace folders under each namespace in the <b>Jobs</b> view.

4. Click **OK** or **Apply**.

## **Email Alerts**

When you create a job, you can select existing email alerts to apply to the job or you can create new email alerts and apply them to the job. This <u>Preferences</u> page lists the existing email alerts. From this page, you can view, create, edit, and delete email alerts. However, you cannot edit or delete an email alert while it is applied to a job. See <u>Email Alerts</u> in the <u>Basic Concepts</u> section for more information about email alerts.

**Note:** An SMTP email connection must be configured before email alerts can be sent. See <u>Email Configuration</u> for information about configuring SMTP email settings.

To create an email alert:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **DFS-N Management** in the navigation tree, and then select **Email Alerts**.

Any existing DFS-N Management email alerts are listed in the **Email Alerts** table.

Preferences				$\Box$ $\times$
type filter text	Email Alerts			⇔ • ⇔ • •
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> </ul>	Edit Email Configuration	1		
Email Alerts	Name	Event Types	Recipients	Create
SNMP Notifications Email Configuration	Missing Namespace	Namespace Not Found, All Folder Targets Offline	debrag@peersoftware.com	Edit
> File Collab, Sync, Repl, and Locking				Сору
<ul> <li>General Configuration</li> <li>Licensing</li> </ul>				Delete
MED Configuration				
<ul> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul>				
> Task Scheduler				
User Management				
	<		1	
		0	K Cancel	Apply

## 3. Click the **Create** button.

The **Create Email Alert** dialog appears.

🥺 Create Email Alert				$\times$
Name: New Email Alert				
Event Types				
Session Abort	✓ Host Failure ✓ Folder Target Offline	✓ Host Reconnect ✓ DFS Server Offline	Namespace Of	fline
Recipients				
Enter email, contact, or di	stribution list:			
Start typing to filter cont	acts/lists or add a new ema	ail	Add	d to List
Recipients:				
			D	elete
			Viev	v Details
			OK Can	cel

- 4. Enter a name for the alert.
- 5. Select the event types to be alerted.

The event type determines what will trigger the email alert to be sent.

Session Abort	Sends an alert when the DFS-N Namespace job stops unexpectedly.
Host Failure	Sends an alert when the Management Agent of a DFS-N Namespace job disconnects or stops responding.
Host Reconnec t	Sends an alert when a system event such as low memory or low hub disk space occurs.
Namespa ce Offline	Sends an alert when a namespace goes offline.
Namespa ce Not Found	Sends an alert when a namespace goes offline is not found.

Folder Target Offline	Sends an alert when a folder target goes offline.
DFS Server Offline	Sends an alert when a DFS server goes offline.

6. Enter alert recipients, and then click **Add to List**.

The recipients are listed in the **Recipients** field.

## 7. Click **OK** or **Apply**.

The new alert is listed in the **Email Alerts** table and can now be applied to jobs.

#### **SNMP** Notifications

When you create a job, you can select an existing SMNP notification to apply to the job or you can create a new notification and apply it to the job. You cannot edit or delete an SMNP notification while it is applied to a job. See <u>SMNP Notifications</u> in the <u>Basic Concepts</u> section for more information about SMNP notifications.

To create an SMNP notification:

- 1. From the **Window** menu, select **Preferences**.
- 2. Expand **DFS-N Management** in the navigation tree, and then select **SNMP Notifications**.

The existing SNMP notifications are listed in the **SNMP Notifications** table.

type filter text	SNMP Notifications				⇐ ▾ ⇔ ▾
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management Email Alerts</li> </ul>	Name Offline Folder Target	Destination 255.255.255.255:1	Trap Prefix 1.3.6.1.4.1.733	Notifications Folder Target Offline	Create
SNMP Notifications > Email Configuration					Сору
<ul> <li>&gt; File Collab, Sync, Repl, and Locking</li> <li>&gt; General Configuration Licensing</li> <li>MED Configuration</li> <li>&gt; NAS Configuration Real-time Event Detection</li> <li>&gt; Task Scheduler User Management</li> </ul>					Delete

3. Click the **Create** button.

The Add SNMP Notification dialog appears.

🙆 Create SNMP N	otification			$\times$
Name:	New SNMP Notification			
Source IP Address:				$\sim$
Destination:	255.255.255.255			
Trap Prefix:	1.3.6.1.4.1.733			
Notification Types				
Session Start	Session Stop	Session Abort	✓ Host Failure	
Host Reconnect		Namespace Not Found	Folder Target Offline	
All Folder Targe	ts Offline 🗹 DFS Server Offline			
Test SNMP Setting	S			
	_			
			OK Cancel	

- 4. In the **Source IP Address** field, select or manually enter the IP address over which the trap will be sent.
- 5. In the **Destination** field, enter the destination host name, IP address, or broadcast address.

- 6. In the **Trap Prefix** field, enter a prefix that will help to identify whether the message is coming from different instances of the Peer Management Center or from different jobs.
- 7. For **Notification Types**, select the types of events that will trigger the generation of an SNMP trap:

Session Start	Sends a notification when a session is started.
Session Stop	Sends a notification when a session is stopped.
Session Abort	Sends a notification when the DFS-N Namespace job stops unexpectedly.
Host Failure	Sends a notification a notification when the Management Agent of a DFS-N Namespace job disconnects or stops responding.
Namespace Offline	Sends a notification when the namespace goes offline.
Namespace Not Found	Sends a notification when the namespace is not found.
Folder Target Offline	Sends a notification when a folder target goes offline.
All Folder Targets Offline	Sends a notification when all folder targets go offline.
DFS Server Offline	Sends a notification when the DFS server goes offline.

- 8. (Optional) Click **Test SNMP Settings**, and then click **OK** in the **Test Connection** dialog.
- 9. Click **OK** or **Apply**.

The new notification is listed in the **SNMP Notifications** table and can now be applied to jobs.

## **Email Configuration**

Before the Peer Management Center can send emails on behalf of any job, a few key SMTP email settings must be configured. In addition, you can define contacts and distribution lists.

To configure email settings:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Select **Email Configuration** in the navigation tree.

The following is displayed:

Preferences		- 🗆 X
type filter text	Email Configuration	$\Leftrightarrow \bullet \bullet \bullet \bullet \bullet$
<ul> <li>Cloud Backup and Re</li> <li>DFS-N Management</li> </ul>	SMTP Email Configuration	
<ul> <li>Email Configuration</li> </ul>	*SMTP Host:	outlook.office365.com
Contacts	*SMTP Port:	587
Distribution Lists > File Collab, Sync, Repl	Encryption:	$\checkmark$
<ul> <li>General Configuration</li> </ul>	*Encryption Type:	TLS ~
Licensing	*Username:	debrag@peersoftware.com
MED Configuration > NAS Configuration	*Password:	•••••
Real-time Event Dete	Sender Email:	debrag@peersoftware.com
<ul> <li>Task Scheduler</li> <li>User Management</li> </ul>	Use Recommended Office 365 Settings Test Email Settings	
	Batch Email Alerts for Quarantined Files	
	Batch Quiet Period (in seconds):	0
	Maximum Number of Alerts:	1000
< >>		
	OK	Cancel Apply

3. Enter values for the following fields:

SMTP Host	Enter the host name or IP address of the SMTP mail server through which the Peer Management Center will send emails.
SMTP Port	Enter the TCP/IP connection port (default is 25 and 465 for encryption) on which the mail server is hosting the SMTP service. We recommend that you leave the default setting unless your email provider specifies otherwise.
Encrypti on	Select this checkbox if the SMTP mail server requires an encrypted connection.
Encrypti on Type	If encryption is enabled, an encryption method must be selected. TLS and SSL are the available options. If you do not know which one your mail server requires, try one, and then the other.
Userna me	Enter the user name to authenticate as on the SMTP mail server.
Passwor d	Enter the password for the user specified above.
Sender Email	Enter the email address to appear in the <b>From</b> field of any sent emails. This email address sometimes needs to have a valid account on the SMTP mail server.
Use Recomm ended Office 365 Settings	Select this checkbox if you are connecting to an Office 365 SMTP server to use recommended settings for the connection. Follow Microsoft's <b>Direct Send</b> recommendations to set up email configuration with an Office 365 SMTP server.

4. (Recommended) Click **Test Email Settings**, enter an email address, and then click **OK**.

It is highly recommended that you test your SMTP settings before saving them. You will be prompted for an email address to send the test message to. Upon submission, the Peer Management Center will attempt to send a test message using the specified settings.

5. Enter values for the fields in the **Batch Email Alerts for Quarantined Files** section:

Batch Quiet Perio d (in secon ds)	Enter the number of seconds to wait before releasing a batch of alerts.
Maxi mum Numb er of Alerts	Enter the maximum number of alerts that should be sent in a single email.

6. Click **OK** or **Apply**.

## File Collaboration, Replication, Synchronization, and Locking Preferences

You can modify the following settings for File Collaboration, File Replication, File Locking, and File Synchronization jobs:

- File Collab, Repl, Sync, and Locking
- DFS-N Management
- Email Alerts
- File Filters
- Locking
- <u>Performance</u>
- <u>Real-time Event Detection</u>
- <u>Revit Enhancements</u>
- <u>SMNP Notifications</u>
- <u>Scan Manager</u>

#### File Collab, Repl, Sync, and Locking

These settings control basic GUI and reconnect settings for all File Collaboration, File Replication, File Synchronization, and File Locking jobs.

To modify these settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Select File Collab, Repl, Sync, and Locking in the navigation tree.

Preferences				$\times$
type filter text	File Collab, Sync, Repl, and Locking	¢	• 🔿	• •
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration         Licensing         MED Configuration</li> <li>NAS Configuration         Real-time Event Detection</li> <li>Task Scheduler         User Management</li> </ul>	<ul> <li>Use New Participants View</li> <li>Host Connectivity</li> <li>Auto-Reconnect When Host Becomes Available</li> <li>Minimum Host Reconnect Time (in minutes): 2</li> <li>Advanced Reporting</li> <li>Enable Advanced Reporting Tab</li> <li>Event Detection Analytics (EDA)</li> <li>Enable Real-Time Tracking</li> </ul>			
< >				
	OK Cancel		Apply	

3. Modify the settings as needed.

Use New Participants View	When creating a new job, use the new <b>Add New Participant</b> wizard instead of the legacy participant view. Highly recommended.
Auto Reconnect when Host Becomes Available	When an Agent reconnects to the PMC after a failure, automatically re-enable it in any associated jobs. Highly recommended.
Minimum Host Reconnect Time (in minutes)	Enter the minimum number of minutes to wait after an Agent reconnects before re-enabling it in any associated jobs.
Enable Advanced Reporting Tab	Enables the <b>Reporting</b> sub-tab of the global <b>Collab and Sync Summary</b> view.

4. (Optional) Click **Enable Real-Time Tracking** for **Event Detection Analytics** to track and report common activity processed by Peer Global File Service.

If enabled, every 24 hours, an Excel-based report will be written to disk that shows top folders, files, extensions, and users by total processed activity over the previous 24 hour window. These reports are stored under the installation folder of the Peer Management Center and can be reviewed by Peer Software Support when uploading log files.

5. Click OK or Apply.-

## **DFS-N Management**

These settings control the basic interoperability of all DFS-N Management jobs with File Collaboration and File Synchronization jobs.

To modify these settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Select File Collab, Repl, Sync, and Locking in the navigation tree.
- 3. Select **DFS-N Management**.

complete. 🗹 not available when a job is started. 🗌
not available when a job is started. 🗌

4. Modify settings as needed.

Bring folder targets online only after a re-scan is complete	Re-enable a disabled folder target in a managed DFS namespace only when it has been rescanned and is back in sync after an outage. Highly recommended.
Disable a folder target if its linked participant is not available when a job is started	If a File Collaboration or File Synchronization job is started and a participant is not available, automatically disable its associated folder target in a managed DFS namespace.

5. Click **OK** or **Apply**.

## **Email Alerts**

When you create a job, you can select existing email alerts to apply to the job or you can create new email alerts and apply them to the job. This <u>Preferences</u> page lists the existing email alerts. From this page, you can view, create, edit, and delete email alerts. However,

you cannot edit or delete an email alert while it is applied to a job. See <u>Email Alerts</u> in the <u>Basic Concepts</u> section for more information about email alerts.

**Note:** An SMTP email connection must be configured before email alerts can be sent. See <u>Email Configuration</u> for information about configuring SMTP email settings.

To create an email alert:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand File Collab, Repl, Sync, and Locking in the navigation tree, and then select Email Alerts.

Any existing email alerts are listed in the **Email Alerts** table.

ype filter text		Email Alerts			⇔ ◄ ⇔ ◄
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> </ul>	^	Edit Email Configurati	on		
Email Configuration		Name	Event Types	Recipients	Create
<ul> <li>File Collab, Sync, Repl, and Locking</li> </ul>		File Quarantined	File Quarantined	debrag@peersoftwa	T all a
DFS-N Management		Scan Error	Scan Error, Job Start	debrag@peersoftwa	Edit
Email Alerts					Сору
File Filters					Delete
File Retries					Delete
Locking					
Performance					
Real-time Event Detection Revit Enhancements					
SNMP Notifications					
Scan Manager					
General Configuration					
Licensing					
MED Configuration					
NAS Configuration	~				
>					

## 3. Click Create.

The Create Email Alert dialog appears.

🙆 Create	Email Alert			$\times$
Name:	New Email Alert			
🗹 Enable				
Event Typ				
Sessio 🗹	n Abort 🛛 File Quarantined 🗹 Host Failure 🖓 Scan Error 🖓 MED Alerts 🖓 Host Reconnect 🖓 Health Check			
Queue A	erts			
Enable	Queue Alerts High Threshold: 1000 Low Threshold: 100 Alert on Recovery			
Reports				
Scan				
Batch Em	ail Alerts			
Quara	ntined Files			
Recipient	2			
Enter em	sil, contact, or distribution list:			
Start typ	ing to filter contacts/lists or add a new email		Add to l	.ist
Recipient	5	_		
			Delete	2
		- 11	View Det	ails
	ОК		Cance	9

- 4. Enter a name for the alert.
- 5. Select the **Enable** checkbox if you want to enable the alert.

If you choose not to enable the alert, you can enable it later by editing the alert.

6. Select the type of events for which you want alerts sent:

Sessi on Abort	Sends an alert when a session is aborted because of lack of quorum due to one or more failed hosts.
File Quara ntine d	Sends an alert when a file is marked as quarantined because a file conflict was not able to be resolved.
Host Failur e	Sends an alert when a host timeout occurs, and the host is taken out of session.
Scan Error	Sends an alert when an error occurs during the <u>initial synchronization</u> process.

MED Alerts	Sends an alert when Peer MED detects potentially malicious activity. For more information, see MED Configuration.
Host Recon nect	Sends an alert when the host is reconnected to the job and the job has resumed with the reconnected host.

7. If you want queue alerts sent, select **Enable Queue Alerts** and enter threshold values.

Enabl e Queu e Alerts	Sends an email alert when the value in the <b>Queued Items</b> column for that job in the <b>Collab and Sync Summary</b> view exceeds the <b>High</b> <b>Threshold</b> value. This counter is the combination of the <b>Real-time</b> and <b>File Sync</b> queues as they are displayed in the user interface for the job. This counter is checked every 20 seconds and if it exceeds the <b>High</b> <b>Threshold</b> , an email alert is sent. Another alert will not be sent until the counter has dropped below the <b>Low Threshold</b> value and then exceeds the <b>High Threshold</b> value again.
High Thres hold	The maximum value for the <b>Queued Items</b> value. When this value is exceeded, an alert is sent.
Low Thres hold	Once an email has been sent, no additional emails will be sent until the <b>Low Threshold</b> value is met and then the <b>High Threshold</b> value is met again.
Alert on Recov ery	Controls whether an email will be sent indicating that the counter has recovered to the <b>Low Threshold</b> value after an alert had been previously sent.

- 8. Select the **Scan** checkbox in the **Reports** section if you want scan statistics emailed to you after a scan has completed.
- 9. Select the **Quarantined Files** checkbox in the **Batch Email Alerts** section if you want email alerts about quarantined files sent to you in batches.
- 10. Enter alert recipients, and then click **Add to List**.

The recipients are listed in the **Recipients** field.

11. Click **OK** or **Apply**.

The new alert is listed in the **Email Alerts** table and can now be applied to jobs.

## **File Filters**

When you create a job, you can select existing file filters to apply to the job or you can create new file filters and apply them to the job. This <u>Preferences</u> page lists the existing file filters. From this page, you can view, create, edit, and delete file filters. However, you cannot edit or delete a file filter while it is applied to a job. See <u>File and Folder Filters</u> in the <u>Basic Concepts</u> section for more information about file filters.

To create a file filter:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **File Collab, Repl, Sync, and Locking** in the navigation tree, and then select **File Filters**.

Any existing file filters are listed in the **File Filters** table.

/pe filter text	File Filters						🦕 🕶 🛶 👻
Cloud Backup and Replicat							
DFS-N Management	Name	Туре	Exclusions	Inclusions	Date Filter	Size Filter	Create
Email Configuration	Default	General	~*.*, *.BAK, *.BCK, *.WBK, *	None Selected	Include all dates	None	
File Collab, Sync, Repl, and	File Collaboration Sync Only	Synchronization Only	None Selected	*.LOG, *.EXE, *.DLL,	Include all dates	None	Edit
DFS-N Management	Invalid Characters	General	<<.*[.]\$>>	None Selected	Include all dates	None	Сору
Email Alerts	Linux User Profile Exclusions	General	/home/*/.local/share/Trash	None Selected	Include all dates	None	сору
File Filters	Locking Only	Locking Only	None Selected	\*	Include all dates	None	Delete
File Retries	MacOS Exclusions	General	*\MACOSX, *\.Temporary	None Selected	Include all dates	None	
Locking	Synchronizing Only	Synchronization Only	None Selected	\*	Include all dates	None	Update
Performance Real-time Event Detecti	User Profile Exclusions	General	*\AppData\Roaming\Micro	None Selected	Include all dates	None	
Real-time Event Detecti Revit Enhancements							
SNMP Notifications							
Scan Manager							
General Configuration							
Licensing							
MED Configuration							-
NAS Configuration							-
Real-time Event Detection							
Task Scheduler							
User Management							
>	<						

## 3. Click Create.

🕺 Create File Filter		
Name:		
Filter Type: General		~
Auto Excluded View file types that are automatically excluded		
Excluded Patterns		
	Add	Edit Delete
Included Patterns		
	Add	Edit Delete
Included Last Modified Dates	Excluded File Sizes	
Include all dates $\qquad \lor$	None	~
0 days	0 by	tes
	ОК	Cancel
	UK	Cancer

- 4. Enter a unique name for the filter.
- 5. Select the <u>filter type</u>.
- (Optional) Click Add to enter a filter pattern for files that you want excluded from the job. See <u>Defining Filter Patterns</u> for information about filters patterns. Repeat to add more filter patterns.
- 7. (Optional) Click **Add** to enter a filter pattern for files that you want included from the job. Repeat to add more filter patterns.
- 8. (Optional) Select a value for <u>Included Last Modified Dates</u>.

9. (Optional) Select a value for Excluded File Sizes.

**Note:** A filter cannot use **Excluded File Sizes** in conjunction with excluded or included patterns.

#### 10. Click **OK** or **Apply**.

The new file filter is listed in the **File Filters** table and can now be applied to jobs.

#### **File Retries**

File retries settings enable you to configure the frequency of attempts and the maximum number of attempts. These settings apply to all File Collaboration, File Replication, and File Synchronization jobs. For more information about file retries, see <u>Conflicts, Retries, and</u> <u>Quarantines</u>.

To modify the file retries settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **File Collab, Sync, Repl, and Locking** in the navigation tree, and then select **File Retries**.

Preferences					$\times$
type filter text		File Retries		⇔ ◄ ⇔	• •
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Locking DFS-N Management</li> <li>Email Alerts</li> <li>File Filters</li> <li>File Retries</li> <li>Locking</li> <li>Performance</li> <li>Real-time Event Detection</li> <li>Revit Enhancements</li> <li>SNMP Notifications</li> <li>Scan Manager</li> <li>General Configuration</li> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> </ul>	~	Enable retries: Maximum number of file retries: Delay between retries in seconds	<ul> <li>✓</li> <li>60</li> <li>: 60</li> </ul>		
		OK	Cancel	Apply	

3. Modify the settings as needed.

Enable retries	Select this checkbox to enable the retry of failed file transfers. If this option is not enabled, files that would have been candidates for retries will be automatically quarantined.
Maximum number of file retries	Enter the maximum number of attempts to retry a failed file transfer before it is quarantined.
Delay between retries in seconds	Enter the number of seconds to wait between retries of a failed file transfer.

4. Click **OK** or **Apply**.

## Locking

An option is available to mark certain file types as non-collaborative, changing the way locks on the specified file types are handled. These settings apply to all File Collaboration, File Replication, and File Synchronization jobs. These settings are critical for certain file types so that the job can correctly read these files, ensuring that managed file types are synchronized in a consistent and usable state.

To modify the locking settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **File Collab, Sync, Repl, and Locking** in the navigation tree, and then select **Locking**.

Preferences				$\Box$ $\times$
type filter text		Locking		<b>⇔</b> ▼ ⇒ ▼
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Lock DFS-N Management</li> <li>Email Alerts</li> <li>File Filters</li> <li>File Retries</li> <li>Locking</li> <li>Performance</li> <li>Real-time Event Detection</li> <li>Revit Enhancements</li> <li>SNMP Notifications</li> <li>Scan Manager</li> <li>General Configuration</li> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> </ul>	^ in⊆ ≻	Default Non-Collaborative File Extensions: User Defined Non-Collaborative File Extensions:	exe,pst,dll,sys,dbf,wab,mbx,ost,i zip,dat,psd,ai	mdf,qif,qbw
		C	OK Cancel	Apply

3. Modify the settings as needed.

Default Non- Collaborative File Extensions	Non-editable. Displays the default, comma-separated list of file extensions of non-collaborative file types (e.g. database files). Write access to source files of these types is denied while the files are being synchronized.
User Defined Non- Collaborative	Displays an editable, comma-separated list of file extensions of non-collaborative file types (e.g. database files). Write access to

4. Click **OK** or **Apply**.

#### Performance

To customize the performance settings of File Collaboration, File Locking, File Replication, and File Synchronization jobs:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **File Collab, Sync, Repl, and Locking** in the navigation tree, and then select **Performance**.

Preferences		$ \Box$ $\times$	
type filter text	Performance	⇔ ◄ ⇔ ▼	•
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Locking DFS-N Management</li> <li>Email Alerts</li> <li>File Filters</li> <li>File Retries</li> <li>Locking</li> <li>Performance</li> <li>Real-time Event Detection</li> <li>Revit Enhancements</li> <li>SNMP Notifications</li> <li>Scan Manager</li> <li>General Configuration</li> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> </ul>	Global Thread Pool Options Real-Time Expedited Threads: 30 Real-Time Background Threads: 20 Background Scan Synchronization Threads: 20 Background Bulk Add Threads: 2 Debug Mode: • Indicates that changes will take effect immediately upon clicking OK		
< >			
	OK Cancel	Apply	

3. Modify the settings as needed.

	Enter the maximum number of threads for controlling file locking and renames.
Expedited	locking and renames.

Threads	
Real-Time Background Threads	Enter the maximum number of threads for controlling the replication of file content.
Background Scan Synchronizatio n Threads	Enter the maximum number of threads for processing the differences found by background scans.
Debug Mode	Enables debug mode for the various types of threads.

4. Click **OK** or **Apply**.

## **Real-time Event Detection**

To modify the File Collaboration real-time detection settings:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **File Collab, Sync, Repl, and Locking** in the navigation tree, and then select **Real-time Event Detection**.

ype filter text	Real-time Event Detection	⇔ マ ⇒ マ
Cloud Backup and Replication	Event Detection Options	
<ul> <li>DFS-N Management</li> <li>Email Configuration</li> </ul>	Change Dispatch Quiet Period (Seconds): 9	
<ul> <li>File Collab, Sync, Repl, and Locking</li> </ul>		
DFS-N Management	Bulk Add Delay (Seconds):	
Email Alerts	Bulk Add Minimum Rejected Threshold: 25	
File Filters	Bulk Add Max Events: 5000	
File Retries		
Locking		
Performance		
Real-time Event Detection		
Revit Enhancements		
SNMP Notifications		
Scan Manager		
General Configuration		
Licensing		
MED Configuration		
	1	
> NAS Configuration		

3. Modify the settings as needed.

Change Dispatch Quite Period (Seconds)	The number of seconds to wait before acting on a file modification, rename, or delete.	
Bulk Add Delay (Seconds)	Controls when the bulk add logic is triggered. This is used to help de-prioritize mass copying or adding of files to a directory.	
Bulk Add Minimum Rejected Threshold	The minimum number of file adds that must occur within the Bulk Add Delay for bulk add logic to be triggered.	
Bulk Add Max Events	The maximum number of file adds to lump together in one batch.	

4. Click **OK** or **Apply**.

#### **Revit Enhancements**

Revit Enhancements enable the Expedited Sync Queue for files specified in the Expedited Sync Queue File List.

To set advanced settings for Revit Enhancements:

- 1. Select **Preferences** from the Window menu.
- 2. Expand **File Collab, Sync, Repl, and Locking** in the navigation tree, and then select **Revit Enhancements**.

Preferences				$\times$	
type filter text		Revit Enhancements		•	•
> Cloud Backup and Replication	^			_	~
> DFS-N Management		Enable Suggested Revit Settings: 🗹 (Limited. Not Matching Full Recommended Settings)	Show Advanced Settings		
> Email Configuration					
<ul> <li>File Collab, Sync, Repl, and Lockinc</li> </ul>					
DFS-N Management					
Email Alerts					
File Filters					
File Retries					
Locking					
Performance					
Real-time Event Detection					
Revit Enhancements					
SNMP Notifications					
Scan Manager					
> General Configuration					
Licensing					
MED Configuration					
> NAS Configuration	~				
< >					~
		ОК	Cancel Apply		

3. Click Show Advanced Settings.

Preferences		— 🗆 X
type filter text	Revit Enhancements	
Cloud Backup and Replication     DFS-N Management     Email Configuration     File Collab, Sync, Repl, and Locking     DFS-N Management     Email Alerts     File Filters     File Retries     Locking     Performance     Real-time Event Detection     Revit Enhancements     SNMP Notifications     Scan Manager     General Configuration     Licensing     MED Configuration     NAS Configuration     NAS Configuration	Enable Suggested Revit Settings: 🗹 (Limited. N Revit Advanced Options Sync On Save Override File Extensions: Sync On Save Override Delay: Sync Multi Host Mod List: Target Sharing Violation File Extensions: Bulk Add Minimum Rejected Event Threshold: Retry Quarantines File List: Last Write Override Extensions: Expedited Fast Sync File List: Expedited Slow Sync File List: Direct Target Write List:	
< >		OK Cancel Apply

4. Modify the settings as needed.

Sync On Save Override File Extensions	Extensions configured here will overwrite the <b>Sync. On Save</b> values configured in the interface for the job. In addition, these extensions use the delay value in <b>Sync On Save Override Delay</b> setting instead of the delay value configured in the interface. If no delay value is set, it will default to using a one second delay. Extensions configured in this list will still be processed via <b>Sync.</b> <b>On Save</b> even if they also exist in the user defined non- collaborative extension list (under the Window > Preferences menu option). Extensions in the normal <b>Sync. On Save</b> list that also exist in this list will not be processed.	
Sync On Save Override Delay	The <b>Sync. On Save</b> delay value in seconds that applies only to the internal list of extensions listed in the <b>Sync On Save Override File Extension</b> field.	
Sync Multi Host Mod List	Extensions configured here will not be quarantined if they are modified on two hosts simultaneously. The file with the latest modified time stamp will win.	
Target Sharing Violation File Extensions	This is an option to retry setting the target lock when receiving error code 32 for the specified list of extensions. This may be useful for file types such as .one (OneNote), .rvt (Revit), and .dat (associated Revit files) that don't sustain a handle when the user has the file open.	

Bulk Context Minimum Rejected Event Threshold	The number of bulk add files that can process immediately before batching the remainder of the files and process them in a single thread.
Retry Quarantine File List	Quarantined files that are in this list will be automatically removed and flagged as unsynchronized and will be retried every second after a delay period (delay is configured by <b>fc.retryQuarantinesDelay</b> ). Any change event that is detected for the files will trigger a scan of the files where the newest file will win. This list can contain file names (wperms.dat, eperms.dat, requests.dat, deltas.dat, users.dat) or extensions (*.dat,*.abc).
Last Write Override Extensions	Act on every write event performed on these extensions instead of waiting for the last write event prior to the closing of a file.
Expedited Fast Sync File List	Access events and transfer events will be expedited for the list of extension or files in this list.
Expedited Slow Sync File List	Access events received for files or extension in this list will be expedited. Transfers will go through a slow priority queue.
Direct Target Write List	List of files to be updated without the use of a temp file. This list can contain file names (wperms.dat, eperms.dat, requests.dat, deltas.dat, users.dat") or extensions.

5. Click **OK** or **Apply**.

#### **SNMP** Notifications

When you create a job, you can select an existing SMNP notification to apply to the job or you can create a new notification and apply it to the job. You cannot modify or delete an SMNP notification while it is applied to a job. See <u>SMNP Notifications</u> in the <u>Basic Concepts</u> section for more information about SMNP notifications.

To create an SMNP notification:

- 1. From the **Window** menu, select **Preferences**.
- 2. Expand **File Collab, Repl, Sync, and Locking** in the navigation tree, and then select **SNMP Notifications**.

The existing SNMP notifications are listed in the **SNMP Notifications** table.

/pe filter text	SNMP Notifications				⇔ ▼ ⇔ ▼
Cloud Backup and Replication	News	Destination	Tree Desfer	NI - 4161 41	1
DFS-N Management	Name	Destination	Trap Prefix	Notifications	Create
Email Configuration	File Quarantine Notification	255.255.255.25	1.3.6.1.4.1.733	File Quarantined	Edit
<ul> <li>File Collab, Sync, Repl, and Lockinc</li> </ul>	Session Abort Notification	255.255.255.25	1.3.6.1.4.1.733	Session Aborted	Luit
DFS-N Management					Сору
Email Alerts					Delete
File Filters					Delete
File Retries					
Locking					
Performance					
Real-time Event Detection					
Revit Enhancements					-
SNMP Notifications					
Scan Manager					
General Configuration					
Licensing					
MED Configuration					-
NAS Configuration					
>	<			>	

3. Click the **Create** button.

The Add SNMP Notification dialog appears.

Create SNMP N	otification		— 🗆 X
Name:	New SNMP Notifica	tion	
Source IP Address:			~
Destination:	255.255.255.255		
Trap Prefix:	1.3.6.1.4.1.733		
<ul> <li>Notification Types</li> <li>Session Start</li> <li>Host Failure</li> </ul>	Session Stop	Session Abort	✓ File Quarantined
Test SNMP Setting	S		
		ОК	Cancel

- 4. In the **Source IP Address** field, select or manually enter the IP address over which the trap will be sent.
- 5. In the **Destination** field, enter the destination host name, IP address, or broadcast address.
- 6. In the **Trap Prefix** field, enter a prefix that will help to identify whether the message is coming from different instances of the Peer Management Center or from different jobs.
- 7. For **Notification Types**, select the types of events that will trigger the generation of an SNMP trap:

Sessi on Start	Sends a notification when a session is started.
Sessi on Stop	Sends a notification when a session is stopped.
Sessi on Abort	Sends a notification when a session is aborted because of lack of quorum due to a failed host(s).
File Quara	Sends a notification when a file is marked as quarantined because a file conflict was not able to be resolved.

ntine d	
Host Time out	Sends a notification when a host timeout occurs, and the host is taken out of session.
Scan Error	Sends a notification when an error occurs during the <u>initial synchronization</u> process.
MED Alerts	Sends a notification when Peer MED detects potentially malicious activity. For more information, see <u>MED Configuration</u> .

8. (Optional) Click **Test SNMP Settings**, and then click **OK** in the **Test Connection** dialog.

## 9. Click **OK** or **Apply**.

The new notification is listed in the **SNMP Notifications** table and can now be applied to jobs.

## Scan Manager

Several options are available to tune the way scans are performed for File Collaboration, File Locking, File Replication, and File Synchronization jobs.

To modify the Scan Manager settings for File Collaboration, File Replication, and File Synchronization jobs:

- 1. From the **Window** menu, select **Preferences**.
- 2. Expand **File Collab, Repl, Sync, and Locking** in the navigation tree, and then select **Scan Manager**.

type filter text		Scan Manager		⇔ ◄ ⇔	•
Cloud Backup and Replication	^				
> DFS-N Management		Scan Item Limit:	1024		<b>•</b>
Email Configuration		Max Per Job Sync Work Queue Count:	3000		<b></b>
<ul> <li>File Collab, Sync, Repl, and Lockinc DFS-N Management Email Alerts</li> </ul>		Max Number of Scan Threads:	50		- -
		Max Number of Scan Threads:	50		_
		Max Number of Concurrent Scans:	4		* *
File Filters					
File Retries					
Locking					
Performance					
Real-time Event Detection					
Revit Enhancements					
SNMP Notifications					
Scan Manager					
> General Configuration					
Licensing					
-					
MED Configuration					
MED Configuration > NAS Configuration	$\sim$				

3. Modify the settings as needed.

Scan Item Limit	The maximum number of file and folder scan results that are returned in one scan iteration during a job's initial scan. This value is used to constrain the amount of memory used when performing initial scans with a large number of jobs.
Max Sync Work Queue Count	The per job maximum number of pending file synchronization tasks that are queued in memory before pausing the current scan. This value only has an effect on jobs with large numbers of files that must be synchronized during <u>initial synchronization</u> .
Max Number of Scan Threads	The maximum number of threads that can be created to scan folders and files. This number should be set to at least the number of jobs that you are running.
Max Number of Concurrent Scans	The maximum number of scan threads that can be actively working at the same time. This differs from the Max Number of Scan Threads in that not all created scan threads can be simultaneously doing work. For example, if 20 scan threads are configured but only 10 can run concurrently, 10 of the 20 threads will be paused at any one time, waiting for a time slot to continue working. Each of the 20 scan threads will get a chance to work in a round- robin fashion.
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4. Click **OK** or **Apply**.

### **General Configuration**

The **General Configuration** settings affect the overall operation of the Peer Management Center, Peer Agents, the Peer Broker, and other general operations. They are not specific to jobs or job types.

You can modify the following settings:

**General Configuration** 

Agent Connectivity

**Broker Configuration** 

Software Updates

Tags Configuration

### **General Configuration**

To modify General Configuration settings:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Select **General Configuration** in the navigation tree.

The first page of the General Configuration options is displayed.

Preferences			$\times$
type filter text	General Configuration	⇔ ▼ ⇔	• •
<ul> <li>Cloud Backup and Replica</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, anc</li> <li>General Configuration Licensing MED Configuration</li> <li>NAS Configuration Real-time Event Detection</li> <li>Task Scheduler User Management</li> </ul>	Launch Runtime Summary view(s) at start   Always run tasks in background   Auto expand job resources   Display job types when no jobs are configured   System Alerts   Severity:   INFO   Auto Display Alerts View   Browsing Files/Folders   Remote browser page size:   5000   Show system folders   Show hidden items		> •
	OK Cancel	Apply	

3. Modify the first four settings as needed:

Launch Runtime Summary view(s) at start	Select this option if you want the Runtime Summary views to be automatically displayed when the Peer Management Center is started. Runtime Summary views will be displayed for all job types, even for job types without currently running jobs.
Always run tasks in background	Select this option to run tasks like log gathering and Agent updates in the background, preventing these tasks from blocking the use of the PMC client while they run.
Auto expand job resources	Select this option if you want all jobs with associated resources to start expanded in the <b>Jobs</b> view. Currently only available for Cloud Backup and Replication jobs as well as DFS-N Management jobs.
Display job types when no jobs are configured	Select this option if you want to display a job type in the <b>Jobs</b> view, even when no jobs of that type have been configured.

4. Select options for alerts regarding the operation of the Peer Management Center in the **System Alerts** section:

Severity	Select one of these options:
----------	------------------------------

	• INFO • DEBUG
	• TRACE
Auto Display Alerts View	Select this option if you want the alerts to be automatically displayed in the <u>Alerts view</u> .

5. Select options for managing browsing files and folders on remote file systems in the **Browsing Files/Folders** section:

Remote browser page size	Enter the maximum page size for the remote file system browser. This browser is used for selecting paths during the creation of most new jobs.		
Show system folders	Select this checkbox to show system folders in the remote file system browser.		
Show hidden foldersSelect this checkbox to show hidden folders in the reme system browser.			

6. Click **OK** or **Apply**.

### Agent Connectivity

To modify Agent Connectivity settings:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Expand **General Configuration** in the navigation tree, and then select **Agent Connectivity**.

			$ \square$ $\times$
ype filter text	Agent Connectivity		← ← → →
<ul> <li>Cloud Backup and Replica</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, anc</li> <li>General Configuration</li> <li>Agent Connectivity</li> <li>Broker Configuration</li> <li>Email Alerts</li> <li>Software Updates</li> <li>Tags Configuration</li> <li>Licensing</li> <li>MED Configuration</li> <li>Real-time Event Detection</li> <li>Task Scheduler</li> </ul>	Missed Heartbeats before Agent Disconnect: Check Agent Availability Frequency (in seconds): Minimum Number of Minutes Between Reconnects: Maximum Number of Consecutive Reconnect Attempts:	6 30 2 15	

3. Modify the settings as needed:

Missed Heartbeats before Agent Disconnect	Enter the maximum number of heartbeats that can be missed on a host before the PMC labels the Agent as disconnected. If a running job hits a timeout when communicating with a specific Agent, the Peer Management Center will check this status to decide if the Agent should be dropped from the job.
Check Agent Availability Frequency (in seconds)	Enter the frequency (in seconds) that the Peer Management Center should check whether an Agent is back online.
Minimum Number of Minutes Between Reconnects	Enter the minimum number of minutes that must elapse before the PMC attempts to retry reconnecting to the Agent.
Maximum Number of Consecutive Reconnect Attempts	Enter the maximum number of attempts that the PMC tries to reintegrate a previously connected agent into one or more jobs. Once the maximum number of attempts has been reached, you must manually reintegrate the Agent into affected jobs, typically by restarting the affected jobs.

4. Click **OK** or **Apply**.

#### **Broker Configuration**

The **Broker Configuration** page displays a non-editable field that shows the URL used by the primary Peer Management Center service to connect to the Broker service.

To view the Broker Configuration setting:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Expand **General Configuration** in the navigation tree, and then select **Broker Configuration**.

Preferences		— 🗆 🗙
type filter text	Broker Configuration	⇔ ▼ ⇔ ▼ ▼
<ul> <li>Cloud Backup and Replica</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, anc</li> <li>General Configuration Agent Connectivity Broker Configuration Email Alerts Software Updates Tags Configuration Licensing MED Configuration</li> <li>NAS Configuration Real-time Event Detection</li> <li>Task Scheduler User Management</li> </ul>	Provider URL failover:(tcp://127.0.0.1:61616)?jms.alwaysSyncSend=true	
< >		
	OK Cancel	Apply

3. Click **OK** or **Apply**.

#### **Email Alerts**

System email alerts notify recipients when certain types of system events occur, for example, low memory, low disk space, disconnected agents. This <u>Preferences</u> page lists the existing system email alerts. From this page, you can create, edit, and delete system email alerts. You can also disable and enable alerts. See <u>Email Alerts</u> in the <u>Basic Concepts</u> section for more information about email alerts.

**Note:** An SMTP email connection must be configured before email alerts can be sent. See <u>Email Configuration</u> for information about configuring SMTP email settings.

To create a system email alert:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **General Configuration** in the navigation tree, and then select **Email Alerts**.

Any existing system alerts are listed in the **Email Alerts** table.

Preferences type filter text	Email Alerts				□ × ⇔ • ⇔ • •
<ul> <li>Cloud Backup and Replica</li> <li>DFS-N Management</li> </ul>	Edit Email Configuratio	n			
<ul> <li>Email Configuration</li> <li>File Collab, Sync, Repl, anc</li> <li>General Configuration</li> <li>Agent Conjugativity</li> </ul>	Name License Alert	Enabled Yes	Event Types Licensing Warning	Recipients debrag@peersoftware.com	Create
Agent Connectivity Broker Configuration Email Alerts Software Updates Tags Configuration Licensing MED Configuration > NAS Configuration Real-time Event Detection > Task Scheduler User Management					Delete
< >				OK Cancel	Apply

### 3. Click Create.

The Create Email Alert dialog appears.

Ø Create Email Alert		$\times$
Name: Enable		
Event Types          Image: Comparison of the sector of the sect	jent Discon	inects
Recipients Enter email, contact, or distribution list:		
Start typing to filter contacts/lists or add a new email	Add to	List
Recipients:		
	Delet	te
	View De	etails
ОК	Canc	el

- 4. Enter a name for the alert.
- 5. Select the **Enable** checkbox if you want to enable the alert.

If you choose not to enable the alert, you can enable it later by editing the alert

6. Select the type of events for which you want alerts sent:

Low Memo ry	Sends an alert when the Peer Management Center or connected Agent services are is low on memory.
Low Hub Disk Space	Sends an alert when the space on the disk where the Peer Management Center software is installed running low.
Agent Instal I Disk Space	Sends an alert when the space on the disk where the Peer Agent software is installed is running low.

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Agent Disco nnect s	Sends an alert whenever an Agent is disconnected.
Licen se Warni ngs	Sends an alert when a license is about to expire or when a license violation is about to occur.

7. Enter alert recipients, and then click **Add to List**.

### 8. Click **OK** or **Apply**.

The new alert is listed in the **Email Alerts** table.

#### Software Updates

You can configure the Peer Management Center to automatically check for updates and download the updates. The PMC checks for updates every evening at 11 p.m. local time. Only minor updates are automatically downloaded; if a major update is available, a notification appears. Major releases require a new license key and must be requested from Peer Software Support.

You can also manually check for updates. See <u>Updating the Peer Management Center</u> for information about manually checking for updates.

To configure the PMC to automatically check for updates:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

2. Select **General Configuration** in the navigation tree, expand the node, and then select **Software Updates**.

type filter text       Software Updates         > Cloud Backup and Replica       Email Configuration         > Email Configuration       Automatically check for updates and notify me         > File Collab, Sync, Repl, anc       Automatically check for updates automatically and notify me when they are ready to be installed         ✓ General Configuration       Agent Connectivity         Broker Configuration       Download new updates automatically and notify me when they are ready to be installed         ✓ Software Updates       Tags Configuration         Licensing       MED Configuration	\$ ▼ \$ ₹ ₹
<ul> <li>&gt; DFS-N Management</li> <li>&gt; Email Configuration</li> <li>&gt; File Collab, Sync, Repl, and</li> <li>&gt; General Configuration</li> <li>A dutomatically check for updates and notify me when they are ready to be installed</li> <li>&gt; Download new updates automatically and notify me when they are ready to be installed</li> <li>&gt; Broker Configuration</li> <li>Email Alerts</li> <li>Software Updates</li> <li>Tags Configuration</li> <li>Licensing</li> </ul>	
NAS Configuration Real-time Event Detection Task Scheduler User Management < >	

- 3. Select update options:
  - Automatically check for updates and notify me Select this option if you want to automatically check for updates.
  - Download new updates automatically and notify me when they are ready to be installed Select this option if you want to automatically check for and download available updates.
- 4. Click **OK** or **Apply**.

Whenever updates are available, a notification appears in the lower right corner of the Peer Management Center.

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🖥 Jobs 💦 🏹 📎 🚺 🔳 🗔 🎽 🗉	Collab an	d Sync Sum	nmary	🛛 🧏 Age	ents										- 6
type filter text (	3 Summary														
Cloud Backup and Replication (0)	- Runtime Su	Runtime Summary View (auto-update disabled)													
DFS-N Management (0)	Filter by:	Expression	1		~					Actions	• [	Auto-Up	date	Refresh 10	seconds
<ul> <li>File Collaboration (1)</li> <li>FC-1</li> </ul>	Name		Overal	all Status	Job Type	Failed	Quaran	Retries	Errors	Warnin	Open F	Pendin	Queu	e Backgr	Scan Stat
✓ ➡ File Replication (1)	FC-1		Sto	opped	File Collaboration		0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped
FR-1	FR-1		Sto		File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped
<ul> <li>File Synchronization (1)</li> </ul>	FS-1		Sto		File Synchronization		0	0	0	0	0	0 bytes	<b>v</b> 0	0	Stopped
FS-1															
0.00															
	<														>
		s -> Failed	Particip	pants:0 of 0   I	Bytes Pending: 0 bytes	Bytes Trar	nsferred: 0 bj	ytes   Ope	ens: 0   Init	ial Scans Con	npleted: 0 o	f0   Total	Size: 0 I	bytes   Total	
		s -> Failed			Bytes Pending: 0 bytes	Bytes Trar	nsferred: 0 bj	ytes   Ope	ens: 0   Init	ial Scans Con	npleted: 0 o	f0   Total	Size: 0 I	bytes   Total	
	Active Job	🧯 Job	Alerts							ial Scans Con	_		Size: 0 I	bytes   Total	Files: 0   Tot
-	Active Job	🧯 Job	Alerts				nsferred: 0 by	ytes   Ope	ens: 0   Init	ial Scans Con	_	f 0   Total	Size: 0 I	bytes   Total	Files: 0   Tot
Agent Summary 🛛 🧏 🏹 📎 🍟 🕻	Active Job Alerts 8 0 errors, 6 w	🤵 Job arnings, 10	Alerts	Filter by :						ial Scans Con Message	_		Size: 0 I	bytes   Total	Files: 0   Tot
🛚 Agent Summary 🛛 🦂 🍸 📎 🖓	Active Job Alerts & 0 errors, 6 w Received Da	🍠 Job arnings, 10 ste	o Alerts	Filter by :	Host: Name			~	Туре:		<ul> <li>✓ <u>Clea</u></li> </ul>		Size: 0 I	bytes   Total	Files: 0   Tot
Agent Summary 🛛 😽 🏹 📎 🖙 🛙	Active Job Alerts & 0 errors, 6 w Received Da 08-13-2019 08-13-2019	Job arnings, 10 ate 00:58:40	) Alerts ) others Severity	Filter by :	Host: Name ction Startup			~ Host	Type:	Message Agent Starte	· <u>Clea</u>	r Alerts		bytes   Total	Files: 0   Tot
Agent Summary type filter text Δ Agents Avg. Band	Active Job Alerts & 0 errors, 6 w Received Da 08-13-2019 08-13-2019	Job arnings, 10 ste 00:58:40 00:58:40	o Alerts ) others Severity Info	; Filter by : ty Type Conner	Host: Name ction Startup eat Reconnect				Type:	Message Agent Starte	✓ <u>Clea</u> cd status char	r Alerts			Files: 0   Tot
Agent Summary type filter text A Agents Avg. Band Arg. Band Avg. Band Arg. Band Avg. Band Arg. Band Arg. Band Arg. Band State (Connected)	Active Job Alerts 33 0 errors, 6 w Received Da 08-13-2019 08-13-2019	Job arnings, 10 ste 00:58:40 00:58:40 00:58:40	o Alerts o others Severity Info Info	;   Filter by : by Type Connee Heartb	Host: tion Startup eat Reconnect tion Startup			Host DGAge DGAge	Type:	Message Agent Starte Connection Agent Starte	• <u>Clea</u> •d status char	r Alerts	Disconr		Files: 0   Tot
Agent Summary type filter text Δ Agents Avg. Band	Active Job Alerts & 0 errors, 6 w Received Da 08-13-2019 08-13-2019 w	Jok arnings, 10 ate 00:58:40 00:58:40 00:58:40 00:58:40 00:58:40	) others ) others Severity Info Info Info	; Filter by : y Type Conner Heartb Conner Heartb	Host: Name ttion Startup eat Reconnect ttion Startup eat Reconnect			Host DGAge DGAge DGAge	Type: ent2 ent2 ent1 ent1	Message Agent Starte Connection Agent Starte	Clea cd status char cd status char	r Alerts	Disconr	ected to Cor	Files: 0   Tot
Agent Summary 🛛 🖓 📎 🖓 🕻 type filter text d Agents Avg. Band Agents Avg. Band	Active Job Alerts & O errors, 6 w Received Di 08-13-2019 08-13-2019 08-13-2019	Job           arnings, 10           ate           00:58:40           00:58:40           00:58:40           00:58:40           00:58:41	o Alerts o others Severity Info Info Info Info	Filter by : Type Conner Heartb Conner Heartb	Host: Name ttion Startup eat Reconnect ttion Startup eat Reconnect ttion Shutdown			Host DGAge DGAge DGAge DGAge	Type: ent2 ent2 ent1 ent1 ent1 ent1	Message Agent Starte Connection Agent Starte Connection	clea	r Alerts nged from I	Disconr	ected to Cor	Files: 0   Tot
Agent Summary type filter text A Agents Arg. Band Arg. Ba	Active Job Active Job Alerts & 0 errors, 6 w Received Dr 08-13-2019 08-13-2019 08-13-2019 08-13-2019 08-13-2019 08-13-2019	Job arnings, 10 ate 00:58:40 00:58:40 00:58:40 00:58:40 00:58:14 00:58:14	o Alerts o others Severity Info Info Info Info Warnin	Filter by : Type Conner Heartb Conner Heartb	Host: Name ction Startup eat Reconnect tion Startup eat Reconnect tion Shutdown shutdown	Sev		Host DGAge DGAge DGAge DGAge DGAge	Type: int2 int2 int1 int1 int1 int2	Message Agent Starte Connection Agent Starte Connection Agent Shuto	Clea cd status char cd status char lown lown	r Alerts	Disconr	ected to Cor	Files: 0   Tot

5. Click the notification to review and proceed with the update. See <u>Updating the Peer</u> <u>Management Center</u> for details.

#### Tags Configuration

The **Tags Configuration** page in Preferences is the starting place for creating <u>tags</u> and categories that can later be assigned to resources. See <u>Assigning Tags</u> for more information about assigning to resources.

To create a tag:

- 1. Select **Preferences** from the **Window** menu.
- 2. Expand **General Configuration** in the navigation tree, and then select **Tags Configuration**.

Any existing tags are listed in the **Tags** table.

type filter text	Tags Configuration			⇔ ▼ ⇔ ▼
> Cloud Backup and Replication				
> DFS-N Management	Tag Name Filter	Category Filter		
Email Configuration	Tag Name	Category	Resources	Create
File Collab, Sync, Repl, and Locking	Available	Resources	0	
<ul> <li>General Configuration</li> </ul>	Available	Resources	0	Edit
Agent Connectivity				Сору
Broker Configuration				Delete
Software Updates				Delete
System Alerts				Edit Categories
Tags Configuration				Luit categories
Licensing				
MED Configuration NAS Configuration				
Real-time Event Detection				
Task Scheduler				
User Management				
oser management				

3. Click the **Create** button.

The **New Tag** dialog appears.

🧔 New Tag		
Tag Name:		
Category Name:		~
	ОК	Cancel

- 4. Enter a name for a tag.
- 5. Select a category or create a new category.

💿 New Tag			X
Tag Name:	Manager		
Category Name:			~
	Resources Create a new category	concer	

6. Click **OK**.

The tag appears in the **Tags** table.

7. Click **OK** or **Apply**.

### Licensing

Peer Global File System is licensed by the number of unique <u>participants</u> and by the number of terabytes in the <u>watch set</u>.

## **Installing or Upgrading a License File**

After purchasing or requesting a trial download of Peer Management Center, you will receive a license file representing your purchase or trial.

To install a new license file or upgrade an existing license:

1. From the **Window** menu, select **Preferences**.

The **Preferences** dialog appears.

2. Select **Licensing** in the navigation tree.

Existing valid licenses are listed in the **Peer Software Licensing Configuration** table.

Preferences							$\Box$ $\times$
type filter text	Licensing						⇔ • ⇔ • •
Cloud Backup and Replication     DEC N Management	Peer Software Licensing Confi	guration					
<ul> <li>DFS-N Management</li> <li>Email Configuration</li> </ul>	License	-		Expiration Date	Note		Add/Update
> File Collab, Sync, Repl, and Locking	> Peer Global File Service	4 Host	4.5				Delete
<ul> <li>General Configuration</li> <li>Licensing</li> </ul>							
MED Configuration > NAS Configuration Real-time Event Detection > Task Scheduler User Management	License Information Invalia	d Licenses					
						OK Cancel	Apply

- 3. Click the **Add/Update** button to browse for a license file.
- 4. Select the license file, and then click **Open**.

If you are prompted with a message that an existing license already exists, click **Yes** to overwrite the existing license.

Ø Over	write Existing License	×
?	An existing Peer Global File Service license already exists. Do you want to overwrite the existing license?	
	Yes No	

After successful installation of the license, it is listed in the table, along with the license quantity, version, and an expiration date (if applicable). You can now create, configure, and run jobs using the new license.

**Note:** You will need to restart existing jobs if any of the following applies:

- Software version is different (typically when upgrading to a new version).
- Software package level is different.
- New license is insufficient for the number of existing hosts.
- 5. Click the license in the table to view details about the license.

Preferences									
type filter text	Licensing						⇔ ▼ ⇔ ▼ ▼		
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> </ul>	Peer Software Licensing Configuration								
> Email Configuration	License	Quantity	Version	Expiration Date	Note		Add/Update		
> File Collab, Sync, Repl, and Locking	> Peer Global File Service	4 Host	4.5				Delete		
> General Configuration									
Licensing MED Configuration									
> NAS Configuration	License Information Invalid	Licenses							
Real-time Event Detection Task Scheduler	License: Peer Global File S	ervice					^		
User Management	Package Name: Data Ce	enter							
	Version Number: 4.5 Date Issued: 07/15/2	019							
	Expiration: Never								
	Quantity: 4 Host								
	Licensed To: Matt Ma								
		ftware, Inc Opeersoftw	are.com				~		
							*		
						OK Cancel	Apply		

6. Click **OK** or **Apply**.

## **Deleting a License File**

To delete a license.

1. From the **Windows** menu, select **Preferences**.

- 2. Select **Licensing** in the navigation tree.
- 3. Select the license you want to delete.
- 4. Click the **Delete** button

Any job types enabled by that license will be hidden from the Peer Management Center.

### **MED Configuration**

Peer's Malicious Event Detection (MED) real-time engine can spot unwanted activity being executed on storage platforms by ransomware, viruses, malware, hackers, or rogue users. MED technology provides alerting capabilities, as well as the ability to minimize the amount of encrypted or deleted content from being replicated to remote locations. Once MED is enabled and jobs are restarted, these capabilities apply to all jobs. For more information, see Introduction to Peer MED.

Peer MED deploys three different mechanisms for spotting malicious activity, each of which can be enabled and tuned independently. These settings are configured on a global level.

To view and modify these settings,

- 1. From the **Window** menu, select **Preferences**.
- 2. Select **MED Configuration** in the navigation tree.

The following page is displayed.

Preferences				$\times$
type filter text	MED Configuration	<b>⇔</b> -	$\Rightarrow$	
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locki</li> <li>General Configuration Licensing MED Configuration</li> <li>NAS Configuration Real-time Event Detection</li> <li>Task Scheduler User Management</li> </ul>	Enable Default Settings:  (Off. This option is Currently Disabled) Show Advanced Settings Note: You may have to restart running Jobs for any changes to take affect.			
< >	OK Cancel	Å	Apply	

3. Select the **Enable Default Settings** or click **Show Advanced Settings**.

If you selected **Show Advanced Settings**, the following is displayed.

Preferences	- D X
type filter text	MED Configuration $\Leftrightarrow \bullet \bullet \bullet \bullet \bullet$
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locki</li> <li>General Configuration</li> <li>Licensing</li> </ul>	Enable Default Settings:  (Off. This option is Currently Disabled) Hide Advanced Settings Malicious Event Detection (MED) Advanced Options Enable Malicious Event Detection (MED):
MED Configuration > NAS Configuration Real-time Event Detection > Task Scheduler User Management	Bait Files Advanced Options         Enable Bait Files:         Add Bait Files to shares:         Trigger Action:       Alert Only
oser munogement	Pattern Matching Advanced Options       Enable Pattern Matching:       Trigger Action:
	Trap Folders Advanced Options (Note: Currently used for local Windows paths only)         Enable Trap Folders:         Add Trap Folders to shares:
	Note: You may have to restart running Jobs for any changes to take affect.
< >	Restore Default Settings
	OK Cancel Apply

- 4. Modify the options as needed:
  - Primary MED Options
  - Bait File Advanced Options
  - Trap Folders Advanced Options
- 5. Click **OK**.

# **Primary MED Options**

The main options are as follows:

Enable Default Settings	Enables/disables Peer MED using default settings. By defaul all three MED mechanisms are enabled.		
Show/Hide Advanced Settings	Shows/hides options for each of the three MED mechanisms.		

Enable Malicious Event Detection (MED)	The master on/off switch for MED. If unchecked, all MED mechanisms will be disabled.
Restore Default Settings	Restores all defaults across the three MED mechanisms.

## **Bait File Advanced Options**

Bait files are files of common types, inserted into the file system in a way that hides them from users. Though hidden, these bait files are likely to be accessed by automated processes (like ransomware) or by mass deletions of entire folder structures. As soon as these files are touched, an action is triggered.

The options for bait files are:

Enable Bait Files	Enables/disables bait file creation and monitoring.			
Add Bait Files to shares	At the start of each job, creates bait files under the root of each participant's configured watch directory. To see the watch directory for a job, review <u>Host Participants and Directories</u> .			
Trigger Action	Defines the action to take when MED detects malicious activity on a bait file. See <u>Action Types</u> for more details on available actions.			

### **Action Types**

For each MED mechanism, one of four actions can be configured on the detection of malicious activity. These actions are:

Alert Only	Triggers an alert in the Peer Management Center.
	If email alerts are configured for MED Alerts and enabled for a job, an email will also be sent. See <u>Email Alerts</u> in the <u>Basic</u> <u>Concepts</u> section for more information about email alerts.
	If SNMP traps are configured for MED Alerts and enabled for a job, an SNMP trap will also be sent. See <u>SNMP Notifications</u> in the <u>Basic Concepts</u> section for more information about SNMP notifications.

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Alert and Disable Host	Triggers an alert while also removing the afflicted Agent from the job in which the malicious activity was detected. Once disabled, Agents will need to be manually re-enabled for collaboration to resume. See <u>Re-enabling a Disabled Agent</u> <u>Within a Job</u> for details.			
Alert and Stop Job	Triggers an alert while also stopping the job where the malicious activity was detected. Jobs will need to be restarted in order for collaboration to resume.			
Alert, Disable Host and Stop Job	Triggers an alert, removes the afflicted Agent from the job where the malicious activity was detected, and stops the job. This option is the most aggressive and will require administrators to re-enable Agents as well as restart jobs. Se <u>Re-enabling a Disabled Agent Within a Job</u> for details.			

An example of an alert as displayed in the Peer Management Center is as follows:

Peerlet Advisory Alert Details			
Received Date:	03-12-2018 19:23:26		
Severity:	FATAL		
Category:	Event Detection		
Host Name:	DellT110a		
Locally Created at:	03-12-2018 19:23:26		
Message:	Malicious Event Detection (MED) - Bait File Alert (Alert Only: Please check for unwanted activity) Alert Message info=BAIT FILE ALERT appld=113, appSessionId=142 path=See Message Field msg=TriggerAlertFileFound: Path=\\svm9x-1\cifs1\Departments\Sales\.pc-med_bin \Doc_000-med.docx - EventName: RENAME details=  Participant Detected=DellT110a Alert Message=TriggerAlertFileFound: Path=\\svm9x- 1\cifs1\Departments\Sales\.pc-med_bin\Doc_000- med.docx - EventName: RENAME Time Detected=Mon Mar 12 19:23:26 EDT 2018 User Detected=MattM IP Detected=Doc_000-med.docx Process Detected=SMBVersion=31 Share Detected=cifs1 Job Session ID=3248744344		
Class Name:	WatchDirectoryOperations		
App Session Key:	142		
Error Code:	2520		
Action:	Alert Only		
	Click outside of popup to close		

## **Trap Folders Advanced Options**

On Windows file servers, Peer MED can be configured to create hidden, recursive folders that attempt to trap or slowdown ransomware as it enumerates a folder structure. As with the bait files, these folders cannot be seen by users but will be accessible by automated processes. If bait files (above) are enabled, a bait file will be placed within each trap folder, and an action will be triggered as soon as these files are touched.

Options for trap folders are:

Enable Trap Folders	Enables/disables the creation and monitoring of trap folders.
Add Trap Folders	At the start of each job, create trap folders under the root of each participant's configured watch directory. To see the watch directory

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to shares	for a job, review Host Participants and Directories.
	Note: Trap Folders will only be used with participants that are Windows file servers. As such, these settings will not apply to any other enterprise NAS device.

### **NAS Configuration**

This section contains information about configuring your NAS for use with Peer Global File System:

- Dell EMC Configurations
- <u>NetApp 7-Mode Configurations</u>
- <u>NetApp cDOT Configurations</u>
- <u>Nutanix Configurations</u>

### Dell EMC Configurations

Peer Management Center supports the ability to include content from CIFS/SMB shares on one or more Dell EMC storage devices within most available job types. These Dell EMC devices can be running Isilon, Unity, or VNX. For detailed information about Dell EMC prerequisites, see <u>Dell EMC Prerequisites</u>.

To create a new Dell EMC configuration:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select **NAS Configuration** in the navigation tree.
- 3. Select **Dell EMC Configurations**.

The **Dell EMC Configurations** page is displayed. It lists existing configurations.

type filter text	Dell EMC Configuration	ons		⇐ ▾ ⇔ ▾
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration Licensing MED Configuration</li> <li>NAS Configuration</li> <li>NAS Configuration</li> <li>Dell EMC Configuration NetApp 7-Mode Config NetApp cDOT Configur Nutanix Files Configura Real-time Event Detection</li> <li>Task Scheduler User Management</li> </ul>	Agent DGAgent2	EMC Name MLISI1	Device Type Isilon	Create Edit Delete

4. Click the **Create** button.

The **Management Agent** page appears.

0			
Management Agent			
Select the server hosting the P	eer Agent that manages this stora	ige device.	
Management Agent			
Storage Information	Host	Computer Description	
	DGAgent1		
	DGAgent2		
		< Back Next >	Cancel

5. Select a Management Agent, and then click **Next**.

The **Storage Information** page appears. The fields in the **Credentials** section vary, depending on the selected EMC platform type; VNX is selected by default.

٩				— 🗆	$\times$
Storage Information					
Enter the required information to	o connect to the storage				
Management Agent Storage Information	Credentials Device Type:	VNX			~
	*CIFS Server Name:	VINA .			-
	*Control Station Username:				
	*Control Station Password:				
	*Control Station IP:				
				Advance	ed
	Validate You must en Having trouble connecting? P	er the name. ease verify that all <u>prerequisites</u> are m	et for EMC VNX/Celerra envi	ronments.	
		< Back	Next >	Canc	el

6. Select the device type, and then enter the required values in **Credentials**:

Dell EMC Isilon Credentials

**Dell EMC Unity Credentials** 

Dell EMC VNX Credentials

7. (Optional) Click the **Advanced** button if you want to specify advanced options, and then enter the required values:

Dell EMC Isilon Advanced Options

Dell EMC Unity Advanced Options

**Dell EMC VNX Advanced Options** 

- 8. Click Validate.
- 9. Click **Next**.
- 10. Click **OK**.

1. Enter the required values.

0			- 🗆 X
Storage Information			
Enter the required information	to connect to the storage		
Management Agent Storage Information	Credentials Device Type: *Cluster Name: *Cluster Username: *Cluster Password: Cluster Management IP:	Isilon	Advanced
		it enter the name. g? Please verify that all <u>prerequisites</u> are met for EMC Isilon envir	onments.
		< Back Next >	Cancel

Cluster Name	Enter the name of the EMC Isilon cluster hosting the data to be replicated.
Cluster Userna me	Enter the user name for the account managing the EMC Isilon cluster.
Cluster Passwo rd	Enter the password for account managing the EMC Isilon cluster.

	ister nage ent	Enter the IP address of the system used to manage the EMC Isilon cluster. Required only if multiple Access Zones are in use on the cluster.
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- 2. (Optional) Click <u>Advanced</u> and enter the required values.
- 3. Click Validate.
- 4. Click Finish.

The options are divided into two groups:

- EMC Isilon Options for this Job
- Advanced Settings

Filter open/close events fro	m these users	5:				
Filter all events from these	users:					
Filter events from these IP A	Addresses:					
Access Event Suppression Time:		0				
Advanced Settings for Agen	t DGAgent1 a	nd EMC Isilo	n:ADFADF			
Filtered IP Addresses:						~
Nodes:						
Audit Cluster Name:						
Cluster IP:						
Cluster Port:						
*Cluster Username:						
*Cluster Password:						
Cluster Access Zone:						
Validate Cluster:						
Update Isilon CEE Log Time	: 🗹					
NOTE: Any changes made	4. 4h 6.d.	innered EMC	Cottings will	hourd	with an	

# **EMC Isilon Options for this Job**

The following configuration options are available for Dell EMC Isilon devices:

Filter	A comma-separated list of user names to exclude from access
open/close	event detection. For example, if "USER1" is excluded, any
events from	access event activity generated by USER1 will be ignored,
these users	e.g., file is opened and closed.
Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.

Filter	A comma-separated list of IP addresses to exclude from all
events from	event detection. For example, if "192.168.0.100" is excluded,
these IP	any activity generated by 192.168.0.100 will be ignored, e.g.,
Addresses	file is open and modified.
Access Event Suppressio n Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is - 1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.

# **Advanced Settings**

The following advanced settings are available for Dell EMC Isilon devices:

Filtered IP Addresses	Events generated from these IP addresses will be filtered. It is recommended that the IP address of the CEE Server is added to this list.
Nodes	Comma-delimited listed of additional node IP address to query for open files. These addresses must be accessible from the CEE Server where the Agent is running.
Cluster IP	The cluster IP address of the Isilon system.
Audit Cluster Name	The hostname that is set in the Isilon audit system configuration.
Custer Port	The cluster port number of the Isilon system. Default value is 8080.
Cluster UsernameT	The user name used to sign into the Isilon cluster.
Cluster Password	The password used to sign into the Isilon cluster.
Validate Cluster	If enabled, the Isilon cluster will be validated both on registration and periodically by a maintenance thread.

Isilon CEE	If enabled, the audit log time on the Isilon cluster will be set to the start time of the first job to communicate with this Isilon cluster.
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1. Enter the required values.

٢		- D X
Storage Information		
Enter the required information to o	connect to the storage	
Management Agent Storage Information	Credentials	
	Device Type:	Unity ~
	*CIFS Server Name:	
	*Unisphere Username:	
	*Unisphere Password:	
	*Unisphere Management IP:	
	Unisphere Management IP:	
		Advanced
		ter the name.
	Having trouble connecting? P	lease verify that all <u>prerequisites</u> are met for EMC Unity environments.
		< Back Next > Cancel

CIFS Server Name	Enter the name of the CIFS server hosting the data to be replicated.
Unisphe re Userna me	Enter the user name for the Unisphere account managing the Unity storage device.

Unisphe re Passwo rd	Enter the password for the Unisphere account managing the Unity storage device.
Unisphe re Manage ment IP	Enter the IP address of the Unisphere system used to manage the Unity storage device. This should not point to the CIFS server.

- 2. (Optional) Click <u>Advanced</u> and enter the required values.
- 3. Click Validate.
- 4. Click Finish.

The options are divided into two groups:

- EMC Unity Options for this Job
- Advanced Settings

Filter open/close events from	these user	s:			
Filter all events from these use	ers:				
Filter events from these IP Ad	dresses:				
Access Event Suppression Tim	ne:	0			<b>^</b>
Unisphere Management Port: *Unisphere Username: *Unisphere Password:					
Validate Unisphere:					
			 	l with ev	

# **EMC Unity Options for this Job**

The following configuration options are available for EMC Unity devices:

Filter open/close events from these users	A comma-separated list of user names to exclude from access event detection. For example, if "USER1" is excluded, any access event activity generated by USER1 will be ignored, e.g., file is opened and closed.
Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.
Filter events from these IP Addresses	A comma-separated list of IP addresses to exclude from all event detection. For example, if "192.168.0.100" is excluded, any activity generated by 192.168.0.100 will be ignored, e.g., file is open and modified.

Access Event Suppressio n Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is - 1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.
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# **Advanced Settings**

The following advanced settings are available for Dell EMC Unity devices:

Filtered IP Addresses	Events generated from these IP addresses will be filtered. It is recommended that the IP address of the CEE Server is added to this list.			
Unisphere Manageme nt IP	The Unisphere Management IP address of the Unity system. This address is used for making API calls to validate configuration.			
Unisphere Manageme nt Port	The Unisphere Management port number of the Unity system. Default value is 443.			
Unisphere Username	The user name used to sign into Unisphere.			
Unisphere Password	The password used to sign into Unisphere.			
Validate Unisphere	If enabled, Unisphere settings will be validated both on registration and periodically by a maintenance thread.			

1. Enter the required values.

٥					— 🗆 X
Storage Information					
Enter the required information to c	onnect to the storage				
Management Agent Storage Information	Credentials Device Type: *CIFS Server Name: *Control Station Username: *Control Station Password: *Control Station IP:		quisites are met	for EMC VNX/Cel	Advanced
		<	Back N	lext >	Cancel

CIFS Server Name	Enter the name of the CIFS Server hosting the data to be replicated.
Control Station Userna me	Enter the user name for the Control Station account managing the VNX/Celerra storage device.
Control Station Passwor d	Enter the password for the Control Station account managing the VNX/Celerra storage device.
Control Station	Enter the IP address of the Control Station system used to manage the VNX/Celerra storage device. This should not point to the CIFS Server.

IP
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- 2. (Optional) Click <u>Advanced</u> and enter the required values.
- 3. Click Validate.
- 4. Click Finish.

### The options are divided into two groups:

- EMC VNX Options for this Job
- <u>Advanced Settings</u>

EMC VNX Options				$\times$
EMC VNX Options for this Job				
Filter open/close events from these user	5:			
Filter all events from these users:				
Filter events from these IP Addresses:				
Access Event Suppression Time:	0			▲ ▼
Filtered IP Addresses:         *Control Station IP:         Control Station Port:         *Control Station Username:         *Control Station Password:         Validate Control Station:         Validate Control Station:         NOTE: Any changes made to these Address	vanced EMC Settings w	ill be use	d with ev	<pre></pre>
other session in which this CEE Event Ser		an EMC s	-	
	OK		Cance	5

# **EMC VNX/Celerra Options for this Job**

The following configuration options are available for Dell EMC VNX devices:

Filter	A comma-separated list of user names to exclude from access			
open/close	event detection. For example, if "USER1" is excluded, any			
events from	access event activity generated by USER1 will be ignored,			
these users	e.g., file is opened and closed.			
Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.			
Filter events	A comma-separated list of IP addresses to exclude from all			
from these	event detection. For example, if "192.168.0.100" is			
IP	excluded, any activity generated by 192.168.0.100 will be			
Addresses	ignored, e.g., file is open and modified.			
Access Event Suppression Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is -1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.			

# **Advanced Settings**

The following advanced settings are available for EMC VNX/Celerra devices:

Filtered IP Addresses	Events generated from these IP addresses will be filtered. I is recommended that the IP address of the CEE Server is added to this list.		
Control Station IP	The Control Station IP address of the VNX/Celerra system.		
Control Station Port	The Control Station Port number of the VNX/Celerra system. The default value is 443.		
Control Station	The user name used to sign into the VNX/Celerra Control Station.		

Username	
Control Station Password	The password used to sign into the VNX/Celerra Control Station.
Validate Control Station	If enabled, the VNX/Celerra Control Station will be validated both on registration and periodically by a maintenance thread.

#### NetApp 7-Mode Configurations

Peer Management Center supports the ability to include content from CIFS/SMB shares on one or more NetApp storage devices within most available job types. These NetApp devices can be running Data ONTAP 7-Mode or clustered Data ONTAP. In order to work with NetApp devices, Peer Management Center leverages the FPolicy API built into the NetApp device. For detailed information about NetApp prerequisites and configuration, see <u>NetApp Prerequisites</u>.

To create a new NetApp 7-Mode configuration:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select **NAS Configuration** in the navigation tree.
- 3. Select NetApp 7-Mode Configurations.

The **NetApp 7-Mode Configurations** page is displayed. It lists existing configurations.

> Cloud Backup and Replicat         > DFS-N Management         > Email Configuration         > File Collab, Sync, Repl, and         > General Configuration         Licensing         MED Configuration         Dell EMC Configuration         Dell EMC Configuration         Dell EMC Configuration         Nutanix Files Configuration         Nutanix Files Configuration         Just Scheduler         User Management	type filter text	NetApp 7-Mode Configu	Irations		(→ + → + •
	<ul> <li>&gt; Cloud Backup and Replicat</li> <li>&gt; DFS-N Management</li> <li>&gt; Email Configuration</li> <li>&gt; File Collab, Sync, Repl, and</li> <li>&gt; General Configuration Licensing MED Configuration</li> <li>&gt; NAS Configuration</li> <li>Dell EMC Configuration</li> <li>Dell EMC Configuration</li> <li>NetApp 7-Mode Configuration</li> <li>NetApp cDOT Configura</li> <li>Nutanix Files Configura</li> <li>Real-time Event Detection</li> <li>&gt; Task Scheduler</li> <li>User Management</li> </ul>			FPolicy Name	Create

4. Click the **Create** button.

The **Management Agent** page appears.
Select the server hosting the P	eer Agent that manages this stora	ige device.	
Management Agent			
Storage Information	Host	Computer Description	
	DGAgent1		
	DGAgent2		

5. Select a Management Agent, and then click **Next**.

The **Storage Information** page appears.

0	— 🗆 X
Storage Information	
Enter the required information	to connect to the storage
Management Agent Storage Information	Credentials *Filer/vFiler Name: Advanced
	Validate You must enter the name.
	Having trouble connecting? Please verify that all prerequisites are met for NetApp 7-Mode environments.
	< Back Next > Cancel

6. Enter the required values in **Credentials**.

Fil er Na me	Enter the name of the NetApp 7-Mode filer or vFiler hosting the data to be replicated.
-----------------------	--

7. (Optional) Click the **Advanced** button if you want to specify advanced options, and then enter the required values:

NetApp 7-Mode Advanced Options

8. Click Validate.

- 9. Click **Next**.
- 10. Click **OK**.

The options are divided into two groups:

- <u>NetApp Options for this Job</u>
- <u>Advanced Settings</u>

NetApp Options				$\times$
NetApp Options for this Job				
Filter open/close events from these users:				
Filter all events from these users:				
Filter events from these IP Addresses:				
Access Event Suppression Time:	0			•
A '*' represents a rec	quired configuration item.			
Advanced (Optional) FPolicy Settings for: D Excluded Extensions: Include or Exclude Volumes Include O Exclude	)GAgent1			
NOTE: Any changes made to these Adva				
other session in which this FPolicy S	Server is connecting with	a NetAp	p Filer.	
	ОК		Cance	2

# **NetApp Options for this Job**

The following configuration options are available for NetApp 7-Mode devices:

open/close events from	A comma-separated list of user names to exclude from access event detection. For example, if "USER1" is excluded, any access event activity generated by USER1 will be ignored, e.g., file is opened and closed.
---------------------------	---

Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.	
Filter events from these IP Addresses	A comma-separated list of IP addresses to exclude from all event detection. For example, if "192.168.0.100" is excluded, any activity generated by 192.168.0.100 will be ignored, e.g., file is open and modified.	
Access Event Suppressio n Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is - 1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.	

# **Advanced Settings**

Excluded Extensions	<ul> <li>Extensions entered here are excluded from event detection on the NetApp Filer. Values are comma separated and must not contain any periods.</li> <li>FPolicy enables you to restrict a policy to a certain list of file extensions by excluding extensions that need to be screened.</li> <li>Note: The maximum length of a file name extension supported for screening is 260 characters. Screening by extensions is based only on the characters after the last period (.) in the file name. For example, for a file named fle1.txt.name.jpg, file access notification takes place only if a file policy is configured for the jpg extension.</li> </ul>
Include or Exclude Volumes	List all volumes on the NetApp Filer to exclude or include based on selected choice. FPolicy enables you to restrict a policy to a certain list of volumes by including or excluding volumes that need to be screened. Using the include list, you can request notifications for the specified volume list. Using the exclude list, you can request notifications for all volumes except the specified volume list. However, by default, both the include and exclude list are empty.

You can use the question mark (?) or asterisk (*) wildcard characters to specify the volume. The question mark (?) wildcard character stands for a single character. For example, entering vol? in a list of volumes that contain vol1, vol2, vol23, voll4, will result in only vol1 and vol2 being matched.
The asterisk (*) wildcard character stands for any number of characters that contain the specified string. Entering *test* in a list of volumes to exclude from file screening excludes all volumes that contain the string such as test_vol and vol_test.

#### NetApp cDOT Configurations

Peer Management Center supports the ability to include content from CIFS/SMB shares on one or more NetApp storage devices within most available job types. These NetApp devices can be running Data ONTAP 7-Mode or clustered Data ONTAP. In order to work with NetApp devices, Peer Management Center leverages the FPolicy API built into the NetApp device. For detailed information about NetApp prerequisites and configuration, see <u>NetApp Prerequisites</u>.

To create a new NetApp cDOT configuration:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select **NAS Configuration** in the navigation tree.
- 3. Select NetApp cDot Configurations.

The **NetApp cDOT Configurations** page is displayed. It lists existing configurations.

type filter text	NetApp cDOT Config	urations	$(\Rightarrow \bullet) \bullet \bullet$
<ul> <li>&gt; Cloud Backup and Replicat</li> <li>&gt; DFS-N Management</li> <li>&gt; Email Configuration</li> <li>&gt; File Collab, Sync, Repl, and</li> <li>&gt; General Configuration</li> <li>&gt; MAD Configuration</li> <li>&gt; NAS Configuration</li> <li>&gt; NAS Configuration</li> <li>&gt; NetApp 7-Mode Config NetApp 7-Mode Configuration</li> <li>NetApp cDOT Configura</li> <li>Nutanix Files Configura</li> <li>Real-time Event Detection</li> <li>&gt; Task Scheduler</li> <li>User Management</li> </ul>	Agent DGAgent1 DGAgent2	SVM Name	Create Edit Delete

4. Click the **Create** button.

The **Management Agent** page appears.

	eer Agent that manages this store		
Management Agent	Host	Computer Description	
Storage Information		Computer Description	
	DGAgent1 DGAgent2		
	DOAgeniz		

5. Select a Management Agent, and then click **Next**.

The **Storage Information** page appears.

٥	— 🗆 X
Storage Information	
Enter the required information	to connect to the storage
Management Agent Storage Information	Credentials         *SVM Name:         *SVM User Name:         *SVM Password:         SVM Management IP:         *Peer Agent IP:         *Peer Agent IP:         Advanced
	< Back Next > Cancel

6. Enter the required values in **Credentials**.

SVM Name	Enter the name of the Storage Virtual Machine hosting the data to be replicated.
SVM Userna me	Enter the user name for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Passwor d	Enter the password for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Manage ment IP	Enter the IP address used to access the management API of the NetApp Storage Virtual Machine. If the data LIFs (Logical Interfaces) corresponding to the SVM Name above already allow management access, this field is not required.

Agent IP Storrout	ect the IP address of the server hosting the Agent that manages the brage Virtual Machine. The Storage Virtual Machine must be able to te traffic to this IP address. If the IP address you want does not bear, manually enter the address.
-------------------	--

7. (Optional) Click the **Advanced** button if you want to specify advanced options and enter the required values:

NetApp cDOT Advanced Options

- 8. Click Validate.
- 9. Click Next.
- 10. Click **OK**.

The options are divided into two groups:

- <u>NetApp Options for this Job</u>
- Advanced Settings

NetApp Options				$\times$
NetApp Options for this Job				
Filter open/close events from these	sers:			
Filter all events from these users:				
Filter events from these IP Addresses				
Access Event Suppression Time:	0			<b></b>
*SVM Password: SVM Management IP: *Agent IP for SVM Conn.:			 	
Filtered Extensions:				
Admin Share Override:				
NOTE: Any changes made to thes other session in which this FPolicy				
		ОК	Cance	el

# **NetApp Options for this Job**

The following configuration options are available for NetApp cDOT devices:

Filter	A comma-separated list of user names to exclude from access	
open/close	event detection. For example, if "USER1" is excluded, any	
events from	access event activity generated by USER1 will be ignored,	
these users	e.g., file is opened and closed.	
Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.	
Filter	A comma-separated list of IP addresses to exclude from all	
events from	event detection. For example, if "192.168.0.100" is excluded,	
these IP	any activity generated by 192.168.0.100 will be ignored, e.g.,	
Addresses	file is open and modified.	

Access Event Suppressio n Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is - 1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.
---	---

## **Advanced Settings**

SVM Username	The account name of the VSAdmin or similar account on the SVM that has the appropriate access to ONTAPI.	
SVM Password	The password of the VSAdmin or similar account on the SVM that has the appropriate access to ONTAPI. This value will be encrypted.	
SVM Management IP (optional)	If the primary data LIF for the SVM (whose IP address is registered in DNS) does not support management calls, enter the management IP address of SVM.	
Agent IP for SVM Conn.	The IP address over which this Peer Agent will connect to the configured SVM. This MUST be an IP address.	
Filtered Extensions	A comma separated list of file extensions to exclude (without a leading asterisk (*).	
Admin Share Override	Enter the administrative-type share that you created on the cDOT SVM. To take advantage of performance improvements when using this option, the share must be created at the root of the SVM's namespace (/). Ideally it should be named to something similar to PMCShare\$ to prevent users from being able to see it.	

#### **Nutanix Files Configurations**

Peer Management Center supports the ability to include content from CIFS/SMB shares on one or more Nutanix Files (formerly Acropolis File Services or AFS) clusters within most available job types. For detailed information about Nutanix prerequisites, see <u>Nutanix Prerequisites</u>.

To create a new Nutanix configuration:

1. Select **Preferences** from the **Window** menu.

The **Preferences** dialog appears.

- 2. Select **NAS Configuration** in the navigation tree.
- 3. Select Nutanix Configurations.

The **Nutanix Files Configurations** page is displayed. It lists existing configurations.

Preferences			— 🗆 X
type filter text	Nutanix Files Configu	ations	← → → → →
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and</li> <li>General Configuration         Licensing         MED Configuration         VAS Configuration         Dell EMC Configuratior         NetApp 7-Mode Configur         NetApp 7-Mode Configur         NetApp cDOT Configur         NetApp cDOT Configur         Real-time Event Detection</li> <li>Task Scheduler         User Management</li> </ul>	Agent DGAgent1 DGAgent2	Nutanix File Server Name         AFS2         aFS2 </th <th>Create Edit Delete</th>	Create Edit Delete
			OK Cancel Apply

4. Click the **Create** button.

The Management Agent page appears.

	eer Agent that manages this stora		
Management Agent	Host	Computer Description	
Storage Information	DGAgent1	computer beschption	
	DGAgent2		
	bongenie		

5. Select a Management Agent, and then click **Next**.

The **Storage Information** page appears.

٥	— D X
Storage Information Enter the required information	to connect to the storage
Management Agent Storage Information	Credentials         *Nutanix File Server Name:         *Username:         *Username:         *Password:         *Peer Agent IP:         ✓         Advanced
	< Back Next > Cancel

6. Enter the required values in **Credentials**.

Nutanix File Server Name	Enter the name of the Nutanix Files cluster hosting the data to be replicated.	
Userna me	Enter the user name for the account managing the Nutanix Files cluster via its management APIs.	
Passwo rd	Enter the password for the account managing the Nutanix Files cluster via its management APIs.	
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Nutanix Files cluster. The Files cluster must be able to route traffic to this IP address. If the IP address you want does not appear, manually enter the address. This should not point to the Files cluster itself.	

7. (Optional) Click the **Advanced** button if you want to specify advanced options, and then enter the required values:

Nutanix Files Advanced Options

- 8. Click Validate.
- 9. Click Next.
- 10. Click **OK**.

The options are divided into two groups:

- Nutanix Files Options for this Job
- Advanced Settings

Nutanix Files Options	— 🗆 X
Nutanix Files Options for this Job	
Filter open/close events from these users	:
Filter all events from these users:	
Filter events from these IP Addresses:	
Access Event Suppression Time:	0
Peer Agent IP: User Name: Password:	
	aced Nutanix Files Settings will be used with every is connecting with an Nutanix File Server.

## **Nutanix Files Options for this Job**

The following configuration options are available for Nutanix Files devices:

Filter	A comma-separated list of user names to exclude from access	
open/close	event detection. For example, if "USER1" is excluded, any	
events from	access event activity generated by USER1 will be ignored,	
these users	e.g., file is opened and closed.	
Filter all events from these users	A comma-separated list of user names to exclude from all event detection. For example, if "USER"1 is excluded, any activity generated by USER1 will be ignored, e.g., file is open and modified.	
Filter	A comma-separated list of IP addresses to exclude from all	
events from	event detection. For example, if "192.168.0.100" is excluded,	
these IP	any activity generated by 192.168.0.100 will be ignored, e.g.,	
Addresses	file is open and modified.	
Access Event Suppressio n Time	Represents the number of seconds that an open event will be delayed before being processed. Used to help reduce the amount of chatter generated by Windows clients when mousing over files in Windows Explorer. The default value is - 1, which will be adjusted based on the selected NAS platform. A value of 0 will allow for dynamic changes to the amount of time that an open event will be delayed based on the load of the system.	

## **Advanced Settings**

The following advanced settings are available for Nutanix Files devices:

Peer Agent IP	The IP address over which the configured Files cluster will send activity to this Peer Agent. This must be an IP addres	
<b>User Name</b> User name used to access the APIs on the Files cluster.		
<b>Password</b> Password used to access the APIs on the Files cluster.		

### **Real-time Event Detection Preferences**

Several options are available to tune the way real-time event detection occurs. These options apply to all job types, except for DFS-N Management and PeerSync Management.

**Note:** There are also real-time event detection settings applicable to most job types in the Peer Management Center. See <u>Real-time Event Detection</u> in the <u>File Collab, Sync, Repl, and</u> <u>Locking Preferences</u> topic for more information.

To view and modify real-time event detection settings for all job types:

- 1. From the **Window** menu, select **Preferences**.
- 2. Select **Real-time Detection** in the navigation tree.

The following page is displayed.

Preferences		- 🗆 X
type filter text	Real-time Event Detection	← → ⇒ → →
<ul> <li>Cloud Backup and Replicat</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locki</li> <li>General Configuration         <ul> <li>Licensing             MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         User Management</li> </ul>	Event Detection Options Max Path Length: Event Buffer Size: Access Polling Delay (Seconds): Debug Mode: Advanced Job Configuration Options: Raw Event Logging: Advanced Configuration:	1024 32768 1 - - - - - - - - - - - - -
	0	K Cancel Apply

3. Modify values as needed:

	The maximum length in characters of a file or folder path that can be detected and worked with. In rare cases, this can be increased to
--	---

	2048 or even 4096 but doing so will impact memory usage of the Peer Agents.
Event Buffer Size	The buffer size used by the Peer Agents to communicate with various Windows and enterprise NAS platform APIs.
Access Polling Delay (Seconds )	Controls how often a Peer Agent will poll a Windows File Server for its open files list.
Debug Mode	Turns on debug logging for real-time detection. This logs additional information that is often useful in troubleshooting issues but can increase overhead.
Advanced Job Configura tion Options	When selected, enables advanced job-level options tied to real-time event detection.
Raw Event Logging	When selected, turns on raw logging. This logs every single event that we receive from a storage platform, even ones that we may be able to consolidate and coalesce. This additional information is often useful in troubleshooting issues but will increase overhead.
Advanced Configura tion	A list of strings to enable advanced real-time detection options not found in the GUI. This should only be used when instructed by Peer Software support.

4. Click **OK** or **Apply**.

### **User Management**

Management of users with access to Peer Management Center's web interface can be performed through either the Peer Management Center's rich client or through an **admin** account logged into the web interface.

From the User Management page, you can add, edit, and remove internal user accounts, roles, and active directory users and groups.

To access the User Management page:

- 1. From the **Window** menu, select **Preferences**.
- 2. Select **User Management** from the navigation tree.

The following page is displayed:

Preferences		— 🗆 X
type filter text	User Management	⇔ • ⇔ • •
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, and Locking</li> <li>General Configuration         <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         <ul> <li>User Management</li> </ul> </li> </ul>	Internal Users admin Roles Power User Admin Role Help Desk	Add Edit Delete
	Active Directory Authentication URL: LDAP Admin User: Add/Update LDAP Admin User	Add Edit Delete
	Active Directory Users	Add Edit Delete
	Active Directory Groups	Add Edit Delete
	ОК	Cancel Apply

3. From this page, you can add, edit, and remove <u>internal user accounts</u>, <u>roles</u>, and <u>active</u> <u>directory users and groups</u>.

#### Internal Users

Adding an internal account requires a username, a password, an email address, and a selected role. For more details on the available roles, see <u>Web Interface</u>. Once an account has been created, its username, password, email address, and role can all be changed. The default **admin** user account password is **password**.

#### Notes:

- The default **admin** user cannot be renamed, nor can its role be changed.
- These user accounts have no impact on access to the rich client.

#### Web Interface Roles

Roles define user permissions to access and edit resources in the web interface.

There are three predefined roles with specific set of permissions: **Power User**, **Admin Role**, and **Help Desk**.

You can create custom roles, edit roles, delete roles, and assign roles:

- To create a custom role or to edit a role, click select User Management > Add or Edit button in the Roles section. Adding a custom role requires a name, display name, description, and base role.
- To delete a role, select the role from the **User Management** > **Roles** section, and then click **Delete**.
- Roles can also be assigned existing <u>tags</u> to define the resources users with that role can view and edit.

The following table outlines the resources that each role can edit and view.

	Power User	Admin Role	Help Desk
Тад		Edit	

	Power User	Admin Role	Help Desk
Resources Dialog			
PeerSync Summary View	Edit	Edit	Edit
PeerSync Job Stats View Part	Edit	Edit	
Memory Dump Action	Edit	Edit	
Advisory Alert View	Edit	Edit	
Runtime Summary Interface	Edit	Edit	View Only
Permission Mode	Edit	Edit	
Status Agent Tree View	View Only	Edit	
Session View	Edit	Edit	View Only
Peerlet View	Edit	Edit	View Only
Preferences		Edit	
Broker Statistics Action	Edit	Edit	
Hub Alert View	Edit	Edit	

	Power User	Admin Role	Help Desk		
PeerSync Configuration Interface	Edit	Edit	View Only		
PeerSync Job Stats View	Edit	Edit	Edit		
Event Analyzer Configuration Interface	Edit	Edit			
Collaboration Summary View	Edit	Edit			
PeerSync Update Log View	Edit	Edit	Edit		
PeerSync Add Log View	Edit	Edit	Edit		
PeerSync File Conflict View	Edit	Edit	Edit		
PeerSync Runtime Summary Interface	Edit	Edit	View Only		
Folder Analyzer View	Edit	Edit	View Only		
Hub Save All	Edit	Edit			
PeerSync Participant View	Edit	Edit			

	Power User	Admin Role	Help Desk
New Peerlet Action		Edit	
File Conflict View	Edit	Edit	Edit
Configuration Interface	Edit	Edit	
Hub View Progress	Edit	Edit	
PeerSync Advisory Alert View	Edit	Edit	
Event Analyzer Validation View	Edit	Edit	View Only
Expression Info Dialog	Edit	Edit	
Hub Refresh Perspective	Edit	Edit	
Event Analyzer Runtime Summary Interface	Edit	Edit	View Only
Peerlet Alert View	Edit	Edit	
Log Dump Action	Edit	Edit	

	Power User	Admin Role	Help Desk
Event Log View	Edit	Edit	
PeerSync Messages Log View	Edit	Edit	Edit
Event Analyzer Participant view	Edit	Edit	
Event Analyzer Log View	Edit	Edit	View Only
PeerSync Delete Log View	Edit	Edit	Edit
Thread Dump Action	Edit	Edit	
Participant View	Edit	Edit	
Hub Download Agent	Edit	Edit	
PeerSync Event Log View	Edit	Edit	
File Sync Advisory Alert View	Edit	Edit	
Expression List Dialog	Edit	Edit	

#### Active Directory Authentication

In addition to <u>internal users</u>, the Peer Management Center also provides Active Directory user and group authentication.

To configure Active Directory authentication:

1. Provide the URL of the LDAP server on the network in the one of the following formats:

ldap://MYDOMAIN.LOCAL

or

ldaps://MYDOMAIN.LOCAL

- 2. Add an Active Directory user or group by clicking **User Management > Active Directory Users/Active Directory Groups > Add** button.
- 3. Enter the Domain, Username or Group, and the Role in the configuration dialog.

To delete an Active Directory user or group:

1. Click the User Management > Active Directory Users/Active Directory Groups > Remove button.

Note: Active Directory users and groups are saved in the following format:

Username@MYDOMAIN.LOCAL

Use this format to log into the Peer Management Center's web interface:

	ement Center Authentication	
(i) Please e	nter your login credentials	
Username	username@mydomain.local	
Password	•••••	
		Login

### Peer Management Center User Interface

The Peer Management Center is a management interface for configuring and deploying jobs. The Peer Management Center graphical user interface enables you to create, view, edit, and delete jobs, as well as view runtime information for running jobs.

The Peer Management Center has two graphical user interface options:

- A <u>rich client</u> installed and run on the server running the Peer Management Center.
- A <u>web interface</u> that, when configured, can be accessed from remote systems via a web browser.

For more detailed information about the user interface, see:

- <u>Menus</u>
- Tables

- <u>Toolbar</u>
- <u>Views</u>

### **Rich Client Interface**

After starting up the Peer Management Center Client, the interface below is displayed. The interface can be divided into four quadrants: Jobs, Agents, Runtime Summaries, and Alerts. Each quadrant displays information in panels called <u>views</u>. A view can contain one or more tabs. The interface also contains <u>menus</u> and a <u>toolbar</u>.

n 🗈 🖻 剩 🔊 🕚 🗯 🗹	SA									🖺 灯 Jobs 🧾 Agents
bs	Collab and Sync Summary	🔒 Namespa	ce Summary	Cloud Summary	8					
🏹 📎 🖉 📕 Q 🎽	Volume Summary Job Summ	ary Destination S	tatistics Tasks							
filter text 🕐	Filter by: Expression	Filter text			Group by: None	~	Actions 👻			Auto Refresh Every 15 🔹 se
Cloud Backup and Replication (20)  19-Full45 - SS_scan_uVSS - s3	Filter by: Expression V	Piltertext		0	sroup by: None	~	Actions			Auto Kerresh Every 15 💌 se
19-win-scriptTest-AWS	Volume	Job	Management	Storage Device	Storage Type	Destination Type	Destination Name	Status Mode	Scan Status	
I9-win-scripttest-AWS - no versic	PTSVM93a_cifs1	testing cDOT	Lab12-D-16b	PTSVM93A	NetApp - cDOT	Amazon S3	peer-marcusl-cdot-flex-test2	Running CDP	Last Scan: Completed - 08-20-2019 13:32:13	
19-win-scripttest-aws2		7m-16a - SS_C	Lab12-D-16a	NALAB4	NetApp - 7-Mo	Amazon S3	peer-marcusl-7m-full45-cdp-eu-ireland	Running CDP	Last Scan: Completed - 08-20-2019 13:32:01	
I9-win-scripttest-rep-aws-2		ISI-full45 - SS C		mlisi1	EMC - Isilon	Amazon S3		Stopped Scheduled Scans		
19a-full45 2 - SS CDP -S3	(i) ifs	ISI-full45-A - Sn	Lab12-Isilon-16	mlisi1	EMC - Isilon	Amazon S3		Stopped Scheduled Scans		
7m-16a - SS CDP uVSS - S3	() ifs	ISI-full45-B - Re	Lab12-Isilon-16	mlisi1	EMC - Isilon	Amazon S3		Stopped Scheduled Scans		
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#### Web Interface

You can manage and monitor jobs via a robust web interface. Unlike many other web management consoles, Peer Management Center's web interface is very responsive and is built to mirror the functionality of the rich client (which is included with the Peer Management Center installer for use by system administrators).

When properly configured, the web interface allows system administrators to manage Peer Management Center's jobs from any location without the need to remotely log in to the Peer Management Center server.

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## Roles

The web interface includes a role-based log-in system with two predefined roles:

- **admin** This role has complete access to all functionality found in the Peer Management Center's rich client.
- **helpdesk** This role has read-only view of jobs and the ability to release conflicts for any running jobs.

Specifically, users with **helpdesk** accounts are limited to read-only access of the following:

- The <u>Jobs view</u>
- The Runtime views
- The Summary and Session tabs of each job.

In addition, **helpdesk** accounts have read-write access to the <u>Quarantines</u> tab of each job, with the ability to release conflicts.

For more information about the web interface, see:

- <u>Setting Up the Web Interface</u>
- Accessing the Web Interface

- Securing Access to the Web Interface
- Managing User Accounts

### Menus

The main window of the Peer Management Center has three menus:

- <u>File</u>
- <u>Window</u>
- <u>Help</u>

## **File Menu**

New Job	Presents a list of job types, from which you can create a new job.
Save/S ave All	This button will be enabled if any of the open jobs have been modified. Selecting <b>Save</b> will result in the currently open and selected job to be saved to disk. <b>Save All</b> saves all open and modified jobs to disk.
Exit	Selecting this option will close the Peer Management Center Client application. Note that as long as the Peer Management Center Service remains running, all running jobs will continue to operate.

## Window Menu

Reset Persp ectiv e	Resets all current windows, views, and editors to their default size and layout.
View Agent Sum mary	Opens the Agent Summary view, which displays a list of all known Peer Agents deployed and their detailed status information, which can be used to assess the health of the environment.

Show View	<ul> <li>Opens a submenu with the following options:</li> <li>View Alerts - Opens the Alerts view, which displays Peer Management Center alerts such as Peer Agent connection status changes.</li> <li>View Job Alerts - Opens the Job Alerts view, which displays alerts such as job restarts.</li> <li>View Task History - Opens the Task History view, which displays the status of tasks such as Daily Cleanup.</li> <li>View Progress - Opens the Progress view, which displays information pertaining to any running background tasks within the Peer Management Center.</li> </ul>
Prefe rence s	Opens the <u>Preferences</u> dialog, which enables the user to configure settings for the Peer Management Center.
Refre sh	Refreshes all current views and tabs.

# **Help Menu**

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User Guide	Open the help system.
Download Peer Agent Installer	Opens the Peer Software website where you can download the Peer Agent installer compatible with this version of the Peer Management Center.
Retrieve PMC/Agen t Logs	Collects and retrieve all useful log files for specified Peer Agents, the Peer Management Center, and all jobs. This information is assembled into a single encrypted zip file that can optionally be uploaded to the Peer Software technical support team. The collection and retrieval of the log and support files is performed in the background, which might take a while, depending on content size and network speed. Upon completion, you are notified and can view the zip file.
Retrieve Broker Statistics	Displays detailed statistical information about all messaging that has transpired for all connections (Peer Agents and the Peer Management Center) to the <u>Peer Management Broker</u> .

Thread Dump	Gives options to generate a thread dump of the running Peer Management Center Client and Service, as well as the running Peer Management Broker service. Both can be used by our technical support to debug certain issues.
Generate Memory Dump File	Generates a memory dump of the running Peer Management Center Client and Service, which can be used by our technical support to debug certain issues.
Compress DB on Restart	Check this option in cases where the database consumes a large amount of disk space. This option will compress the database upon restart of the Peer Management Center Service.
Check for Updates	Check for updates to the Peer Management Center. Minor releases can be automatically downloaded and installed. Major releases require a new license key and must be requested from Peer Software Support.
About Peer Manageme nt Center	Displays Peer Management Center version information.

### Tables

## **Table Detail Viewer**

Most tables shown throughout the Peer Management Center support double-clicking on any row. This action displays a dialog containing all the details pertaining to the information in that row, for example:

PMC Alert Details	▼
Received at:	02-07-2019 16:00:25
Severity:	Error
Category:	Host Resource Failure
Host Name:	DGAgent2
Locally Generated at:	02-07-2019 16:00:25
Name:	FC-EconA
Message:	NAS FATAL DISCONNECT (777) info=777
Ref ID:	183
	Click outside of popup to close

In addition, most right-click context menus contain the ability to copy this detailed information on one or more rows all at the same time. This information can then be pasted into any document editor.

### Toolbar

Use the toolbar in the main Peer Management Center window to quickly launch commonly performed actions.



The toolbar has the following buttons:

New Job	Initiates the process of creating a new job.
User Preferen ces	Opens the <u>Preferences</u> window, allowing the user to configure global settings for the Peer Management Center, as well as settings for individual job types.
View Dashbo ard	Displays the Dashboard Summary view, which displays metrics and key performance indicators from all running Cloud Backup and Replication, File Collaboration, File Locking, File Replication, and File Synchronization jobs, and Peer Agents.

View Agent Detail Summar Y	Shows the Agent Detail Summary view, which displays a list of all known Peer Agents deployed and their detailed status information, and can be used to assess the health of the environment.
Assign Tags	Opens the <u>Assign Tags</u> dialog where resources can be viewed and assigned to tags or categories. Tagging resources helps when managing large number of resources.
View Alerts	Opens the <u>Alert view</u> , which displays Peer Management Center alerts such as Peer Agent connection status changes.
View Job Alerts	Opens the <u>Job Alerts view</u> , which displays alerts such as job restarts.
Refresh	Refreshes all current views and tabs.

### Views

The Peer Management Center interface can be divided into four quadrants: Jobs, Agents, Runtime Summaries, and Alerts. Each quadrant displays information in panels called <u>views</u>. A view can contain one or more tabs.

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Lab12-Isilon-16 (Connected)	08-20-2019 14:29:07 Info	Auto Start					up after job creation					
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	08-20-2019 13:35:30 Info	Stop Job	NetAPP F	lex		User Stopp	ped Peerlet					
	08-20-2019 13:34:46 Error	Configural	ion 19-win-so	ripttest-AWS - no v	version	PeerletVali	dationException [appld=206, msg=Error starting 19-	-win-scriptte	st-AWS - no vers	Error starting 19-win-scripttest-AWS - no version Jo		
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The primary views are described in the following table.

Jobs (upper right quadrant)	<ul> <li>The <u>Jobs view</u> displays a list of all jobs, grouped by job type.</li> <li>The following buttons are available within this panel: <ul> <li>Start and Stop buttons allow you to start and stop any selected jobs.</li> </ul> </li> <li>View Runtime Summary button displays a table of summary information for all jobs of a selected job type.</li> </ul>
Agents (lower left quadrant)	The <u>Agent view</u> displays a list of known Peer Agents and connection status for each. Individual Peer Agents can be updated and restarted from this view as well by right-clicking on one or more items and selecting the appropriate item from the pop-up menu.
Runtime views (upper right quadrant)	Several types of views are displayed in this area, include job type summaries, individual job summaries, and the <u>Agent Summary</u> <u>view</u> , which displays a list of all known <u>Peer Agents</u> deployed and their detailed status information, which can be used to assess the health of the environment.
Alerts (bottom	The <u>Alerts view</u> displays a list of Peer Management Center alerts that have occurred with detailed information about each alert.

right quadrant)	Alerts relating to Peer Agent connection status changes will be reported here.
Job Alerts (bottom right quadrant)	The Jobs Alerts view displays a list of all job-specific alerts that have occurred. Alerts relating to the <u>automatic stopping and</u> restarting of jobs are displayed here.

#### Jobs View

The **Jobs** view is located in the top left quadrant of the Peer Management Center interface and lists all the jobs, grouped by type. The number in the parentheses following the job type identifies the number of jobs for that type.



Double-clicking any job will open the selected job and display a view in the Summaries <u>quadrant</u>. For example, double-clicking a File Collaboration job will display the <u>Collaboration</u> <u>Summary view</u>.

### **Context Menu**

Right-clicking any job will open a context pop-up menu with the following options:

Open	Open the selected job in an already open tab within the run-time view. Otherwise, a new tab will be opened for the selected job.
Open in New Tab	Open the selected job in a new tab within the File Collaboration Runtime View.
Start	Start the selected job if it is not already running.

Stop	Stop the selected job if it is already running.
Delet e	Delete the selected job from the Peer Management Center and from disk.
Edit Jobs( s)	Edit the configuration of the selected job(s).
Сору	Copy the selected job while assigning it a unique name.
Rena me	Rename the selected job.

Selecting multiple jobs and right-clicking will show a subset of the above context pop-up menus. Doing so will allow you to open, start, stop, and edit multiple jobs at once. For more information, see <u>Editing Multiple Jobs</u>.

## Toolbar

The following buttons are available on the toolbar within the **Jobs** view:

Manage, Save and Load Filters	Enables selection of predefined or user-defined filters and to save/manage filters. Default filters include Failed Jobs, Jobs with Backlog, and Running Scans.
Assign Tags	Opens the Assign Tags dialog where resources can be viewed and assigned to tags or categories. Tagging resources helps when managing large number of resources.
Start Job	Starts one or more selected and currently stopped jobs.
Stop Job	Stops one or more selected and currently running jobs.

## **Filtering Jobs**

To filter a large list of jobs, use the **Filter** field located below the toolbar buttons in the **Jobs** view. For more details on how to filter jobs, see <u>List Filters</u>.
#### **Agents View**

The **Agents** view is located below the <u>Jobs view</u>. This view contains a list of all known Peer Agents installed in your environment and displays the current <u>connection status</u> for each. See <u>Agent Connection Statuses</u> for information about Agent connection statuses.

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# Toolbar

The following buttons are available on the toolbar within the Agents view:

View Agent Summar Y	Opens the <u>Agent Summary view</u> , which provides details for all known Agents and their status.
Manage, Save and Load Filters	Allows for the selection of built-in or user-defined filters and to save and manage filters. Default Agent filters include <b>Connected</b> and <b>Disconnected</b> .
Assign Tags	Opens the <b>Assign Tags</b> dialog where resources can be viewed and assigned to tags or categories. Tagging resources helps when managing large number of resources.

### **Filtering Agents**

To filter a large list of Agents, use the **Filter** field located below the toolbar buttons in the <u>Agent view</u>. For more details on how to filter agents, see <u>List Filters</u>.

# **Updating Peer Agents**

If the Peer Agent software running on a host is out of date, the host will be shown as having a pending update in this view. When right-clicking the host, the option to automatically update

the Peer Agent software will also be available. You can update directly from the Peer Management Center; updating usually does not require any additional actions on the host server itself. See <u>Updating Peer Agents</u> for more information.

Right-clicking one or more host names in the Peer Agent list will open a context pop-up menu with the following options:



Restart Agent Service	Restarts the Peer Agent Windows service running on the corresponding host if the selected Peer Agent is connected. If the Peer Agent is not connected to the Peer Management Broker, an attempt is made to restart the Peer Agent Windows service using the Windows sc command. Please note that this works only if the user running the Peer Management Center can access the remote Peer Agent system and has the appropriate domain permissions to start and stop services on the remote Peer Agent system.
Remote Desktop	Launches a Windows Remote Desktop connection to the selected Peer Agent.
Edit Agent Configuration	Displays a dialog through which the selected Peer Agent can be configured. Configurable options include Peer Management Center

[	
	connectivity, Peer Agent logging, Peer Agent memory usage, among others. For more information, see <u>Editing an Agent Configuration</u> .
Remove	Remove the selected Peer Agent(s) from the view, but if the Peer Agent is still running or connects again, then it will be added back to the list when the next heartbeat is received.
View Properties	Displays properties for the selected Peer Agent, e.g., heartbeat information, host machine configuration, messaging statistics, performance statistics. See <u>Viewing Agent Properties</u> for more details.
Edit Properties	Displays a dialog where you can edit user-configurable properties for the selected Peer Agent.
Assign Tags	Displays a dialog where you can view and assign tags to resources.
Technical Support Tools	Displays a submenu of <u>tools</u> that can be used to assist technical support.
Test Agent Bandwidth Speed	Runs a bandwidth speed test to be performed in the background if the selected Peer Agent is connected. You are notified at completion with the results of the test.
Transfer Rate Report (not available on Web Client)	Displays a time series performance chart of average transfer rate for the selected Peer Agent over the last 24 hours.

# **Technical Support Tools**

Retrieve Log Files	Retrieves log files for the selected Peer Agent containing information used by our technical support staff to assist in debugging issues. The log files are encrypted and will be located in the support folder of the Peer Management Center installation directory. They can optionally be uploaded to our technical support team.
Generate Thread Dump	Generates a thread dump for the selected Peer Agent, which can be used by our technical support to debug certain issues. The debug file is located in the Peer Agent installation directory.

Generate Memory Dump	Generates a memory dump for the selected Peer Agent, which can be used by our technical support to debug certain issues. The debug file is located in the Peer Agent installation directory.
Memory Garbage Collection	Forces a garbage collection operation to attempt to reclaim memory that is no longer used within the Peer Agent's JVM.
Copy File	Copies a specified file from the Peer Management Center to the designated target folder on each selected Peer Agent. The target folder is relative to the Peer Agent installation directory.

### Agent Summary View

The **Agent Summary** view displays a list of all known Agents deployed and their detailed status information, which can be used to assess the health of the environment.

To display the Agent Summary view, use one of the following methods:

- Select **Show Agent Summary** from the **Window** menu.
- Click the **Show Agent Summary** icon in the main <u>PMC toolbar</u> or the <u>Agents view</u> <u>toolbar</u>.

The **Agent Summary** view is updated in real-time and can be filtered by using an expression or by built-in categories such as **Connected**, **Disconnected**, and **Needing Upgrade**.

Agent Summary						
Filter by: Expression	~					
type filter text						C
△ Agents	Version	JVM Architecture	Total Missed Heartbeats	Total Agent Disconnects	Total Pending Disconnects	Mem. Load
A Agents						
DGAgent1 (Connected)	4.5.0.20190813	amd64	0	0	0	48

### **Alerts View**

The **Alerts** view is automatically displayed when a critical system (Error or Fatal) alert is received. By default, the **Alerts** view is displayed under the runtime views, next to the <u>Job</u> <u>Alerts view</u>. Alert severity is broken down into four categories:

- Informational (containing Info, Debug, and Trace)
- Warning
- Error
- Fatal

An example of an Informational alert is when an <u>Peer Agent</u> connects to the <u>Peer Management</u> <u>Broker</u>. If a Peer Agent's network connection is severed, then an Error alert will be logged. All alerts are also logged to the file **hub\_alert.log**, available under the **Hub\logs** subdirectory within the Peer Management Center installation directory.

r circis, s marinigs,	36 others   F	ilter by : Host:	Severity:	∨ Туре:	✓ Clear Alerts	
Received Date	Severity	Туре	Name	Host	Message	
07-19-2019 00:26:54	Warning	Licensing	License Invalid	Peer Management Center	Peer Global File Service [Invalid License. ] Make sure a new valid license is installed	
07-18-2019 23:59:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Nightly Delete Shadow Copies Job on: DGAGENT1	
07-18-2019 23:30:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Blob Tiering Database Maintenance on: DGAGENT1	
07-18-2019 22:36:59	Info	Agent	Scheduled Task Started	DGAgent1	Started Process Retention Policy on:DGAGENT1	
07-18-2019 20:10:00	Error	Agent	Unable to load account info	DGAgent1	Unable to load account info for the fallowing record:DestinationRecord [id=6, cloud	Ту
07-18-2019 20:10:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Nightly Purge Destination Job on: DGAGENT1	
07-17-2019 23:59:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Nightly Delete Shadow Copies Job on: DGAGENT1	
07-17-2019 23:30:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Blob Tiering Database Maintenance on: DGAGENT1	
07-17-2019 22:37:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Process Retention Policy on:DGAGENT1	
07-17-2019 20:10:00	Error	Agent	Unable to load account info	DGAgent1	Unable to load account info for the fallowing record:DestinationRecord [id=6, cloud	Ty
07-17-2019 20:10:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Nightly Purge Destination Job on: DGAGENT1	
07-16-2019 23:59:00	Info	Agent	Scheduled Task Started	DGAgent1	Started Nightly Delete Shadow Copies Job on: DGAGENT1	

You can filter alerts based on host name, severity level, or type, and you can sort alerts by clicking on a specific column header. You can also clear all alerts in the table by clicking the **Clear Alerts** link.

# **Displaying the Alerts View**

You can open the **Alerts** view at any time by clicking the **View Alerts** button located on the Peer Management Center toolbar or by selecting the **Window** menu, then the **Show View** submenu, followed by the **View Alerts** menu item. You can close the **Alerts** view at any time by clicking on the **X** (Close) button on the **Alerts** tab.

You can resize the Alerts view by dragging the separator between the upper view and the Alerts view, or you can double-click the **Alerts** tab to maximize the view. You can restore the view to its original, non-maximized size by double-clicking the **Alerts** tab again.

### Job Alerts View

The **Job Alerts** view is automatically displayed when a critical selected job-related (Error or Fatal) alert is received. By default, the Job Alerts view is displayed under the runtime views, next to the <u>Alerts view</u>.

Job alert severity is broken down into four primary categories:

- Informational (containing Info, Debug, and Trace),
- Warning
- Error
- Fatal

An example of an Informational alert is when a job is started or stopped manually by the user. If a job loses one of its <u>participating hosts</u> and as a result, cannot keep a quorum and shuts down, then a Fatal alert will be logged. All alerts are also logged to the file **job\_alert.log**, available under the Hub\logs subdirectory within the Peer Management Center installation directory.

6 errors, 1 warnings, 5	others   Fi	ter by : Host:		Name:	Severity: V Type: Clear Al	<u>erts</u>
Received Date	Severity	Туре	Name	Host	Message	Exception
07-19-2019 01:22:59	Fatal	Error Running	CB-2		Uncaught Exception running job CB-2 : java.lang.Exception: Reply from DGAgent1 Operati	java.lang.Exception: Reply f
07-19-2019 01:22:59	Info	Start Job	CB-2		User Started Peerlet	
07-19-2019 00:26:55	Warning	Licensing	CB-2		Invalid License. Invalid license version Job Stopped!	
07-12-2019 13:52:11	Info	Start Job	CB-2		User Started Peerlet - Restart Action	
07-12-2019 13:52:11	Info	Stop Job	CB-2		User Stopped Peerlet - Restart Action	
07-12-2019 13:51:20	Info	Start Job	CB-S		User Started Peerlet - Restart Action	
07-12-2019 13:50:27	Info	Stop Job	CB-S		User Stopped Peerlet	
07-12-2019 00:38:30	Error	Configuration	FS-1		PeerletValidationException [appId=131, msg=Error starting FS-1 Job. Validation failed., erro	Error starting FS-1 Job. Valid
07-12-2019 00:38:30	Error	Configuration	CB-S		PeerletValidationException [appId=135, msg=Error starting CB-S Job. Validation failed., erro	Error starting CB-S Job. Vali
07-12-2019 00:38:30	Error	Configuration	FR-1		PeerletValidationException [appld=123, msg=Error starting FR-1 Job. Validation failed., erro	Error starting FR-1 Job. Valid
07-12-2019 00:38:30	Error	Configuration	FC-1		PeerletValidationException [appld=121, msg=Error starting FC-1 Job. Validation failed., erro	Error starting FC-1 Job. Valie
07-12-2019 00:38:26	Frror	Configuration	CB-S		PeerletValidationExceptionTappId=135_msg=Error starting CR-S Job. Validation failed. erro	Frror starting CB-S Job. Vali

You can filter alerts based on host name, job name, severity level, or type, and you can sort alerts by clicking on a specific column header. You can also clear all alerts in the table by clicking the **Clear Alerts** link.

# **Displaying Job Alerts**

You can open the Job Alerts view at any time by clicking the **View Job Alerts** button located on the Peer Management Center toolbar or by selecting the **Window** menu, then the **Show View** submenu, followed by the **View Job Alerts** menu item. You can close the view at any time by clicking on the **X** (Close) button on the Job Alerts tab.

You can resize the Job Alerts view by dragging the separator between the upper view and the Job Alerts view, or you can-double click the **Job Alerts** tab to maximize the view. You can restore the view to its original, non-maximized size by double-clicking the **Job Alerts** tab again.

# **Cloud Backup and Replication Jobs**

This section provides information about creating, running, and managing a Cloud Backup and Replication job:

- <u>Overview</u>
- Before You Create Your First Cloud Backup and Replication Job
- Creating a Cloud Backup and Replication Job
- Running a Cloud Backup and Replication Job
- Monitoring Your Cloud Backup and Replication Jobs
- Deleting a Cloud Backup and Replication Job
- <u>Recovering Data from the Cloud</u>

### Overview

Cloud Backup and Replication brings file to object replication into Peer Software's capabilities for enterprise NAS environments. Leveraging the same real-time engine that powers Peer Software's multi-site, multi-vendor replication, Cloud Backup and Replication efficiently pushes data into Microsoft Azure or Amazon S3 storage in an open format that is immediately consumable by other applications and services.

Use cases for Cloud Backup and Replication include: (1) pushing exact replicas of on-premises data sets into object storage for use with burstable compute and cloud-borne services and (2) tape replacement-style backup to object with point-in-time recovery capability.

### Before You Create Your First Cloud Backup and Replication Job

We strongly recommend that you configure the <u>Cloud Backup and Replication settings</u> (including <u>proxy configurations</u>), as well as other global settings such as SMTP configuration, email alerts, and before configuring your first Cloud Backup and Replication job. See <u>Preferences</u> for details on what and how to configure these settings. In addition, we recommend that you set up your destination storage account before creating the job.

### **Creating a Cloud Backup and Replication Job**

The **Create Job Wizard** walks you through the process of creating a Cloud Backup and Replication job. The process consists of the following steps:

Step 1: Job Type and Name

- Step 2: Source Storage Platform
- Step 3: Management Agent
- Step 4: Proxy Configuration
- Step 5: Storage Information
- Step 6: Source Paths
- Step 7: File Filters
- Step 8: Destination
- **Step 9: Destination Credentials**
- Step 10: Container or Bucket Details
- Step 11: Replication and Retention Policy
- Step 12: Replication Schedule
- Step 13: Retention
- Step 14: Source Snapshots
- Step 15: Miscellaneous Options
- Step 16: Email Alerts
- Step 17: SNMP Notifications
- Step 18: Confirmation

#### Step 1: Job Type and Name

- 1. Open the Peer Management Center.
- 2. From the File menu, select New Job (or click the New Job button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click Cloud Backup and Replication, and then click Create.



4. Enter a name for the job in the dialog that appears.

The job name must be unique.

Create Cloud Backup and Replication Job		×
Enter a unique name.		
Job name cannot be blank.		
	ОК	Cancel

### 5. Click **OK**.

The <u>Source Storage Platform</u> page appears.

### Step 2: Source Storage Platform

The **Source Storage Platform** page lists the types of source storage platforms that Cloud Backup and Replication supports. The source storage device hosts the data you want to replicate.

1. Select the type of storage platform you want to replicate.

Create Cloud Backup and Replication Job Wizard		$\times$
Source Storage Platform		
Select the type of storage platform to replicate.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration</li> <li>Source Paths File Filters</li> <li>NetApp O</li> </ul>	NTAP   Clustered Data ONTAP ata ONTAP 7-Mode Isilon Unity Celerra   VNX   VNX 2	

### 2. Click Next.

The <u>Management Agent</u> page appears.

#### Step 3: Management Agent

Each storage device that you want to replicate must have a Peer Agent that manages that device. The Peer Agent that manages a device is known as its <u>Management Agent</u>. You can have more than one Agent managing a storage device—however, the Agents must be managing different volumes/shares/folders on that storage device.

The **Management Agent** page lists the available Agents. In this step, you should select the Agent that manages the volumes/shares/folders you want to replicate in this job.

1. Select the Management Agent for the volume/share/folder you want replicated.

anagement Agent elect the server hosting the Peer Ag	jent that manag	ges this source stora	age device.		
Source Storage Platform Management Agent Proxy Configuration Storage Information Source Paths File Filters Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation	Agent DGAgent1 DGAgent2	Domain BYTEMETRICS BYTEMETRICS	Computer Description	Windows Version Windows Server 2016 Windows Server 2016	Database Connection DBC1 DBC2
	<				

**Note:** If you select an Agent that does not have a database connection listed in the **Database Connection** column, a message prompts you to create the connection:

🙆 No D	Database Connection Found	$\times$
?	A database connection to MS SQL Server is required for the selected Management Agent: DGAgent2	
	Click OK to configure a database connection.	
	OK Cancel	

Click **OK** and then configure the database connection for the selected Management Agent. See <u>Database Connections</u> for instructions about creating a database connection.

2. Click Next.

The <u>Proxy Configuration</u> page appears.

#### Step 4: Proxy Configuration

If you do not need a proxy server to connect to outside networks, skip this step and proceed to <u>Step 5</u>.

If you do need a proxy server to connect to outside networks, you have three options:

- Create a new proxy configuration.
- Use the existing proxy configuration. If there is an existing proxy configuration, details about the configuration will be displayed on the page.

You may have created one in advance through <u>Cloud Back and Replication</u> <u>Preferences</u> or when you created another Cloud Backup and Replication job. Once a proxy configuration is created for a source storage platform, that proxy configuration is used for all Cloud Backup and Replication jobs using that agent.

• Edit an existing proxy configuration. Click the **Edit Proxy Configuration** link to edit the existing proxy.

If you edit the proxy configuration, it affects other jobs using the same agent. Editing an existing proxy configuration has the potential to create problems with the other jobs.

If there is not an existing proxy configuration for the selected management agent, follow these steps to create a new proxy configuration:

### 1. Click Create Proxy Configuration.

Ø Create Cloud Backup and Replica	tion Job Wizard					$\times$
Proxy Configuration	the dectination storage, create a provy configura	ation				
	Create Proxy Configuration No proxy configuration found for agent 'DGAge Create one if needed.					
		< Back	Next >		Cance	I

The **Proxy Configuration** page is displayed. Existing proxies are listed in the Proxy Configuration table.

xy Configuration						<b>⇔</b> • <b>⇒</b> • •
configuration	Proxy Configuration					$\varphi \bullet \varphi \bullet \bullet$
	Target Hostname DGAgent1	Type Manual proxy	Address 192.168.167.105	Port 8088	Use Authentication Yes	Create
						Edit
						Delete
						Validate

2. Click the **Create** button.

The **Create Proxy Configuration** dialog is displayed. The Agent you selected in **Step 3: Management Agent** is preselected.

🙆 Create Pro	oxy Configuration				$\times$
Agent:					
DGAgent2					$\sim$
Address:					
Port:					
Use Autho	entication				
Domain:					
Username	8				
Password:			Sho	ow Passw	ord
		OK		Cance	el

3. Enter values for the following fields:

### 223 Peer Global File Service Help

Address	Enter the IP address or fully qualified domain name of the proxy server.
Port	Enter the port number.
User Authenti cation	Select this checkbox if the proxy server requires authentication.

4. If your proxy server requires authentication, click the **User Authentication** checkbox and supply the necessary values.

Domain	Enter the domain name on the proxy server.
Usernam e	Enter the user name for the proxy server.
Passwor d	Enter the password for the proxy server.

### 5. Click **OK**.

If you already have jobs managed by this agent, a message appears and identifies those jobs. They will now use the proxy as well.

Affe	cted Jobs	$\times$
?	The following jobs may be affected by this change and may no longer function properly: CB-1	
	OK Cancel	

After you click OK, the Proxy Configuration page is redisplayed. The proxy you just created now appears in the table.

Proxy Configuration	Proxy Configuration	ľ				$\Leftrightarrow \bullet \Leftrightarrow \bullet$
	Target Hostname	Туре	Address	Port	Use Authentication	Create
	DGAgent1	Manual proxy	192.168.167.105	8088	Yes	Edit
	DGAgent2	Manual proxy	192.168.167.105	8088	Yes	Edit
						Delete
						Validate

6. (Optional) Select the proxy you created and click **Validate**.

The Validate Proxy Configuration dialog appears.

7. Select the target storage account, and then click **OK**.

🕺 Validate Proxy Configuration —		$\times$
Manual proxy, address: 192.168.167.105, port: 8088 using authentication. Agent: DGAgent2		
Storage Account:		~
	Close	

Once you click OK, PeerGFS tests the connection to the target storage account using the proxy.

- 8. Click **OK** in the **Validation Result** dialog.
- 9. Click **Close** in the **Validate Proxy Configuration** dialog.

Validate Proxy	Configuration —		$\times$
Manual proxy, add Agent: DGAgent2	ress: 192.168.167.105, port: 8088 using authentication.		
Storage Account:	NetApp StorageGRID Credentials [NetApp StorageGRID]		~
	Γ	Close	

### 10. Click **OK** in the Proxy Configuration page.

Proxy Configuration	Proxy Configuration	1				(
	Target Hostname	Туре	Address	Port	Use Authentication	Create
	DGAgent1	Manual proxy	192.168.167.105	8088	Yes	
	DGAgent2	Manual proxy	192.168.167.105	8088	Yes	Edit
						Delete
						Validate

The **Proxy Configuration** page now displays the details about the proxy configuration.

Create Cloud Backup and Replica	tion Job Wizard		$\times$
Proxy Configuration If a proxy server is used to connect t	o the destination storage, create a proxy configuration.		
<ul> <li>Source Storage Platform Management Agent</li> <li>Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details</li> </ul>	Proxy configuration found for agent 'DGAgent2' . Modifying or deleting the proxy configuration will affect other jobs using the same agent. Edit Proxy Configuration Current Configuration Address: 192.168.167.105 Port: 8088		
Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation	Using Authentication Domain: peertest Username: oddjob		
	< Back Next >	Cance	el

### 11. Click Next.

The <u>Storage Information</u> page appears.

#### Step 5: Storage Information

The **Storage Information** page requests the credentials necessary to connect to the storage device you want to replicate.

**Note:** If you selected **Windows File Server** in <u>Step 2</u>, this page doesn't appear; skip to <u>Step 5: Source Paths</u>.

1. Select **New Credentials** to enter a new set of credentials for the source storage platform or select **Existing Credentials**.

2. If you selected **Existing Credentials**, select a credential from the drop-down list, and then click **Next** to continue with <u>Step 5: Source Paths</u>.

If you selected **New Credentials**, enter the credentials for connecting to the source storage device. The information you are prompted to enter varies, depending on the type of storage platform:

NetApp ONTAP | Clustered Data ONTAP

NetApp Data ONTAP 7-Mode

Dell EMC Isilon

Dell EMC Unity

Dell EMC Celerra | VNX | VNX 2

Nutanix Files

- 3. Click **Validate** to test the credentials, and then click **OK** in the confirmation message that appears.
- 4. Click Next.

The <u>Source Paths</u> page appears.

1. Enter the credentials to connect to the Storage Virtual Machine hosting the data to be replicated or select existing credentials.

Enter the information required to connect to the sou	rce storage platform.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> <li>Existing C SVM9X-1, ur</li> </ul>	ame:  prd: ement IP: P: ement IP: em	Advanced
Access Path Access Path: Validate		Browse DOT environments.

SVM Name	Enter the name of the Storage Virtual Machine hosting the data to be replicated.	
SVM Userna me	Enter the user name for the account managing the Storage Virtual Machine. This must not be a cluster management account.	
SVM Passwor d	Enter the password for the account managing the Storage Virtual Machine. This must not be a cluster management account.	
SVM Manage ment IP	Enter the IP address used to access the management API of the NetApp Storage Virtual Machine. If the data LIFs (Logical Interfaces) corresponding to the SVM Name above already allow management access, this field is not required.	

Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Storage Virtual Machine. The Storage Virtual Machine must be able to route traffic to this IP address. If the IP address you want does not appear, manually enter the address.	
Access Path	Use only when experiencing access issues. Contact Peer Software support for more information.	

### 3. Click Next.

The <u>Source Paths</u> page is displayed.

1. Enter the credentials to connect to the NetApp 7-Mode filer or vFiler hosting the data to be replicated or select existing credentials.

Ø Create Cloud Backup and Replica	tion Job Wizard — 🗆 🗙
Storage Information Enter the information required to co	nnect to the source storage platform.
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination</li> </ul>	Credentials  New Credentials *Filer Name:           Advanced
Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation	O Existing Credentials
Commune	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for NetApp 7-Mode environments.
	< Back Next > Cancel

Fil er Na me	Enter the name of the NetApp 7-Mode filer or vFiler hosting the data to be replicated.	
Acc ess Pat h	Use only when experiencing access issues. Contact Peer Software support for more information.	

т

3. Click Next.

The <u>Source Paths</u> page is displayed.

1. Enter the credentials to connect to the EMC Isilon cluster hosting the data to be replicated or select existing credentials.

Oreate Cloud Backup and Replication	ation Job Wizard	— 🗆 X
Storage Information		
Enter the information required to co	onnect to the source storage platform.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications</li> </ul>	Credentials <ul> <li>New Credentials</li> <li>*Cluster Name:</li> <li>*Cluster Username:</li> <li>*Cluster Password:</li> <li>Cluster Management IP:</li> </ul> O Existing Credentials	Advanced
Confirmation	Access Path	~
	Access Path:	Browse
	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for EMC	lsilon environments.
	< Back Next >	Cancel

Cluster Name	Enter the name of the EMC Isilon cluster hosting the data to be replicated.
Cluster Userna me	Enter the user name for the account managing the EMC Isilon cluster.
Cluster Passwo rd	Enter the password for account managing the EMC Isilon cluster.

Cluster Manage ment IP	Enter the IP address of the system used to manage the EMC Isilon cluster. Required only if multiple Access Zones are in use on the cluster.	
Access Path	Use only when experiencing access issues. Contact Peer Software support for more information.	

### 3. Click Next.

The <u>Source Paths</u> page is displayed.

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

Create Cloud Backup and Replica	tion Job Wizard				$\times$
Storage Information					
_	nnect to the source storage platform.				
·					
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy</li> </ul>	Credentials <ul> <li>New Credentials</li> <li>*CIFS Server Name:</li> <li>*Unisphere Username:</li> <li>*Unisphere Password:</li> <li>*Unisphere Management IP:</li> </ul>			Advance	
Miscellaneous Options			· · ·	Auvance	<u> </u>
Email Alerts	○ Existing Credentials				
SNMP Notifications Confirmation					
Committeen					
	Access Path				
	Access Path:			Browse	
	Validate Having trouble connecting? Please verify t	hat all <u>prerequisites</u> are met for EMC Unity er	nvironments		
	[	< Back Next >		Cance	:1

CIFS Server Name	Enter the name of the CIFS server hosting the data to be replicated.	
Unisphe re Userna me	Enter the user name for the Unisphere account managing the Unity storage device.	
Unisphe re Passwo	Enter the password for the Unisphere account managing the Unity storage device.	
rd		

Manage ment IP	
Access Path	Use only when experiencing access issues. Contact Peer Software support for more information.

### 3. Click Next.

The <u>Source Paths</u> page is displayed.

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

Create Cloud Backup and Replication	ation Job Wizard	- 🗆 X
Storage Information Enter the information required to co	onnect to the source storage platform.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Credentials  New Credentials  CIFS Server Name:  Control Station Username:  Control Station Password:  Control Station IP:  Existing Credentials	Advanced
	Access Path Access Path: Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for EMC VNX/	/Celerra environments.
	< Back Next >	Cancel

CIFS Server Name	Enter the name of the CIFS Server hosting the data to be replicated.
Control Station Userna me	Enter the user name for the Control Station account managing the Celerra/VNX storage device.
Control Station Passwor d	Enter the password for the Control Station account managing the Celerra/VNX storage device.
Control Station IP	Enter the IP address of the Control Station system used to manage the Celerra/VNX storage device. This should not point to the CIFS Server.

Use only when experiencing access issues. Contact Peer Software support for more information.

3. Click Next.

The <u>Source Paths</u> page is displayed.

1. Enter the credentials to connect to the Nutanix Files cluster hosting the data to be replicated or select existing credentials.

Create Cloud Backup and Replic	tion Job Wizard		$\times$
Storage Information Enter the information required to co	onnect to the source storage platform.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Credentials            • New Credentials             • Nutanix File Server Name:             • Username:             • Username:             • Password:             • Peer Agent IP:             • Existing Credentials             AFS2, user.admin     Validate Having trouble connecting? Please verify that all prerequisites are met for Nutanix Files end	dvance	
	< Back Next >	Cance	e <b>l</b>

Nutanix File Server Name	Enter the name of the Nutanix Files cluster hosting the data to be replicated.			
Userna me	Enter the user name for the account managing the Nutanix Files cluster via its management APIs.			
Passwo rd	Enter the password for the account managing the Nutanix Files cluster via its management APIs.			
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Nutanix Files cluster. The Files server must be able to route traffic to this IP address. If the IP address you want does not appear, manually enter the address. This should not point to the Files cluster itself.			

### 3. Click Next.

The <u>Source Paths</u> page is displayed.

### Step 6: Source Paths

The **Source Paths** page displays a list of available volumes to replicate. You can choose to replicate an entire volume or selectively replicate files and folders. The files/folders/volumes selected for replication are referred to as the <u>watch set</u>.

1. Select the paths to the files/folders/volumes you want to replicate.

Create Cloud Backup and Replic	ation Job Wizard	- 🗆 X
Source Paths Select the volumes, files, and/or fo	ders you want to replicate.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Refresh           >         SVM9x1_cifs1           >         SVM9x1_highcount1_01           >         SVM9x1_highcount1_02           >         SVM9x1_hightb1_01           >         SVM9x1_mm1           >         SVM9x1_mm2           >         SVM9x1_mm3           >         SVM9x1_mm6           >         SVM9x1_mm7           >         SVM9x1_not1           >         SVM9x1_mm6           >         SVM9x1_not1           >         SVM9x1_not1	Show individual files
	< Back Next >	Cancel

# To replicate:

The entire volume (all files and folders, including subfolders and their files)	Select the volume checkbox.
All files at the root level of the volume (but no folders)	Expand the volume, scroll to the bottom of the expanded list, and select <b>All Files</b> .
A specific folder and its content (including subfolders and their files)	Expand the volume, find the desired folder, and select its checkbox.
All files within a specific folder (but not the folder)	Expand the folder and select All Files.
Specific files and folders	Select the <b>Show individual files</b> checkbox, expand the folders, and select the files and folders

you want to replicate.
------------------------

2. (Optional) Click the **Review** button to see your selections.

### 3. Click Next.

The File Filters page appears.

#### Step 7: File Filters

The **File Filters** page displays a list of <u>file and folder filters</u>. A file or folder filter enables you to exclude and/or include files and folders from the job based on file type, extension, name, or directory path. Any file or folder that matches the filter is excluded or included from replication, depending on the filter's definition. By default, all files and folders selected in the **Source Paths** page will be replicated.

1. Select the file and folder filters you want to apply to the job.

If you want to create a new file or folder filter or modify an existing one, click **Edit File Filters**. See <u>File Filters</u> in the <u>Preferences</u> section for information about creating or modifying a file filter.

Select file and path expressions to in	nclude	and exclude.			
Source Storage Platform Management Agent	Edit I	File Filters			
Proxy Configuration Storage Information		Name AutoCAD Temp Files	Filter Type General	Exclusions *.AC\$, *.SV\$, *.DWL*, *.BAK	Inclusions None Selected
Source Paths File Filters		Default Invalid Characters	General General	*\Windows, *\Program Fil <<.*[.]\$>>	None Selected None Selected
<ul> <li>Destination         Azure Storage Credentials             Container Details             Replication and Retention Policy             Miscellaneous Options             Email Alerts             SNMP Notifications             Confirmation     </li> </ul>		MacOS Exclusions	General	*\MACOSX, *\.Tempora	None Selected
	<	nclude Files Without Extens	ions		

2. Select the **Include Files Without Extensions** checkbox if you want to replicate files that do not have extensions.

**Note:** Files without extensions are ignored during replication unless you select this checkbox.

3. Click Next.

The **Destination** page appears.

### Step 8: Destination

The **Destination** page displays a list of the available storage platforms to which Cloud Backup and Replication can replicate. Currently, the following platforms are supported:

- Microsoft Azure
- Amazon S3

- NetApp StorageGRID
- Nutanix Objects

In addition, some S3-compatible platforms are also supported. Contact your Peer Software Sales representative to see if the S3 compatible platform you want to use is supported.

**Important:** You should create the storage account before creating the Cloud Backup and Replication job.

1. Select the type of destination storage platform.

Create Cloud Backup and Replic	ation Job Wizard	—		×
Destination Select the replication destination.				
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	<ul> <li>Microsoft Azure Blob Storage</li> <li>Amazon S3</li> <li>Image: NetApp StorageGRID</li> <li>Mutanix Objects</li> <li>S3 Compatible</li> </ul>			
	< Back Next >		Cance	I

### 2. Click Next.

The **Destination Credentials** page appears.

### **Step 9: Destination Credentials**

The **Credentials** page requests the credentials necessary to connect to the destination storage account.

- 1. Select **New Credentials** to enter a new set of credentials for the destination storage device or select **Existing Credentials**.
- 2. If you selected **Existing Credentials**, select a credential from the drop-down list.

If you selected **New Credentials**, enter the credentials for connecting to the destination storage account. The information you are prompted to enter varies, depending on the type of storage platform:

Azure Blob Storage Credentials

Amazon S3 Credentials

NetApp StorageGRID

Nutanix Objects

3. Click Next.

The **Details** page for the selected destination storage account.

1. Enter the credentials to connect to a Microsoft Azure storage account. General Purpose and Blob storage accounts are supported.

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Create Cloud Backup and Replication	on Job Wizard				_		×
Azure Storage Credentials Enter new credentials or select existing	g credentials.						
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination</li> <li>Azure Storage Credentials Container Details</li> <li>Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Use SSL Existing Credent Azure Storage	Public				] Show H	(ey
		[	< Back	Next >		Cance	:

Descr iptio n	Enter a name for the credentials.
Acco unt	Enter the name of the Azure storage account, which can be found in the Azure Portal.
Share d Key	Enter one of the shared keys for the Azure Storage account. The shared keys can be found in the Azure Portal.
Endp oint Type	Select the type of data center endpoint. The options are: <b>Public</b> , <b>Germany</b> , <b>China</b> , <b>US Government</b> , and <b>Custom</b> .
Endp oint	If you selected <b>Custom</b> for <b>Endpoint Type</b> , the <b>Endpoint</b> field appears. Enter the IP address of the endpoint.
Use SSL	Select this if you want to use the SSL (Secure Sockets Layer) protocol to communicate with the destination rather than the standard (non-encrypted) HTTP protocol.
2. Click **Validate** to test the connection.

If you are using a proxy in your environment and you get an error while trying to validate, you may want to check the <u>proxy configuration</u> in <u>Preferences</u>.

3. Click **Next**.

The <u>Container Details</u> page appears.

1. Enter the credentials to connect to an Amazon S3 storage account.

Create Cloud Backup and Replica	ion Job Wizard	- <b>D</b> X
Amazon S3 Credentials Enter new credentials or select existing	ig credentials.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Credentials <ul> <li>New Credentials</li> <li>*Description:</li> <li>*Access Key:</li> <li>*Secret Key:</li> <li>Use SSL</li> <li>Existing Credentials</li> </ul> Validate	Show Key
	< Back	k Next > Cancel

Desc ripti on	Enter a name for the credentials.
---------------------	-----------------------------------

Acce ss Key	Enter one of the shared keys of the Amazon S3 Storage account, which can be found in the Amazon AWS portal.
Secr et Key	Enter the secret key of the Amazon S3 Storage account, which can be found in Amazon AWS portal.
Use SSL	Select this if you want to use the SSL (Secure Sockets Layer) protocol to communicate with the destination rather than the standard (non-encrypted) HTTP protocol.

2. Click **Validate** to test the connection.

If you are using a proxy in your environment and you get an error while trying to validate, you may want to check the check the <u>proxy configuration</u> in <u>Preferences</u>.

## 3. Click Next.

The <u>Bucket Details</u> page appears.

Create Cloud Backup and Replication	on Job Wizard			$\times$
NetApp StorageGRID Crede Enter new credentials or select exist				
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination</li> <li>NetApp StorageGRID Credent Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Credentials <ul> <li>New Credentials</li> <li>*Description:</li> <li>*Access Key:</li> <li>*Secret Key:</li> <li>*Service Point:</li> <li>Use SSL</li> <li>Existing Credentials</li> <li>NetApp StorageGRID Credentials</li> </ul> Validate		]Show K	ey
		< Back Next >	Cance	I

1. Enter the credentials to connect to a NetApp StorageGRID storage account.

Des crip tion	Enter a name for the credentials.
Acc ess Key	Enter one of the shared keys of the NetApp StorageGRID account, which can be found in the Tenant Manager.
Sec ret Key	Enter the secret key of the NetApp StorageGRID account, which can be found in the Tenant Manager.
Ser vice	Enter the IP or name of the object store.

Poi nt	
Use SSL	Select this if you want to use the SSL (Secure Sockets Layer) protocol to communicate with the destination rather than the standard (non-encrypted) HTTP protocol.

- 2. Click **Validate** to test the connection.
- 3. Click Next.

The <u>Container Details</u> page appears.

1. Enter the credentials to connect to a Nutanix Objects storage account.

Create Cloud Backup and Replication	ion Job Wizard	— 🗆 X
Nutanix Objects Credentials		
Enter new credentials or select existing	g credentials.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Nutanix Objects Credentials Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Credentials         ● New Credentials         *Description:         *Access Key:         *Secret Key:         *Service Point:         ☑ Use SSL         ○ Existing Credentials         Nutanix Objects Credentials         Validate	Show Key
	< Back N	ext > Cancel

Descri ption	Enter a name for the credentials.
Access Key	Enter one of the shared keys of the Nutanix Objects account, which can be found in Prism Central.
Secret Key	Enter the secret key of the Nutanix Objects account, which can be found in Prism Central.
Service Point	Enter the IP or name of the object store.
Use SSL	Select this if you want to use the SSL (Secure Sockets Layer) protocol to communicate with the destination rather than the standard (non-encrypted) HTTP protocol.

- 2. Click Validate to test the connection.
- 3. Click Next.

The <u>Container Details</u> page appears.

### Step 10: Container or Bucket Details

The **Container Details** or **Bucket Details** page allow you to create a new storage container or bucket or choose an existing one.

- 1. Select **New Container/New Bucket** to create a new storage container/bucket; otherwise, select **Existing Container/Existing Bucket** to choose an existing one.
- 2. If you selected **Existing Container** or **Existing Bucket**, select a container or bucket from the drop-down list.

If you selected **New Container** or **New Bucket**, enter the requested information. The information you are prompted to enter varies, depending on the type of storage platform:

Azure Blob Storage Container Details

Amazon S3 Bucket Details

NetApp StorageGRID Bucket Details

Nutanix Objects Bucket Details

#### 3. Click Next.

The <u>Replication and Retention Policy</u> page appears.

1. Select **New Container** to create a new container or select **Existing Container**.

## Choose Existing Container if:

- You (or someone else) already created a container you want to use.
- You want to use a container that was created outside the PMC.
- You don't have the permissions required to create a new container and want to use one that someone else will create.

Oreate Cloud Backup and Replica	tion Job Wizard		$\times$
Container Details Create a new container or select an e	existing one.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Azure Storage Credentials Container Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	New Container   *Name:   dgagent2-mykirzevab   Automatically name   O Existing Container		
	< Back Next >	Cance	el

2. If you selected **Existing Container**, select a container from the drop-down list. If the container does not appear in the list because the person who has the permissions to crate a container has not yet created the bucket, click the **Reload** button after the container is created. The container will appear in the updated list.

If you selected **New Container**, you have two options. By default, the **Automatically name** checkbox is selected. You can deselect the checkbox and enter a name for the container; the container name must conform to the following naming rules:

- A container name must be unique.
- A container name must be a valid DNS name.
- A container name must start with a letter or number, and can contain only letters, numbers, and the dash (-) character.
- Every dash (-) character must be immediately preceded and followed by a letter or number; consecutive dashes are not permitted in container names.
- All letters in a container name must be lowercase.

• A container name must be from 3 through 63 characters long.

For more information about container names, see <u>Naming and referencing containers</u>, <u>blobs</u>, <u>and metadata</u>.

3. Click Next.

The <u>Replication and Retention Policy</u> page appears.

1. Select **New Bucket** to create a new bucket or select **Existing Bucket**.

## Choose Existing Bucket if:

- You (or someone else) already created a bucket you want to use.
- You want to use a bucket that was created outside the PMC.
- You don't have the permissions required to create new buckets and want to use one that someone else will create.

Create Cloud Backup and Replication	tion Job Wizard	— 🗆 X
Bucket Details Create a new bucket or select an exi	ting one.	
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	<ul> <li>New Bucket</li> <li>*Name:         <ul> <li>dgagent2-qczkmrxosg</li> <li>Automatically name</li> <li>*Region:</li></ul></li></ul>	
	< Back	Next > Cancel

2. If you selected **Existing Bucket**, select a bucket from the drop-down list. If the bucket does not appear in the list because the person who has the permissions to create a bucket has not yet created the bucket, click **Reload** after the bucket is created. The bucket will appear in the updated list.

If you selected **New Bucket**, you have two options. By default, the **Automatically name** checkbox is selected. You can deselect the checkbox and enter a name for the bucket; the bucket name must conform to the following naming rules:

- A bucket name must be unique across all existing bucket names in Amazon S3 (that is, across all AWS customers). For more information, see <u>Bucket Restrictions</u> and <u>Limitations</u>.
- Bucket names must comply with DNS naming conventions. For information about legacy non-DNS-compliant bucket names, see <u>Bucket Restrictions and Limitations</u>.
- A bucket name must start with a lowercase letter or number.
- A bucket name must not contain uppercase characters or underscores.
- A bucket name must be from 3 through 63 characters long.
- A bucket name must be a series of one or more labels. Adjacent labels are separated by a single period (.). Bucket names can contain lowercase letters,

numbers, and hyphens. Each label must start and end with a lowercase letter or a number.

- A bucket name must not be formatted as an IP address (for example, 192.168.5.4).
- When you use virtual hosted-style buckets with Secure Sockets Layer (SSL), the SSL wildcard certificate only matches buckets that don't contain periods. To work around this, use HTTP or write your own certificate verification logic. We recommend that you do not use periods (".") in bucket names when using virtual hosted-style buckets.
- Choose a bucket name that reflects the objects in the bucket because the bucket name is visible in the URL that points to the objects that you're going to put in your bucket. After you create the bucket, you cannot change the name, so choose wisely.

For information about naming buckets, see <u>Rules for Bucket Naming</u> in the Amazon Simple Storage Service Developer Guide.

3. Select the region where you want the bucket to reside.

**Important:** After you have created a bucket, you cannot change its region.

4. Click Next.

The <u>Replication and Retention Policy</u> page appears.

1. Select **New Bucket** to create a new bucket or select **Existing Bucket**.

#### Choose Existing Bucket if:

- You (or someone else) already created a bucket you want to use.
- You want to use a bucket that was created outside the PMC.
- You don't have the permissions required to create new buckets and want to use one that someone else will create.

😰 Create Cloud Backup and Replica	ion Job Wizard			$\times$
Bucket Details Create a new bucket or select an exis	ting one.			
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination NetApp StorageGRID Credent Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	● New Bucket  *Name: dgagent2-yvgjhyrdsb ☑ Automatically name ○ Existing Bucket			
	< Back Ne	ext >	Cancel	

 If you selected **Existing Bucket**, select a bucket from the drop-down list. If the bucket does not appear in the list because the person who has the permissions to create a bucket has not yet created the bucket, click **Reload** after the bucket is created. The bucket will appear in the updated list

If you selected **New Bucket**, you have two options. By default, the **Automatically name** checkbox is selected. You can deselect the checkbox and enter a name for the bucket; the bucket name must comply with the following rules:

- Must be unique across each StorageGRID Webscale system (not just unique within the tenant account).
- Must be DNS compliant.
- Must contain between 3 and 63 characters.
- Can be a series of one or more labels, with adjacent labels separated by a period. Each label must start and end with a lowercase letter or a number and can only use lowercase letters, numbers, and hyphens.

- Must not look like a text-formatted IP address.
- Should not use periods in virtual hosted-style requests because periods will cause problems with server wildcard certificate verification.

For information about naming buckets, see <u>Rules for Bucket Naming</u> in the Amazon Simple Storage Service Developer Guide.

### 2. Click Next.

The <u>Replication and Retention Policy</u> page appears.

1. Select **New Bucket** to create a new bucket or select **Existing Bucket**.

#### Choose Existing Bucket if:

- You (or someone else) already created a bucket you want to use.
- You want to use a bucket that was created outside the PMC.
- You don't have the permissions required to create new buckets and want to use one that someone else will create.

Create Cloud Backup and Replica	tion Job Wizard			 		$\times$
Bucket Details Create a new bucket or select an exis	ting one.					
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Nutanix Objects Credentials Bucket Details Replication and Retention Policy Miscellaneous Options Email Alerts SIMP Notifications Confirmation</li> </ul>	<ul> <li>New Bucket</li> <li>*Name: <ul> <li>dgagent2-kolgkxhhef</li> <li>Automatically name</li> </ul> </li> <li>○ Existing Bucket</li> </ul>					
		< Back	Next >		Cance	1

 If you selected **Existing Bucket**, select a bucket from the drop-down list. If the bucket does not appear in the list because the person who has the permissions to create a bucket has not yet created the bucket, click **Reload** after the bucket is created. The bucket will appear in the updated list

If you selected **New Bucket**, you have two options. By default, the **Automatically name** checkbox is selected. You can deselect the checkbox and enter a name for the bucket; the bucket name must comply with the following rules:

- Must start with a number or a letter.
- Must be 3 255 characters long.
- Can contain lowercase letters, numbers, underscores (\_), and dashes (-).
- There may be additional restrictions on bucket names in some AWS regions. We recommend that you create bucket names that are DNS-compliant, if you want to access objects using URL. For more information, see <u>Amazon Simple Storage</u> <u>Service Console user's guide</u>.

The <u>Replication and Retention Policy</u> page appears.

### Step 11: Replication and Retention Policy

Each Cloud Backup and Replication job must have a Replication and Retention policy. A Replication and Retention policy specifies:

- How often you want to scan the storage device for replication or if you want to replicate in real-time.
- Whether you want to take snapshots of the data. A **snapshot** captures the state of a file system at a point in time. There are two types of snapshots:
  - A destination snapshot captures an image of the data on the destination storage device immediately after replication. Destination snapshots are useful for recovering data from different period of times. Destination snapshots track versions of changed files and file system structure that can be used for data recovery. For more information about recovering data, see <u>Recovering Data</u>.
  - A source snapshot captures an image of the data on the source storage device immediately before replication. Sources snapshots are useful for replicating open and locked files, which otherwise may not be able to be replicated. A source snapshot also ensures that the replicated data is coming from a static version of the source file system. For details about using source snapshots, see <u>Step 13: Source Snapshots</u>.
- How long you want to retain destination snapshots.

The **Replication and Retention Policy** page enables you to create a new Replication and Retention policy or choose an existing policy.

1. Select New Policy or Existing Policy.

🙆 Create Cloud Backup and Replic	ation Job Wizard		$\times$
Replication and Retention P			
<ul> <li>You must enter a name for the proxy Configuration Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	olicy.   New Policy  Name:  Enable Backup with Destination Snapshots  Existing Policy		
	< Back Next >	Cance	el

2. If you selected **Existing Policy**, select a policy from the drop-down list, and then click **Next**. Continue with <u>Step 14. Miscellaneous Options</u>.

If you selected **New Policy**, enter a name for the policy in the **Name** field.

- Select Enable Backup with Destination Snapshots if you want to replicate what is on premises to the <u>destination storage device</u>, while taking <u>destination snapshots</u> at specified points in times.
- 4. Click Next.

The <u>Replication Schedule</u> page appears.

#### Step 12: Replication Schedule

The **Replication Schedule** page enables you to select the frequency of the replication and when snapshots should be taken. Replication can be performed on a scheduled, batched real-time, or a continuous real-time basis.

1. Select the frequency of the replication:

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- <u>Scheduled Scans</u> Select this option if you want to replicate files on a scheduled basis. A scan of changes to the file system occurs on a scheduled basis, either daily or weekly, and replication of changes occurs as the scan progresses.
- <u>Batched Real-time</u> Select this option if you want to continuously monitor changes to the file system but replicate changes on scheduled basis. Changes are monitored in real-time and only the latest version of changed file is replicated at scheduled times. An initial scan can be performed to establish a baseline.
- <u>Continuous Data Protection</u> Select this option if you want continuously monitor changes and replicate changes in real-time. Whenever a file changes, the change is replicated in real-time.
- 2. Click Next.

The <u>Retention</u> page appears.

If you selected **Scheduled Scans** for the replication frequency:

- 1. Select the **Scan at Start** checkbox if you want a baseline replication to be performed.
- 2. Select **Daily** or **Weekly** for the frequency of the scans:
  - Select **Daily** if you want replications performed every day. You can schedule one to four scans per day
  - Select **Weekly** if you want to select specific days for replication. You can select one scan per day.
- 3. Select the day(s) and time(s) when you want the replication performed:
  - If you selected **Daily**, select the times you want the scans performed. Then, if you selected **Enable Backup with Destination Snapshots** in <u>Step 10</u>, choose when snapshots are taken (you must take at least one snapshot). If you did not select the backup option, the **Take Destination Snapshot** options will not appear.

🙆 Create Cloud Backup and Replica	ation Job Wizard		$\times$
Replication Schedule Ø You must select at least one replice	cation time.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	<ul> <li>Scheduled Scans</li> <li>Daily Weekly</li> <li>Times (up to 4)</li> <li>None   <ul> <li>Take Destination Snapshot</li> <li>None   <ul> <li>Take Destination Snapshot</li> <li>None   <ul> <li>Take Destination Snapshot</li> <li>Scan at Start</li> </ul> </li> <li>Batched Real-time</li> <li>Continuous Data Protection</li> </ul></li></ul></li></ul>		
	< Back Next >	Cance	:l

• If you selected **Weekly**, select the day(s) and time you want the replication performed. Then, if you selected **Enable Backup with Destination Snapshots** in Step 10, choose when snapshots are taken. You must take at least one snapshot. If you did not select the backup option, the **Destination Snapshot** option will not appear.

-	Create Cloud Backup and Replication	tion Job Wizard		$\times$
Management Agent Proxy Configuration Storage Information Source Paths File Filters Destination Amazon S3 Credentials Bucket Details Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation     Source Snapshots Mone V Take Destination Snapshot Scan at Start Batched Real-time	Replication Schedule You must select at least one day. Source Storage Platform			4
	Management Agent Proxy Configuration Storage Information Source Paths File Filters Destination Amazon S3 Credentials Bucket Details Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications	○ Daily ● Weekly         □ay(s):         □ Sunday         □ Monday         □ Tuesday         □ Wednesday         □ Thursday         □ Friday         □ Saturday         Time:         None       ✓ Take Destination Snapshot         □ Scan at Start         ○ Batched Real-time		

The <u>Retention</u> page appears.

If you selected **Batched Real-time** for the replication frequency:

- 1. Select **Scan at Start** if you want a baseline replication to be performed.
- 2. Select the frequency of the replications; you can schedule one to four replications per day.
- 3. If you selected **Enable Backup with Destination Snapshots** in <u>Step 10</u>, choose when destination snapshots are taken (you must take at least one snapshot). The destination snapshot will be taken after the files have been replicated. If you did not select the backup option, the **Take Destination Snapshot** option will not appear.

Oreate Cloud Backup and Replica	tion Job Wizard		$\times$
Replication Schedule Vou must select at least one replice	cation time.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	<ul> <li>Scheduled Scans</li> <li>Batched Real-time</li> <li>Times (up to 4)</li> <li>None</li></ul>		
	< Back Next >	Cance	il i

The <u>Retention</u> page appears.

If you selected **Continuous Data Protection** for the replication frequency:

- 1. Enter a value for **Processing Delay** if you want the replication to occur after a slight delay. A delay is useful to ensure that when a file or folder is created and quickly renamed, only the latest copy of the file or folder is replicated. This reduces WAN usage.
- 2. If you selected **Enable Backup with Destination Snapshots** in <u>Step 10</u>, choose when snapshots are taken (you must take at least one snapshot). If you did not select the backup option, the **Take Destination Snapshot at** options will not appear.

Oreate Cloud Backup and Replication	tion Job Wizard		$\times$
Replication Schedule Vou must select at least one desti	nation snapshot trigger time.		
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts</li> </ul>	<ul> <li>O Scheduled Scans</li> <li>O Batched Real-time</li> <li>● Continuous Data Protection</li> <li>Processing Delay: 5</li></ul>		
SNMP Notifications Confirmation	< Back Next >	Cance	I

The <u>Retention</u> page appears.

#### Step 13: Retention

The **Retention** page enables you to define how long you want to retain destination snapshots. You have the option to retain destination snapshots on a daily, weekly, monthly, and yearly basis. If you did not select the **Enable Backup with Destination Snapshots** in Step 10, the **Retention** page will not appear.

- 1. Select the **Purge all versions between snapshots** checkbox if you do not want to indefinitely retain all versions.
- 2. Select the retention options. The options vary according to the replication schedule you selected.

Create Cloud Backup and Replication	ation Job W	/izard						Х
Retention								
Select retention options.								
<ul> <li>Select retention options.</li> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	<ul> <li>✓ Keep of at: 0</li> <li>for: 0</li> <li>✓ Keep v</li> <li>at: 0</li> <li>on: 0</li> <li>✓ Keep r</li> <li>at: 0</li> <li>for: 0</li> <li>✓ Keep v</li> <li>at: 0</li> <li>for: 0</li> <li>✓ Keep v</li> <li>at: 0</li> <li>at: 0</li> <li>on: 0</li> </ul>	all versions between snapshot daily destination snapshots ta 05:00, 15:00, 20:00 30	taken taken ts taken ts taken					
				< Back	Next >	]	Cance	el 🛛

The <u>Source Snapshots</u> page appears.

#### Step 14. Source Snapshots

The **Source Snapshots** page enables you to choose whether to take snapshots of the source storage before the items are replicated. A <u>source snapshot</u> is a read-only point-in-time version of the volume. A source snapshot allows the creation of consistent backups of a volume, ensuring that the contents do not change and are not locked while the backup is being made. It can be used to provide a consistent state of a managed file, e.g. pst files, and help with errors accessing files that are currently open.

- 1. Select a source snapshot option:
  - Select the **Disabled** option if you do not want to take source snapshots.

- Select the **Use only for Destination Snapshots** option when you want the source snapshot to be stored on the destination storage as the destination snapshot rather than an actual destination snapshot. To use this option, you must have selected the **Enable Backup with Destination Snapshot** in Step 10.
- Select **Always use when replicating** when you want to replicate always using source snapshots.

Create Cloud Backup and Replication	ation Job Wizard				$\times$
Source Snapshots Select a snapshot option.					
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts SNMP Notifications Confirmation</li> </ul>	Source Snapshots Disabled Use only for Destination Snapshots Always use when replicating				
		< Back	Next >	Car	ncel

The <u>Miscellaneous Options</u> page appears.

### Step 15: Miscellaneous Options

The **Miscellaneous Options** page displays various options; the options available depend on the destination storage platform selected.

1. Select the options to apply to this job.

6	Create Cloud Backup and Replic	atio	n Job Wizard		$\times$
	scellaneous Options elect options.				
<ul> <li>Source Storage Platform</li> <li>Source Paths</li> <li>Destination Replication and Retention Policy Miscellaneous Options Email Alerts</li> </ul>			File Metadata NTFS Permissions: Owner DACL SACL		
	SNMP Notifications Confirmation	å	Storage Tier/Class:       Storage Account Default         Rehydrated Data Availability (Days):       7		
			< Back Next >	Cance	el

Option	Description
NTFS Permission s	If you want NTFS permissions metadata included in the replication, select the elements to include:
	<ul> <li>Owner – The NTFS Creator-Owner who owns the object (which is, by default, whomever created it).</li> </ul>
	<ul> <li>DACL – A Discretionary Access Control List identifies the users and groups that are assigned or denied access permissions on a file or folder.</li> </ul>
	<ul> <li>SACL - A System Access Control List enables administrators to log attempts to access a secured file or folder. It is used for auditing.</li> </ul>
	See <u>File Metadata Synchronization</u> for more information about NTFS permissions metadata.

Option	Description
Storage Tier/Class	Only available with Azure Blob Storage with either a General Purpose v2 (GPv2) account or Blob Storage Account.
	Select a storage tier. If you do not select a tier, it will default to the tier you configured on your Azure Storage account.
	Azure Storage offers three storage tiers for blob object storage so that you can store your data most cost-effectively depending on how you use it:
	<ul> <li>Azure Hot Storage Tier is optimized for storing data that is accessed frequently.</li> </ul>
	• Azure Cool Storage Tier is optimized for storing data that is infrequently accessed and stored for at least 30 days.
	• Azure Archive Storage Tier is optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements (on the order of hours). The archive storage tier is only available at the blob level and not at the storage account level.
	To read data in archive storage, Cloud Backup and Replication must first change the tier of the blob to hot or cool. This process is known as rehydration and can take up to 15 hours to complete.
	<b>Rehydrated data</b> remains in hot or cool storage for a specified number of days before Cloud Backup and Replication automatically returns it to archive storage.
Rehydrated Data Availability (Days)	Only available with Azure Blob Storage with either a General Purpose v2 (GPv2) account or Blob Storage Account. Rehydrated data is automatically returned to archive storage after a specified period. Enter the number of days for rehydrated data to remain in hot or cool storage before returning to archive storage. The default is seven days.

The <u>Email Alerts</u> page appears.

#### Step 16: Email Alerts

This step is optional.

An <u>email alert</u> notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job:

1. Click the **Select** button.

🕺 Create Cloud Backup and Replica	ation Job Wizard				— 🗆 X
Email Alerts Select email alerts.					
<ul> <li>Source Storage Platform</li> <li>Source Paths</li> </ul>	Edit Email Alerts				
<ul> <li>&gt; Destination</li> <li>&gt; Replication and Retention Policy Miscellaneous Options</li> <li>Email Alerts</li> <li>SNMP Notifications</li> <li>Confirmation</li> </ul>	Name	Enabled	Event Types	Recipients	Select Delete View Details
			< Back	Next >	Cancel

The Select Email Alert dialog appears.

🕺 Select Email Alert			$\times$
Email Alert: MEDs			~
Selected Email Alert Information			
Email Alert Name: MEDs			
Selected Alerts: Failed Events, MED Alerts, Scan Errors			
Recipients: None Selected			
0	K	Can	cel

2. Select an alert from the **Email Alert** drop-down list, and then click **OK**.

The alert is listed in the **Email Alerts** page.

Create Cloud Backup and Replication	ation Job Wizard				– 🗆 X
Email Alerts Select email alerts.					
<ul> <li>Source Storage Platform</li> <li>Source Paths</li> </ul>	Edit Email Alerts				
<ul> <li>Destination</li> <li>Replication and Retention Policy</li> </ul>	Name	Enabled	Event Types	Recipients	Select
Miscellaneous Options	MEDs	Yes	Failed Events, MED Alerts, Sca		Delete
Email Alerts SNMP Notifications					View Details
Confirmation					
	_				
	_				
	-				
			< Back N	ext >	Cancel

3. (Optional) Repeat steps 1-3 to apply additional alerts.

### 4. Click Next.

The <u>SNMP Notifications</u> page appears.

#### Step 17: SNMP Notifications

This step is optional.

An <u>SNMP notification</u> notifies recipients when certain type of event occurs, for example, session abort, host failure, system alert. The **SNMP Notifications** page displays a list of notifications that have been applied to the job. When you first create a job, this list is empty. Like email alerts and file filters, an SNMP notification is defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create SNMP notifications in advance. However, from this wizard page, you can select an existing SNMP notification to apply to the job or create new SNMP notifications.

To apply an existing SNMP notification to the job or disable notifications:

1. Select an SNMP notification from the drop-down list.

To disable, select **None - Disabled**.

💩 Create Cloud Backup and Replica	ation Job Wizard		$\times$
SNMP Notifications			
<ul> <li>Source Storage Platform Management Agent Proxy Configuration Storage Information</li> <li>Source Paths File Filters</li> <li>Destination Amazon S3 Credentials Bucket Details</li> <li>Replication and Retention Policy Replication Schedule Retention Source Snapshots Miscellaneous Options Email Alerts</li> <li>SNMP Notifications Confirmation</li> </ul>	Edit SNMP Notifications         SNMP Notification         Selected SNMP Notification Information         No SNMP Notification Selected         SNMP notifications disabled for this job		~
	< Back Next >	Cance	ł

### 2. Click Next.

The <u>Confirmation</u> page appears.

### Step 18: Confirmation

The **Confirmation** page displays the job configuration.

- 1. Review the job configuration.
- 2. If you need to modify the job configuration after reviewing it, click **Back** until you reach the appropriate page and make your changes.

**Note:** You cannot change the job name.

Create Cloud Backup and Replication	ation Job Wizard		)
onfirmation			
Review your job configuration.			
Source Storage Platform	Source Storage: NetApp ONTAP   Clustered Data ONTAP		
Management Agent	Source Storage. Nexpp ONTAF   Clustered bata ONTAF		
Proxy Configuration	Management Agent: DGAgent2		
Storage Information Source Paths	Source Paths: One or more specific paths		
File Filters	Source radis, one of more specific pairs		
Destination	Source Items:		
NetApp StorageGRID Credent	Volume: SVM9x1_mm1 Destination: -1		
Bucket Details	Item(s) to Include:		
Replication and Retention Policy			
Miscellaneous Options	Destination: NetApp StorageGRID		
Email Alerts	bestington neurop storageonio		
SNMP Notifications Confirmation	Replication and Retention Policy: 3x Daily Replication Schedule: Destination Snapshots		
	Replicate every day		
	Times:		
	- 05:00 (Take destination snapshot)		
	- 15:00 (Take destination snapshot) - 20:00 (Take destination snapshot)		
	Retention Configuration (3x Daily): Purge all versions between destination snapshots: true		
	Daily Retention		
	Keep destination snapshots taken at:		
	- 05:00 - 15:00		
	- 20:00		
	For: 30 day(s)		
	Weekly Retention		
	Keep destination snapshots taken on:		
	- Monday Taken at: 05:00		
	For: 52 weeks(s)		
	Monthly Retention		
	Keep destination snapshots taken on:		
	First Tuesday		
	Taken at: 15:00		
	For: 60 month(s)		
	Varda Datartina		
	Yearly Retention Keep destination snapshots taken on:		
	First		
	- Wednesday		
	in month(s): - January		
	Taken at: 20:00		
	For: 10 year(s)		
	Source Snapshots: Disabled		
	Start job after creation		
>			
	< Back Next > Finish	Cance	
			-

3. Select the **Start job after creation** checkbox if you want the job to start immediately after clicking **Finish**.

## 4. Click Finish.

The **Summary** tab in the **Cloud Backup and Replication Job** runtime view is displayed.

Peer Management Center (Client Mode)														1 :	×
File Window Help															
i 🗈 🔛 🕼 i 🖻 🐗 鹶 🔌 💷 🌾															
	Cloud Summary	CB-7 🕱													
type filter text 📀	Summary Snapshots Faile	ed Events (0)	Event Log Ale	erts (0) Particin	ants (1) Config	iration									^
✓	Summary Shapshots rune	cu evento (o/ i	Litent Log / In	and (o) runnerp	and (1) comig	induon									
> @ CB-1	Summary View Action	- <del>-</del>													
> @ CB-2	Summary view Actions	5													
> 🔍 CB-3															
> • CB-4	Monitoring Job Session			Started: 10-0-	4-2019 12:26:27										
> @ CB-5	Sync Status	1 Volum	ne Running												
> @ CB-6															
> • CB-7	Workset Stats														
	Size		[0 Files, 1 F												
⇒ ⇒ File Replication (4)	Pending Items	0 (0 byt	es)												
C File Synchronization (3)	Destination Stats														
, O The Synchronization (S)		0.5%	293.0 bytes)												
	Size	U Files (	293.0 bytes)												
🖪 Agents 🛛 🧠 🍟 🗆															
	Overview Destination St														
1.011-1.111			Manageme		Storage Type				Mode			Scan pendi	Real-time p		
△ Agent Avg. Bandw	SVM9x1_cifs1 C	B-7	DGAgent1	SVM9X-1	NetApp - c	Nutanix Obj	dgagent	Running	Scheduled S	. Last Scan	10-04-20	. 0 [0 bytes]	0 [0 bytes]	0 [0 b	•
J DGAgent1 (Connected)															~
DGAgent2 (Connected)	<													>	
	💐 Job Alerts 🕔 Alerts 🕸													-	
	2 errors, 6 warnings, 12 otl	hers   Filter b	y: Host:		Severity:	~ Typ	oe:	~ Clear Alerts							
	Received Date	Severity	Туре	Name		Host	Message				Ex	ception			^
	10-03-2019 23:59:00	Info	Agent	Scheduled 1	Task Started	DGAgent1		lightly Delete Shadow Copies	Job on: DGAGE	NT1					
	10-03-2019 23:30:00	Info	Agent	Scheduled 1		DGAgent1		lob Tiering Database Mainter							
	10-03-2019 22:37:00	Info	Agent	Scheduled 1		DGAgent1		rocess Retention Policy on:DO							
	10-03-2019 20:10:00	Info	Agent	Scheduled 1	Task Started	DGAgent1		lightly Purge Destination Job							
	10-03-2019 16:49:00	Info	Connection	Startup		DGAgent1	Agent Sta	arted							~
< >	<													>	

## **Running a Cloud Backup and Replication Job**

This section describes:

- Starting a Cloud Backup and Replication Job
- <u>Stopping a Cloud Backup and Replication Job</u>

### Starting a Cloud Backup and Replication Job

When running a Cloud Backup and Replication job for the first time, you must manually start it. After the initial run, a job will automatically start, even when the Peer Management Center server is rebooted.

**Note:** You cannot run two jobs concurrently on the same volume if the <u>watch sets</u> contain an overlapping set of files and folders.

To manually start a job:

- 1. Choose one of three options:
  - Right-click the job name in the **Jobs** view.
  - Right-click the job name in the **Cloud Backup and Replication Job Summary** view, and then choose **Start** from the pop-up menu.
  - Open the job and then click the **Start/Stop** button in the bottom left corner of the job's **Summary** tab (shown below).

Peer Management Center (Client Mode)						- 🗆 ×
File Window Help						
📑 🔛 🔞 🛯 💕 🧏 🔂 📎 🛛 🖢	🗑 🐼 🤣					
🛔 Jobs 🛛 🏹 📎 💽 🗮 🌣 🗖 🗖	Cloud Sync Summary	🤣 Dashboard 🛛 🧉	b Daily Scans 😫			- 0
type filter text (?)	Commune Constants Failed	Events (0) Event Law	Alerts (0) Participants (1) Configu			
> @ CDOT ^	Summary Snapshots Falled	Events (0) Event Log	Alerts (0) Participants (1) Conrigu	iration		
> @ CDP job						
>      CDP job 2	Summary View Actions	•				Enable Auto-Update   Refresh 15 🖨 seconds
> Onfirmation job						
> > Daily Scans	Monitoring Job Session	Stopped				
>      First Cloud Sync Job	Sync Status	Unknown				
> @ June 21 > @ May 12 Job						
>  May 12 Job	Workset Stats					
> @ May 26	Size	Unknown				
> @ May 30	Pending Items	0 (0 bytes)				
> > Replica job						
>   UI Improvements	Cloud Stats					
>  Weekly scans  File Collaboration (0)	Size	0 Files (0 by	tes)			
Agent Summary						
🧠 🍸 📎						
type filter text	Overview Cloud Destinatio	on Stats Tasks				
△ Agents Avg. Ba	Status: Stopped					
DGAgent I (Connected) Updat						
John Connected)	💈 Job Alerts 🕕 Alerts 🖄					- 0
		Len L L L				
	0 errors, 7 warnings, 7 others	Filter by : Host:	Severity:	∨ Туре:	✓ <u>Clear Alerts</u>	
	Received Date Severi	ity Type	Name	Host	Message	Exception
	06-29-2018 17:27:44 Info	Connection	Startup	DGAgent1	Agent Started	
	06-29-2018 17:27:31 Warni	ing Connection	Shutdown	DGAgent1	Agent Shutdown	
	06-29-2018 15:13:58 Info	Connection	Startup	DGAgent1	Agent Started	
	06-29-2018 15:13:46 Warni	ing Connection	Shutdown	DGAgent1	Agent Shutdown	v
< >	<					>

2. Click **Yes** in the confirmation dialog.

After the job initialization has completed, the job will run. Once the job starts, the icon next to the job name in the **Jobs** view changes from gray to green.



### Stopping a Cloud Backup and Replication Job

You can stop a Cloud Backup and Replication job at any time.

To stop a Cloud Backup and Replication job:

1. Right-click the job name in the **Jobs** view or in the **Cloud Backup and Replication Job Summary** view, and then choose **Stop** from the pop-up menu.

Or, open the job and click the **Start/Stop** button in the bottom left corner of the job's **Summary** tab.

2. Click **Yes** in the confirmation dialog.

The icon next to the job name in the **Jobs** view changes from green to red.

### **Monitoring Cloud Backup and Replication Jobs**

Monitoring your Cloud Backup and Replication jobs is an important aspect of successfully replicating to the cloud. Monitoring involves checking the execution of a running job, checking the status of a job, reviewing performance statistics, making sure snapshots are created correctly, identifying problems such as a server outage, seeing how much data has been uploaded, and so forth. Cloud Backup and Replication provides several views to help you monitor the health and performance of your Cloud Backup and Replication jobs.

Many of the views are customizable tables. You can sort the columns in the view, filter by columns, add and subtract columns from the default display, and so forth.

To display a view:

 Double-click Cloud Backup and Replication in the Jobs view to display information about all Cloud Backup and Replication jobs. The Volume Summary tab of the Cloud Summary view is displayed.

ilter by: Expression	✓ Filter text		?	Group by: None	~ 4	ctions 🔻	🗹 Auto Refresh	Every 15	seconds
/olume afs afs	Job CB-2 CB-1	Management DGAgent1 DGAgent1	Storage Device AFS2 AFS2	Storage Type Nutanix Files Nutanix Files	Destination Type Amazon S3 Amazon S3	Destinatio dgagent1-c dgagent1-s	Mode Scheduled Scans Scheduled Scans		

• Double-click the name of a Cloud Backup and Replication job in the **Jobs** view to display the runtime view associated with that job. The **Summary** tab is displayed.

Summary View Actions 🔻							C Enable Auto-Update   Refresh 15 🚔 seconds					
<b>Monitoring Job Session</b> Sync Status	Running 1 Volume R	Running	Started: 08-26-20	19 13:14:25								
<b>Vorkset Stats</b> Size Pending Items	7.0 bytes [1 0 (0 bytes)	1 Files, 2 Fold										
Destination Stats Size	1 Files (581	.0 bytes)										
Verview Destination Stats 1			0 D 1	0 T			<b></b>	Mode	0.01			
		Management )GAgent1	Storage Device AFS2	Storage Type Nutanix Files	Destination Type Amazon S3	dgagent1-s	Status Running	Scheduled Scans	Scan Status Last Scan: C	Next 9		

## **Deleting a Cloud Backup and Replication Job**

To delete a Cloud Backup and Replication job:

1. Right-click on the job name in the **Jobs** view, and then choose **Delete** from the menu. A confirmation dialog appears.



2. Click **OK** in the confirmation dialog.

Another dialog appears, prompting you to choose whether to delete data associated with the job.

🙆 Dele	te 'Server-A' Data	$\times$								
2	Do you want to also delete ALL data on cloud related to: Server-A ?									
	Volumes: - SVM9x_1_105k_1 - SVM9x1_highcount1_01									
	Deletion will be run in background as a nightly cleanup process.									
	Yes No									

3. Click Yes or No.

If you click **Yes**, the data associated with this job will be deleted as part of a nightly clean-up process in addition to the job itself. If you click **No**, the data will not be deleted but the job will be deleted.

### **Recovering Data**

When you need to recover data from the cloud to on-premises, you can use the **Data Recovery** wizard. To restore data, you must have an existing Cloud Backup and Replication job that has been replicating that data. **Note:** You can recover data from a running job. However, if you plan to restore the data to the original location, you should stop the job first.

To recover data:

- 1. Open the Peer Management Center.
- 2. In the **Jobs** view, identify the Cloud Backup and Replication job that replicated the data you want to restore.
- 3. Right-click the job name, and then select **Recover Volume/File(s)** from the menu.

The **Recovery Wizard** opens and displays the **Volume to Recover** page. The **Storage Device** field on the page is a read-only field that displays the name of the source storage device.

4. Select the volume that was the source of the replicated data from the **Volume** dropdown list.

Recovery Wizard				$\times$
Volume to Recover				
Select the storage device and volur	me that the data or	iginated from.		
<ul> <li>Recovery Source Azure Storage Credentials</li> </ul>	Storage Device:	SVM9X-1		$\sim$
Volume to Recover	Volume:	SVM9x1_highcount1_01		$\sim$
Search By Recover To Notifications Confirmation				
	< Bac	k Next >	Cance	2l

### 5. Click Next.
# The **Search By** page is displayed.

Recovery Wizard		$\Box$ $\times$
Search By Select a search option.		
<ul> <li>Recovery Source Azure Storage Credentials Volume to Recover</li> <li>Search By Recover To Notifications Confirmation</li> </ul>	<ul> <li>Name</li> <li>Snapshot</li> <li>Point in Time</li> <li>Latest Replication</li> </ul>	
	< Back Next >	Cancel

- 6. Select one of the search options.
  - <u>Name</u>
  - <u>Snapshot</u>
  - Point in Time
  - Latest Replication
- 7. Click **Next** and continue with <u>Recovery Options</u>.

The search pages vary according to the search option you selected.

### **Search Options**

- 1. The search options are:
  - <u>Name</u>
  - <u>Snapshot</u>
  - Point in Time
  - Latest Replication

Use the **Search by Name** option if you know any part of the name of a file or folder but don't know which folder contained it on the original volume on premises.

To search by name:

1. Enter a search string in the **Name** field.

The search string can be a full or partial name and can include wildcards. If you do not enter a search string, all files and folders will be listed in the search results.

Recovery Wizard				
<b>lame</b> Enter a search string.				
Recovery Source Volume to Recover	Name:		Any ~	Search
<ul> <li>Search By Name File/Folder Versions</li> <li>Recover To</li> <li>Notifications</li> <li>Confirmation</li> </ul>	Name	Sync Date	Last Modified	Size
		< Back	√ext >	Cancel

2. Select **File** or **Folder** from the **Any** drop-down list; if you want to search for both files and folders, select **Any**.

#### 3. Click Search.

A list of matching files and/or folders appears. The **Sync Date** column shows the date the file was replicated; the **Last Modified Date** column shows the last known date and time that the file was changed on premises.

ame			
Enter a search string.			
Recovery Source			
Azure Credentials	Name:	A	ny 🗸 Search
Volume to Recover Search By	Name	Sync Date	Last Modified
Name	\\SVM9X-1\C\$\SVM9x1_cifs1\FLDR1\FILE3.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
File/Folder Versions	↓\SVM9X-1\C\$\SVM9x1_cifs1\FILE16.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
Recover To	\\SVM9X-1\C\$\SVM9x1 cifs1\New Text Document.txt	07/06/2018 21:00:02	05/17/2018 11:57:13
Notifications	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE29.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
Confirmation	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE4.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE20.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FLDR1\FILE2.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE17.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE1.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE9.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE13.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE7.TXT	07/06/2018 21:00:02	05/24/2018 15:51:14
	\\SVM9X-1\C\$\SVM9x1_cifs1\FILE8.TXT	07/06/2018 21:00:03	05/24/2018 15:51:14
	<		1

4. Select the file or folder to recover.

# 5. Click **Next**.

The **File/Folder Versions** page appears. Your options will vary, depending on whether you are recovering a file or folder.

6. If you selected a file to recover, all available versions of that file are presented below the calendar. Select the time of the desired version and then click elsewhere in the page.

older Versions									
a version to recover.									
a version to recover.									
overy Source	Select	ad Cu	nc Ita	m(c);					
Azure Credentials		-				FLDR1	\FILE2.	XT	
ime to Recover ch By								Oldest Available:	
Name	<<	<		Jul, 20	18	>	>>	07/06/2018 21:00:03	
File/Folder Versions	Su	Мо	Tu	We	Th	Fr	Sa	Newest Available:	
over To	1	2	3	4	5	6	7	07/06/2018 21:00:03	
ifications firmation	8	9	10	11	12	13	14		
	15	16	17	18	19	20	21		
	22	23	24	25	26	27	28		
	29		31						
	Selec	t Time							
	Jeree								

If you selected a folder to recover, you have two options. You can recover the contents of the folder based on a snapshot that was previously taken, or you can recover the contents of the folder as it existed at a specific point in time. Select one of the options, select a time, and then click elsewhere in the page.

Recovery Wizard ile/Folder Versions Select a version to recover.										×
Recovery Source Azure Credentials Volume to Recover	Select \\SVM	-			cifs1\	22mil\	FLDR2L	1		
Search By	Sn	apsho	ts	0	Date a	nd Tir	ne			
Name File/Folder Versions	<<	<		Jul, 20	18	>	>>	Oldest Available: 07/07/2018 00:30:01		
Recover To Notifications	Su	Мо	Tu	We	Th	Fr	Sa	Newest Available:		
Confirmation	1	2	3	4	5	6	7	07/10/2018 07:30:01		
	8	9	10	11	12	13	14			
	15	16	17	18	19	20	21			
	22	23	24	25	26	27	28			
	29	30	31							
	Selec	t Time	!				•	]		
								< Back Next >	Cance	

7. Click **Next** and continue with <u>Recovery Options</u>.

Use the **Search by Snapshot** option if you want to recover data by browsing a previously taken destination snapshot. All available snapshots will be represented in the calendar widget below.

To search by snapshot:

1. Select the date of the snapshot.

Recovery Wizard							
apshot							
ect a snapshot.							
Recovery Source Azure Credentials	Availa	able sn	apsho	ts:			
Volume to Recover	<<	<		Jul, 20	18	>	· >>
Search By Snapshot	Su	Mo	Tu	We	Th	Fr	Sa
File/Folder Browser Recover To	1	2	3	4	5	6	7
Notifications	8	9	10	11	12	13	14
Confirmation	15	16 23	17 24	18 25	19 26	20 27	21 28
	29		31	23	20	21	20
	Sele	ct Time	2				
		st Avai					
	New	est Ava	ailable	: 07/1	0/2018	3 07:30	):01

2. Select the time of the snapshot, and then click elsewhere in the page.

# 3. Click Next.

The File/Folder Browser page appears.

Recovery Wizard		_		×
File/Folder Browser Select a single file or folder to rec	over.			
<ul> <li>Recovery Source Azure Credentials Volume to Recover</li> <li>Search By Snapshot File/Folder Browser Recover To Notifications Confirmation</li> </ul>	Image: Symposize and Sympos			~
	< Back Next >		Cano	el

- 4. Select the file or folder to restore. If no snapshots are available, click **Back** and select a different search option.
- 5. Click **Next** and continue with <u>Recovery Options</u>.

Use the **Search by Point in Time** option if you want to restore a data from a specific point in time. This option does not require that a snapshot was taken and is very useful if you selected <u>Continuous Data Protection</u>, where replication is performed on an on-going basis

To search by a point in time:

1. Select a date.

in Time												
a point in time.												
overy Source Azure Credentials	Select	a date	and t	ime:								
ume to Recover	<<	<		Jul, 20	18	>	>>					
rch By Point in Time	Su	Мо	Tu	We	Th	Fr	Sa					
File/Folder Browser over To	1	2	3	4	5	6	7					
ifications	8	9 16	<b>10</b> 17	11 18	12 19	13 20	14 21					
firmation	22	23	24	25	26	20	28					
	29		31									
	Selec	t Time					•					

- 2. Select a date and time, and then click elsewhere in the page.
- 3. Click Next.

The **File/Folder Browser** page appears.

Recovery Wizard			×
<ul> <li>Recovery Wizard</li> <li>File/Folder Browser</li> <li>Select a single file or folder to a</li> <li>Recovery Source</li> <li>Azure Credentials</li> <li>Volume to Recover</li> <li>Search By</li> <li>Point in Time</li> <li>File/Folder Browser</li> <li>Recover To</li> <li>Notifications</li> <li>Confirmation</li> </ul>	\\SVM9X-1\C\$\SVM9x1_cifs1\22mil           \\SVM9X-1\C\$\SVM9x1_cifs1\7mode_cdot           \\SVM9X-1\C\$\SVM9x1_cifs1\ArchiveTest           \\SVM9X-1\C\$\SVM9x1_cifs1\Departments           \\SVM9X-1\C\$\SVM9x1_cifs1\FLDR1           \\SVM9X-1\C\$\SVM9x1_cifs1\FLDR2           \\SVM9X-1\C\$\SVM9x1_cifs1\FLDR3           \\SVM9X-1\C\$\SVM9x1_cifs1hurts           \\SVM9X-1\C\$\SVM9x1_cifs1\hext{hurts           \\SVM9X-1\C\$\SVM9x1_cifs1\hext{hurts           \\SVM9X-1\C\$\SVM9x1_cifs1\hext{hurts           \\SVM9X-1\C\$\SVM9x1_cifs1\new folder           \\SVM9X-1\C\$\SVM9x1_cifs1\over folder		
	>		
	< Back Next >	Canc	el

4. Select the file or folder to restore.

5. Click **Next** and continue with <u>Recovery Options</u>.

Use the **Search by Latest Replication** option if you want to restore from the latest replication. For example, you may want to restore data from the last time that replication occurred rather than a snapshot or a point in time. This option is very useful if you selected <u>Continuous Data Protection</u>, where replication is performed on an on-going basis.

To search by latest replication:

1. Select the file or folder to restore.

Recovery Wizard			$\times$
File/Folder Browser			
Select a single file or folder to reco	ver.		
<ul> <li>Recovery Source Azure Credentials Volume to Recover</li> <li>Search By File/Folder Browser Recover To Notifications Confirmation</li> </ul>	\\SVM9X-1\C\$\SVM9x1_cifs1\22mil         \\SVM9X-1\C\$\SVM9x1_cifs1\7mode_cdot         \\SVM9X-1\C\$\SVM9x1_cifs1\ArchiveTest         \\SVM9X-1\C\$\SVM9x1_cifs1\Departments         \\SVM9X-1\C\$\SVM9x1_cifs1\FLDR1         \\SVM9X-1\C\$\SVM9x1_cifs1\FLDR2         \\SVM9X-1\C\$\SVM9x1_cifs1\New folder         \\SVM9X-1\C\$\SVM9x1_cifs1\New folder         \\SVM9X-1\C\$\SVM9x1_cifs1\rest         \SVM9X-1\C\$\SVM9x1_cifs1\rest          \SVM9X-1\C\$\SVM9X1_cifs1\rest		
	< Back Next >	Canc	el

2. Click **Next** and continue with <u>Recovery Options</u>.

#### **Recovery Options**

After you select the data to recover, the **Recover To** page appears.

1. Select the recovery location. You have two options:

- Another Location Enter the UNC path to a location on another storage device.
- **Original Location** Browse to a location on the device hosting the management agent. However, we recommend not restoring directly to the original location, especially if the job is currently running. If the version that is restored is older than the latest version in the destination storage, the restored version will not be backed up until the next scan.

Recovery Wizard	-		×
Recover To Select a recovery location.			
<ul> <li>Recovery Source Azure Credentials</li> </ul>	Another Location     Original Location		
Volume to Recover Volume to Recover	You can use \\ <servername>\Share to browse a share</servername>	Brow	se
Snapshot File/Folder Browser Recover To Notifications Confirmation	Recovery Options If a file to recover already exists: Recover with unique name Overwrite if size or timestamps don't match Overwrite if cloud version is newer Overwrite always Skip Metadata Options Recover Last Modified Time Recover Create Time Recover NTFS Permissions Recover Attributes		
	< Back Next >	Cano	el

2. Select the recovery options for when the file to recover already exists in the recovery location:

Recovery Option	Select this option if you want to:
Recover with unique name	Ensure that the existing file is not overwritten with the cloud version.
Overwrite if sizes or timestamps don't match	Overwrite the existing file with the cloud version if the sizes or timestamps the existing file do not match the cloud version.
Overwrite if cloud version is newer	Overwrite the existing file if the cloud version has a more recent modification date.

Overwrite always	Always overwrite the existing file with the cloud version.
Skip	Skip recovering a file if the file already exists.

3. Select the recovery metadata options:

Metadata Option	Select this option if you want to:
Recover Last Modified Time	Set the last modification time of a recovered file to match the last modification time stored at upload rather than the time at which it was recovered.
Recover Create Time	Set the creation time of a recovered file to match the creation time stored at upload rather than the time at which it was recovered.
Recover NTFS Permissions	Set the NTFS permissions of any recovered files and folders to match the original permissions when those files and folders were uploaded.
Recover	Set the attributes of any recovered files and folders to match the original attributes when those files and folders were uploaded.

- 4. (Optional) Click the **Review** button to see your selections.
- 5. Click Next.

The **Notifications** page appears.

Recovery Wizard	-			×
Notifications Select email notifications.		_		
<ul> <li>Recovery Source         <ul> <li>Azure Credentials</li> <li>Volume to Recover</li> <li>Search By</li> <li>Snapshot</li> <li>File/Folder Browser</li> </ul> </li> </ul>	Edit Email Alerts Send email notification when complete Only on failure Enter recipient name, email or distribution list to add:			
Recover To Notifications Confirmation	Start typing to filter contacts/lists or add a new email  Recipients:	F	dd to L Remov ew Det	/e
	< Back Next >	C	Cancel	

- 6. (Optional) Select the **Send email notification when complete** checkbox if you want notifications sent when the recovery process is complete. Select **Only on failure** if you want notifications sent only if the recovery does not successfully complete.
- 7. If sending notifications, enter recipients and add them to the list.
- 8. Click Next.

The **Confirmation** page is displayed.

9. Review your recovery settings.

Recovery Wizard			_		Х
<ul> <li>Recovery Wizard</li> <li>Confirmation         <ul> <li>Review your recovery configurati</li> <li>Recovery Source</li></ul></li></ul>	Storage Device: DGPMC1 Volume to Recover: SVM9x1_cifs1 Recover: From: 07/08/2018 07:32:41 - FILE10.TXT Recover To: Original Location		-		×
	< Back	Next >	Finish	Cance	el

10. Click Finish.

# **DFS-N Management Jobs**

This section provides information about creating, editing, running, and managing a DFS-N Management job:

- <u>Overview</u>
- <u>Namespace Elements</u>
- <u>Getting Started with DFS Namespaces</u>
- Creating a DFS-N Management Job
- Running a DFS-N Management Job
- Managing DFS Namespaces
  - o Adding an Existing Namespace
  - o Adding a Namespace Server

- o Adding a Namespace Folder
- o Adding a Namespace Folder Target
- Connecting DFS Namespaces with File Collaboration and File Synchronization Jobs

### **Overview**

The purpose of creating a DFS Namespace Management job is to allow you to manage various activities related to <u>DFS namespaces</u>, such as creating a namespace, creating namespace folders, and adding folder targets. A DFS namespace enables you to group shared folders located on different servers into one or more logically structured namespaces. DFS namespace activities can be performed using a Microsoft tool; however, the benefits of creating and configuring namespace within the Peer Management Center are:

- **Ease of managing a namespace** You can <u>create</u> and <u>manage</u> a namespace within the same interface that manages our synchronization and collaboration technologies. This removes the need to use two different tools to manage the key elements of multi-site and multi-vendor file services.
- Integration with Synchronization and Collaboration <u>When combined with PMC's</u> <u>file synchronization technology</u>, DFS namespaces can provide redundancy to file shares across file servers and locations.
- Automating failover and failback If a file server goes offline, the PMC will disable the associated folder target in DFS namespace. This automatically redirects users to another available file server. When the original file server comes back, the PMC will automatically make sure it is brought back in sync, and then enable the associated folder target so users can once again connect to it. See <u>DFS Namespace Failover and Failback</u> in <u>Advanced Topics</u> for more information.

#### Namespace Elements

The elements that make up a DFS namespace are:

- **Namespace server** A namespace server hosts a namespace. The namespace server can be a member server or a domain controller.
- Namespace root The namespace root is the starting point of the namespace. For example, if you have a namespace path of **\\Domain.local\MyNamespace**, the root is **MyNamespace**. This is a domain-integrated namespace, meaning that its metadata is stored in Active Directory Domain Services.

- **Folder** (also referred to as **namespace folders**)- Folders with **folder targets** provide users with actual content. When users browse a folder that has folder targets in the namespace, the client computer receives a referral that transparently redirects the client computer to one of the folder targets.
- Folder targets A folder target is the UNC path of a shared folder or another namespace that is associated with a folder in a namespace. The folder target is where data and content are stored. For example, if a user navigates to \ \Domain.local\MyNamespace\MyFolder, they are transparently redirected to \ \NYC-FS.Domain.local\MyFolder or \\LA-FS.Domain.local\MyFolder, depending on which site the user is currently accessing.

# **Getting Started with DFS Namespaces**

If you need to create a namespace, begin by <u>creating a DFS-N Management job</u>. You may want to <u>configure your DFS preferences</u> before you create the job.

If you already have a namespace that you want to import, see <u>Adding an Existing Namespace</u>.

See <u>Managing DFS Namespaces</u> for information about adding namespace servers, namespace folders, or folder targets to a DFS namespace.

Once you have configured your namespace, you can <u>link it to a File Collaboration or File</u> <u>Synchronization job</u>.

### **Creating a DFS-N Management Job**

The **Create Job** Wizard walks you through the process of creating a DFS-N Management job. The process consists of the following steps:

Step 1: Job Type

Step 2: Management Agent

Step 3: Agent Verification

Step 4: Namespace Name

Step 5: Namespace Servers

Step 6: Namespace Settings

Step 7: Namespace Folders

Step 8: Email Alerts

Step 9: SNMP Notifications

Step 10: Review

Step 11: Results

#### Step 1: Job Type

- 1. Open the Peer Management Center.
- 2. From the File menu, select New Job (or click the New Job button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click **DFS-N Management**, and then click **Create**.



The <u>Management Agent</u> page appears.

#### Step 2: Management Agent

The **Management Agent** page presents a list of servers that have a Peer Agent installed.

1. Select an Agent that is in the domain of the DFS namespace or where you want to create the new DFS namespace.

**Note:** If you select an Agent that has **No** in the **DFS Mgmt. Enabled** column, the Microsoft DFS PowerShell Management toolkit will be installed in the next step.

the server hosting th	ne Peer Agent tha	t will manage	e this job.			
gement Agent verification space Name space Servers	Agent DGWin16d DGWin16B	Domain PEERTEST PEERTEST	Computer Description	DFS Mgmt. Enabled Yes Yes	Windows Version Windows Server 2016 Windows Server 2016	
space Settings space Folders Alerts Notifications	DGWin16C	PEERTEST		Yes	Windows Server 2016	

# 2. Click Next.

The <u>Agent Verification</u> page appears.

### Step 3: Agent Verification

The **Agent Verification** page presents a list of steps that are performed to verify that the Microsoft DFS PowerShell Management toolkit is installed on the same system as the Agent and configured correctly.

**Note:** The verification does not include checking whether DFS Services is running because the DFS service doesn't have to run on the agent server itself; it typically runs on a domain controller.

### 1. Click Start Verification.

Ø Create DFS-N Manager	nent Job Wizard		×
Agent Verification Verify that the selected Ag	gent is suitable to manage this namespace.		
Management Agent Agent Verification Namespace Name Namespace Servers Namespace Settings Namespace Folders Email Alerts SNMP Notifications Review Results	Start Verification         Verify Windows Version         Verify Local Admin Rights         Verify Domain Communication         Verify DFS PowerShell Management Toolkit Installed         Verify DFS PowerShell Management Toolkit Works		
	< Back Next >	Cance	el

2. If the DFS PowerShell Management toolkit is not installed, click the **Install** button that appears next to **Verify DFS PowerShell Management Toolkit Installed**.

After the toolkit is installed, the verification continues. A green dot signifies that the verification of that element was successful.

Create DFS-N Manager	nent Job Wizard		$\times$
Agent Verification	ient is suitable to manage this namesnage		
Management Agent Agent Verification Namespace Name Namespace Servers Namespace Settings Namespace Folders Email Alerts SNMP Notifications Review Results	gent is suitable to manage this namespace.         Start Verification         • Verify Windows Version         • Verify Local Admin Rights         • Verify Domain Communication         • Verify DFS PowerShell Management Toolkit Installed         • Verify DFS PowerShell Management Toolkit Works		
	< Back Next >	Canc	el

3. After the verification has successfully completed, click **Next**.

The <u>Namespace Name</u> page appears.

### Step 4: Namespace Name

The name of the namespace will also be the name of the DFS-N Management job.

1. Enter the name of the namespace.

🙆 Create DFS-N Managen	nent Job Wizard		$\times$
Namespace Name			
Enter a name of the new n	amespace.		
Management Agent Agent Verification	This name will appear after the server or domain name in the namespace path, such as \\Server\Name or \\Domain\Name.		
Namespace Name			
Namespace Servers Namespace Settings	Namespace Name: Example: Public		
Namespace Folders			
Email Alerts			
SNMP Notifications Review			
Results			
1000100			
	< Back Next >	Cance	l I

# 2. Click Next.

The <u>Namespace Servers</u> page appears.

#### Step 5: Namespace Servers

A server that you want to host a namespace is called a namespace server. It does not have to host the data. However, a namespace server must be running the Microsoft DFS Namespace Service. In most cases, a namespace server should be a domain controller.

1. Enter the fully qualified path of a file server in the **Server Name** field, and then click **Add**.

Management Agent     Enter the fully qualified domain name of a server running the DFS namespace service.       Agent Verification     Server Name:       DGWin16B.peertest.local	
Namespace Servers Add Delete	
lamespace Folders	
mail Alerts	
NMP Notifications eview	
esults	

# The server path is listed in the area below.

Create DFS-N Managemen	t Job Wizard			>
amespace Servers Select one or more servers to	host this namespace. The servers you select will be l	known as namespace servers.		
Management Agent Agent Verification Namespace Name	Enter the fully qualified domain name of a s Server Name:	erver running the DFS namespace service.		
Namespace Servers Namespace Settings		Add Delete		
Namespace Folders Email Alerts SNMP Notifications Review	DGWin16B.peertest.local			
Review Results				
		< Back Next >	Cano	:el

2. Add additional servers if desired.

Create DFS-N Management	t Job Wizard			×
Namespace Servers Select one or more servers to l	host this namespace. The servers you select will be known as namespace servers.			
Management Agent Agent Verification Namespace Name	Enter the fully qualified domain name of a server running the DFS namespace service. Server Name:			
Namespace Servers Namespace Settings Namespace Folders	Add Delete			
Email Alerts SNMP Notifications Review Results	DGWin16B.peertest.local DGWin16C.peertest.local			
	< Back Ne	xt >	Cano	:el

# 3. Click Next.

The <u>Namespace Settings</u> page appears.

### Step 6: Namespace Settings

The **Namespace Settings** page displays the namespace servers selected for the job. You can modify a server's local path and access permissions.

To edit a server's settings:

1. In the **DFS Root Share Path** column for the server, modify the path.

espace Settings lify the settings of the sha	red folder.				
anagement Agent Jent Verification Imespace Name Imespace Servers		reate a shared folder on the nam S root share for each namespace	espace server. e server, including its local path and permissic	ons.	
imespace Settings	Server Name	DFS Root Share Path	Permissions		
mespace Folders	DGWin16B.peertest.local	C:\DFSRoots\Europe	Everyone Full Access		
nail Alerts	DGWin16C.peertest.local	C:\DFSRoots\Europe	Everyone Full Access		
MP Notifications view					
sults					
	L	1	1		

- 2. In the **Permissions** column for the server, select the desired access level.
- 3. (Optional) Modify the path and permissions for other servers.

dify the settings of the sha	red folder.				
lanagement Agent gent Verification amespace Name amespace Servers	If necessary, the wizard will c Modify the settings of the DF Shared Folder: Europe	reate a shared folder on the nam S root share for each namespace	espace server. e server, including its local path and permissions.		
amespace Settings	Server Name	DFS Root Share Path	Permissions		
amespace Folders	DGWin16B.peertest.local	C:\DFSRoots\Europe	Everyone Full Access		
mail Alerts	DGWin16C.peertest.local	C:\DFSRoots\Europe	Administrators Full Access, Other Users Read and Write		
NMP Notifications eview					
sults					

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4. Click Next.

The <u>Namespace Folders</u> page appears.

### Step 7: Namespace Folders

A namespace folder contains folder targets, which provide users with actual content. A folder target is the <u>Universal Naming Convention (UNC) path</u> of a shared folder or another namespace that is associated with a folder in a namespace. The folder target is where data and content are stored. Adding multiple folder targets increases the availability of the folder in the namespace.

The **Namespace Folders** page lists existing namespace folders and folder targets.

1. Click the **Create** button.

Create DFS-N Management	Job Wizard			- 0 X
Namespace Folders Create DFS namespace folders	and targets.			
Management Agent Agent Verification Namespace Name	Folder	Targets		Create
Namespace Servers				Edit
Namespace Settings Namespace Folders				Delete
Email Alerts SNMP Notifications Review Results				
			< Back Next >	Cancel

The **Folder Name** dialog appears.

2. Enter a name for the namespace folder in the **Folder Name** field.

After you enter the folder name, a preview of the folder and path name appears below the **Folder Name** field.

Ider Name nter a name for the name	nace folder	
Folder Name Folder Targets Confirmation	Folder Name: Farming Preview of namespace folder:	
	\\PeerTest.local\Europe\Farming	
	< Back Next > Finish	Cancel

3. (Optional) To add folder targets for the namespace folder, click **Next**. You can add folder targets now or later when editing the job.

The **Folder Targets** dialog appears.

🙆 New Namespace Folder					$\times$
Folder Targets					
Select one or more folder targets for	or this namespace folder				
Folder Name Folder Targets	Enter the UNC path to If the folder is not sha	an existing folder. red, you must share it first.			
Confirmation	Path to folder target:	Example: \\Server\Shared	Folder\	Folder T	arget
	I	Add Delete			
	< Back N	lext > Finish		Cance	:I

4. Enter the UNC path to a shared folder, and then click **Add**.

The folder target path is listed in the field below.

New Namespace Folder Folder Targets Select one or more folder targets for	or this namespace folder.		×
Folder Name Folder Targets Confirmation	Enter the UNC path to an existing folder. If the folder is not shared, you must share it first. Path to folder target: \\DGWin16B\Farming Add Delete		
	< Back Next > Finish	Cance	4

5. (Optional) Add additional folder targets.

New Namespace Folder Folder Targets Select one or more folder ta	- $\Box$ X
Folder Name Folder Targets Confirmation	Enter the UNC path to an existing folder. If the folder is not shared, you must share it first. Path to folder target: Example: \\Server\Shared Folder\Folder Target
	Add Delete           Add         Delete           \\DGWin16B\Farming         \\DGWin16C\Farming
	< Back Next > Finish Cancel

6. Click Next.

The **Confirmation** dialog appears.

New Namespace Folder			$\times$
Confirmation Do you want to add the foll	owing namespace folder and folder targets?		6
Folder Name Folder Targets Confirmation	Namespace Folder: \\PeerTest.local\Europe\Farming Folder Targets: \\DGWin16B\Farming \\DGWin16C\Farming		
	< Back Next > Finish	Cano	el

7. Review the folders and folder targets, and then click **Back** to add more folder and folder targets; otherwise, click **Finish**.

The **Namespace Folders** page reappears; it lists the folder you added and the number of its targets.

Create DFS-N Management mespace Folders	Job Wizard		- 0
eate DFS namespace folders	and targets.		
Management Agent Agent Verification	Folder	Targets	Create
amespace Name	Farming	2	Edit
amespace Servers			Edit
amespace Settings amespace Folders			Delete
mail Alerts			
MP Notifications			
view			
sults			
	L		
			< Back Next > Cancel

# 8. Click Next.

The <u>Email Alerts</u> page appears.

#### Step 8: Email Alerts

This step is optional.

An <u>email alert</u> notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job:

1. Click the **Select** button.

Create DFS-N Management	Job Wizard				×
Management Agent Agent Verification	Edit Email Alerts				
Namespace Name Namespace Servers	Name	Enabled	Event Types	Recipients	Select
Namespace Settings Namespace Folders					Delete
Email Alerts					View Details
SNMP Notifications					
Review					
Results					
				< Back Next	> Cancel

The **Select Email Alert** dialog appears.

🧔 Select Email Alert —		×
Email Alert: DFS server offline		$\sim$
Selected En Namespace not found		
Email Alert Name: DFS server offline		
Selected Alerts: Namespace Offline, All Folder Targets Offline		
Recipients: debrag@peersoftware.com		
ОК	Cancel	

2. Select an alert from the **Email Alert** drop-down list, and then click **OK**.

The alert is listed in the **Email Alerts** page.

I Create DFS-N Management	Job Wizard				
Management Agent Agent Verification	Edit Email Alerts				
Namespace Name Namespace Servers	Name	Enabled	Event Types	Recipients	Select
Namespace Settings	DFS server offline	Yes	Namespace Offline, All Folder Targets Offline	debrag@peersoftware.com	Delete
Namespace Folders Email Alerts					View Det
SNMP Notifications Review					
Results					
				< Back Next >	Cance

3. (Optional) Repeat steps 1-3 to apply additional alerts.

#### 4. Click Next.

The <u>SNMP Notifications</u> page appears.

#### Step 9: SNMP Notifications

This step is optional.

An <u>SNMP notification</u> notifies recipients when certain type of event occurs, for example, session abort, host failure, system alert. The **SNMP Notifications** page displays a list of notifications that have been applied to the job. When you first create a job, this list is empty. Like email alerts and file filters, an SNMP notification is defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create SNMP notifications in advance. However, from this wizard page, you can select an existing SNMP notification to apply to the job or create new SNMP notifications.

To apply an existing SNMP notification to the job or disable notifications:

1. Select an SNMP notification from the drop-down list.

### To disable, select **None - Disabled**.

Create DFS-N Management	Job Wizard				$\times$
SNMP Notifications					
Management Agent Agent Verification Namespace Name	Edit SNMP Notification				~
Namespace Servers Namespace Settings	Selected SNMP Not	ication Information			
Namespace Folders Email Alerts SNMP Notifications Review Results	No SNMP Notificat SNMP notifications	on Selected disabled for this job			
		< Back	Next >	Cance	1

# 2. Click Next.

The <u>Review</u> page appears.

### Step 10: Review

The **Review** page allows you to review the configuration before it is actually created.

1. Review the namespace configuration.

Peview       Do you want to create this namespace?         Management Agent       Agent Verification         Namespace Name       Review the configuration. If it is correct, click Create to create your new namespace. To change the configuration, click Back or select the appropriate page in the navigation panel.         Namespace Servers       Namespace Servers         Namespace Folders       The maxing tion panel.         SIMMP Notifications       Review         Results       SiMMP Notifications         Review       Ferroris         Results       - Farming [2 Targets]	Create DFS-N Management Job	Wizard		$\times$
Agent Verification     Review the configuration. If it is correct, click Create to create your new namespace. To change the configuration, click Back or select the appropriate page in the navigation panel.       Namespace Name     Namespace Servers     Namespace Configuration       Namespace Servers     Namespace Configuration     Namespace Servers       Namespace Settings     Name:\/PeerTest.local/Europe       Servers:     Servers:       Email Alerts     -DGWin16B.peertest.local       SNMP Notifications     -DGWin16B.peertest.local       Review     Folders:		ace?		
	Agent Verification Namespace Name Namespace Servers Namespace Settings Namespace Folders Email Alerts SNMP Notifications Review	page in the navigation panel. Namespace Configuration Name: \\PeerTest.local\Europe Type: Domain (Windows Server 2008 mode) Servers: -DGWin16B.peertest.local -DGWin16C.peertest.local -DGWin16C.peertest.local Folders:	appropriat	:e

2. Click **Create** if the configuration is correct; otherwise, click **Back** and correct the configuration.

After you click **Create**, the <u>Results</u> page appears.

### Step 11: Results

The **Results** page has two tabs: **Tasks** and **Errors**.

1. Review the results in the **Tasks** and **Errors** tabs.

esults			
Management Agent Agent Verification Namespace Name	Done		
Namespace Name	Tasks Errors		
Namespace Settings	Tasks	Results	
Namespace Folders	Create Local Folder	Folder created successfully: C:\DFSRoots\Europe	
Email Alerts	Create Folder Share	Share created successfully: Europe	
SNMP Notifications	Create DFS Namespace	Namespace created successfully: Europe	
Review	Create Local Folder	Folder created successfully: C:\DFSRoots\Europe	
Results	Create Folder Share	Share created successfully: Europe	
	Add DFS Namespace Server	Namespace Server added successfully: DGWin16C.peertest.local	
	Add New DFS-N Folder	Namespace folder: \\PeerTest.local\Europe\Farming added successfully.	
	Add DFS-N Folder Target	Folder target: \\DGWin16B\Farming added successfully.	
	Add DFS-N Folder Target	Folder target: \\DGWin16C\Farming added successfully.	
	Create DFS Namespace	Done	

# 2. Click Close.

The job automatically starts and the runtime summary view for the new job is displayed.

3. Select the job in the Namespace tab to view the folder targets.

Window Help 3 🔜 🐚 🗐 🕬 🕸 📎 🗐 💐 🙆 🤣								
	Collab and Sync Summary		st.local\Europe 8					
e filter text								
Cloud Backup and Replication (0)		Connguration						
DFS-N Management (4)	Folder Name							
\/PeerTest.local\Clients     \/PeerTest.local\dbrasnamespace     \/PeerTest.local\Domestic     \/PeerTest.local\Domestic     \/PeerTest.local\Domestic	\\PeerTest.local\Europe\Farming							
-{ File Collaboration (5) FC-3 FC-4								
<ul> <li>FC-5</li> <li>FC-6</li> <li>FC-7</li> </ul>								
⇒ File Replication (1) ● FR-1								
C File Synchronization (0)								
	Folder Target	Linked to Agent	Status	Reason	AD Site	Replication Status		
	\\DGWin16C\Farming \\DGWin16B\Farming		Active		US-HQ US-HQ	Replication not configured Replication not configured		
	(common anning		Acure		0.5 110	nepitetion not compared		
Agents 🛛 🕫 🏹 📎 🖱 🗖	5							
pe filter text								
Agent Avg. Bandwidth Ver								
JGWin16B (Connected) 4.5								
DGWin16C (Connected)     4.5     DGWin16d (Connected)     4.5								
John a (conceed)								
	E Status: Monitoring							
	💈 Job Alerts 🕕 Alerts 😫							
	0 errors, 9 warnings, 9 others   Filter by :	Host:	Severity:	<ul> <li>Type:</li> </ul>	~ Clear Ale	<u>erts</u>		
	Received Date Severity Type			Host	Message		Exception	
		nection Startup		DGWin168	Agent Started			
		nection Startup		DGWin16C	Agent Started			
		nection Startup		DGWin16d	Agent Started			
		nection Shutdown		DGWin16d DGWin16C	Agent Shutdown			
>		nection Shutdown		DGWin16C DGWin16B	Agent Shutdown Agent Shutdown			

# Importing an Existing Namespace

If you have an existing namespace that you want to use in in a File Collaboration or File Synchronization job, you can import the namespace. Importing the namespace creates a new DFS-N Management job with the same name as the imported namespace.

You can then either link the namespace to an existing File Collaboration or File Synchronization job or create a new File Collaboration or File Synchronization job that uses the namespace.

To import an existing namespace:

1. Right-click anywhere in the **Runtime Summary** tab of the **Namespace Summary** view , and then select **Import Existing Namespaces** (or right-click the DFS-N Management job type in the **Jobs** view.

) 🔜 😳 💈 🥮 🗞 🛛 🧶 🖓 🤣									
Jobs 🛛 🖓 📎 📕 🔕 🎽 🕯		Collab and Sync Summary	Cloud Summary	Ramespace Summary	×				
e filte tet Cloud Backup and Replication (0) DES-N Management (4) Wheer festLocal/Clents Wheer festLocal/Advensamespace Wheer festLocal/Advensamespace Wheer festLocal/Longenergie Clibboration (8) FC-1		Runtime Summary Name > \\PeerTest.local\debrasna > \\PeerTest.local\Europe > \\PeerTest.local\Clients		Management Status Halted. Monitoring Monitoring Monitoring	State Online Online Online Online	Errors 0 0 0 0	Total Servers 2 2 2 2	Total Folders   Targets 1 2 1 1	
© FC-2 © FC-3 © FC-4 © FC-5 © FC-6 © FC-6 © FC-8	•		Imp	ort Existing Namespaces					
Agents 🧧 🖓 🗞 🖻	• • • •								
Agent Avg. Bandwidth Ag DGWin168 (Connected) DGWin166 (Connected) DGWin16d (Connected)	Ver 4.5 4.5	Job Alerts 🚯 Alerts 🙁							
		errors, 9 warnings, 12 others		Severity:	∨ Туре:		Clear Alerts		
	06 06 06	eceived Date Severity 6-06-2020 21:38:00 Info 6-06-2020 21:37:52 Info 6-06-2020 21:37:49 Info 6-06-2020 21:37:23 Warning 6-06-2020 21:37:23 Warning	Connection Connection Connection Connection	Name Startup Startup Startup Shutdown Shutdown	Host DGWin16B DGWin16C DGWin16d DGWin16C DGWin16d	Message Agent Started Agent Started Agent Started Agent Shutdown Agent Shutdown			Excep

The Add Existing Namespace wizard appears.

2. Select a management agent.

anagement Agent							
elect the server hosting the Pe	eer Agent that will man	age this job.					
Management Agent Agent Verification Target Namespace	Agent DGWin16d	Domain PEERTEST	Computer Description	DFS Mgmt Yes	Windows Version Windows Server 2016		
Email Alerts	DGWin16B	PEERTEST		Yes	Windows Server 2016		
SNMP Notifications	DGWin16C	PEERTEST		Yes	Windows Server 2016		
Confirmation Results							
Results							
					. 0	ack Next >	Cancel

3. Verify the Agent environment.

Import Existing Namespace				×
Agent Verification	is suitable to manage this namespace.			~
Management Agent Agent Verification Target Namespace Email Alerts SNMP Notifications Confirmation Results	Start Verification         Verify Windows Version         Verify Local Admin Rights         Verify Domain Communication         Verify DFS PowerShell Management Toolkit Installed         Verify DFS PowerShell Management Toolkit Works			
	< Back Next	•	Ca	ncel

4. If the DFS PowerShell Management toolkit is not installed, click the **Install** button that appears next to **Verify DFS PowerShell Management Toolkit Installed**.

After the toolkit is installed, the verification continues. A green dot signifies that the verification of that element was successful.

Import Existing Namespaces			×
Agent Verification			
Verify that the selected Agent is s	uitable to manage this namespace.		
Management Agent Agent Verification	Start Verification		
Target Namespace Email Alerts SNMP Notifications	Verify Windows Version		
Confirmation Results	Verify Local Admin Rights		
	Verify Domain Communication		
	Verify DFS PowerShell Management Toolkit Installed		
	Verify DFS PowerShell Management Toolkit Works		
	< Back Next >	Canc	el

5. After the verification has successfully completed, click **Next**.

The **Target Namespace** page appears. You have two options for selecting the namespace to import: either by entering its name or by selecting it from a list of namespaces.

Import Existing Namespaces		_		$\times$
Target Namespace				
Management Agent Agent Verification	Select By Name			
Target Namespace Email Alerts	*Namespace Name: \\PeerTestlocal\		Validat	te
SNMP Notifications	O List All Namespaces			
Confirmation Results				
	< Back Next >		Cance	el

6. If you choose **Select By Name**, enter the namespace name and then click **Validate**. After the namespace is validated, continue with Step 8.

If you choose List All Namespaces, click Next.

The **Existing Namespace** page appears. It displays a table listing the existing namespaces

**Note:** It may take a few minutes for existing namespaces to appear in the table.

7. Select one or more existing namespaces from the table, and then click **Next**.
| sting Namespaces                       |                |               |             |  |  |
|--|----------------|---------------|-------------|--|--|
| ang runespaces                         |                |               |             |  |  |
| Management Agent<br>Igent Verification | Refresh Avail  | able namespac | es: 58      |  |  |
| arget Namespace<br>Existing Namespaces | Namespace      | State         | Description |  |  |
| mail Alerts                            | Atlas Shared D | Online        |             |  |  |
| NMP Notifications                      | BlueDFS        | Online        |             |  |  |
| onfirmation                            | CAD Projects   | Online        |             |  |  |
| esults                                 | Cheri          | Online        |             |  |  |
|  | Colors         | Online        |             |  |  |
|  | Debra01        | Online        |             |  |  |
|  | Debra02        | Online        |             |  |  |
|  | DFS-N_DE       | Online        |             |  |  |
|  | DFSDemoTest1   | Online        |             |  |  |
|  | DfsNamespace   | Not Found     |             |  |  |
|  | DFSR_Germany   | Online        |             |  |  |
|  | DG             | Online        |             |  |  |
|  | DGNamespace    | Online        |             |  |  |
|  | Family_DFS     | Online        |             |  |  |
|  | Fine Arts      | Online        |             |  |  |
|  | Food           | Online        |             |  |  |
|  | FullCycle      | Online        |             |  |  |
|  | Kim            | Online        |             |  |  |
|  |                | Online        |             |  |  |
|  | marcus-test    | Not Found     |             |  |  |
|  |                |               | i           |  |  |

# The **Email Alerts** page appears.

Import Existing Namespaces					- 🗆 X
Email Alerts					
Management Agent					
Agent Verification	Edit Email Alerts				
<ul> <li>Target Namespace</li> <li>Existing Namespaces</li> <li>Email Alerts</li> </ul>	Name	Enabled	Event Types	Recipients	Select
SNMP Notifications Confirmation					Delete View Details
Results					
				< Back Next	t > Cancel

8. (Optional) Select or create email alerts to apply to the job, and then click **Next**.

# The **SNMP Notifications** page appears.

Import Existing Namespaces				—		×
SNMP Notifications						
Management Agent Agent Verification ✓ Target Namespace	Edit SNMP Notification					~
Existing Namespaces Email Alerts	Selected SNMP Not					
SNMP Notifications	No SNMP Notificat SNMP notifications	Selected				
Results						
			< Back Next >		Cance	el

9. (Optional) Select or create an SNMP notification to apply to the job, and then click **Next**.

The **Confirmation** page appears.

Import Existing Namespaces		_		×
Confirmation				
Do you want to add these namespa	aces?			
Management Agent Agent Verification Target Namespace Existing Namespaces Email Alerts SNMP Notifications Confirmation Results	Selected Agent: DGWin168 Selected Namespaces - Planets			
	< Back Import		Cance	I

- 10. Review the configuration.
- 11. If you need to modify the job configuration after reviewing it, click **Back** until you reach the appropriate page and make your changes.
- 12. Once you are satisfied with the job configuration, click **Import**.

The **Results** page appears.

Import Existing Namespaces			_		×
Results					
Management Agent Agent Verification Target Namespace Existing Namespaces Email Alerts SNMP Notifications Confirmation Results	Done Tasks Errors Tasks Creating Planets Job Adding Namespaces	Results Success Success			
		·		Close	:

13. Review the results, and then click **Close**.

A DFS-N Namespace job is created for each namespace you added. The new job(s) are displayed in the **Jobs** view and tab(s) for the jobs appear in the runtime summaries view. The jobs automatically start running. The namespaces can now be <u>linked to File</u> <u>Collaboration and File Synchronization jobs</u>.

1 10 10 10 10 10 10 10 10 10 10 10 10 10		Collab and Sync Sur	mmary	🗠 Cloud Sum	nary 🔒 Namesp	ace Summary	A \\PeerTest.loc	al\Planets 🛛		
type filter text	0	Namespace Namesp	ace Servers	Alerts (0) Conf	guration					
Courd Backup and Replication (0)  Description  Weer TestLocal/Generation  Weer TestLocal/Generation  Weer TestLocal/Generation  Weer TestLocal/Generation  Weer TestLocal/Generation  Weer TestLocal/Generation  TestLocal/	~	Folder Name \\PeerTest.local\Pla \\PeerTest.local\Pla	nets\Earth nets\Mars		guistion					
	•	Folder Target			Linked to Agent	Status	Reason	AD Site	Replication Status	
type filter text	0									
△ Agent Avg. Bandwidth	Ver 4.5	Status: Monitorir	ıg							
DGWin16C (Connected)     DGWin16d (Connected)	4.5 4.5	💈 Job Alerts 🕕 Alert				_				- 0
		0 errors, 9 warnings, 1	2 others   I	Filter by : Host:		Severity:	∨ Туре:	✓ Clear Aler	<u>ts</u>	
		Received Date 06-06-2020 21:38:00 06-06-2020 21:37:52	Severity Info Info	Type Connection Connection	Name Startup Startup		Host DGWin16B DGWin16C	Message Agent Started Agent Started		Excep ^
		06-06-2020 21:37:49 06-06-2020 21:37:23	Info Warning	Connection Connection	Startup		DGWin16d DGWin16C	Agent Started Agent Shutdown		

## Running a DFS-N Management Job

This section describes:

- Starting a DFS-N Management Job
- Stopping a DFS-N Management Job

#### Starting a DFS-N Management Job

To manually start a DFS-N Management job:

- 1. Choose one of these options:
  - Right-click the job name in the **Jobs** view.
  - Open the job and then click the **Start/Stop** button in the bottom left corner of the job's **Namespace** tab in the run-time view (shown below).

Folder Name						
\\PeerTest.local\Public\Proje						
\\PeerTest.local\Public\Data	l					
\\PeerTest.local\Public\Econ	omic Data					
					Paplication Status	
Folder Target	Linked to Agent	Status	Reason	AD Site		
Folder Target \\lab9Win12R2b\c\$\DfsT	Linked to Agent	Status Active	Reason	AD Site The RPC server is u	Replication Status Not Replicating	
Folder Target \\lab9Win12R2b\c\$\DfsT \\lab9Win12R2c\c\$\DfsTe	-				Not Replicating Not Replicating	
\\lab9Win12R2b\c\$\DfsT	-	Active	-	The RPC server is u	Not Replicating	

2. Click **Yes** in the confirmation dialog.

After the job initialization has completed, the job will run. Once the job starts, the icon next to the job name in the **Jobs** view changes from gray to green.



## Stopping a DFS-N Management Job

You can stop a DFS-N Management job at any time. Note that you cannot edit a DFS-N Management job while it is stopped.

To stop a DFS-N Management job:

1. Right-click the job name in the **Jobs** view, and then choose **Stop** from the pop-up menu.

Or, open the job and click the **Start/Stop** button in the bottom left corner of the job's **Namespace** tab in the run-time view.

2. Click **Yes** in the confirmation dialog.

The icon next to the job name in the **Jobs** view changes from green to red.

## Managing DFS Namespaces

This section describes:

- Adding an Existing Namespace
- Adding a Namespace Server
- Adding a Namespace Folder
- Adding a Namespace Folder Target

#### Adding a Namespace Server

You can add a namespace server to a namespace.

To add a namespace server to a namespace:

1. Double-click the job name in the **Jobs** view or the **Namespace Summary** view to open the runtime summary view for the job.

File Window Help						
📑 🔚 🕞 🗵 🧶 🚱 📎 🛛 🧔 🌾						
🧯 Jobs 🛛 🍸 📎 🚺 🔳 🚱 🏹 🗖	🗆 🔝 Namespace Summary 🛛					
type filter text	Runtime Summary					
<ul> <li>Je DFS-N Management (14)</li> </ul>	<ul> <li>Name</li> </ul>	Management Status	State	Errors	Total Servers	Total F
\\PeerTest.local\Atlas Shared Docs	> \\PeerTest.local\Public West	Monitoring	Online	0	2	1
\\PeerTest.local\DGNamespace	> \\PeerTest.local\MLTest02	Monitoring	Online	0	2	2
\\PeerTest.local\Family_DFS	> \\PeerTest.local\T2	Monitoring	Online	0	1	4
\\PeerTest.local\Food	\\PeerTest.local\Pets	Sending Stop Command	Online	1	2	0
\\PeerTest.local\LLCY	\\PeerTest.local\US-CA-1	Sending Stop Command	Online	1	1	0
\\PeerTest.local\MarcusDFSDemo	> \\PeerTest.local\DGNamespace	Sending Stop Command	Online	1	2	3
\\PeerTest.local\MarcusDFSDemo2	> \\PeerTest.local\MarcusDFSDemo	Sending Stop Command	Online	1	2	1
\\PeerTest.local\MLTest02	> \\PeerTest.local\Family_DFS	Sending Stop Command	Online	1	2	2
\\PeerTest.local\Pets	> \\PeerTest.local\LLCY	Sending Stop Command	Online	1	2	2
\\PeerTest.local\Public	> \\PeerTest.local\MarcusDFSDemo2	Sending Stop Command	Online	1	2	1
\\PeerTest.local\Public_East	> \\PeerTest.local\Food	Sending Stop Command	Online	1	2	2
\\PeerTest.local\Public_West	> \\PeerTest.local\Atlas Shared Docs	Sending Stop Command	Online	1	2	2
\\PeerTest.local\T2	> \\PeerTest.local\Public_East	Sending Stop Command	Online	1	2	2
\\PeerTest.local\US-CA-1	> \\PeerTest.local\Public	Monitoring	Online	0	4	3
✓	<					
FC-Beverages	×					
I Agents	📕 💈 Job Alerts 🕖 Alerts 🛛					
		st: Severity:	✓ Type:	~	Clear Alerts	
type filter text	0 errors, 6 warnings, 7 others   Filter by : Ho	st Seventy.	<ul> <li>Type.</li> </ul>	Ť	Clear Alerts	
△ Agent Avg. Bandwidth	Received Date Severity Type	Name	Host	Message		
JGWin16B (Connected)	08-21-2019 16:07:55 Info Connect	on Startup	DGWin16B	Agent Started		
I DGW(in16C (Connected)	V 00 21 2019 10.01.95 11.0 Connect		DOWNINGD	Agent Started		

The runtime summary view for the job is displayed.

🔕 Peer Management Center (Client Mode)							– 0 ×
File Window Help							
📑 🗟 🕼 😂 🍘 📎 🕕 🏟							
💈 Jobs 🛛 🏹 📎 🔲 🔕 🏹 🗖 🗖	🔚 Namespace Summary 🛛 🔝 🕅	\PeerTest.local\I	Public_West 🛛				- 8
type filter text (?)	Namespace Namespace Servers A	Alerts (0) Config	guration				
V 🔓 DFS-N Management (14)							
\\PeerTest.local\Atlas Shared Docs	Folder Name						
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public_West\Cor	mpany Sales					
\\PeerTest.local\Family_DFS							
\\PeerTest.local\Food							
\\PeerTest.local\LLCY							
\\PeerTest.local\MarcusDFSDemo							
\\PeerTest.local\MarcusDFSDemo2							
\\PeerTest.local\MLTest02	Folder Target	1	Linked to Agent	Status	Reason	AD Site	Replication Status
\\PeerTest.local\Pets							
\\PeerTest.local\Public							
\\PeerTest.local\Public_East							
\\PeerTest.local\Public_West							
\\PeerTest.local\T2	<						>
\\PeerTest.local\US-CA-1							-
✓ -√ File Collaboration (2)	Status: Monitoring						
FC-Beverages	Status montoning						
· · · · · · · · · · · · · · · · · · ·	💈 Job Alerts 🕕 Alerts 🖄						
🖪 Agents 🛛 🧖 🏹 📎 🗖 🗖							
type filter text	0 errors, 6 warnings, 7 others   Filt	er by : Host:		Severity:	~ Туре:	✓ <u>Clear Alerts</u>	
△ Agent Avg. Bandwidth ^	Received Date Severity	Туре	Name		Host	Message	^
JGWin16B (Connected)	08-21-2019 16:07:55 Info	Connection	Startup		DGWin16B	Agent Started	
All DGWin16C (Connected)		e	Startup		DOWINIOD	Agent Stated	~
< >>	<						>

2. Click the Namespace Servers tab.

Peer Management Center (Client Mode)									-	o ×
File Window Help										
📑 🔛 🖻 🧶 🖓 😓 🤞	4									
🧯 Jobs 💦 🏹 📎 🔳 🔕 🎽	- 0	🔚 Namespace Summa	y 🔓 V	\PeerTest.local\Pu	blic_West 😣					- 8
type filter text	?	Namespace Namespa	ce Servers	Alerts (0) Configu	ration					
✓ ↓ DFS-N Management (14)	^									
\\PeerTest.local\Atlas Shared Docs	- 14	Namespace Server	State	us Lin	ked to Agent	Reason		AD Site	Path	
\\PeerTest.local\DGNamespace		peertestdc1	ONL	INE				N/A	\\peertestdc1\Public_West	
\\PeerTest.local\Family_DFS		peertestdc2	ONL	INE				N/A	\\peertestdc2\Public_West	
\\PeerTest.local\Food										
\\PeerTest.local\LLCY										
\\PeerTest.local\MarcusDFSDemo										
\\PeerTest.local\MarcusDFSDemo2										
\\PeerTest.local\MLTest02										
\\PeerTest.local\Pets										
\\PeerTest.local\Public										
\\PeerTest.local\Public_East										
\\PeerTest.local\Public_West										
\\PeerTest.local\T2		<								>
\\PeerTest.local\US-CA-1										
✓ - ✓ File Collaboration (2)		📕 Status: Monitorin	9							
FC-Beverages	~		~							
Agents 🧏 🏹 📎 🖞		💈 Job Alerts 🕕 Alerts	23							
Agents 🧏 🔰 📎						_				
type filter text	?	0 errors, 6 warnings, 7	others   Filt	ter by : Host:		Severity:	V Type:	~	Clear Alerts	
△ Agent Avg. Bandwid	th ^	Received Date	Severity	Туре	Name		Host	Message		^
DGWin16B (Connected)	~	08-21-2019 16:07:55	Info	Connection	Startup		DGWin16B	Agent Started		
Children (Connected)	>									×
	<i>′</i>									

3. Right-click anywhere in the **Namespace Servers** tab, and then select **Add Servers**.

lamespace Server	Status	Linked to Agent	Reason	AD Site	Path
eertestdc1	ONLINE			N/A	\\peertestdc1\Public_West
peertestdc2	ONLINE			N/A	\\peertestdc2\Public_West
	Enable/Disable Server				
		Server			
	Open	in Explorer			
	Add S	ervers			

## The Add DFS Namespace Server wizard appears.

4. Enter the fully qualified path of a file server in the **Server Name** field, and then click **Add**.

Ø Add DFS Namespace Serve	26		$\times$
Namespace Servers Select one or more servers to	be added. The servers you select will be known as namespace servers.		
Namespace Servers Namespace Settings	Enter the fully qualified domain name of a server running the DFS Namespace Service Server Name: peertestdc1.peertest.local		
Confirmation Results	Add Delete	Brov	vse
	< Back Next >	Canco	el

The server path is listed in the area below.

- 5. Add additional servers if desired.
- 6. Click Next.

The Namespace Settings page is displayed.

Add DFS Namespace Serve Namespace Settings Modify the settings of the sha						×
Namespace Servers Namespace Settings Confirmation Results		rd will create a shared folder on t f the DFS root share for each nar		al path a	nd permi	ssions.
	Server Name peertestdc1.peert	DFS Root Share Path C:\DFSRoots\Public_West	Permissions Everyone Full Access			
		[	< Back Next >		Cance	el

- 7. (Optional) Edit the namespace server settings: **DFS Root Share Path** and **Permissions**.
- 8. Click Next.

The **Confirm** page is displayed.

Add DFS Namespace Serve	r			$\Box$ $\times$
Confirmation				
Do you want to add the follow	ving DFS namespace servers?			
Namespace Servers Namespace Settings Confirmation Results	Namespace: Public_West Adding Servers: - peertestdc1.peertest.local			
		< Back A	dd	Cancel

- 9. Review the namespace server configuration.
- 10. Click **Add** if the configuration is correct; otherwise, click **Back** and correct the configuration.

The **Results** page is displayed.

Add DFS Namespace Server					$\times$
Results					
Namespace Servers Namespace Settings Confirmation	Done	Errors			
Results	Tasks Create Create	Local Folder Folder Share S Namespace Ser	Results Folder created successfully: C:\DFSRoots\Public_West Share created successfully: Public_West Namespace server added successfully: peertestdc1.p		
				Close	2

## 11. Click **OK**.

The newly added server is listed in the **Namespace Servers** tab.

### Adding a Namespace Folder

You can add a namespace folder to a namespace. When adding a namespace folder, you can also add folder targets to the new namespace folder; you can also add folder targets later if you wish.

**Note:** A DFS-N Namespace job must be running before you can edit it.

The job must be running.

To add a namespace folder to a namespace:

1. Double-click the job name in the **Jobs** view or the **Namespace Summary** view to open the runtime summary view for the job.

Window Help											
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Jobs 🛛 🏹 📎 🖉 🖉 🖓		🔚 Namespace Summa	ary 🛙							_	- 1
e filter text	?	Runtime Summary									
Cloud Backup and Replication (0)	^	Name			Managemer	nt Status	State	Errors	Total Servers	Total Folders   Target	s
DFS-N Management (13)		> \\PeerTest.local\	MLTest02		Halted.		Not Found	1	2	2	
\\PeerTest.local\Atlas Shared Docs		> \\PeerTest.local\	T2		Halted.		Not Found	1	1	4	
\\PeerTest.local\DGNamespace		\\PeerTest.local\	Pets		Sending Sto	p Command	Online	1	2	0	
\\PeerTest.local\Family_DFS		\\PeerTest.local\	US-CA-1		Sending Sto	p Command	Online	1	1	0	
\\PeerTest.local\Food		> \\PeerTest.local\	DGNamespa	ice	Sending Sto	p Command	Online	1	2	3	
\\PeerTest.local\LLCY		> \\PeerTest.local\	MarcusDFS	)emo	Sending Sto	p Command	Online	1	2	1	
\\PeerTest.local\MarcusDFSDemo		> \\PeerTest.local\	Family_DFS		Sending Sto	p Command	Online	1	2	2	
\\PeerTest.local\MarcusDFSDemo2		> \\PeerTest.local\	LLCY		Sending Sto	p Command	Online	1	2	2	
\\PeerTest.local\MLTest02		> \\PeerTest.local\	MarcusDFS	)emo2	Sending Sto	p Command	Online	1	2	1	
\\PeerTest.local\Pets		> \\PeerTest.local\	Food		Sending Sto	p Command	Online	1	2	2	
\\PeerTest.local\Public		> \\PeerTest.local\	Atlas Shared	Docs	Sending Sto	p Command	Online	1	2	2	
\\PeerTest.local\Public_East		> \\PeerTest.local\	Public_East		Sending Sto	p Command	Online	1	2	2	
\\PeerTest.local\T2		> \\PeerTest.local\	Public		Halted.		Not Found	1	4	3	
\\PeerTest.local\US-CA-1											
— File Collaboration (2)		<									
FC-Beverages											
Agents 🧏 🏹 📎 🖓	-	💈 Job Alerts 🕕 Alert	s 🛛								-
pe filter text	0	0 errors, 6 warnings, 7	others   Fi	Iter by : Host:		Severity:	~ Туре:		✓ Clear Alerts		
Agent Avg. Bandwidth	^	Received Date	Severity	Туре	Name		Host	Message			
JGWin16B (Connected)		08-21-2019 16:07:55	Info	Connection	Startup		DGWin16B	Agent Star	ted		
JE DGMin16C (Connected)	~	00-21-2019 10:07:35		2 ···			DOWNING TOO	Agent Star			
3		<									>

The runtime summary view for the job is displayed.

Peer Management Center (Client Mode)							- 0 ×
File Window Help							
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🔰 Jobs 💦 💎 🔽 🚺 🖉 👘	🗆 🔓 Namespace Summary 🗍	🚡 \\PeerTest.loca	al\Public_East 🛛				- 0
type filter text	Namespace Namespace Serve	ers Alerts (1)	Configuration				
Cloud Backup and Replication (0)	^						
✓ ↓ DFS-N Management (13)	Folder Name						
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Public_East\	\Communications					
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public_East\						
\\PeerTest.local\Family_DFS							
\\PeerTest.local\Food							
\\PeerTest.local\LLCY							
\\PeerTest.local\MarcusDFSDemo							
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to Agent	Status	Reason	AD Site	Replication Status
\\PeerTest.local\MLTest02							
\\PeerTest.local\Pets							
\\PeerTest.local\Public							
\\PeerTest.local\Public_East							
\PeerTest.local\T2							
\PeerTest.local\US-CA-1	<						>
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FC-Beverages	Status: Monitoring						
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type filter text	24 errors, 0 warnings, 18 others	s   Filter by: Ho	st:	Name:	Severity:	~ Туре:	~ <u>Cle</u>
△ Agent Avg. Bandwidth	Received Date	Severity Ty	/pe Name		Host	Message	
DGWin16B (Connected)	08-23-2019 16:18:49	Info St	art Job \\PeerTest	local\Public East	t	User Started Peerlet	
All DGWin16C (Connected)	V 00-23-2019 10.10.49			· · · · ·		······································	
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2. Right-click anywhere in the **Namespace** tab, and then select **Add Folder**.

<ul> <li>Peer Management Center (Client Mode)</li> <li>File Window Help</li> </ul>									- 0 ×
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💈 Jobs 🛛 🍸 📎 🔲 🙆 🗸 🗖 🗖	Namespace Summary	🔓 \\PeerTest.loo	al\Public_East	: X					
type filter text (?)	Namespace Namespace Serve	ers Alerts (1)	Configuratio	n					
Cloud Backup and Replication (0)		•	·						
✓ ↓ DFS-N Management (13)	Folder Name								
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Public_East	Communication	s				Add Fold	er	
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public_East	Marketing					Add Fold	er Target	
\\PeerTest.local\Family_DFS		-					Create Ne	aw lob	
\\PeerTest.local\Food									
\\PeerTest.local\LLCY							Toggle al	I Folder Targets Online	
\\PeerTest.local\MarcusDFSDemo							Toggle al	I Folder Targets Offline	
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to Agent Status		Status	atus Reason	Marine Factoria		plication Status
\\PeerTest.local\MLTest02							Move Folder		
\PeerTest.local\Pets						Rename Folder			
\\PeerTest.local\Public							Delete Fo	lder	
\\PeerTest.local\Public_East									
\\PeerTest.local\T2 \\PeerTest.local\US-CA-1	<								>
✓ \/Peerlest.local\US-CA-1									
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type filter text (?)	24 errors, 0 warnings, 18 other	s Filter by : H	ost:	1	Name:		Severity:	∨ Type:	∽ <u>Cle</u>
△ Agent Avg. Bandwidth ^	Received Date	Severity 1	Type	Name			Host	Message	
JGWin16B (Connected)	08-23-2019 16:18:49	-	Start Job	\\PeerTect	local\Public Eas	+		User Started Peerlet	
48 DGWin16C (Connected)									
< >>	<								

The New Namespace Folder wizard appears.

3. Enter a name for the namespace folder in the **Folder Name** field.

🙆 New Namespace Folder	— 🗆 X
Folder Name	
Enter a name for the name	space folder.
Folder Name Folder Targets	Folder Name:
Confirmation	Preview of namespace folder:
Results	\\PeerTest.local\Public_East
	< Back Next > Cancel

After you enter the folder name, a preview of the folder and path name appears below the **Folder Name** field.

🙆 New Namespace Folder	— 🗆 X
Folder Name	
Enter a name for the name	space folder.
Folder Name Folder Targets	Folder Name: Domestic Sales
Confirmation	Preview of namespace folder:
Results	\\PeerTest.local\Public_East\Domestic Sales
	< Back Next > Cancel

4. Click Next.

The **Folder Targets** page is displayed. It is optional to add folder targets for the namespace folder at this point. You can add them later if you wish. If you choose to add the folder targets now, they must already exist and be shared.

5. (Optional) Enter the UNC path to the shared folder you want to be a folder target, and then click **Add**. (Click **Next** if you do not want to add folder targets at this point.)

🕺 New Namespace Folder			$\times$
Folder Targets			
Select one or more folder tar	gets for this namespace folder.		
Folder Name Folder Targets Confirmation	Enter the UNC path to an existing folder. If the folder is not shared you would need to share it first.		
Results	Path to folder target: \\DGWin16B\Inside Sales		
	Add Delete		
	< Back Next >	Canc	el

The folder target path is listed in the field below.

🙆 New Namespace Folder			$\times$
Folder Targets			
Select one or more folder ta	argets for this namespace folder.		
Folder Name Folder Targets	Enter the UNC path to an existing folder. If the folder is not shared you would need to share it first.		
Confirmation Results	Path to folder target:         Example: \\Server\Shared Folder\Folder Target           Add         Delete		
	\\DGWin16B\Inside Sales		
	< Back Next >	Cance	el

- 6. Add additional folder targets if desired.
- 7. Click Next.

The **Confirmation** page is displayed.

🕺 New Namespace Folder			$\times$
Confirmation			
Do you want to add the follow	ing namespace folder and folder targets?		
Folder Name Folder Targets Confirmation Results	Namespace Folder: \\PeerTest.local\Public_East\Domestic Sales Folder Targets: \\DGWin16B\Inside Sales \\DGWin16C\Inside Sales		
	< Back Add	Canc	el

- 8. Review the folders and folder targets.
- 9. Click **Add** if the configuration is correct; otherwise, click **Back** and correct the configuration.

### The **Results** page is displayed.

🕺 New Namespace Folder		— 🗆 X
Results		
Folder Name Folder Targets Confirmation	Done Tasks Errors	
Results	Tasks Add New DFS-N Folder Add DFS-N Folder Target Add DFS-N Folder Target Add Namespace Folder	Results         Namespace Folder: \\PeerTest.local\Public_East\Do         Folder Target: \\DGWin16B\Inside Sales added succe         Folder Target: \\DGWin16C\Inside Sales added succe         Success
		Close

## 10. Click **Close**.

The runtime summary view for the job is displayed.

11. Click the job you just modified.

The newly added folder and folder targets are listed in the **Namespace** tab. (You may have to scroll to view the **Folder Target** section of the tab.)

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💈 Jobs 🛛 🍸 📎 🚺 🖪 🚱 🌣 🗖 🗖	🔓 Namespace Summary 🛛	\\PeerTest.loc	al\Public_East	×					- 8
type filter text	Namespace Namespace Server	s Alerts (1)	Configuration						
Cloud Backup and Replication (0)	Display names			1					
✓ ↓ DFS-N Management (13)	Folder Name Display names	space servers							
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Public_East\@	Communication	s						
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public_East\[	Domestic Sales							
\\PeerTest.local\Family_DFS	\\PeerTest.local\Public_East\	Marketing							
\\PeerTest.local\Food		-							
\\PeerTest.local\LLCY									
\\PeerTest.local\MarcusDFSDemo									
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to Ag	jent	Status	Reason		AD Site	Replication Status
\\PeerTest.local\MLTest02	\\DGWin16B\Inside Sales		-		Active	-		US-HQ	Not Replicating
\\PeerTest.local\Pets	\\DGWin16C\Inside Sales		-		Active	-		US-HQ	Not Replicating
\\PeerTest.local\Public									
\\PeerTest.local\Public_East									
\\PeerTest.local\T2	<								>
\\PeerTest.local\US-CA-1									
✓ -√ File Collaboration (2)	Status: Monitoring								
FC-Beverages									
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type filter text (?)	24 errors, 0 warnings, 18 others	Filter by: H	ost:		Name:		Severity:	~ Туре:	✓ <u>Cle</u>
△ Agent Avg. Bandwidth ^	Received Date	Severity 1	Гуре	Name		F	lost	Message	
JGWin16B (Connected)	08-23-2019 16:18:49	Info S	Start Job	\\PeerTest	t.local\Public_Ea	ist		User Started Peerle	t
JGWin16C (Connected) ✓									
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#### Adding a Namespace Folder Target

You can add a folder target to a namespace.

	Note:	A DFS-N	Namespace	job	must	be	running	before	you	can	edit i	it.
--	-------	---------	-----------	-----	------	----	---------	--------	-----	-----	--------	-----

To add a folder target to a namespace:

1. Double-click the job name in the **Jobs** view or the **Namespace Summary** view to open the runtime summary view for the job.

File Window Help						
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jobs 🛛 🍸 📎 🚺 🖪 🚱 🏹 🗖 🛙	🛛 🔚 Namespace Summary 🖄					-
type filter text	Runtime Summary					
Cloud Backup and Replication (0)	<ul> <li>Name</li> </ul>	Management Status	State	Errors	Total Servers	Total Fold
<ul> <li>Jappen DFS-N Management (13)</li> </ul>	> \\PeerTest.local\MLTest02	Halted.	Not Found	1	2	2
\\PeerTest.local\Atlas Shared Docs	> \\PeerTest.local\T2	Halted.	Not Found	1	1	4
\\PeerTest.local\DGNamespace	\\PeerTest.local\Pets	Sending Stop Command	Online	1	2	0
\\PeerTest.local\Family_DFS	\\PeerTest.local\US-CA-1	Sending Stop Command	Online	1	1	0
\\PeerTest.local\Food	> \\PeerTest.local\DGNamespace	Sending Stop Command	Online	1	2	3
\\PeerTest.local\LLCY	> \\PeerTest.local\MarcusDFSDemo	Sending Stop Command	Online	1	2	1
\\PeerTest.local\MarcusDFSDemo	> \\PeerTest.local\Family DFS	Sending Stop Command	Online	1	2	2
\\PeerTest.local\MarcusDFSDemo2	> \\PeerTest.local\LLCY	Sending Stop Command	Online	1	2	2
\\PeerTest.local\MLTest02	> \\PeerTest.local\MarcusDFSDemo2	Sending Stop Command	Online	1	2	1
\\PeerTest.local\Pets	> \\PeerTest.local\Food	Monitoring	Online	0	2	2
\\PeerTest.local\Public	> \\PeerTest.local\Atlas Shared Docs	Sending Stop Command	Online	1	2	2
\\PeerTest.local\Public_East	> \\PeerTest.local\Public_East	Monitoring	Online	0	2	3
\\PeerTest.local\T2	> \\PeerTest.local\Public	Halted.	Not Found	1	4	3
\\PeerTest.local\US-CA-1						
✓ -√ File Collaboration (2)						
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DGWin16B (Connected)     DGWin16C (Connected)	08-23-2019 16:18:49 Info Star	rt Job \\PeerTest.local\Public_E	ast	User	Started Peerlet	
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The runtime summary view for the job is displayed.

🙆 Peer Management Center (Client Mode)								- 0 ×
File Window Help								
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💈 Jobs 💦 🏹 📎 🚺 🔳 🔇 🏹 🗖	🔓 Namespace Summary 🗍	🚡 \\PeerTest.loo	al\Public_East	×				- 8
type filter text (?	Namespace Namespace Serve	rs Alerts (1)	Configuration					
Cloud Backup and Replication (0)								
V 🔓 DFS-N Management (13)	Folder Name							
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Public_East\	Communication	s					
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public_East\							
\\PeerTest.local\Family_DFS	\\PeerTest.local\Public East\							
\\PeerTest.local\Food		,						
\\PeerTest.local\LLCY								
\\PeerTest.local\MarcusDFSDemo								
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to Age	ent	Status	Reason	AD Site	Replication Status
\\PeerTest.local\MLTest02								
\\PeerTest.local\Pets								
\\PeerTest.local\Public								
\\PeerTest.local\Public_East								
\\PeerTest.local\T2	4							>
\\PeerTest.local\US-CA-1								
✓ - ✓ File Collaboration (2)	Status: Monitoring							
FC-Beverages								
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type filter text	24 errors, 0 warnings, 18 others	Filter by: H	ost:	N	lame:	Severity:	~ Туре:	~ <u>Cle</u>
△ Agent Avg. Bandwidth ^	Received Date	Severity 1	ype	Name		Host	Message	
DGWin16B (Connected)	08-23-2019 16:18:49	Info 9	tart Job	\\PeerTest.lo	ocal\Public East		User Started Peerlet	
A DGWin16C (Connected)						-		
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2. Right-click the folder you want to add a folder target to, and then select **Add Folder Target**.

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File Window Help										
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💈 Jobs 💦 🏹 📎 🚺 🔳 🔕 🏹 🗖	🔓 Namespace Summary 🛛 🔒	\\PeerTest.loc	al\Public_East 8	3						- 0
type filter text	Namespace Namespace Servers	Alerts (1)	Configuration							
🗠 Cloud Backup and Replication (0)		•								
DFS-N Management (13)	Folder Name									
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Public_East\C	ommunication	s							
\\PeerTest.local\DGNamespace	\\PeerTest.local\Public East\D	omestic Sales								
\\PeerTest.local\Family_DFS	\\PeerTest.local\Public_East\M	larketing			Add Folder					
\\PeerTest.local\Food		,			Add Folder Tar	raat				
\\PeerTest.local\LLCY					Add Folder Tar	-				
\\PeerTest.local\MarcusDFSDemo				_	Create New Jo	b				
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to Age	nt	Toggle all Fold	der Targets Online	AD Site		Replication Stat	us
\\PeerTest.local\MLTest02	\\DGWin16B\Inside Sales		-			-	US-HQ		Not Replicating	
\\PeerTest.local\Pets	\\DGWin16C\Inside Sales		-		loggie all Fold	der Targets Offline	US-HQ		Not Replicating	
\\PeerTest.local\Public					Move Folder					
\\PeerTest.local\Public_East					Rename Folder	,				
\\PeerTest.local\T2				_			_			_
\\PeerTest.local\US-CA-1	<				Delete Folder					>
✓										
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type intertext ()								.jpc.		
△ Agent Avg. Bandwidth ^	Received Date	Severity 1	ype	Name		Host	Message			
DGWin16B (Connected)	08-23-2019 16:18:49	Info S	tart Job	\\PeerTe	st.local\Public East		User Started	Peerlet		
All DGWin16C (Connected)										
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The **New Folder Target** wizard appears.

3. Enter the UNC path to a shared folder, and then click **Add**.

New Folder Target Folder Targets Select one or more for	der targets for this namespace folder.		×
Folder Targets Confirmation Results	Enter the UNC path to an existing folder. If the folder is not shared, you must share it first. Path to folder target: \\DGWin16B\Outside Sales Add Delete		
	< <u>B</u> ack <u>N</u> ext >	Canc	el

# The folder target path is listed in the field below.

New Folder Target						$\times$
Folder Targets Select one or more folder	targets for this namespa	ce folder.				
Folder Targets Confirmation	Enter the UNC path to If the folder is not sha	-				
Results	Path to folder target:	Example: \\Serv Add	er\Shared Fo Delete	lder\Fo	lder Targ	jet
	\\DGWin16B\Outside	e Sales				
	<	<u>B</u> ack	<u>N</u> ext >		Cance	I

- 4. (Optional) Add additional folder targets.
- 5. Click Next.

The **Confirmation** page is displayed.

🕺 New Folder Target					$\times$
Confirmation					
Do you want to add the foll	owing folder targets to: Domestic Sales ?				
Folder Targets Confirmation Results	Add Folder Targets: \\DGWin16B\Outside Sales				
		< Back (	Create	Cance	ł

- 6. Review the folder targets.
- 7. Click **Create** if the configuration is correct; otherwise, click **Back** and correct the configuration.

The **Results** page is displayed.

🙆 New Folder Target		— 🗆 X
Results		
Folder Targets Confirmation Results	Done Tasks Errors	
	Tasks Add DFS-N Folder Target Add Folder Target	Results Folder Target: \\DGWin16B\Outside Sales added suc Done
		Close

8. Click Close.

The newly added folder targets are listed in the Folder Target section of the job's **Namespace** tab.

ile Window Help								
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🖥 Jobs 🔰 🏹 📎 🚺 🖪 🔕 🗸 🖵 🛙	Namespace Summary	🔚 \\PeerTest	.local\Public_Eas	st 🛙				- [
type filter text	? Namespace Namespace	e Senvers   Alerts	(1) Configuratio	0.0				
Cloud Backup and Replication (0)		- Aicits	(i) configuration	011				
DFS-N Management (13)	Folder Name							
\\PeerTest.local\Atlas Shared Docs	\\PeerTest.local\Publi	_East\Communicat	ions					
\\PeerTest.local\DGNamespace	\\PeerTest.local\Publi	East\Domestic Sale	25					
\\PeerTest.local\Family_DFS	\\PeerTest.local\Public	_East\Marketing						
\\PeerTest.local\Food								
\\PeerTest.local\LLCY								
\\PeerTest.local\MarcusDFSDemo						1		
\\PeerTest.local\MarcusDFSDemo2	Folder Target		Linked to a	Agent	Status	Reason	AD Site	Replication Status
\\PeerTest.local\MLTest02	\\DGWin16B\Outside	Sales	-		Active	-	US-HQ	Not Replicating
\\PeerTest.local\Pets	\\DGWin16B\Inside Sa	les	-		Active	-	US-HQ	Not Replicating
\\PeerTest.local\Public	\\DGWin16C\Inside Sa	iles	-		Active	÷	US-HQ	Not Replicating
\\PeerTest.local\Public_East								
\\PeerTest.local\12 \\PeerTest.local\US-CA-1	<							3
<ul> <li></li></ul>								
<ul> <li>FC-Beverages</li> </ul>	Status: Monitoring							
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Agents Я ♥ ♥ □	🗖 💈 Job Alerts 🛛 🕕	Alerts						
type filter text	24 errors, 0 warnings, 18	others   Filter by :	Host:	Nar	me:	Severity:	~ Туре:	~
△ Agent Avg. Bandwidth	Received Date	Severity	Туре	Name		Host	Message	
All DGWin16C (Connected)	× 08-23-2019 16:18:49	Info	Start Job	\\PeerTest.loc		t	User Started Peerlet	
( )	<							

## **Connecting DFS Namespaces with File Collaboration and File Synchronization Jobs**

In order to allow the PeerGFS synchronization engine to automate the state of folder targets, a File Collaboration or File Synchronization job must be linked to a job that manages the appropriate DFS namespace.

The two ways to create this link are:

- If the File Collaboration or File Synchronization job does not yet exist, create one from the DFS namespace folder. See <u>Create a File Collaboration or Synchronization Job from a</u> <u>DFS Namespace Folder</u> for step-by-step instructions.
- If the File Collaboration or File Synchronization job already exists, edit the job and use the <u>File Collaboration DFS-N settings page</u> or <u>File Synchronization DFS-N settings page</u> to link the collaboration or synchronization to the DFS-N Management job. See <u>Linking a</u> <u>Namespace with an Existing File Collaboration or Synchronization Job</u> for step-by-step instructions.

**Note:** Currently, only File Collaboration and File Synchronization jobs can be linked to a DFS-N Management job.

### Creating a File Collaboration or File Synchronization Job from a DFS Namespace Folder

You can create a File Collaboration or File Synchronization job from a DFS namespace folder. These steps require that:

- The DFS namespace has been already created and is being managed by the PMC.
- The namespace folder has at least two folder targets.

To create a File Collaboration or File Synchronization job from a namespace folder:

- 1. From the **Jobs** view, open the DFS-N Management job managing the namespace.
- 2. Open the **Namespace** tab if it is not already displayed.

Window Help											
	~	/-	(5			<					
əbs 🔰 🖓 📎 🔳 🗔 🏹 😐 🗖		🗠 Cloud S	ummary 🚵 \\Pee	rTest.local\Europe	-( FC-6						
filter text (	Namespace Namespace Ser	vers Alerts (0) C	onfiguration								
Cloud Backup and Replication (0)	Folder Name										
DFS-N Management (4)											
\\PeerTest.local\Clients	\\PeerTest.local\Europe\M										
<ul> <li>\\PeerTest.local\debrasnamespace</li> <li>\\PeerTest.local\Domestic</li> </ul>	\\PeerTest.local\Europe\Fa	rming									
<ul> <li>\\PeerTest.local\Domestic</li> <li>\\PeerTest.local\Europe</li> </ul>											
File Collaboration (6)											
FC-1											
@ FC-2											
@ FC-3											
@ FC-4											
@ FC-5											
FC-6											
File Replication (1)											
FR-1											
File Synchronization (0)											
	Folder Target		Linked to Agent	Status	Reason	AD Site		Replication Status			
	\\DGWin16C\Farming			Active	-	US-HQ		Replication not configured			
	\\DGWin16B\Farming			Active	-	US-HO		Replication not configured			
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DGWin16B (Connected) 4.5.2.20200603											
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	<										
	💈 Job Alerts 🕴 🕕 Alert										-
	a JOB Alers as	•									
	7 errors, 2 warnings, 4 others	Eiter hur Ho	dt.	Name:	s	everity:	✓ Type:	<ul> <li>Clear Alerts</li> </ul>			
		, merby r mo				crony.		3000 2000			
	Received Date Sever	ity Type	Name		Host		Message			Exception	
	06-04-2020 16:37:18 Warn	ing Configur	ation FC-6		DGW	in168	Unsupported Host Config	guration: 8.3 short file name is enabled for Host D	GWin16B		
	06-04-2020 16:37:18 Warm				DGW			guration: 8.3 short file name is enabled for Host D			
	06-04-2020 16:37:15 Info	Start Job					User Started Peerlet				
	06-04-2020 15:03:03 Info	Auto Star					PMC startup after job cre	ation			
	06-04-2020 11:43:57 Info	Stop Job		rTest.local\debrasname	space		User Stopped Peerlet				

3. In the **Namespace** tab, right-click the desired namespace folder and select **Create New Job**.

: Window Help									
3 🗟 🖻 🗏 🌮 📎 🚺 🕯 🖉 🦑									
Jobs 🛛 🏹 📎 🖉 🖷 🖸		Cloud Summary		al\Europe 8	FC-6				
pe filter text	Namespace Namespace Servers Ale	rts (0) Configuration							
Coust Backup and Replication (t)           ● User Frail.bookIClients           ● Wer Frail.bookIClients           ● Frail.bookIClients	Folder Name \\/PeerTestJocal/Europe\/Manufact \\/PeerTestJocal/Europe\/Farming	ring							
in File Replication (1) ⇒ File Synchronization (0) File Synchronization (0)	Folder Target	Linked to	Delete Folder	Status R	nason	AD Site	Replication Status		
		Linked to	Agent		cason	US-HO			
	\\DGWin16C\Farming \\DGWin16B\Farming			Active - Active -		US-HQ US-HQ	Replication not configured		
	(UGWin Ios\Farming			Active -		US-HQ	Replication not configured		
Agents 🦂 🍸 📎 🖓 🗖	5								
e filter text									
Agent         Avg. Ban         Version           Ø DGWin16B (Connected)         4.5.2.2020603         9.5.2.2020603           Ø DGWin16C (Connected)         4.5.2.20200603         9.5.2.20200603           Ø DGWin16G (Connected)         4.5.2.20200603         9.5.2.20200603									
	<								e
	Ales								
	7 errors, 2 warnings, 4 others   Filter		Nan	ne:		erity: V Type:	Clear Alerts		
	Received Date Severity	Туре	Name		Host	Message		Exception	
	06-04-2020 16:37:18 Warning	Configuration	FC-6		DGWin	168 Unsupported Host	Configuration: 8.3 short file name is enabled for Host DGW	/in16B	
	06-04-2020 16:37:18 Warning	Configuration	FC-6		DGWin	I6C Unsupported Host	Configuration: 8.3 short file name is enabled for Host DGW	/in16C	
	06-04-2020 16:37:15 Info	Start Job	FC-6			User Started Peerle	t		
		Auto Start Job				PMC startup after			
	06-04-2020 11:43:57 Info	Stop Job	\\PeerTest.loo	al\debrasnamespa	ice	User Stopped Peer	let		
>		Auto Start Job				PMC startup after			

The **Create New Job** wizard displays a list of job types you can create: File Collaboration and File Synchronization. All other job types are not supported for use with DFS namespace management.

😰 Create New Job	×
Peer Global File Service Select job type.	PEBR.
- ✓ File Collaboration	Real-time synchronization combined with distributed file locking to power global collaboration and project sharing across enterprise NAS platforms, locations, cloud infrastructures, and organizations.
	Create Cancel

4. Select a job type and click **Create**:

- Select **File Collaboration** if locking is required in additional to synchronization (for example, for data sets with shared project files).
- Select **File Synchronization** if no locking is required (for example, with home directory and user profile datasets).
- 5. Enter a name for the job and then click **OK**.

The job name must be unique.

Create File Collaboration Job	×
Enter a unique name.	
Job name cannot be blank.	
	OK Cancel

The **Participants** page appears. It is slightly different than **Participants** page that appears in the standard **Create New Job** wizard. The **Host Participants** table may be blank or it may be auto-populated with Agents.

6. If the **Hosts** column is blank, use the **Add** button to add the proper Agents.

If the **Hosts** column is auto-populated with Agents but not with the Agents you want, you can use the **Add** or **Delete** buttons to to modify which Agents to use in the job. At least two agents must be added.

Metadata	- Host Participant	s					
cation Support	Host	Root Path	Enabled	Storage Platform	DFS-N Folder Target	Seeding Target	Auto Match Roo
Alerts	DGWin16B		Yes	Windows	\\DGWin16B\Farming	No	Edit Detector Settir
	DGWin16C		Yes	Windows	\\DGWin16C\Farming	No	
		-					Delete
							Add

After you have made sure the correct Agents are listed in the **Host Participants** column, you need to check whether the correct storage platform is listed for the Agent. If an Agent has talked to that file server before, the **Storage Platform** column will be auto-populated.

7. If the **Storage Platform** column is blank, select the platform from the drop-down list.

articipants	- Host Participant	ts					
ile Metadata pplication Support	Host	Root Path	Enabled	Storage Platform	DFS-N Folder Target	Seeding Target	Auto Match Roo
mail Alerts	DGWin16B		Yes	Windows	\\DGWin16B\Farming	No	Edit Detector Settir
	DGWin16C		Yes	Windows	\\DGWin16C\Farming	No	Delete
							Add

- 8. If you selected a platform other than Windows, click the **Edit Detector Settings** button and enter the required settings for your selected platform.
- 9. If the **DFS Folder Target** column is blank, manually enter the folder targets in the **DFS Folder Target** column or click in the column and select one from the drop-down list.

ticipants Metadata	Host Participant	s					
plication Support	Host	Root Path	Enabled	Storage Platform	DFS-N Folder Target	Seeding Target	Auto Match Root
ail Alerts	DGWin16B		Yes	Windows	\\DGWin16B\Farming	No	Edit Detector Settin
	DGWin16C		Yes	Windows	\\DGWin16C\Farming	No	Delete
							Add

## 10. If **No** appears in the **Enabled** column, select **Yes** from the drop-down list.

11. The Enabled column [displays whether is enabling the link between that FC root path and the DFS Target folder

Participants File Metadata	Host Participant	ts		•			
Application Support	Host	Root Path	Enabled	Storage Platform	DFS-N Folder Target	Seeding Target	Auto Match Roc
mail Alerts	DGWin16B		Yes	Windows	\\DGWin16B\Farming	No	Edit Detector Setti
	DGWin16C		Yes	Windows	\\DGWin16C\Farming	No	Delete
							Add

12. If you want a participant to act as a seeding target, select **Yes** from the drop-down list.

Host DGWin16B DGWin16C	Root Path	Enabled Yes Yes	Storage Platform Windows Windows	DFS-N Folder Target \\DGWin16B\Farming \\DGWin16C\Farming	Seeding Target No No	Auto Match Roo Edit Detector Setti Delete
DGWin16C		Yes	Windows	\\DGWin16C\Farming	No	
						Delete
						Add

If you select **Yes**, a message describing seeding behavior is displayed. Multiple participants in a File Collaboration or File Synchronization job can be set as smart data seeding targets; however, at least one participant should not be set as a smart data seeding target. This participant will be acting as the "master" source for the smart data seeding targets. For more information about smart data seeding, see <u>Smart Data</u> <u>Seeding</u> or contact <u>support@peersoftware.com</u>.

🙆 Marl	c Host Participant DGWin16B as Smart Data Seeding Target	$\times$
?	Marking a host participant as a Smart Data Seeding Target will set this participant to utilize Smart Data Seeding logic.	
	Smart Data Seeding helps to efficiently integrate a host that has been disconnected for a long period of time or a new host into a job. Such existing hosts or new hosts with pre-seeded data (using methods like shipping a drive or server) should be set as Seeding Targets within a collaboration job. When the scan starts, non-Seeding Targets will become the masters and bring the Seeding Targets up to date. Stale updates, deletes, and renames will NOT be brought back from the Seeding Targets. All local real-time activity from this host will be QUARANTINED. Once that initial scan is complete, the Seeding Targets will become full participants with real-time enabled. For more information on Smart Data Seeding and it's potential options, please contact support@peersoftware.com.	i.
	Are you sure you want to continue and mark the host participant DGWin16B as a Smart Data Seeding Target?	
	OK Cancel	

13. Click **Auto Match Root** to automatically match a participant with the appropriate namespace folder target.

After clicking **Auto Match Root**, the root path will appear in the **Root Path** column. If this is the first collaboration or file synchronization job created with these Agents, you may need to populate the **Root Path** column manually:

- If using a Windows file server, the root path should be the local path on that file server that corresponds to the share path of the folder target.
- If using a non-Windows NAS device, this path should match the namespace folder target.

etadata	Host Participant		_				
ation Support	Host	Root Path	Enabled	Storage Platform	DFS-N Folder Target	Seeding Target	Auto Match Root
Alerts	DGWin16B	C:\Farming	Yes	Windows	\\DGWin16B\Farming	Yes	Edit Detector Setting
	DGWin16C	C:\Farming	Yes	Windows	\\DGWin16C\Farming	No	Delete
							Add

- 14. Once all participants are added and associated with folder targets, click **Next**.
- 15. (Optional) In the **File Metadata** page, <u>enable file metadata replication</u>, and then click **Next**.

Create File Collaboration Job W	fizard			×
File Metadata Configure the replication of NTFS	security permissions.			
Participants File Metadata Application Support Email Alerts	Synchronize Security Descriptors (ACLs)   Synchronizing NTFS security descriptors (ACLs) in real-time  Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan			
	Synchronize Security Descriptor Options           Owner           DACL: Discretionary Access Control List           SACL: System Access Control List			
	Metadata Conflict Resolution Select Master Host for initial scan:			
	< Back Next > Finish	1	Cance	el

16. (Optional) In the **Application Support** page, <u>select the applications you want</u> <u>optimized</u>, and then click **Next**.

Create File Collaboration Jo	D WIZƏRCI					×
elect the applications that wi	ll be used with the data that is managed b	y this job.				
Participants File Metadata Application Support Email Alerts	Select below to optimize this job fo Adobe Products Adobe Illustrator Adobe InDesign	or any of the following file types:				
	Autodesk Products Autodesk AutoCAD Autodesk Civil 3D Autodesk Inventor	☐ Autodesk Revit ☐ Autodesk Sheet Set Manager (for AutoCAD or Civil 3D)				
	Other ArcGIS Dassault Systems CATIA Microsoft Office	Microsystems Allegro Newforma Project Center Rhinoceros Rhino3D				
			< Back Next >	Finish	Canc	:el

17. (Optional) In the **Email Alerts** page, <u>select the emails alerts</u> to apply to the job.

Create File Collaboration Job Wi Email Alerts	zard				- 🗆 X
Select email alerts.					
Participants File Metadata Application Support	Edit Email Alerts				
Email Alerts	Name	Enabled	Event Types	Recipients	Select
					Delete
					View Details
		1			
				< Back Next >	Finish Cancel

18. Click **Finish** to complete the creation of this job.

Congratulations! You have created a File Collaboration or File Synchronization job that is linked to the namespace. It is now listed in the **Jobs** view under the job type (either File Collaboration or File Synchronization) and a view of the job appears in the **Runtime Summaries** area. You can start the job from either place. See <u>Running and Managing</u> <u>a File Collaboration job</u> for more information. From this point forward, if this file collaboration or file synchronization job is running along with its paired namespace job, the PMC will automatically <u>failover and failback</u> folder targets.

findow Help						
i 🗈 🗐 📽 📎 i 🛛 🛊 🛛 🤣						
s V V V V V V V V V V V V V V V V V V V	Collab and Sunc Summa	ry 🖉 Cloud Summary	( Shi NeerTest local Europe ( )	-7 %		
ter text 🔞	Summany Service Event	og Ouarantiner (0) Retrier (0)	Alerts (0) Participants (2) Configuration	-		
Cloud Backup and Replication (0)	Summary Session event	log quantitaties (o) inclues (o,	Area (o) Fundpana (c) configuratio			
DFS-N Management (4)	Summary View Action	ns <del>-</del>				Auto-Update Refresh 10 🜩 second
\\PeerTest.local\Clients						
\\PeerTest.local\debrasnamespace						
<ul> <li>\PeerTest.local\Domestic</li> <li>\PeerTest.local\Europe</li> </ul>	Job Status	Stopped				
File Collaboration (7)	Start Time		Elapsed Time			
FC-1						
0 FC-2	Watch Set					
FC-3	Total Files	0	Total Folders 0			
9 FC-4	Total Bytes	0 bytes				
0 FC-5	ll					
EC.6	Activity		51 G (			
) FC-7	Active Opens Files Pending	0	File Quarantines 0 Renames Pending 0			
ile Replication (1)	Bytes Pending	0 bytes	Deletes Pending (			
FR-1 File Synchronization (0)	Bytes Pending Metadata Pending	0 bytes	File Retries			
nie synchronization (0)	metadata Pending	U	Pile Netries 0			
	Replication Status					
	Bytes Transferred	0 bytes	Delta-level Savings			
	Added	0	Renamed			
	Updated	0	Deleted			
	Metadata Updates	0				
nts 🖉 🏹 📎 🖓 🗖						
	Background Scan					
iter text (?)	Status	Stopped				
ent Avg. Ban Version	Start Time		Elapsed Time			
DGWin16B (Connected) 4.5.2.20200603						
DGWin16C (Connected) 4.5.2.20200603	1					
DGWin16d (Connected) 4.5.2.20200603						
	0					
	07:00 PM					
	07.00114				viority Queue -Replication Queue -Active Opens	
				-	nonky queue — Repikation queue — Active Opens	
	Status: Stopped					
	Jacus propped					
	Job Alerts 20 Ale	IN I				
	7 errors, 2 warnings, 4 othe	rs   Filter by : Host:	Name:	Severity:	<ul> <li>Type: </li> <li><u>Clear Alerts</u></li> </ul>	
	Received Date Sev		Name	Host	Message	Exception
	06-04-2020 16:37:18 Wa		FC-6	DGWin16B	Unsupported Host Configuration: 8.3 short file name is enabled for Host DGWin16B	
	06-04-2020 16:37:18 Wa		FC-6	DGWin16C	Unsupported Host Configuration: 8.3 short file name is enabled for Host DGWin16C	
	06-04-2020 16:37:15 Info		FC-6		User Started Peerlet	
	06-04-2020 15:03:03 Info				PMC startup after job creation	
	06-04-2020 11:43:57 Info 06-04-2020 10:38:49 Info		\\PeerTest.local\debrasnamespace		User Stopped Peerlet	
		Auto Start Job			PMC startup after job creation	

If you open the linked DFS-N Management job, and click the namespace folder in the Namespace tab, you can view the folder targets in the view below.

Peer Management Center (Client Mode)					- o ×
File Window Help					
📑 🗟 🕼 📾 🌮 📎 🛛 🖢 🖉 🤣					
🔰 Jobs 🔰 🖉 📎 🖓 🖷 🗖	Collab and Sync Summary 🛛 🗠 Cloud Se	ummary 🕼 \\PeerTest.local\Europe 🕴 -	( FC-7		- D
type filter text (?)	Namespace Namespace Servers Alerts (0) C	afiguration			
A Cloud Backup and Replication (0)	warnespace warnespace servers wiens (o) c	miguration			
✓ 3 DFS-N Management (4)	Folder Name				
VPeerTest.local/Clients	\\PeerTest.local\Europe\Manufacturing				
\\PeerTest.local\debrasnamespace	\\PeerTest.local\Europe\Farming				
\\PeerTest.local\Domestic     \\PeerTest.local\Europe     \\PeerTest.local\Europe					
FC-1					
0 FC-2					
@ FC-3					
@ FC-4					
@ FC-5					
FC-6					
@ FC-7					
✓ ➡ File Replication (1)					
FR-1     File Synchronization (0)					
File Synchronization (U)					
	Folder Target	Linked to Agent Status Re	ason AD Site	Replication Status	
	\\DGWin16C\Farming	DGWin16C Active -	US-HQ	Inactive - Not Participating	
	\\DGWin168\Farming	DGWin168 Active -	US-HQ	Inactive - Not Participating Inactive - Not Participating - PreSeeding	
	(toominous anning	Acave -	03-112	inactive - Not Participating - Presetaning	
🖪 Agents 🛛 🤘 🍸 🕤 🗖					
type filter text (2)					
∆ Agent Avg. Ban Version					
G DGWin16B (Connected) 4.5.2.20200603					
GGWin16C (Connected)     4.5.2.20200603					
DGWin16d (Connected) 4.5.2.20200603					
~					
	Status: Monitoring				
	💈 Job Alerts 🕴 🕔 Alerts				- C
	7 errors, 2 warnings, 4 others   Filter by : Ho	st: Name:	Severity:	V Type: V Clear Alerts	
	Received Date Severity Type	Name	Host Me	issage	Exception
	06-04-2020 16:37:18 Warning Configur	ation FC-6	DGWin168 Uns	supported Host Configuration: 8.3 short file name is enabled for Host D	GWin16B
	06-04-2020 16:37:18 Warning Configur	ation FC-6	DGWin16C Uns	supported Host Configuration: 8.3 short file name is enabled for Host D	GWin16C
	06-04-2020 16:37:15 Info Start Job	FC-6	Use	er Started Peerlet	
	06-04-2020 15:03:03 Info Auto Stat			IC startup after job creation	
	06-04-2020 11:43:57 Info Stop Job	\\PeerTest.local\debrasnamespa		er Stopped Peerlet	
< >	06-04-2020 10:38:49 Info Auto Star	t Job	PM	IC startup after job creation	v

## Linking a Namespace Folder with an Existing File Collaboration or File Synchronization Job

You can link a DFS namespace with an existing File Collaboration or File Synchronization job. These steps require that the DFS namespace has been already created and is being managed by a DFS-N Management job. If your desired namespace does not exist, you need to either create it (via the <u>Create DFS-N Management Job wizard</u>) or you can <u>import an existing</u> namespace into the PMC.

To link a namespace folder with an existing File Collaboration or File Synchronization job:

- 1. Select the File Collaboration or File Synchronization job in the **Jobs** view.
- 2. Right-click and select **Edit Job**.

The **Edit Job** wizard appears.

articipants eneral	Participants									
le Filters	Available	Available								
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags	Host DGWin16d	Con	nputer Description							
FS-N	Selected Host DGWin168	Computer Description	Directory C:\Terra Firma	ctor Settings Enabled Yes	Delete Storage Platform Windows	Seeding Target No				
	Host	Computer Description	Directory	Enabled	Storage Platform					

3. Select **DFS-N** in the navigation tree.

The DFS-N page is displayed.

articipants eneral	DFS-N									
le Filters onflict Resolution elta Replication	DFS Namespace	Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder								
le Metadata	Namespace:		✓ Folder:		✓ Configure	Auto Create Targets				
le Locking pplication Support	Host Participant	ts								
ogging and Alerts	Host	Root Path	DFS-N Folder Target	Enabled		Revert				
arget Protection mail Alerts	DGWin16B	C:\Terra Firma		No		Auto Select Target				
mail Alerts NMP Notifications	DGWin16C	C:\Terra Firma		No						
gs						_				
S-N										
						_				
						_				
						_				
						_				

4. In the **DFS Namespace Folder** area, select the namespace you want to link to from the first drop-down list.

		collaboration or file synchroniz	ation job.			
		~	Folder:	~	Configure	Auto Create Targets
Host Participant	S					
Host DGWin16B DGWin16C	Root Path C:\Terra Firma C:\Terra Firma	DFS-N Folder Target	No	,		Revert Auto Select Targets
	Link a namespace DFS Namespace Namespace: M Host Participant Host DGWin16B	Link a namespace folder to an existing file of DFS Namespace Folder Namespace: \\PeerTest.local\Planets Host Participants Host Root Path DGWin16B C\\Terra Firma	Link a namespace folder to an existing file collaboration or file synchroniz DFS Namespace Folder Namespace: \\PeerTest.local\Planets Host Participants Host Root Path DGWin16B C:\Terra Firma	Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder Namespace: \\PeerTest.local\Planets Folder: Host Participants Host Root Path DGWin168 C:\Terra Firma No	Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder Namespace: \\PeerTest.local\Planets Folder: Host Participants Host Root Path DFS-N Folder Target Enabled No	Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder Namespace: \\PeerTest.local\Planets Folder: Configure Host Participants Host Root Path DFS-N Folder Target Enabled No

Once you've selected a namespace, a list of available namespace folders appears in the **Folder** drop-down list.

5. Select the namespace folder from **Folder**.

If your desired folder does not show up in this list, click the **Configure** button to open a wizard to make <u>changes to the selected namespace</u> (including the ability to add folders and folder targets).

neral : Filters nflict Resolution		Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder								
ta Replication Metadata	Namespace: \\\	PeerTest.local\Planets	~	Folder: Earth	✓ Configure	Auto Create Targets				
Locking plication Support	Host Participant	5								
gging and Alerts	Host	Root Path	DFS-N Folder Target	Enabled		Revert				
get Protection ail Alerts	DGWin16B DGWin16C	C:\Terra Firma C:\Terra Firma		No No		Auto Select Targe				
MP Notifications gs										
S-N										

6. If your selected folder does not have the appropriate folder targets, click the **Auto Create Targets** button.

Edit File Collaboration Job Participants General	DFS-N					- 0 X
File Filters Conflict Resolution Delta Replication	DFS Namespace Fold	der	ollaboration or file synchron			
File Metadata File Locking	Namespace: \\Peer	Test.local\Planets	~	Folder: Earth	✓ Configure	Auto Create Targets
Application Support Logging and Alerts Target Protection	Host	Root Path C:\Terra Firma	DFS-N Folder Target	Enabled No		Revert Auto Select Targets
Email Alerts SNMP Notifications Tags DFS-N	DGWin16C	C:\Terra Firma		No		
					C	K Cancel

The wizard that appears will use the paths configured in your File Collaboration or File Synchronization job and try to automatically create folder targets for you.

# 7. Click Auto Select Targets.

<ul> <li>Auto Create DFS Targets</li> <li>Auto Create DFS Targets</li> <li>Would you like to automatically</li> <li>Auto Create DFS Targets</li> <li>Results</li> </ul>			PeerTest.local\Planets ets" to start auto matchin	g roots with	existing ta	×
	Host DGWin16B DGWin16C	Root Path C:\Terra Firma C:\Terra Firma	DFS-N Folde	r Target		
			< Back Apply	,	Cance	ł

The matched folder targets are listed in the table.

Auto Create DFS Targets				_		×
Auto Create DFS Targets Would you like to automatically c	reate the following l	DFS targets for namespace	: \\PeerTest.local\Plan	ets		
Auto Create DFS Targets Results	Auto Select Tar	gets Done				
	Host DGWin16B DGWin16C	Root Path C:\Terra Firma C:\Terra Firma	\\DGV	l Folder Target Vin16B\Terra Firma Vin16C\Terra Firma		
			< Back	Apply	Cance	ł

# 8. Click Apply.

### The **Results** page appears.

Auto Create DFS Targets		_	
Results			
Auto Create DFS Targets Results	Done		
	Tasks Errors		
	Tasks	Results	
	Add DFS-N Folder Target	Folder target: \\DGWin16B\Terra Firma added succes	
	Add DFS-N Folder Target	Folder target: \\DGWin16C\Terra Firma added succe	
	Create Targets	Success	
			Close

## 9. Click **Close**.

Once you've selected a namespace and a folder, you need to assign a target to each participant in the collaboration or synchronization job.

## 10. Click Auto Select Targets.
Participants General	DFS-N					
File Filters Conflict Resolution Delta Replication	DFS Namespace	-	collaboration or file synchroniz	ation job. Folder: Earth	✓ Configure	Auto Create Targets
File Metadata File Locking Application Support	Host Participan		*	Folder: Latur	Configure	Auto create largets
Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Host DGWin16B DGWin16C	Root Path C:\Terra Firma C:\Terra Firma	DFS-N Folder Target	Enabled No No		Revert Auto Select Target

# In most scenarios, clicking the **Auto Select Targets** button will be able to automatically link a folder target with the appropriate participant.

nticipants eneral	DFS-N				
e Filters onflict Resolution Ha Replication	DFS Namespace	Folder	collaboration or file synchronization job.		
e Metadata	Namespace: \\	PeerTest.local\Planets	✓ Folder: E	arth 🗸 Co	Auto Create Target
e Locking oplication Support	Host Participant	ts			
gging and Alerts rget Protection	Host DGWin16B	Root Path C:\Terra Firma	DFS-N Folder Target \\DGWin16B\Terra Firma	Enabled No	Revert
nail Alerts IMP Notifications	DGWin16C	C:\Terra Firma	\\DGWin16C\Terra Firma	No	Auto Select Targ
gs S-N					

#### 11. If **No** appears in the **Enabled** column, select **Yes** from the drop-down list.

Participants General	DFS-N						
File Filters Conflict Resolution	Link a namespace	-	collaboration or file synchroniz	zation job.			
Delta Replication File Metadata		PeerTest.local\Planets	~	Folder: Earth		∼ Confi	gure Auto Create Targe
File Locking Application Support	Host Participant	5					
Application Support Logging and Alerts	Host	Root Path	DFS-N Folder Target		Enabled		Revert
Target Protection	DGWin16B	C:\Terra Firma	\\DGWin16B\Terra Firm		Yes		Auto Select Targ
Email Alerts SNMP Notifications	DGWin16C	C:\Terra Firma	\\DGWin16C\Terra Firr	na	Yes		
Tags							
DFS-N							

12. Once all participants are linked to the appropriate folder targets, click **OK** to save your changes.

From this point forward, if this collaboration or synchronization job is running along with its paired DFS-N Management job, the PMC will automatically <u>failover and failback</u> folder targets.

e Window Help									
1 🗟 🗟 🖉 🖗 📎 🚺				(					
	) = 🔕 🖓 🗉 (		Cloud Summar	y 🛛 🔒 Namespace Summary	8				-
pe filter text		Runtime Summary							
Cloud Backup and Replication (0)		Name		Management Status	State	Errors	Total Servers	Total Folders   Targets	
DFS-N Management (5)		> \\PeerTest.local\debrasm	amespace	Halted.	Online	0	2	1	
\\PeerTest.local\Clients		> \\PeerTest.local\Planets		Monitoring	Online	0	2	3	
\\PeerTest.local\debrasnamespa	sce	> \\PeerTest.local\Europe		Monitoring	Online	0	2	2	
\\PeerTest.local\Domestic		> \\PeerTest.local\Domest	c	Monitoring	Online	0	2	1	
\\PeerTest.local\Europe		> \\PeerTest.local\Clients		Monitoring	Online	0	2	1	
\\PeerTest.local\Planets									
<ul> <li></li></ul>									
FC-1									
FC-2									
FC-3									
FC-4									
FC-5									
<ul> <li>FC-6</li> <li>FC-7</li> </ul>									
@ FC-7 @ FC-8									
FC-8									
File Replication (1)									
FR-1									
	🧔 🔽 📎 🖳 [								
Agents	🦪 🍸 📎 🖳 [								
ype filter text	(	🕐 🚺 Job Alerts 🕕 Alerts 🕄							
∆ Agent Ave	Bandwidth	/er							
DGWin16B (Connected)	4	0 errors, 9 warnings, 12 others	Filter by : Host:	Severity:	~ Туре:	$\sim$	Clear Alerts		
JGWin16C (Connected)		15 Descind Data		Name	Host				
DGWin16d (Connected)	4	1.5. Received Date Severit				Message			Exce
		06-06-2020 21:38:00 Info	Connection	Startup	DGWin16B	Agent Started			
		06-06-2020 21:37:52 Info	Connection	Startup	DGWin16C	Agent Started			
		06-06-2020 21:37:49 Info	Connection	Startup	DGWin16d	Agent Started			
		06-06-2020 21:37:23 Warnin		Shutdown	DGWin16C	Agent Shutdown			
		06-06-2020 21:37:23 Warnin	g Connection	Shutdown	DGWin16d	Agent Shutdown			
1		> <							>

13. To confirm that the namespace is linked to the file collaboration or file synchronization job, open the namespace job, select the folder name, and confirm that the appropriate folder targets are linked to Agents.

1 🗟 🔞 🖉 🗞 🚺 🖉 😵									
	)	Collab and Sync Summary	ud Summary	Namespace	e Summary	A \\PeerTest.loc	cal\Planets 😣		
pe filter text	0	Namespace Namespace Servers Alerts (0							
Cloud Backup and Replication (0)	^	Namespace Namespace Servers Alerts (0	) Configuratio	n					
🔚 DFS-N Management (5)		Folder Name							
\\PeerTest.local\Clients		\\PeerTest.local\Planets\Earth							
\\PeerTest.local\debrasnamespace		\\PeerTest.local\Planets\Mars							
\\PeerTest.local\Domestic		\\PeerTest.local\Planets\Venus							
<ul> <li>\\PeerTest.local\Europe</li> <li>\\PeerTest.local\Planets</li> </ul>									
File Collaboration (9)									
FC-1									
FC-2									
FC-3		Folder Target	Linked	to Agent	Status	Reason	AD Site	Replication Status	
FC-4		\\Lab12A-Win-12R2\Earth	-		Active	-	US-HQ	Replication not configured	
FC-5		\\Lab12A-19A\Earth	-		Active	-	US-HQ	Replication not configured	
<ul> <li>FC-6</li> <li>FC-7</li> </ul>		\\DGWin16C\Terra Firma	DGWin		Active	-	US-HQ	Inactive - Not Participating	
<ul> <li>FC-7</li> <li>FC-8</li> </ul>		\\DGWin16B\Terra Firma	DGWin	16B	Active		US-HQ	Inactive - Not Participating	
@ FC-9					_				
File Replication (1)									
FR-1	~								
Agents 🦂 🍸 📎 🖻		Status: Monitoring							
ype filter text	0	5 Job Alerts 🕕 Alerts 🖄							
Agent Avg. Bandwidth	Ver	Mierts W Alerts							
GWin16B (Connected)     JoWin16C (Connected)	4.5 4.5	0 errors, 9 warnings, 12 others   Filter by :	Host:		Severity:	~ Туре:	✓ Clear Al	<u>erts</u>	
DGWin16C (Connected)     DGWin16d (Connected)	4.5	Received Date Severity Type	N N	lame		Host	Message		Exce
(and a contraction)	~	06-06-2020 21:38:00 Info Conr	nection S	tartup		DGWin16B	Agent Started		
		06-06-2020 21:37:52 Info Conr	nection S	tartup		DGWin16C	Agent Started		
				tartup		DGWin16d	Agent Started		
				hutdown		DGWin16C	Agent Shutdown		
		06-06-2020 21:37:23 Warning Conr	nection S	hutdown		DGWin16d	Agent Shutdown		

# **File Collaboration Jobs**

This section provides information about creating, editing, running, and managing a File Collaboration job:

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- Overview
- Before You Create Your First File Collaboration Job
- Creating a File Collaboration Job
- Editing a File Collaboration Job
- Running and Managing a File Collaboration Job
- <u>Runtime Job Views</u>

#### Overview

A File Collaboration job provides distributed teams a fast and efficient way to collaborate with shared project files. Unlike other file collaboration solutions that centralize files into a single data repository that cause slow file access across a WAN, a File Collaboration job replicates shared project files to each office site in a distributed environment so that end users are guaranteed high-speed LAN access to shared files no matter their file size. Version conflicts are prevented through integrated distributed file locking.

By keeping hot data local, File Collaboration maximizes end user productivity. Because files are close to the users, their applications, and their compute resources, the actual performance is as fast as possible from a physical view. At the same time File Collaboration ensures version conflicts are eliminated with file locking.

#### Before You Create Your First File Collaboration Job

We strongly recommend that you configure the File Collaboration settings (e.g. SMTP notifications), as well as other <u>global settings</u> such as SMTP email settings, email alerts, and file filters before configuring your first File Collaboration job. See <u>Preferences</u> for details on these settings.

#### Creating a File Collaboration Job

The Create Job wizard walks you through the process of creating a File Collaboration job. The process consists of the following steps:

Step 1: Job Type and Name

Step 2: Participants

Step 3: File Metadata

Step 4: Application Support

Step 5: Email Alerts

Step 6: Save Job

Additional configuration options, such as applying <u>file filters</u> and specifying <u>delta level</u> <u>replication</u>, are available when <u>editing a File Collaboration job</u>.

#### Step 1: Job Type and Name

- 1. Open the Peer Management Center.
- 2. From the File menu, select New Job (or click the New Job button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click File Collaboration, and then click Create.



4. Enter a name for the job.

The job name must be unique.

Create File Collaboration Job		$\times$
Enter a unique name.		
Job name cannot be blank.		
	OK	Cancel

5. Click **OK**.

The <u>Participants</u> page appears.

#### Step 2: Participants

A File Collaboration job must have two or more participants. A <u>participant</u> consists of an Agent and the volume/share/folder to be replicated. The server that the Agent is installed upon is called the <u>host</u> (or <u>host participant</u>). A File Collaboration job replicates the files of participants in real-time.

1. Complete the five substeps:

**Participants** 

Storage Platform

Management Agent

Storage Information

<u>Path</u>

After you add a participant, it appears in the **Participants** table.

ticipants							
d two or more particip	ants to this File Co	ollaboration job.					
rticipants	Host	Computer Description	Directory	Enabled	Storage Platform	Seeding Target	Add
e Metadata oplication Support	DGAgent1		\\SVM9X-1\kent		NetApp cDOT	No	
nail Alerts	DGAgent2		\\AFS2\Share2\	Yes	Nutanix Files	No	Edit
							Delete

- 2. Repeat the five substeps for each participant you want to add to the job.
- Once you have added all the participants, click Next to specify <u>file metadata</u> for the job. (Don't click Finish.)

The **Participants** page is where you select and configure which <u>hosts</u> will be participating in this job. The **Participants** page is empty until you finish the process of adding your first participant. Once you have added the participants, they are listed on the **Participants** page.

To begin the process of adding a participant:

1. Click the **Add** button.

cipants							
two or more particip	ants to this File	e Collaboration job.					
icipants	Host	Computer Description	Directory	Enabled	Storage Platform	Social Target	
Metadata	HOSE	computer Description	Directory	LINADIEU	Storage Platform	Security larger	Add
olication Support ail Alerts							Edit
							Delete

Another wizard opens to guide you through the process of adding a participant to the job. The first step in the process involves selecting the <u>storage platform</u>.

The **Storage Platform** page lists the types of storage platforms that File Collaboration supports. A storage device hosts data you want to collaborate on. It is often referred to as the host or host participant.

1. Select the type of storage platform that hosts the data you want to collaborate on.

Add New Participant			$\times$
Storage Platform			
Select the type of storage p	platform.		
Storage Platform Management Agent Path	<ul> <li>Windows File Server</li> <li>NetApp ONTAP   Clustered Data ONTAP</li> <li>NetApp Data ONTAP 7-Mode</li> <li>EMC' Dell EMC Isilon</li> <li>EMC' Dell EMC Unity</li> <li>EMC' Dell EMC Celerra   VNX   VNX 2</li> <li>Nutanix Files</li> </ul>		
	< Back Next >	Canc	el

#### 2. Click Next.

The <u>Management Agent</u> page is displayed.

The **Management Agent** page lists available <u>Agents</u>. You can have more than one Agent managing a storage device—however, the Agents must be managing different volumes/shares/folders on the storage device. For your File Collaboration job, you should select the <u>Management Agent</u> that manages the volumes/shares/folders you want to replicate in this job.

1. Select the Agent that manages the host.

🙆 Add New Participant						$\times$
Management Agent						
Select the server hosting th	e Peer Agent that ma	anages this storag	e device.			
Storage Platform Management Agent Path	Host DGAgent1 DGAgent2	Com	puter Description			
		< Back	Next >		Cance	9

**Tip:** If the Agent you want is not listed, try restarting the Peer Agent Windows Service on that host. If it successfully connects to the Peer Management Broker, then the list is updated with that Agent.

#### 2. Click Next.

The <u>Storage Information</u> page is displayed if you selected any storage platform other than Windows. If you selected Windows, skip to the <u>Path</u> page.

If you selected any storage platform type other than Windows File Server in <u>Storage Platform</u> page, the **Storage Information** page appears. It requests the credentials necessary to connect to the storage device you want to replicate. If you selected Windows Files Server in the previous wizard page, skip to <u>Step 3: File Metadata</u>.

#### 1. Select New Credentials or Existing Credentials.

2. If you selected **Existing Credentials**, select a credential from the drop-down list, and then click **Next** to continue to the <u>Path</u> page.

If you selected **New Credentials**, enter the credentials for connecting to the storage device. The information you are prompted to enter varies, depending on the type of storage platform:

NetApp ONTAP | Clustered Data ONTAP

NetApp Data ONTAP 7-Mode

Dell EMC Isilon

Dell EMC Unity

Dell EMC Celerra | VNX | VNX 2

Nutanix Files

3. Click **Validate** to test the credentials.

After the credentials are validated, a success message appears.

4. Click **Next**.

The <u>Path</u> page is displayed.

#### NetApp ONTAP | Clustered Data ONTAP

1. Enter the credentials to connect to the Storage Virtual Machine hosting the data to be replicated or select existing credentials.

Add New Participant		— 🗆 X
Storage Information		
Enter the information required to co	onnect to the storage device.	
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials  SVM Name:  SVM User Name:  SVM Password:  SVM Management IP:	
	*Peer Agent IP:	
	O Existing Credentials	Advanced
	SVM9X-1, user:vsadmin	$\sim$
	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for NetApp ONTAP/cDOT	environments.
	< Back Next >	Cancel

SVM Name	Enter the name of the Storage Virtual Machine hosting the data to be replicated.
SVM Usernam e	Enter the user name for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Passwor d	Enter the password for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Manage ment IP	Enter the IP address used to access the management API of the NetApp Storage Virtual Machine. If the data LIFs (Logical Interfaces) corresponding to the SVM Name above already allow management access, this field is not required.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Storage Virtual Machine. The Storage Virtual Machine must be able to

route traffic to this IP address. If the IP address you want does not appear, manually enter the address.

#### 2. Click Validate.

#### 3. Click Next.

The <u>Path</u> page is displayed.

#### NetApp Data ONTAP 7-Mode

1. Enter the credentials to connect to the NetApp 7-Mode filer or vFiler hosting the data to be replicated or select existing credentials.

🙆 Add New Participant	-		$\times$
Storage Information			
Enter the information required	to connect to the storage device.		
Storage Platform Management Agent Storage Information Path	Credentials (i) New Credentials *Filer Name:	Advance	:d
	O Existing Credentials		
			$\sim$
	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for NetApp 7-Mode environ	ments.	
	< Back Next >	Canc	el
Fil Enter the	name of the NetApp 7-Mode filer or vFiler hosting the dat	a to be	

replicated.

er

	Na
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	m
	e
L	

3. Click Next.

The <u>Path</u> page is displayed.

#### Dell EMC Isilon

1. Enter the credentials to connect the EMC Isilon cluster hosting the data to be replicated or select existing credentials.

🧔 Add New Participant							$\times$
Storage Information							
Enter the information required t	o connect to the storage device.						
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials  Cluster Name:  Cluster Username:  Cluster Password:  Cluster Management IP:  Nodes:  Existing Credentials  Validate Having trouble connecting? Ple	ase verify that all	prerequisites are	met for EMC Isilon et	nvironments.	Advanc	ed
			< Back	Next >		Can	cel

Cluster Name	Enter the name of the EMC Isilon cluster hosting the data to be replicated.
Cluster Userna me	Enter the user name for the account managing the EMC Isilon cluster.
Cluster Passwo rd	Enter the password for account managing the EMC Isilon cluster.
Cluster Manage ment IP	Enter the IP address of the system used to manage the EMC Isilon cluster. Required only if multiple Access Zones are in use on the cluster.
Nodes	Enter one IP from each node in the Isilon cluster that the Agent can access to perform open file lookups. Use commas to separate nodes.

#### 3. Click Next.

The <u>Path</u> page is displayed.

#### Dell EMC Unity

1. Enter the credentials to connect to the NAS Server hosting the data to be replicated or select existing credentials.

🙆 Add New Participant		- 🗆 X
Storage Information		
Enter the information required to co	onnect to the storage device.	
Storage Platform Management Agent Storage Information Path	Credentials <ul> <li>New Credentials</li> <li>*CIFS Server Name:</li> <li>*Unisphere Username:</li> <li>*Unisphere Password:</li> <li>*Unisphere Management IP:</li> <li>O Existing Credentials</li> </ul> <ul> <li>Existing Credentials</li> </ul> <ul> <li>Validate</li> </ul> Having trouble connecting? Please verify that all prerequisites are met for Existing Credentials	Advanced
	< Back Next :	> Cancel

CIFS Server Name	Enter the name of the NAS server hosting the data to be replicated.
Unisphe re Userna me	Enter the user name for the Unisphere account managing the Unity storage device.
Unisphe re Passwor d	Enter the password for the Unisphere account managing the Unity storage device.
Unisphe re Manage ment IP	Enter the IP address of the Unisphere system used to manage the Unity storage device. This should not point to the NAS server.

3. Click Next.

The <u>Path</u> page is displayed.

#### Dell EMC Celerra | VNX | VNX 2

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

Add New Participant		— 🗆 X
Storage Information		
Enter the information required to	connect to the storage device.	
Storage Platform Management Agent Storage Information Path	Credentials            • New Credentials         *CIFS Server Name:         *Control Station Username:         *Control Station Password:         *Control Station IP:            • Control Station IP:            • Existing Credentials          Validate         Having trouble connecting? Please verify that all prerequisites are met for EMC VMX	//Celerra environments.
	< Back Next >	Cancel

CIFS Server Name	Enter the name of the CIFS Server hosting the data to be replicated.
Control Station Userna me	Enter the user name for the Control Station account managing the Celerra/VNX storage device.

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Control Station Passwo rd	Enter the password for the Control Station account managing the Celerra/VNX storage device.
Control Station IP	Enter the IP address of the Control Station system used to manage the Celerra/VNX storage device. This should not point to the CIFS Server.

#### 3. Click Next.

The <u>Path</u> page is displayed.

#### Nutanix Files

1. Enter the credentials to connect to the Nutanix Files cluster hosting the data to be replicated or select existing credentials.

🙆 Add New Participant	- D X
Storage Information	
Enter the information required t	to connect to the storage device.
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials  Nutanix File Server Name:  Username:  Password:  Peer Agent IP:  Advanced
	O Existing Credentials
	Validate Having trouble connecting? Please verify that all prerequisites are met for Nutanix Files environments.
	< Back Next > Cancel

Nutanix File Server Name	Enter the name of the Nutanix Files cluster hosting the data to be replicated.
Userna me	Enter the user name for the account managing the Nutanix Files cluster via its management APIs.
Passwor d	Enter the password for the account managing the Nutanix Files cluster via its management APIs.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Nutanix Files cluster. The Files cluster must be able to route traffic to this IP address. If the IP address you want does not appear, manually enter the address. This should not point to the Files cluster itself.

## 3. Click Next.

The <u>Path</u> page is displayed.

The **Path** page is where you specify the path to the volume/share/folder you want to replicate. This volume/share/folder is referred to as the <u>watch set</u>. The watch set can contain a single volume/share/folder. If you want to replicate multiple volumes/shares/folders, you need to create a separate job for each one.

1. Browse to or enter the path to the watch set.

🧔 Add New Participant		
Path		
Browse to or enter a path	on the storage device.	
Storage Platform		D
Management Agent Storage Information	\\SVM9X-1\ Enter Path	Browse
Path	Seeding Target:	
	< Back Next > Finish	Cancel

If you selected **Browse**, the **Folder Browser** dialog appears:

🙆 Folder Browser		
\\SVM9X-1\		Refresh
> 📄 \\SVM9X-1\		
		Review
	OK	Cancel

- a. Expand the folder tree.
- b. Select the appropriate volume/share/folder.
- c. (Optional) Click the **Review** button to see your selection.
- d. Click OK.

# 2. (Optional) Select the **Seeding Target** checkbox, and then click **OK** in the dialog that appears.

If you select this option, a message describing seeding behavior is displayed. Multiple participants in a File Collaboration job can be set as smart data seeding targets; however, at least one participant should not be set as a smart data seeding target. This participant will be acting as the "master" source for the smart data seeding targets. For more information about smart data seeding, see <u>Smart Data Seeding</u> or contact <u>support@peersoftware.com</u>.



- 3. Click **Finish** to complete the wizard for this participant.
- 4. Return to <u>Step 2: Participants</u> to add more participants, if applicable. A File Collaboration job must have at least two participants. If you have added all the participants, continue with <u>Step 3: File Metadata</u>.

#### Step 3: File Metadata

This step is optional.

The **File Metadata** page allows you to specify whether you want to synchronize NTFS security permissions metadata and the types of metadata. It also allows you to specify which volume/share/folder's metadata should be used if there is a conflict during the initial synchronization. The volume/share/folder used if there is a conflict is referred to as the <u>master host</u>.

For more information on synchronizing NTFS metadata, see <u>File Metadata Synchronization</u> in the <u>Advanced Topics</u> section.

To enable file metadata synchronization:

1. Select when you want the metadata synchronized (you can select one or both options):

- Enable synchronizing NTFS security descriptors (ACLs) in real-time Select this option if you want the metadata synchronized in real-time. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized to all participants as they occur.
- Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan Select this option if you want the metadata synchronized during the initial scan. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized during the initial scan.

Create File Collaboration Job W	lizard		$\times$
File Metadata			
Configure the replication of NTFS	security permissions.		
Participants File Metadata Application Support Email Alerts	Synchronize Security Descriptors (ACLs)    Synchronizing NTFS security descriptors (ACLs) in real-time  Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan		
	Synchronize Security Descriptor Options Owner DACL: Discretionary Access Control List SACL: System Access Control List		
	Metadata Conflict Resolution Select Master Host for initial scan:		
	< Back Next > Finish	Cance	al

- 2. Click **OK** in the message that appears after selecting a metadata option.
- 3. If you selected either of the first two options in the **Synchronize Security Descriptor Options** section, select the security descriptor components (Owner, DACL, and SACL) to be sychronized.
- 4. If you selected the option for metadata synchronization during the initial scan, select the host to be used as the <u>master host</u> in case of metadata conflict.

If a master host is not selected, then no metadata synchronization will be performed during the initial scan. If one or more security descriptors do not match across participants during the initial scan, <u>conflict resolution</u> will use permissions from the designated master host as the winner. If the file does not exist on the designated master host, a winner will be randomly picked from the other participants.

5. Click Next.

The <u>Application Support</u> page is displayed.

#### Step 4: Application Support

This step is optional.

A File Collaboration job can be automatically optimized to work with specific applications. Optimization is performed automatically for all watch sets of all participants in the job.

The **Application Support** page lists the file types for which Peer Software has known best practices, which include filtering recommendations, the prioritization of certain file types, and the enabling or disabling of file locking. However, if an application is not listed, this does not mean that the application is not supported.

For details about how an application is optimized, contact <a href="mailto:support@peersoftware.com">support@peersoftware.com</a>.

1. Select the applications that have files in the job's watch set.

Create File Collaboration Job Wi	zard			×
Application Support				
Select the applications that will be	used with the data that is managed by th	nis job.		
Participants File Metadata Application Support	Select below to optimize this job for a	ny of the following file types:		
Email Alerts	Adobe Illustrator	Adobe Photoshop		
	Autodesk Products Autodesk AutoCAD Autodesk Civil 3D Autodesk Inventor	Autodesk Revit Autodesk Sheet Set Manager (for AutoCAD or Civil 3D)		
	Other ArcGIS Dassault Systems CATIA Microsoft Office	Microsystems Allegro Newforma Project Center Rhinoceros Rhino3D		
		< Back Next > Finish	Cance	el

#### 2. Click Next.

The Email Alerts page is displayed.

#### Step 5: Email Alerts

This step is optional.

An email alert notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job.

1. Click the **Select** button.

© Create File Collaboration	Job Wizard						
Email Alerts							
Select email alerts.							
Participants File Metadata	Edit Email Alerts						
Application Support Email Alerts	Name	Enabled	Event Types		Recipients		Select
							Delete
							'iew Detail
				< Back	Next > F	inish	Cancel

The Select Email Alert dialog appears.

2. Select an alert from the **Email Alert** drop-down list.

💩 Select Email Alert —	_		$\times$
Email Alert: File Quarantined			~
File Quarantined Selected En Scan Error Email Alert File Quarantined			
Selected Alerts: File Quarantined			
Recipients: debrag@peersoftware.com			
ОК		Cancel	

## 3. Click **OK**.

The alert is listed in the **Email Alerts** page.

Ø Create File Collaboration	n Job Wizard				
Email Alerts Select email alerts.					
Participants File Metadata	Edit Email Alerts				
Application Support Email Alerts	Name Scan Error	Enabled Yes	Event Types Scan Error, Job Started	Recipients debrag@peersoftware.com	Select Delete
					'iew Detail
			< Back	Next > Finish	Cancel

- 4. (Optional) Repeat steps 1-3 to apply additional alerts.
- 5. Continue to <u>Step 6: Save Job</u>.

#### Step 6: Save Job

Now that you have completed the first five steps of the wizard, you are ready to save the job configuration.

1. If you are satisfied with your job configuration, click **Finish** to save your job. Otherwise, click the **Back** button and make any necessary changes.

Congratulations! You have created a File Collaboration job. It is now listed in the **Jobs** view under **File Collaboration** and a view of the job appears in the **Runtime Summaries** area. You can start the job from either place. See <u>Running and Managing</u> a <u>File Collaboration job</u> for more information.

Peer Management Center (Client Mo	ode)					– 0 ×
File Window Help						
📑 🔛 🔞 🖾 🧠 🖗 🌜 🚺 💈	2 🤣					
💈 Jobs 📃 🗖	Cloud Summary	- Collab and Sync Summ	nary 🛛 🔝 Namespace Sun	nmary 🖂 FC-3 🛛		
7 📎 🖬 🔕 🎽	Summary Session	Event Log Quarantines (0)	Retries (0) Alerts (0) Partici	pants (2) Configuration		
type filter text (?)						
> • CB-2 ^	Summary View (#	Auto-updates are disabled) A	Actions 🔻			Auto-Update   Refresh 10 🖨 seconds
> • CB-3						^
> • CB-4 > • CB-5	Job Status	Stopped				
DFS-N Management (0)	Start Time		Elapsed Time			
✓ - ✓ File Collaboration (3)						
<ul> <li>FC-1 (Quorum Lost)</li> </ul>	Watch Set					
• FC-2	Total Files	0	Total Folders	0		
● FC-3	Total Bytes	0 bytes				
<	Activity					
🔳 Agents 🛛 🕺 🍸 📎 🖓 🗖	Activity Active Opens	0	File Quarantines	0		
type filter text (?)	Active opens	v	The Quarantines	0		*
△ Agent Avg. E	L 0					
JGAgent1 (Connected)	07:00 PM					
JGAgent2 (Connected)				-Priority Queue -Replicat	ion Queue — Active Opens	
	Status: Stopped	i				
	🐐 Job Alerts 🛛					- D
	30 errors, 2 warning	gs, 18 others   Filter by : Ho	ost: Nam	ne: 5	Severity: V Type:	✓ Clear Alerts
	Received Date 9	Severity Type Na	me	Host Message		Exception ^
< >	09-24-2019 23: 1	nfo Auto Start I CR	-5	PMC star	tun after iob creation	×

#### Editing a File Collaboration Job

You can edit a File Collaboration job while it is running; however, any changes will not take effect until the job is restarted.

## **Overview**

When you create a File Collaboration job, the **Create Job** wizard guides you through the process, presenting the <u>most common</u> options for configuration. When editing a job, you have access to <u>all options</u>, allowing you to fine-tune the job configuration. Options not included in the initial job creation include:

- Delta Replication
- <u>DFS-N</u>
- File Filters
- File Locking
- <u>General</u>
- Logging and Alerts
- <u>SNMP Notifications</u>

- <u>Target Protection</u>
- <u>Tags</u>

You can edit multiple File Collaboration jobs simultaneously. For information about simultaneously editing multiple jobs, see <u>Editing Multiple Jobs</u>.

# **Editing a Job**

To edit a File Collaboration job:

- 1. Select the job in the **Jobs** view.
- 2. Right-click and select Edit Job.

#### The Edit File Collaboration Configuration dialog appears.

Participants General	Participants					
File Filters	Available					
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Host	Comp	Id Edit Detector Se	ttings	Delete	
	Host DGAgent1	Computer Description	Directory \\SVM9X-1\kentshare	Enabl Yes	Storage Platform NetApp cDOT	Seeding Target No
	DGAgent2		\\AFS2\Share2\dev user	Yes	Nutanix Files	No

#### 3. Select a configuration item in the navigation tree and make the desired changes:

- <u>Participants</u>
- <u>General</u>
- File Filters
- <u>Conflict Resolution</u>

- <u>Delta Replication</u>
- File Metadata
- File Locking
- Application Support
- Logging and Alerts
- <u>Target Protection</u>
- Email Alerts
- <u>SNMP Notifications</u>
- <u>Tags</u>
- <u>DFS-N</u>
- 4. Click **OK** when finished.

#### Participants

The **Participants** page in the **Edit File Collaboration Configuration** dialog allows you to:

- Add and remove participants from a job.
- Modify a participant's attributes.
- Modify a participant's detector settings.

The **Participants** page in the **Edit File Collaboration Job** dialog has two tables: the **Available** table and the **Selected** table. The **Available** table lists the available hosts and the **Selected** table lists hosts that have already been added to the job. The **Computer Description** field displays the name of the server that the Peer Agent is running on.

Participants General File Filters	Participants Available					
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Farget Protection Email Alerts SNMP Notifications Fags DFS-N	Host	Compu	ter Description	ettings	Delete	
	Host DGAgent1	Computer Description	Directory \\SVM9X-1\kentshare	Enabl Yes	Storage Platform NetApp cDOT	Seeding Target
	DGAgent2		\\AFS2\Share2\dev user	Yes	Nutanix Files	No

This topic describes adding and removing participants in a File Collaboration job.

# **Adding a Participant**

To add a participant:

1. Click the participant in the **Available** table.

To be available, a host must have Peer Agent installed and successfully connect to the Peer Management Broker. If a particular host is not displayed in the list, try restarting the Peer Agent Windows Service on that host, and if it successfully connects to the Peer Management Center Broker, then the list will be updated with the computer name of that host.

ct Resolution	Available					
Replication etadata cking ation Support ng and Alerts Protection Alerts Notifications	Host DGAgent3	Com	puter Description			
	Selected		Add Edit Detector Setting	5	Delete	
	Host	Computer Description	Directory	Enabled	Storage Platform	Seeding Target
	DGAgent1		\\svm9x-1\105k_1	Yes	NetApp cDOT	No
	DGAgent2		C:\Users\peer-admin\Documents	Yes	Windows	No

2. Click the **Add** button.

The participant is moved to the **Selected** table.

ral Participants Participants					
Available Availa	Comp	Add Edit Detector Setting	5	Delete	
Host DGAgent1 DGAgent2 DGAgent3	Computer Description	Directory \\svm9x-1\105k_1 C:\Users\peer-admin\Documents \\AFS2\Share1\Drawings	Enabled Yes Yes Yes	Storage Platform NetApp cDOT Windows Nutanix Files	Seeding Target No No No

- 3. (Optional) Enter the computer's name in the **Computer Description** column.
- 4. Enter the path to the folder to be watched in the **Directory** column.
- 5. (Optional) Modify whether the participant is a <u>seeding target</u>.

- 6. (Optional) Modify the participant's <u>detector settings</u>.
- 7. Click **OK** to close the Edit wizard or select another configuration item to modify.

# **Removing a Participant**

To remove a participant:

- 1. Click the participant in the **Selected** table.
- 2. Click the **Remove** button.

The participant is moved to the **Available** table.

**Note:** A File Collaboration job must have at least two participants, so if after removing a participant, there is only a single participant, you must add another participant to the job.

3. Click **OK** to close the Edit wizard or select another configuration item to modify.

You can modify the following attributes of a participant in a File Collaboration job:

- **Directory** Specifies the watch set that has been selected for replication.
- **Enabled** Determines whether the participant is enabled.
- **Storage Platform** Identifies the type of storage platform that the agent will manage. If the storage device that the agent is managing has changed to a different storage platform, then you need to select the new platform.
- Seeding Target Determines whether the participant host is used as a <u>data seeding</u> <u>target</u>. For more information on smart data seeding, see <u>Smart Data Seeding</u> in <u>Advanced Topics</u> or contact <u>support@peersoftware.com</u>.

To change the attributes:

1. Select the host in the **Selected** table.

t Resolution	Available	Available							
a Replication Metadata .ocking jiing and Alerts et Protection il Alerts IP Notifications N	Host DGAgent3	Comp	uter Description						
	Selected		Add Edit Detector Setting	S	Delete				
	Selected			Enabled	Storage Platform	Seeding Target			
	Host	Computer Description	Directory						
		Computer Description	Directory \\svm9x-1\105k_1 C:\Users\peer-admin\Documents	Yes Yes	NetApp cDOT Windows	No No			

- 2. To change the directory that is replicated, enter a new directory path in the **Directory** column.
- 3. To enable or disable the agent, select a value in the **Enabled** column.
- 4. To change whether the agent is a seeding host, select **Yes** or **No** in the **Seeding Target** column.

If you selected **Yes**, review the information in the message dialog that appears and then click **OK**.



5. Click **OK** to close the Edit wizard or select another configuration item to modify.

In addition to <u>global real-time detection options</u> that apply to all jobs, you can set additional detection-related options for a specific File Collaboration job. For example, you can exclude real-time events by certain users. This is helpful if you are trying to prevent events generated from backup and/or archival tools from triggering activity.

To modify the detector settings for a host:

1. Select the host in the **Selected** table.

neral	Participants							
Filters	Host	Co	mputer Description					
nflict Resolution								
ta Replication								
Metadata								
Locking								
plication Support								
iging and Alerts								
get Protection ail Alerts								
MP Notifications								
Tags DFS-N			Add	Edit Detector Setting	s	Delete		
	Selected							
	Selected Host	Computer Description	Directory		Enabled	Storage Platform	Seeding Target	
	Host	Computer Description		105k 1		-	Seeding Target Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	Storage Platform NetApp cDOT Windows		
	Host	Computer Description	\\svm9x-1\	105k_1 er-admin\Documents		NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	
	Host DGAgent1	Computer Description	\\svm9x-1\	-	Yes	NetApp cDOT	Yes	

## 2. Click Edit Detector Settings.

The information you are prompted to enter varies, depending on the type of storage platform. Examples for a Windows platform and a NetApp platform are shown below.

Windows Detector Options			×		
Filter open/close events from these users: Access Event Suppression Time: Reparse Point Options Follow Junction Points Follow Mount Points Follow Symbolic Links Follow Nested Reparse Points	-1				
	ОК	Cance	el		
NetApp Options			-		×
------------------------------	--	----	---	-------	---
NetApp Options for this Jo					
Filter open/close` events fr	m these users:				
Filter all events from these	isers:				
Filter events from these IP	ddresses:				
Access Event Suppression	ime: -1				•
*SVM Username:	ings for host: DGAgent1 and SVM: SVM9) vsadmin				
*SVM Password:	•••••				
SVM Management IP:					
*Agent IP for SVM Conn.:	192.168.171.76				~
Filtered Extensions:					
Admin Share Override:					
	e to these Advanced FPolicy cDOT Setti 5 FPolicy Server is connecting to the sa				
	_				
	L	ОК		Cance	I

- 3. Modify the values as needed.
- 4. Click **OK**.

### General

The **General** page in the **Edit File Collaboration Job** dialog presents miscellaneous settings pertaining to a File Collaboration job. You may want to consult with Peer Software's support team before modifying these values.

To modify these settings:

1. Enter the values recommended by Peer Software Support.

le Edit File Collaboration Job	)				×
Participants General	General				
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Job ID: Job Type: Job Name: Transfer Block Size (KB): File Synchronization Job Priority: Timeout (Seconds): First Scan Mode: Remove Filtered Files On Folder Delete: Require All Hosts At Start: Auto Start:	183 File Collaboration FC-3 1024 2 180 FOLDER_BY_FOLDER V			
		[	OK	Cancel	

Job ID	Unique, system-generated job identifier that cannot be edited.
Job Type	Identifies the job type. This cannot be modified.
Job Name	Name of this File Collaboration job. This name must be unique.
Transfer Block Size (KB)	The block size in Kilobytes used to transfer files to hosts. Larger sizes will yield faster transfers on fast networks but will consume more memory in the <u>Peer Management Broker</u> and <u>Peer Agents</u> .
File Synchronizati on Job Priority	Use this to increase or decrease a job's file synchronization priority relative to other configured job priorities. Jobs are serviced in a round-robin fashion, and this number determines the maximum number of synchronization tasks that will be executed sequentially before yielding to another job.
Timeout (Seconds)	Number of seconds to wait for a response from any host before performing retry logic.
First Scan Mode	Determines which scan type will be used when the job is first started. For environments where most data is NOT seeded, the FOLDER_BY_FOLDER method will be best. For environments where most data IS seeded, the BULK_CHECKSUM method will result in a faster first scan.

Remove Filtered Files On Folder Delete	If selected, then all child files on target hosts will be deleted when its parent folder is deleted on another source host. Otherwise, filtered files will be left intact on targets when a parent folder is deleted on another source host.
Require All Hosts At Start	If selected, requires all <u>participating hosts</u> to be online and available at the start of the File Collaboration job in order for the job to successfully start.
Auto Start	If selected, then this file collaboration session will automatically be started when the Peer Management Center Service is started.

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

### File Filters

The **File Filters** page in the **Edit File Collaboration Job** dialog displays a list of <u>file and</u> <u>folder filters</u>. A file or folder filter enables you to exclude and/or include files and folders from the job based on file type, extension, name, or directory path. Any file or folder that matches the filter is excluded or included from replication, depending on the filter's definition. By default, all files and folders selected in the **Source Paths** page will be replicated.

1. Select the file and folder filters you want to apply to the job.

If you want to create a new file or folder filter or modify an existing one, click **Edit File Filters**. See <u>File Filters</u> in the <u>Preferences</u> section for information about creating or modifying a file filter.

Participants General	File	Filters					
File Filters Conflict Resolution	Edit F	ile Filters					
Delta Replication File Metadata		Name	Filter Type	Exclusions	Inclusions	Date Filter	Size Filter
File Locking		Default	General	~*.*, *.BAK, *.BCK, *.WBK,	None Selected	Include all dates	None
Application Support		File Collaboration Sync O	Sync. Only	None Selected	*.LOG, *.EXE, *.DLL, *.OTF,	Include all dates	None
Logging and Alerts		Invalid Characters	General	<<.*[.]\$>>	None Selected	Include all dates	None
Target Protection		Linux User Profile Exclusio	General	/home/*/.local/share/Tra	None Selected	Include all dates	None
Email Alerts		Locking Only	Locking Only	None Selected	\*	Include all dates	None
SNMP Notifications		MacOS Exclusions	General	*\MACOSX, *\.Tempora	None Selected	Include all dates	None
Tags DFS-N		Synchronizing Only	Sync. Only	None Selected	\*	Include all dates	None
DE2-IN		User Profile Exclusions	General	*\AppData\Roaming\Mic	None Selected	Include all dates	None
	<					1	

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **Conflict Resolution**

By default, any file conflicts that are encountered during the <u>initial synchronization process</u> are automatically resolved by the Peer Management Center. The PMC resolves the conflict by selecting the file with the most recent modification time. Conflicts that cannot be automatically be resolved result in the files being quarantined. The **Conflict Resolution** page in the **Edit File Collaboration Job** allows you to select options for resolving file conflicts and quarantines.

However, if you want to resolve the conflicts yourself, you can contact Peer Software to enable manual resolution. With manual resolution, you can select the host with the correct version of the file.

For more information about the cause of file conflicts, see <u>Conflicts, Retries, and Quarantines</u>.

To modify conflict resolution settings for the File Collaboration job:

1. In the **File Conflict Resolution** section, select the **Truncate Milliseconds** option if you want the millisecond value truncated from each time stamp when comparing the time stamps of a file on two or more hosts.

As some storage platforms and applications track milliseconds slightly differently, selecting this option will prevent subtle millisecond differences from causing an otherwise in-sync file to be replicated or quarantined.

🕺 Edit File Collaboration Job					$\times$
Participants General	Conflict Resolution				
File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	File Conflict Resolution				
		ОК	C	ancel	

2. Select the **Advanced File Conflict Resolution** options you want applied:

Quarantine Offline Version Conflicts	Select this option if you want Peer Management Center to quarantine a file that was updated in two or more locations while the collaboration session was not running. If it is not selected, the file with the most recent last modified time will be replicated to all other participants.
Enable Deletion of Quarantine d Files	Select this option if you want Peer Management Center to process a delete event for a quarantined file. If it is not selected, the quarantined file is not deleted and remains quarantined.
Offline Delete Detection During Scan	Select this option (and enable <u>target protection</u> ), if you want any files or folders that were deleted while the job was stopped to be deleted from all participants when the job is restarted. If it is not selected, then the deleted file or folder is restored from a participant with the file or folder to any participant where it no longer exists.

3. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **Delta Replication**

The **Delta Replication** page in the **Edit File Collaboration Job** dialog allows you to specify the delta-replication options to use for the selected File Collaboration job. Delta-level replication is a byte replication technology that enables block/byte level synchronization for a File Collaboration job. Through this feature, Peer Management Center is able to transmit only the bytes/blocks of a file that have changed instead of transferring the entire file. This results in much lower network bandwidth utilization, which can be an enormous benefit if you are transferring files across a slow WAN or VPN, as well as across a high-volume LAN.

Delta-level replication is enabled on a per File Collaboration job basis and generally affects all files in the <u>watch set</u>. You will only benefit from delta-level replication for files that do not change much between file modifications, which includes most document editing programs.

🙆 Edit File Collaboration Job					
Participants	Delta Replication				
Participants General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	•	<ul> <li>✓</li> <li>256</li> <li>512</li> <li>5120</li> <li>0.30</li> </ul>	Excluded File Name Pattern	15	
	Z tgz gz gzip				~
			Γ	OK	Cancel

To modify delta-level replication options:

1. Modify the following the fields as necessary.

Enable Delta- Level Replication	Select to enable delta encoded file transfers which only sends the file blocks that are different between source and target(s). If this is disabled, the standard file copy method will be used to synchronize files.
Checksum Transfer Size (KB)	Enter the block in kilobytes used to transfer checksums from target to source at one time. Larger sizes will result in faster checksum transfer, but will consume more memory on the Peer Agents

Delta Block Transfer Size (KB)	Enter the block size in kilobytes used to transfer delta encoded data from source to target at one time. Larger sizes will result in faster overall file transfers but will consume more memory on the Peer Agents.
Minimum File Size (KB)	Enter the minimum size of files in kilobytes to perform delta encoding for. If a file is less than this size, then delta encoding will not be performed.
Minimum File Size Percentage Target/Sourc e	Enter the minimum allowed file size difference between source and target, as a percentage, to perform delta encoding. If the target file size is less than this percentage of the source file size, then delta encoding will not be performed.
Excluded File Extensions	Enter a comma-separated list of file extension patterns to be excluded from delta encoding, e.g., zip, jpg, png. In general, compressed files should be excluded from delta encoding and the most popular compressed file formats are excluded by default.
Excluded File Name Patterns	Enter a list of file name patterns to be excluded from delta encoding. If a file name matches any pattern in this list, then it will be excluded from delta encoding transfers and a regular file transfer will be performed. See <u>File and Folder</u> <u>Filters</u> for more information on specifying wildcard expressions.

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

### File Metadata

The **File Metadata** page in the **Edit File Collaboration Job** dialog allows you to modify your file metadata synchronization settings and provides some additional options not available when creating the job. See <u>File Metadata Synchronization</u> in <u>Advanced Topics</u> for more information about file metadata replication.

To enable file metadata synchronization:

- 1. Select when you want the metadata synchronized (you can select one or both options):
  - Enable synchronizing NTFS security descriptors (ACLs) in real-time Select this option if you want the metadata replicated in real-time. If enabled, changes to

the selected security descriptor components (Owner, DACL, and SACL) will be transferred to the target host file(s) as they occur.

• Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan - Select this option if you want the metadata replicated during the initial scan. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized during the initial scan.

🙆 Edit File Collaboration Job	— — X
Participants General	File Metadata
File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Synchronize Security Descriptors (ACLs)   Enable synchronizing NTFS security descriptors (ACLs) in real-time  Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan  Enable prevention of corrupt or blank Owner or DACLs on source or master host from being applied to any target host
	Synchronize Security Descriptor Options Owner DACL: Discretionary Access Control List SACL: System Access Control List
	Metadata Conflict Resolution Select a Master Host for initial scan: Enable enhanced metadata conflict resolution
	File Reparse Point Synchronization         Reparse Tag Name (numerical value only):         Reparse Master Host:
	Alternate Data Streams Transfer  Enable transfer of file Alternate Data Streams (ADS)
	OK Cancel

- 2. Click **OK** in the message that appears after selecting a metadata option.
- If you selected either of the first two options in the Synchronize Security Descriptor Options section, select the security descriptor components (Owner, DACL, and SACL) to be synchronized.
- 4. If you selected the option for metadata synchronization during the initial scan, select the host to be used as the <u>master host</u> in case of file metadata conflict.

If a master host is not selected, then no metadata synchronization will be performed during the initial scan. If one or more security descriptors do not match across participants during the initial scan, <u>conflict resolution</u> will use permissions from the designated master host as the winner. If the file does not exist on the designated master host, a winner will be randomly picked from the other participants.

5. (Optional) Click the **Enable enhanced metadata conflict resolution** checkbox.

If enabled, this option ensures that when a metadata conflict occurs and a file or folder is written to a target, the Peer Agent service account is not assigned as the owner of that file or folder. If the Peer Agent service account is the owner, the user may not have permission to access the file or folder.

Note: The Peer Agent service account cannot be a local or system administrator. As described in <u>Peer Global File Service - Environmental Requirements</u>, the Peer agent service account should be an actual user.

- 6. (Optional) Enter values for one or both file reparse point data synchronization options:
  - **Reparse Tag Name** Enter a single numerical value. Must be either blank (if blank, reparse synchronization will be disabled) or greater than or equal to 0. The default for Symantec Enterprise Vault is 16. A value of 0 enables reparse point synchronization for all reparse file types. If you are unsure as to what value to use, then contact Peer Software technical support, or you can use a value of 0 if you are sure that you are only utilizing one vendor's reparse point functionality.
  - **Reparse Master Host** Select a master host. If a master host is selected, then when the last modified times and file sizes match on all hosts, but the file reparse attribute differs (e.g. archived/offline versus unarchived on file server), then the file reparse data will be synchronized to match the file located on the master host. For Enterprise Vault, this should be the server where you run the archiving task on. If the value is left blank, then no reparse data synchronization will be performed, and the files will be left in their current state.

Note: Use this option only if you are utilizing archiving or hierarchical storage solutions that make use of NTFS file reparse points to access data in a remote location, such as Symantec's Enterprise Vault. Enabling this option allows synchronization of a file's reparse data, and not the actual offline content, to target hosts, and prevents the offline file from being recalled from the remote storage device.

#### 7. (Optional) Select the Enable transfer of file Alternate Data Stream (ADS) checkbox.

If enabled, Alternate Data Streams (ADS) of updated files will be transferred to the corresponding files on target participants as a post process of the normal file synchronization.

Known limitation: ADS information is transferred only when a modification on the actual file itself is detected. ADS will not be compared between participants. The updated file's ADS will be applied to the corresponding files on target participants.

8. Click **OK** to close the Edit wizard or select another configuration item to modify.

### **File Locking**

The **File Locking** page in the **Edit File Collaboration Job** dialog presents options pertaining to how source and target files are locked by Peer Management Center.

To modify file locking options:

Edit File Collaboration Job	)			$\times$
Participants	File Locking			
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts	Locking Options Exclusive Target Lock: Include MS Office User Lock Informa Include AutoCAD User Lock Informa	<u> </u>		
	Source Snapshot Synchronization Enable Source Snapshot Copy Sync.:			
Target Protection Email Alerts SNMP Notifications	Snapshot Copy Max File Size (MB): Snapshot Copy File Extensions:	512 mdb,accdb,zip,psd,ai,indd		<b>A</b>
Tags DFS-N	Sync. On Save Enable Sync. On Save:	]		
	Included File Extensions: x Synchronization Delay (Seconds): 2	/ds,xlsx,doc,docx,dwg 20		4 ¥
		ОК	Cancel	

Modify these fields as needed:

Exclusive Target Lock	If enabled, then whenever possible, an exclusive lock will be obtained on target file handles, which will prevent users from opening the file (even in read-only mode) while a user has th file opened on the source host. When this option is disabled, then users will be allowed to open files for read-only if the application allows for this.		
Include MS Office User Lock Information	If enabled, user lock information (if available) will be propagated to target locks for supported Microsoft Office files (e.g., Word, Excel, and PowerPoint).		
Include AutoCad User Lock Information	If enabled, user lock information (if available) will be propagated to target locks for supported AutoCAD files.		
Enable Source Snapshot Copy	If enabled, a snapshot copy of the source file will be created for files that meet the snapshot configuration criteria below,		

Sync.	and this copy will be used for synchronization purposes. In addition, no file handle will be held on the source file except while making a copy of the file.		
Snapshot Copy Max File Size (MB)The maximum file size for which source snapshot synchronization will be utilized.			
Snapshot Copy File Extensions	A comma-separated list of file extensions for which source snapshot synchronization will be utilized.		
Enable Sync. On Save	If enabled, this feature will allow supported file types to be synchronized after a user saves a file, rather than waiting for the file to close.		
Included File Extensions	A comma separated list of file extensions for which to enable the Sync. On Save feature.		
Synchronizatio n Delay (Seconds)	The number of seconds to wait after a file has been saved before initiating a synchronization of the file.		

### **Application Support**

When you create a File Collaboration job, you have the option of <u>selecting applications that are</u> <u>automatically optimized</u>. When editing the job, you can modify your selections in the **File Locking** page in the **Edit File Collaboration Job** dialog.

To modify which applications are optimized:

1. Select the applications to be optimized.

Edit File Collaboration Job			
Participants General	Application Support		
File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection	Select below to optimize this job for Adobe Products Adobe Illustrator Adobe InDesign Autodesk Products Autodesk AutoCAD	or any of the following file types:	
Email Alerts	Autodesk Civil 3D	Autodesk Sheet Set Manager (for AutoCAD or Civil 3D)	
SNMP Notifications	Autodesk Inventor		
Tags	Other		
DFS-N		Microsystems Allegro	
	Dassault Systems CATIA	Newforma Project Center	
	Microsoft Office	Rhinoceros Rhino3D	
		ОК С	Cancel

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### Logging and Alerts

## **Overview of File Event Logging**

Various types of file collaboration events can be written to a log file and to the <u>Event Log</u> tab located within the File Collaboration Runtime view for the selected File Collaboration job. Each job will log to the **fc\_event.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory. All log files are stored in a tab-delimited format that can easily be read by Microsoft Excel or other database applications.

# **Log Entry Severity Levels**

Info rma tion al	Informational log entry, e.g., a file was opened.
War nin	Some sort of warning occurred that did not produce an error but was unexpected or may need further investigation.

g	
Erro r	An error occurred performing some type of file activity.
Fata I	A fatal error occurred that caused a host to be taken out of the session, a file to be quarantined, or a session to become invalid.

# Configuration

By default, all file collaboration activity is logged for all severity levels. You can enable or disable file event logging as well as select the level of granularity.

🔕 Edit File Collaboration Job			$\times$
<ul> <li>Edit File Collaboration Job</li> <li>Participants</li> <li>General</li> <li>File Filters</li> <li>Conflict Resolution</li> <li>Delta Replication</li> <li>File Metadata</li> <li>File Locking</li> <li>Application Support</li> <li>Logging and Alerts</li> <li>Target Protection</li> <li>Email Alerts</li> <li>SNMP Notifications</li> <li>Tags</li> <li>DFS-N</li> </ul>	Logging and Alerts Enabled:  Severity: All  Alerts Severity: INFO		×
	ОК	Cancel	

Below is a list of logging fields and their descriptions:

Enable d	Selecting this option will enable file event logging based on the other settings. Deselecting this option will completely disable all logging.
Severit y	<ul><li>Determines what severity levels will be logged. There are two options:</li><li>All (Informational, Warnings, Error, Fatal)</li><li>Errors &amp; Warnings (Warnings, Error, Fatal)</li></ul>

Event Types	If checked, the corresponding event type will be logged.
File Open	A file was opened by a remote application on a source host.
File Lock	A file lock was acquired on a <u>target host</u> by the File Collaboration job.
File Close	A file was closed.
File Add	A file was added to the <u>watch set</u> .
File Modify	A file was modified in the watch set.
File Delete	A file was deleted.
File Renam e	A file was renamed.
Attribu te Chang e	A file attribute was changed.
Securit y (ACL) Chang e	The security descriptor of a file or folder was changed.
Directo ry Scan	Indicates when a directory was scanned as a result of the <u>initial</u> synchronization process.
File ADS	The Alternate Data Stream of a modified file was synced to target host(s).

Transf	
er	

## Alerts

Configured in the screen shown above, various types of alerts will be logged to a log file and to the <u>Alerts</u> table located within the <u>File Collaboration Runtime view</u> for the selected job. Each File Collaboration job will log to the **fc\_alert.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory. All log files are stored in a tab-delimited format that can easily be read by Microsoft Excel or other database applications.

The default log level is WARNING, which will show any warning or error alerts that occur during a running session. Depending on the severity of the alert, the session may need to be restarted.

#### **Target Protection**

Target protection is used to protect files on <u>target hosts</u> by saving a backup copy before a file is either deleted or overwritten on the target host. If enabled, then whenever a file is deleted or modified on the source host but before the changes are propagated to the targets, a copy of the existing file on the target is moved to the Peer Management Center trash bin.

The trash bin is located in a hidden folder named **.pc-trash\_bin** found in the root directory of the <u>watch set</u> of the target host. A backup file is placed in the same directory hierarchy location as the source folder in the watch set within the recycle bin folder. If you need to restore a previous version of a file, you can copy the file from the trash bin into the corresponding location in the watch set and the changes will be propagated to all other collaboration hosts.

You can configure target protection in the **Target Protection** page in the **Edit File Collaboration Job** dialog.

🙋 Edit File Collaboration Job				$\times$
	get Protection			
General File Filters Enal Conflict Resolution # of Delta Replication # of File Metadata	abled: f Backup Files to Keep: f Days to Keep:	3 30 .pc-trash_bin		
		ОК	Cancel	

### Modify the fields as needed:

Enabled	Enables target protection.		
# of Backup Files to Keep	The maximum number of backup copies of an individual file to kee in the trash bin before purging the oldest copy.		
# of Days to Keep	The number of days to keep a backup archive copy around before deleting from disk. A value of 0 will disable purging any files from archive.		
Trash Bin	The trash bin folder name located in the root directory of the watch set. This is a hidden folder and the name cannot be changed by the end-user.		

#### **Email Alerts**

The **Email Alerts** page in the **Edit File Collaboration Job** dialog allows you to select which email alerts to apply to a File Collaboration job. Email alerts are defined in the <u>Preferences</u> dialog, and can then be applied to individual jobs. See <u>Email Alerts</u> in the **Preferences** section for information about creating an email alert for a File Collaboration job.

To apply email alerts to a File Locking job while editing the job:

1. Click the **Select** button.

Participants General	Email Alerts				
File Filters	Edit Email Alerts				
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Name Scan Error	Enabled Yes	Event Types Scan Error, Job Started	Recipients debrag@peersoftware.com	Select Delete 'iew Detail

The Select Email Alert dialog opens.

💿 Select Email Alert		$\times$
Email Alert: File Quarantined		$\sim$
File Quarantined Selected En New Email Alert		
Email Alert Name: File Quarantined		
Selected Alerts: File Quarantined		
Recipients: debrag@peersoftware.com		
ОК	Cance	el

2. Select the email alert from the drop-down list, and then click **OK**.

The newly added email alert appears in the **Email Alerts** table.

- 3. Repeat to add additional alerts to the job.
- 4. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **SNMP** Notifications

The **SNMP Notifications** page in the **Edit File Collaboration Job** dialog allows you to apply SNMP notifications to a File Collaboration job.

SNMP notifications, like email alerts and file filters, are configured at a global level in the <u>Preferences</u> dialog, then applied to individual jobs. For more information about SMNP Notifications, see <u>SNMP Notifications</u> in the **Preferences** section.

To enable or disable SNMP notifications for a File Collaboration job:

1. To enable, select an SNMP notification from the drop-down list.

🙆 Edit File Collaboration Job			$\times$
Participants	SNMP Notifications		
General			
File Filters	Edit SNMP Notifications		
Conflict Resolution	SNMP Notification: Session Abort		$\sim$
Delta Replication	Shive Notification. Session Abort		
File Metadata	Selected SNMP Notification Information		
File Locking	SNMP Notification Name:		
Application Support	Session Abort		
Logging and Alerts	SNMP Source IP:		
Target Protection	192.168.171.76		
Email Alerts	152.100.171.70		
SNMP Notifications	SNMP Destination:		
Tags	255.255.255		
DFS-N			
	SNMP Port: 162		
	102		
	SNMP Trap Prefix:		
	1.3.6.1.4.1.733		
	OK	Cancel	

To disable, select None - Disabled.

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

### Tags

The **Tags** page in the **Edit File Collaboration Job** dialog allows you to assign existing tags and categories to the selected job. This page is not available in <u>Multi-Job Editing</u> mode. For more information about tags, see <u>Tags</u> in the <u>Basic Concepts</u> section.

Participants General File Filters Conflict Resolution Delta Replication	Tags Tagging resources helps whe Unassigned tags	en managing large number o	f resources. l	Use this dialog to view/ass Assigned tags	sign tags to that resource.
File Metadata	Tag Name Filter	Category Filter		Tag Name Filter	Category Filter
File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Tag Name Available	Category Resources	>> <	Tag Name	Category

### DFS-N

The **DFS-N** page in the **Edit File Collaboration Job** dialog presents options for linking a DFS namespace folder to this job. See <u>Link a Namespace Folder with an Existing File Collaboration</u> or Synchronization Job for more information.

Participants General File Filters Conflict Resolution		-	oration or file synchronization jo	b.		
Delta Replication File Metadata	DFS Namespace Namespace:	Folder	∨ Folder:		<ul> <li>✓ Configure</li> </ul>	Auto Create Targets
File Locking Application Support	Host Participant	5				
Logging and Alerts	Host	Root Path	DFS-N Folder Target	Enabled		Revert
Target Protection Email Alerts	DGAgent1	\\svm9x-1\105k_1		No		Auto Select Targets
SNMP Notifications Tags DFS-N	DGAgent2	C:\Users\peer-admin\D		No		
					0	K Cancel

#### **Editing Multiple Jobs**

The Peer Management Center supports multi-job editing, allowing you to quickly and effectively manipulate multiple File Collaboration jobs simultaneously. For example, you can use this feature to change a single configuration item such as **Auto Start** for any number of already configured jobs in one operation instead of having to change the item individually for each.

While this feature does cover most of the options available on a per-job basis, certain options are unavailable in multi-job edit mode, specifically ones tied to <u>participants</u>. Configuration of participants must be performed on a per job basis.

To edit multiple jobs simultaneously:

- 1. Open the Peer Management Center.
- 2. Select the jobs you want to edit in the **Jobs** view.
- 3. Right-click and select **Edit Jobs**.

For the most part, the original configuration dialog remains the same with a few minor differences depending on similarities between the selected File Collaboration jobs. A sample dialog is as follows:

GeneralGeneralFile FiltersJob ID:MULTIPLE SELECTEDDelta ReplicationJob Type:MULTIPLE SELECTEDFile MetadataJob Type:1024File LockingTransfer Block Size (KB):1024Logging and AlertsFile Synchronization Job Priority:2Target ProtectionFile Synchronization Job Priority:2Email AlertsTimeout (Seconds):180SNMP NotificationsFirst Scan Mode:FOLDER_BY_FOLDERRemove Filtered Files On Folder Delete:Require All Hosts At Start:Auto Start:✓	Edit File Collaboration Jobs	s - Multiple Selected		$\times$
Delta ReplicationJob ID:MULTIPLE SELECTEDFile MetadataJob Type:MULTIPLE SELECTEDFile LockingJob Type:1024Logging and AlertsTransfer Block Size (KB):1024Target ProtectionFile Synchronization Job Priority:2Email AlertsTimeout (Seconds):180SNMP NotificationsFirst Scan Mode:FOLDER_BY_FOLDERRemove Filtered Files On Folder Delete:Require All Hosts At Start:		General		
	File Filters Delta Replication File Metadata File Locking Logging and Alerts Target Protection Email Alerts	Job ID: Job Type: Transfer Block Size (KB): File Synchronization Job Priority: Timeout (Seconds): First Scan Mode: Remove Filtered Files On Folder Delete: Require All Hosts At Start:	MULTIPLE SELECTED 1024 2 180 FOLDER_BY_FOLDER	• •

In this dialog, any discrepancies between multiple selected jobs will generally be illustrated by a read-only text field with the caption **Multiple Values - Click to Edit**. Clicking this field will bring up a dialog similar to the following:

Transfer Block Size (KB)	×
Select a value to apply to all selected co	onfigurations:
1024 (from: District)	
O 256 (from: Division A)	
O Use a different value:	
1024	*
ОК	Cancel
UK	Cancer

This dialog gives you the option of choosing a value that is already used by one or more selected File Collaboration jobs, in addition to the ability to use your own value. Notice that variances in the look and feel of this pop-up dialog above depend on the type of information it is trying to represent (for example, text vs. a checkbox vs. a list of items).

Upon clicking **OK**, the read-only text field you originally clicked will be updated to reflect the new value. Any fields that have changed will be marked by a small caution sign. On saving in this multi-job edit dialog, the changed values will be applied to all selected jobs.

**Note:** Read all information on each configuration page carefully when using the multijob edit dialog. A few pages operate in a slightly different manner then mentioned above. All the necessary information is provided at the top of these pages in bold text.

## **Running and Managing a File Collaboration Job**

The topics in this section provide some basic information about starting, stopping, and managing File Collaboration jobs:

- <u>Overview</u>
- Starting a File Collaboration Job
- <u>Stopping a File Collaboration Job</u>
- Auto-Restarting a File Collaboration Job
- Host Connectivity Issues
- <u>Removing a File from Quarantine</u>
- <u>Manual Retries</u>

#### Overview

This topic describes:

• The <u>initialization process</u> for a File Collaboration job: What occurs the first time you run a File Collaboration job.

• The <u>initial synchronization process</u>: How files are synchronized the first time you run a File Collaboration job.

The initialization process for a File Collaboration job consists of the following steps:

- 1. All participating hosts are contacted to make sure they are online and properly configured.
- 2. <u>Real-time event detection</u> is initialized on all participating hosts where file locks and changes will be propagated in real-time to all participating hosts. You can view real-time activity and history via the various <u>Runtime Job views</u> for the open job.
- 3. The <u>initial synchronization process</u> is started; all the configured root folders on the participating hosts are scanned in the background, and a listing of all folders and files are sent back to the running job.
- 4. The background directory scan results are analyzed, and directory structures compared to see which files are missing from which hosts. In addition, file conflict resolution is performed to decide which copy to use as the master for any detected file conflicts based on the <u>File Conflict Resolution</u> settings.
- 5. After the analysis is performed, all files that need to be synchronized are copied to the pertinent host(s).

Before you start a File Collaboration job for the first time, you need to decide how you would like the <u>initial synchronization</u> to be performed. During the initial synchronization process:

- The watch set is recursively scanned on all participating hosts.
- File conflict resolution is performed.
- Any files that require updating are synchronized with the most current copy of the file.

The two primary options are:

• Have the File Collaboration job perform the initial synchronization based on the <u>Conflict</u> <u>Resolution</u> settings.

• <u>Pre-seed</u> all <u>participating hosts</u> with the correct folder and file hierarchy for the configured root folders before starting the session.

If you have a large data set, we strongly recommend that you perform the initial synchronization manually by copying the data from a host with the most current copy to all other participating hosts. This needs to be done only once--before the first time that you run the File Collaboration job.

If you choose the first option, click the **Start** button to begin <u>collaboration session</u> <u>initialization</u>. Otherwise, pre-seed each participating host with the necessary data, then click the **Start** button.

#### Starting a File Collaboration Job

Before starting a File Collaboration job for the first time, make sure that you have decided how you want the <u>initial synchronization</u> to be performed.

When running a File Collaboration job for the first time, you must manually start it. After the initial run, a job will automatically start, even when the Peer Management Center server is rebooted.

**Note:** You cannot run two jobs concurrently on the same volume if the <u>watch sets</u> contain an overlapping set of files and folders.

To manually start a job:

- 1. Choose one of three options:
  - Right-click the job name in the **Jobs** view.
  - Right-click the job name in the **Collab and Sync Summary** view, and then choose **Start** from the pop-up menu.
  - Open a job and then click the **Start/Stop** button in the bottom left corner of the job's **Summary** tab (shown below).

bb Status Cara Time     Stopped       Watch Set Total Files     0       Objets     Total Folders       Objets     Total Folders       Objets     0       Stev Openso     0       File Pending     0       Objets     0       File Rending     0       Objets     File Rending       Objets     File Rending	
Lapsed Time     Elapsed Time       Varch Set     Elapsed Time       totil Files     0	
Ach Set     Total Folders       tati File     0       tati Bytes     0       titikg     0	
Name     O     Total Folders     O       tal Bytes     O     Daytes     O       titking     D     E     D       titking     D     E     D       tel Bytes     O     E     D       tel Bytes     D     D     D       tel Bytes     D     D     D       tel Bytes     D     D     D       tel Ath Pending     O     File Ratries     D	
tal Bytes     O bytes       totwOp     File Quarantines       totwO Ports     0       s Ponding     0       tes Pending     0 bytes       O bytes     Deletes Pending       0 bytes     0       tes April 0     File Ratries	
Huby     File Quantines       tive Opens     0       Er Bending     0       Resames Pending     0       test Pending     0       testates Pending     0	
two Opens     0     File Quartonities     0       es Pending     0     Resames Pending     0       tes Pending     0 bytes     Deletes Pending     0       tadata Pending     0     File Retries     0	
the Opens     0     File Quarantines     0       es Pending     0     Renames Pending     0       tes Pending     0 bytes     Detetes Pending     0       tadata Pending     0     File Ratries     0	
es Pending 0 Renames Pending 0 tes Pending 0 bytes Deletes Pending 0 etadata Pending 0 File Retries 0	
tes Pending 0 bytes Deletes Pending 0 tadata Pending 0 File Retries 0	
etadata Pending 0 File Retries 0	
plication Status	
tes Transferred 0 bytes Delta-level Savings	
lded 0 Renamed 0	
dated 0 Deleted 0	
etadata Updates 0	
ckdground Scan	
Status Stoned	

2. Click **Yes** in the confirmation dialog.

After the job initialization has completed, the job will run. Once the job starts, the icon next to the job name in the **Jobs** view changes from gray to green.



#### Stopping a File Collaboration Job

You can stop a File Collaboration job at any time by clicking the **Stop** button. Doing this shuts down the real-time file event detection and close all running operations (e.g., file transfers).

### Auto-Restarting a File Collaboration Job

Peer Management Center includes support for automatically restarting File Collaboration jobs that include <u>participating hosts</u> that have been disconnected, have reconnected, and are once again available.

After a host becomes unavailable and the <u>quorum</u> is lost on a running File Collaboration job, the job automatically stops running and enters a pending state, waiting for one or more hosts to become available again so that the quorum can be met. Once the quorum is met, the pending job will automatically be restarted, beginning with a scan of all root folders.

In a job where a host becomes unavailable but quorum is not lost, the remaining hosts will continue collaborating. If the unavailable host becomes available once again, it is brought back into the running job and a background scan begins on all participating hosts, similar in fashion to the initial background scan at the start of a job.

You can enable all File Collaboration jobs to auto-restart. You can also disable auto-restart File Collaboration jobs on a per-job and per-host instance. For more information on disabling auto-restart at the job level, see <u>Participants Tab</u>.

To enable all File Collaboration jobs to auto-restart:

- 1. Select **Preferences** from the **Window** menu.
- 2. Select File Collab, Sync, Repl, and Locking in the navigation tree.

Preferences	— 🗆 X
<ul> <li>type filter text</li> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Locking</li> <li>General Configuration <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler <ul> <li>User Management</li> </ul> </li> </ul>	File Collab, Sync, Repl, and Locking   Use New Participants View:    Host Connectivity   Auto Reconnect when Host Becomes Available:    Minimum Host Reconnect Time (in minutes):   2   Advanced Reporting   Enable Advanced Reporting Tab:
	OK Cancel Apply

- 3. Select the **Auto Reconnect when Host Becomes Available** checkbox.
- 4. Enter the minimum number of minutes to wait after an Agent reconnects before reenabling it in any associated jobs in the **Minimum Host Reconnect Time** field.
- 5. Click **OK**.

### **Host Connectivity Issues**

Peer Management Center is designed to be run in an environment where all <u>participating hosts</u> are highly available and on highly available networks. The two primary connectivity issues result from:

- <u>Unavailable Hosts</u>
- <u>Quorum Not Met</u>

# **Unavailable Hosts**

If a host becomes unavailable while a File Collaboration job is running and is unreachable within the configured timeout period (specified in the job's <u>General settings</u>), it may be removed from collaboration. If no response is received while performing a file collaboration operation within the timeout period, the Peer Management Center pings the host; if still no response, the host is taken out of the running session, a FATAL event is logged , and the <u>Participants tab</u> for the job is updated to indicate that the host has failed. In addition, if <u>email</u> alerts and/or <u>SNMP notifications</u> are configured and enabled for **Host Timeouts**, then the appropriate message(s) are sent.

If <u>auto-restart</u> not enabled, you must stop and start the File Collaboration job to bring any failed hosts back into the session. As a result, all root folders on all hosts will need to be scanned again to detect any inconsistencies. Therefore, if you are operating over a WAN with low bandwidth, you will want to set the timeout to a higher value on each related job.

## **Quorum Not Met**

For a File Collaboration job to run correctly, a quorum of available hosts must be met. When a quorum is lost, a message appears after the job name in the **Jobs** view.



- FC-EconA
- Media
- Sales

Quorum is currently set to at least two hosts, and if quorum is not met, then the collaboration session is automatically be terminated. If <u>email alerts</u> and/or <u>SNMP notifications</u> are configured and enabled for **Session Aborts**, then the appropriate message(s) are sent.

### Removing a File from Quarantine

Quarantines are a key feature of Peer Global File Service, used for resolving version conflicts. For more detailed information on how quarantines work, see <u>Conflicts, Retries, and</u> <u>Quarantines</u> in the <u>Advanced Topics</u> section.

You must explicitly remove a file from quarantine in order to have it participate in the collaboration session once again.

You may also choose to perform no action, in which case, the file is removed from the **Quarantines** table but none of the file versions are modified; therefore if the files are not

currently in-sync, then the next time the file is modified, changes will be propagated to the other hosts. If an error occurs while removing the quarantine, then the **Status** field in the **Quarantines** table is updated to reflect the error.

To remove a file (or multiple files) from quarantine:

- 1. Open the job.
- 2. Open the <u>Quarantines tab</u> in the **Runtime Summaries** view.
- 3. Select the file(s) in the **Quarantines** table.
- 4. Select the host with the correct version.
- 5. Click the **Release Conflict** button.

After doing this, all hosts are checked to make sure the file is not currently locked by anyone. If no locks are found, then locks are obtained on all versions of the file and the targets that are out-of-date are synchronized with the selected source host.

#### Manual Retries

Retries are a key feature of Peer Global File Service, used for automatically handling errors in the collaboration environment that would have otherwise led to a quarantine. For more detailed information on how retries work, see <u>Conflicts, Retries, and Quarantines</u> in the <u>Advanced Topics</u> section.

When a file is put in the retry list, it will be automatically retried based on the settings defined in <u>File Retries</u> in <u>Preferences</u>. If need be, you can also manually force the retry of a file. This can be done from the Retries list of a specific File Collaboration job.

You may also chose to perform no action, in which case, the file is removed from the Retries list but none of the file versions are modified; therefore if the files are not currently in-sync, then the next time the file is modified, changes will be propagated to the other hosts. If an error occurs while forcing the retry, then the **Status** field in the **Retries** table is updated to reflect the error.

To manually force the retry of a file (or multiple files):

- 1. Select the file(s) in the **Retries** list.
- 2. Select the host with the correct version.
- 3. Click the **Release Conflict** button.

After doing this, all hosts are checked to make sure the file is not currently locked by anyone. If no locks are found, then locks are obtained on all versions of the file and the targets that are out-of-date are synchronized with the selected source host.

### **File Collaboration Views**

This section describes two File Collaboration views:

- Collab and Sync Summary View
- <u>Runtime Summary</u>

#### Collab and Sync Summary View

The **Collab and Sync Summary** view lists all File Collaboration, File Replication, and File Synchronization jobs.

This view is automatically displayed when the Peer Management Center client is started and can be opened at any other time by double-clicking the name of the job type name in the <u>Jobs</u> <u>view</u> or by selecting **View Collab and Sync Summary** from the toolbar in the **Jobs** view.

This view has two tabs:

- Summary Tab
- <u>Reports Tab</u>

👷 📴 🖉 🔂 📎 😣 🙀													
🔄 🕼 🛛 🛤 🗗 📎 🛛 🐓 🖾 🦑 .													
bs 🛛 🍸 📎 🚺 🔳 🗔 🗸 🖓 🗌	🗆 🧹 Collab ar	nd Sync Summa	ary 🛛										- 6
ilter text	? Summary F	Reports											
Cloud Backup and Replication (2)	Runtime S	ummary (auto-	update enabled)										
CB-1	Filter by:	Expression		~				?	Actions 🔻	Auto-U	Jpdate   Re	fresh 10	÷ se
CB-2												_	_ tank
DFS-N Management (0)	Name	Overall Status		Job Type	Failed Hosts	Quaran	Retries	Errors	Warnin	Open F	Pendin	Queue	Backg
File Collaboration (2)	FC-1	Halted. (Q	uorum Lost)	File Collaboration	DGAgent1	0	0	1	0	0	0 bytes	<b>v</b> 0	0
FC-1 (Quorum Lost)	FR-2	Stopped		File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FC-2	FR-1	Stopped		File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0
<ul> <li>File Replication (3)</li> </ul>	FS-2	Running		File Synchronization		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FR-1	FR-3	Stopped		File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FR-2	FC-2	Running		File Collaboration		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FR-3	Y . FS-1	Halted. (Q	uorum Lost)	File Synchronization	DGAgent1	0	0	1	1	0	0 bytes	<b>v</b> 0	0
jents 🛛 🕺 🍸 📎 🖳 I													
filter text (	?												)
filter text		s -> Failed Part	ticipants: 1 of 2	Bytes Pending: 0 byte	s   Bytes Transfer	red: 345.48 N	1B   Opens	: 0   Initial	Scans Comp	leted: 2 of 4	4   Total Siz	e: 345.48 N	1B   Tot
Agent Avg. Bandwidth				-,,									<u> </u>
BGAgent1 (Connected)	🦉 Job Alert	5 23											- 6
JGAgent2 (Connected)													_
	15 errors, 0	warnings, 6 otł	hers   Filter by :	Host:	Name:			Severity:	~	Type:			$\sim$
	Received D	ate Sev	verity Type	Name		н	ost	Mes	sage				
	08-21-2019	14:53:43 Infe	o Start Jo	b FC-2				User	Started Peer	et			
	08-21-2019	14:09:39 Infe	o Start Jo	b FS-2				User	Started Peer	et			
	08-21-2019	14:09:36 Erro	or Start Jo	b FC-1		D	GAgent1	Host	Reconnect S	startup Erro	r. Operatio	n=Install W	atch Di

The **Collab and Sync Summary** tab aggregates critical status and statistical information from all File Collaboration, File Locking, File Replication, and File Synchronization jobs in a single table view. It presents overall job status, basic pending, and bytes transferred statistics. See the <u>Runtime Reports view</u> for more detailed pending activity information.

Information in this view can be sorted and filtered. Operations such as starting, stopping, and editing multiple job at once are available, in addition to the ability to clear <u>job alerts</u> and purge <u>quarantines</u> from stopped jobs. Notice you can scroll the view to see all of its columns.

ummary											
Runtime S	ummary (auto-update enabled	I)									
Filter by:	Expression	~				?	Actions 🔻	Auto-U	pdate   Re	fresh 10	÷ sec
Name	Overall Status	Job Type	Failed Hosts	Quaran	Retries	Errors	Warnin	Open F	Pendin	Queue	Backg
FC-1	Halted. (Quorum Lost)	File Collaboration	DGAgent1	0	0	1	0	0	0 bytes	<b>v</b> 0	0
FR-2	Stopped	File Replication		0	0	0	0	0	0 bytes	<b>▼</b> 0	0
FR-1	Stopped	File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FS-2	Running	File Synchronization		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FR-3	Stopped	File Replication		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FC-2	Running	File Collaboration		0	0	0	0	0	0 bytes	<b>v</b> 0	0
FS-1	Halted. (Quorum Lost)	File Synchronization	DGAgent1	0	0	1	1	0	0 bytes	<b>▼</b> 0	0
<											>

# **Column Descriptions**

Key columns in this view are:

- **Pending Bytes** Presents the number of bytes pending synchronization which includes scan work, real-time, as well as bulk adds.
- **Pending Events** (Hidden by default) Presents the number of total pending items in Fast Queue, Slow Queue and Bulk Adds. This does not include Renames, Deletes, and Bulk Security changes. This can contain multiple events for a single file because target locks are separate operations, (e.g., if you add one file, there will be two events for this in queue.) Scan synchronization is not included, and metadata synchronization is not reflected here.
- **Queue Items** Presents the number of items in just the Fast and Slow queue (does not include bulk adds).
- **Background Sync.** Presents the number of initial and full scan items in queue.

Additional columns can be added to and removed from the table using the right-click context menu.

# Automatic Updates

For performance reasons, this view is not updated in real-time. However, the table can be set to automatically update every few seconds. Select the **Auto-Update** checkbox to enable this functionality; set the refresh interval (in seconds) in the **Refresh** checkbox. Each refresh cycle will update the totals across all active jobs listed at the bottom of the view.

# **Table Context Menu**

Selecting one or more items in the table, then right-clicking will bring up a context menu of available actions that can be performed on the selected jobs. Double-clicking any item in the table will automatically open the selected job in a tab within the view, allowing you to drill down and view specific information about that single job.

The actions that are unique to this table are as follows:

Purge All Quaranti nes	Purges all file quarantines from the selected jobs. This can only be performed on jobs that are not running.
Clear Alerts	Clears all alerts for the selected jobs. This can be performed while a job is running.

Trash-Bin Cleanup	The automatic trash-bin cleanup process runs once daily at 11 PM. Select this option to execute the trash-bin cleanup process on demand.
Show Details	Choose this option to display all the statistics for the selected job in the <b>Runtime Summary Details</b> dialog.
Copy Details	Choose this option to copy detailed information to the system clipboard for the job(s) selected in the table. This information can then be pasted into a document editor.

# Filtering Jobs in the Table

You can change which items are displayed in the table by <u>filtering the list</u> or by its state (Running in Good State, Running with Quarantines, Not Running - Stopped, Running with Disconnected Agents, Lost Quorum), Job Name, Participant, Session Status) or by <u>tags</u>. Select the desired filter or enter your own expression in the text field to the right of the filter drop-down list.

# **Actions Menu**

Clicking the **Actions** menu provides the following options:



Allows for the selection of built-in or user-defined filters and to save/manage <u>list filters</u>. Default job filters include Failed Jobs, Jobs with Backlog, and Running Scans. For example, filter "Running Scans."

Custom Sort	Use this option to configure and save how you want the table in th Collaboration Summary view to be sorted and to keep important items visible at the top. For example, you may choose to create a sort level where the Overall Status column is sorted in Ascending order by default.						
Refresh View	Refreshes all information provided in the table.						
Copy All Filtered Statistics	Copies detailed information to the system clipboard for all items current displayed in the table, taking any filters into account. This information can then be pasted into a document editor.						
Export Entire Table to File	Dump the entire contents of the table to a text file that can be viewed in any document editor.						

The **Runtime Reports** tab aggregates critical statistical information from all File Collaboration, File Locking, File Replication, and File Synchronization jobs in a single table view. The **Reports** tab is visible when the **Enable Advanced Reporting Tab** option in <u>File Collab, Sync,</u> <u>Repl, and Locking</u> in <u>Preferences</u> is selected. This tab is especially useful to view the number of files that are in the queue waiting to be synchronized (File Sync Queue).

ending Activity (aut	o-update enabled)										
Filter by: Expression 🗸 🕜 Actions 🔻											
Name	File Sync Queue	Real-Time Queue	Queued Bytes	Mods	Adds	Metadata	Scan Queue	Deletes	Renames	Event Queue	
PEER-20folders - 01	66	0	71.7 KB	30	0	0	0	0	0	0	
PEER-20folders - 02	314	0	378.0 KB	153	0	0	0	0	0	0	
PEER-20folders - 03	371	0	455.4 KB	182	0	0	0	0	0	0	
PEER-20folders - 04	424	0	531.9 KB	211	0	0	0	0	0	0	
PEER-20folders - 05	454	0	548.9 KB	220	0	0	0	0	0	0	
PEER-20folders - 06	480	0	601.2 KB	239	0	0	0	0	0	0	
PEER-20folders - 07	504	0	611.8 KB	251	0	0	0	0	0	0	
PEER-20folders - 08	536	0	659.4 KB	263	0	0	0	0	0	0	
PEER-20folders - 09	552	0	704.0 KB	274	0	0	0	0	0	0	
EER-20folders - 10	579	0	705.8 KB	282	0	0	0	0	0	0	
PEER-20folders - 11	586	0	697.3 KB	286	0	0	0	0	0	0	
PEER-20folders - 12	591	0	729.7 KB	295	0	0	0	0	0	0	
PEER-20folders - 13	613	0	762.7 KB	302	0	0	0	0	0	0	
PEER-20folders - 14	616	0	761.6 KB	303	0	0	0	0	0	0	
PEER-20folders - 15	608	0	750.5 KB	303	0	0	0	0	0	0	
PEER-20folders - 16	606	0	746.3 KB	304	0	0	0	0	0	0	
PEER-20folders - 17	272	0	355.3 KB	137	0	0	0	0	0	0	
PEER-20folders - 18	0	0	0 bytes	0	0	0	0	0	0	0	
PEER-20folders - 19	0	0	0 bytes	0	0	0	0	0	0	0	
PEER-20folders - 20	0	0	0 bytes	0	0	0	0	0	0	0	
lotals	8172	0	9.8 MB	4035	0	0	0	0	0	0	

# **Automatic Updates**

For performance reasons, this view is not updated in real-time. However, the table can be set to automatically update every few seconds. Select the **Auto-Update** checkbox to enable this functionality; set the refresh interval (in seconds) in the **Refresh** checkbox. Each refresh cycle will update the totals across all active jobs listed at the bottom of the view.

# **Column Descriptions**

Additional columns can be added to and removed from the table from the right-click context menu.

Name	The name of the configured job.
File Sync Queue	The number of files that are in queue waiting to be processed. The number of threads available for this queue is set by the global <b>Performance Real-Time Background Threads</b> option.
Real- Time Queue	The number of open/close events that are in queue waiting to be processed. The number of threads available to process this queue is set by the global <b>Performance Real-Time Expedited Threads</b> option.
Queued Bytes	The number of bytes that are in queue waiting to be processed.
Mods	The number of file update events waiting to be processed for each job.
Adds	The number of file add events waiting to be processed for each job.
Metadata	The number of metadata updates waiting to be processed for each job.
Backgrou nd Transfers	The number of files in the queue waiting to be synchronized as a result of a file system scan.
Deletes	The number of files deleted on a source host that are waiting to be processed.
Renames	The number of files renamed on a source host that are waiting to be processed.
-----------------------------	--
Event Queue	The number of events that are queued up to run for each job.
Slow Expedite d Queue	The number of events that are queued in the Slow Expedited Queue for each job.
Fast Expedite d Queue	The number of events that are queued in the Fast Expedited Queue for each job.

Items in the table can be filtered by a <u>filter expression</u>, job name, <u>Participant</u>, Session Status, or tags. Select the desired filter or enter your own expression in the text field to the right of the **Filter** drop-down list. Check the **Auto-Hide** button to hide all jobs which have no pending activity.

# **Actions Menu**

The **Actions** menu provides the following options:

Filters	Enables you to select built-in or user-defined filters and to save/manage filter expressions. Default job filters include Failed Jobs, Jobs with Backlog, and Running Scans. For example, filter: "Running Scans".
Custom Sort	Enables you to configure and save how you want the Runtime Reports table to be sorted and keep important items visible at the top. For example, you may choose to create a sort level where the Overall Status column is sorted in ascending order by default.
Refresh View	Refreshes all information provided in the table.
Copy All Filtered Statistics	Copies detailed information to the system clipboard for all items current displayed in the table, taking any filters into account. This information can then be pasted into a document editor.
Export Entire	Dumps the entire contents of the table to a text file that can be viewed in any document editor.

Table to File	
Move Totals Row To Top	Moves the Totals row to the top of the table.
Move Totals Row To Bottom	Moves the Totals row to the bottom of the table.

#### Runtime Summary View

Each File Collaboration job has a runtime summary view that show a combination of real-time file I/O activity, history, and configuration. The runtime summary view has eight tabs:

Peer Management	Center (Client Mode)							- 0 ×
File Window Help	2							
📑 🖬 🖻 🔚	🤕 🗗 📎 🕕 💈 🤞	h						
🐓 Jobs	🌱 🏷 🚺 🔳 🔕 🗸 🗖	· 🗆	- Collab and Sync Summary	Cloud Summary	📲 Namespace Summary	-< FC-2 🛛 🛆 CB-2	🤏 Agent Summary	
type filter text		?	Summary Session Event Lo	g Quarantines (0) Retries (0	)) Alerts (0) Participants (2) Co	onfiguration		
🗸 🗠 Cloud Backup	p and Replication (2)	^					_	
> 🕒 CB-1			Summary View (Auto-up)	dates are disabled) Action	•		Aut	o-Update Refresh 10
> 🔘 CB-2								
🛵 DFS-N Manag								
✓ - ✓ File Collabora			Job Status	Running				
FC-1 (Quo FC-1 (QuO FC-	orum Lost)		Start Time	8/21/19 2:53 PM	Elapsed Time	11 hours 0 minutes 52 s	•	
FC-2								
✓ ➡ File Replication	on (3)		Watch Set					
<ul> <li>FR-1</li> <li>FR-2</li> </ul>			Total Files	5553	Total Folders	41		
FR-2 FR-3			Total Bytes	345.5 MB				
		×.						
Agents	🧟 🏹 📎 🖻	' 🗆	Activity					
type filter text		?	Active Opens	0	File Quarantines	0		
21		-	Files Pending	0	Renames Pending	0		
△ Agent	Avg. Bandwi	dth	Bytes Pending	0 bytes	Deletes Pending	0		
DGAgent1 (C)			Metadata Pending	0	File Retries	0		
😹 DGAgent2 (0	Connected)							
			🚪 Job Alerts 🛛					- 0
			15 errors, 0 warnings, 6 othe	rs   Filter by : Host:	Name:	Severity:	~ Туре:	~ <u>C</u>
			Received Date Sever	ity Type I	Name	Host Message		
<		>	<					

The view is composed of the following tabs (or editors):

- <u>Summary tab</u> Displays overall statistics for the selected job.
- <u>Session tab</u> Displays active open files and files that are currently in transit between <u>participating hosts</u>.

- Event Log tab Displays a list of all runtime activity that has occurred within the selected job.
- <u>Quarantines tab</u> Displays a list of all files that are quarantined for the session or are in conflict between two or more participating hosts.
- <u>Retries tab</u> Displays a list of files that
- <u>Alerts tab</u> Displays a list of all job alerts specifically tied to the selected job.
- <u>Participants tab</u> Displays a list of all hosts participating in the selected job.
- <u>Configuration tab</u> Displays a summary of all configurable options for the selected job.

These tabs also provide the ability to manage specific collaboration runtime functionality:

Runtim e View Tabs	Displays runtime statistics.
Job Start/S top	Enables you to start and stop the File Collaboration job.
Job Status Display	Displays status-related messages when the job is running.

The **Summary** runtime view allows you to view current and cumulative file collaboration and synchronization statistics, as well background synchronization status.

Summary View Actio	ns 🔻	1						🗹 Auto	-Update   Refresh [	1 🔹 seconds
lob Status	Running									
Start Time	8/9/19 2:51 PM	Elapsed Time	12 days 20 hours 57 min							
Vatch Set										
otal Files	325	Total Folders	13							
lotal Bytes	806.2 KB									
ctivity										
ctive Opens	207	File Quarantines	0							
iles Pending	207	Renames Pending	0							
ytes Pending	517.3 KB	Deletes Pending	0							
Aetadata Pending	0	File Retries	0							
eplication Status										
ytes Transferred	4 GB	Delta-level Savings								
dded	0	Renamed	0							
pdated	1661842	Deleted	0							
letadata Updates	0									
		1								
00										
0										
12:00 PM 01	:00 PM 02:00 PM 03:00 PM	1 04:00 PM 05:00 PM 06:00 P			12:00 AM 01:00 AM 02:	00 AM 03:00 AM 04:00	AM 05:00 AM 06:00	AM 07:00 AM 08:00	AM 09:00 AM 10	:00 AM 11:00
				<ul> <li>Priority Queue — Replication</li> </ul>	Queue — Active Opens					

Key statistics in this view are presented in the <u>Activity</u>, <u>Replication Status</u>, and <u>Background</u> <u>Scan</u> sections. Notice that this tab is scrollable.

# Activity

This section presents statistics on pending activity:

- **Files Pending** Number of files pending synchronization, this includes queued initial scan items, bulk add files, single file adds and real-time modifies. This does not include Deletes, renames or security changes. Move your cursor over the field to see the breakdown from Adds, Updates, and Scan.
- **Bytes Pending** Matches the Pending Bytes from the <u>Collab and Sync Summary</u> view, which includes all Queued Transfers including scan works, as well as bulk adds. Note this does not track Files Pending exactly but does provide a good indication of the number of bytes currently still needing to be synchronized.
- **Metadata Pending** Number of pending metadata changes from real-time and from initial and folder scans.
- **Renames Pending** Total number of files and folders pending rename. Move your cursor over the field to see the breakdown for folders and files.
- **Deletes Pending** Total number of files and folders pending delete.

# **Replication Status**

This section presents statistics on all completed synchronization from real-time and the initial scan:

- **Bytes Transferred** Total number of bytes transferred for all real-time Add, Bulk Add, Modify, and Scan synchronization. This does not include bulk delete, security or renames.
- **Added** Total number of files and folders added in real-time. Move your cursor over the field to see the breakdown for folders and files.
- **Updated** Total number of files synchronized by initial scan or real-time.
- **Deleted** Total number of files and folders deleted.
- **Renamed** Total number of files and folders renamed. Move your cursor over the field to see the breakdown for folders and files.
- File Metadata Updates Total number of real-time and scan metadata updates for folders and files.

# **Background Scan**

This section presents pending and completed synchronization statistics from the initial full scan.

- Files to Replicate Total number of pending files synchronization queued up by initial scan.
- **Bytes to Replicate** Total number of pending files bytes needing synchronization and queued up by initial scan.
- Metadata to Replicate Total number of file and folder metadata queued up by scan.
- **Files Replicated** Total number of completed file synchronization from the full initial scan.
- Bytes Replicated Total number of bytes transferred by full initial scan.
- **Metadata Replicated** Total number of file and folder metadata synchronized by full initial scan.

The **Session** tab allows you to view real-time file collaboration activity and the current session status. You can see which files are currently open in the running session, as well as any file that is currently being synchronized between hosts.

ssion Status: Running   Filter by Host: Filter by:	~		Actions	•						
e Path	Host	Is Source	User Name	Sync. Status	File Size	Last Modified	Date Opened	Message	Attri	
\FLDR17\FLDR1L1\FLDR2L2\FILE11.TXT	Lab12C-7M-16	true	Session	Scheduled	1.0 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE12.TXT	Lab12C-7M-16	true	Session	Scheduled	4.0 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE13.TXT	Lab12C-7M-16	true	Session	Scheduled	3.8 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE14.TXT	Lab12C-7M-16	true	Session	Scheduled	2.1 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE15.TXT	Lab12C-7M-16	true	Session	Scheduled	1.0 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE16.TXT	Lab12C-7M-16	true	Session	Scheduled	3.1 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE17.TXT	Lab12C-7M-16	true	Session	Scheduled	1.5 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE18.TXT	Lab12C-7M-16	true	Session	Scheduled	1.5 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE19.TXT	Lab12C-7M-16	true	Session	Scheduled	1.8 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
FLDR17\FLDR1L1\FLDR2L2\FILE2.TXT	Lab12C-7M-16	true	Session	Scheduled	2.8 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE20.TXT	Lab12C-7M-16	true	Session	Scheduled	1.6 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE21.TXT	Lab12C-7M-16	true	Session	Scheduled	2.2 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE22.TXT	Lab12C-7M-16	true	Session	Scheduled	1.7 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE23.TXT	Lab12C-7M-16	true	Session	Scheduled	2.2 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE24.TXT	Lab12C-7M-16	true	Session	Scheduled	2.3 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
FLDR17\FLDR1L1\FLDR2L2\FILE25.TXT	Lab12C-7M-16	true	Session	Scheduled	1.4 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE3.TXT	Lab12C-7M-16	true	Session	Scheduled	1.9 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE4.TXT	Lab12C-7M-16	true	Session	Scheduled	1.6 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE5.TXT	Lab12C-7M-16	true	Session	Scheduled	2.7 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE6.TXT	Lab12C-7M-16	true	Session	Scheduled	1.7 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE7.TXT	Lab12C-7M-16	true	Session	Scheduled	2.0 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR2L2\FILE8.TXT	Lab12C-7M-16	true	Session	Scheduled	3.8 KB		08-22-2019 11:51:28	Pending Synchronization		
\FLDR17\FLDR1L1\FLDR2L2\FILE9.TXT	Lab12C-7M-16	true	Session	Scheduled	3.1 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
\FLDR17\FLDR1L1\FLDR3L2\FILE1.TXT	Lab12C-7M-16	true	Session	Scheduled	3.8 KB	08-22-2019 11:51:17	08-22-2019 11:51:28	Pending Synchronization	A	
FLDR17/ELDR1L1/ELDR3L2/EILE10 TXT	Lab12C-7M-16	true	Section	Scheduled	1.6 KB	08-22-2010 11:51:17	08-22-2010 11-51-28	Pending Synchronization	Δ	
										🗹 Auto-Update   Refresh   1 📮 se

The **Session** tab has the following components:

Open Files Table	A table showing all currently open files on the source host, any internal file locks being held by the running File Collaboration job on the target host(s), and file summary information. This table also shows all file transfers currently in progress along with file summary information, status, and overall progress. Clicking any column headers sorts by that column in ascending or descending order. All items listed in this table are grouped by file path. Each associated lock and/or transfer for each <u>participating host</u> will be available as a hidden child item of a root row. The root row represents the file on the <u>source</u> host. Pressing the + next to the root will show all associated file transfers and/or locks.
Session Status	<ul> <li>Field indicating the current status of the session. Valid values are:</li> <li>Stopped: Session is stopped.</li> <li>Starting: Session is starting up.</li> </ul>
	• <b>Collaborating:</b> Real-time event detection is enabled.
Filter by Host	A drop-down list of participating hosts to filter on. Selecting a specific host will filter the open files to just show files on that host.
Filter By Combo	A drop-down list of additional filters that can be applied to the Open Files table, including filtering by user name (associated with the opening, adding, deleting, or modification of a file) and by file name.

Actions	<b>Refresh View:</b> Refreshes the entire Open Files table to show the latest list
Menu	of file transfers and locks.

The **Event Log** tab allows you to view recent file event history for the currently running File Collaboration job based on your <u>Logging and Alerts</u> settings. You can specify the maximum number of events to store in the table by adjusting the Display Events spinner located in the top right corner of the panel. The maximum number of events that can be viewed is 3,000.

If you need to view more events or events from a prior session, then you can use the log files saved in the **Hub\logs** directory located in the installation directory. The event log files will start with **fc\_event.log** and are written in a tab-delimited format. Microsoft Excel is a good tool to use to view and analyze a log file. See <u>Logging and Alerts</u> for more information about log files.

You can click any column header to sort by the column. For example, clicking the **File** column will sort by file name and you will be able to view all file events for that file in chronological order. Warnings are displayed in light gray, errors are displayed in red, and fatal errors are displayed in orange. Error records will also contain an error message in the **Message** column.

0 errors, 0 warnings,	1500 others	Filter by Severity:	✓ Filter by: File Na	ame 🚿	Actions 🔻						
Date	Severity	Туре	Host	Is S	File	Comments	Message	Username	File Size	Modified Time	
8-22-2019 11:50:00	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FLDR2L2\FILE4.TXT			Session	1.1 KB	08-22-2019 11:47:40	
8-22-2019 11:50:00	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FLDR2L2\FILE4.TXT			Session	1.1 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FLDR2L2\FILE1.TXT			Session	3.2 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FLDR2L2\FILE1.TXT			Session	3.2 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR1L1\FLDR3L2\FILE9.TXT			Session	3.0 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR1L1\FLDR3L2\FILE9.TXT			Session	3.0 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FILE9.TXT			Session	2.8 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FILE9.TXT			Session	2.8 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Modify	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FLDR2L2\FILE4.TXT			Session	1.1 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59	INFO	File Lock	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FLDR2L2\FILE4.TXT			Session	1.1 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FILE6.TXT			Session	2.3 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FILE6.TXT			Session	2.3 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR1L1\FLDR3L2\FILE6.TXT			Session	1.5 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR1L1\FLDR3L2\FILE6.TXT			Session	1.5 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59	INFO	File Close	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FILE5.TXT			Session	2.7 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Close	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FILE5.TXT			Session	2.7 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59		File Modify	Lab12C-Win-16	false	\FLDR17\FLDR3L1\FLDR2L2\FILE1.TXT			Session	3.2 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59		File Lock	Lab12C-7M-16	true	\FLDR17\FLDR3L1\FLDR2L2\FILE1.TXT			Session	3.2 KB	08-22-2019 11:47:40	
8-22-2019 11:49:59		File Close	Lab12C-7M-16	true	\FLDR17\FLDR1L1\FLDR3L2\FILE12.TXT			Session	2.0 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59		File Close	Lab12C-Win-16		\FLDR17\FLDR1L1\FLDR3L2\FILE12.TXT			Session	2.0 KB	08-22-2019 11:47:39	
8-22-2019 11:49:59		File Close	Lab12C-7M-16		\FLDR17\FLDR3L1\FILE25.TXT			Session	2.1 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59		File Close	Lab12C-Win-16		\FLDR17\FLDR3L1\FILE25.TXT			Session	2.1 KB	08-22-2019 11:47:41	
8-22-2019 11:49:59	INFO	File Modify	Lab12C-Win-16	false	\FLDR17\FLDR1L1\FLDR3L2\FILE9.TXT			Session	3.0 KB	08-22-2019 11:47:39	

The **Actions** menu provides the following options:

Refr esh Vie w	Refresh all information provided in the table. This can also be done from the right-click context menu of the table.
Clea r Eve nts	Remove all items from the table. This can also be done from the right- click context menu of the table.

The **Quarantines** tab displays a list of files (a) for which file conflicts could not be automatically resolved or (b) retries have failed after the maximum number of attempts. Files in this list will no longer be synchronized or protected with file locks until a winning file is picked through the PeerGFS user interface.

Files   Filter by File	Name:	Display Conflicts	Host with correct file ver	sion: Please select host v Release Conflict	
Date 18-22-2019 11:57:01	File	Cause File Close	Status File Quarantined	Message File Close> Source Host: Lab12A-AFS-16 Target host: Lab12a-19a Error deleting file E:\QASpotChecks\directions.docx Error	
5-22-2019 11:57:01	(directions.docx	File Close	File Quarantineu	File close> source Host cautzA-Ars-to target host cautza-tsa error deleting tile et (dAsporchecks/unections.autox error	

The right-click context menu for the table contains the following actions:

Refresh View	Refresh all information provided in the table.
Purge All Quaranti nes	Clears all files from the quarantines list.
Copy Details	Copies the quarantine information for the selected file to your clipboard.

The **Retries** tab displays the files currently in the **Retries** list. Files are put into the retry list if certain errors are thrown when trying to synchronize a file between locations. Synchronization of a file in this list will be retried every minute for a maximum of 60 attempts. The frequency of attempts and the maximum number of attempts are configurable.

Retries 1 Files   File Fame: Host with correct file version: Please select host v   Release Conflict							
Jate	File	Cause	Status	Message			
8-22-2019 11:54:00	\directions.docx	File Close	Pending Retry	File Close> Source Host: Lab12A-AFS-16 Target host: Lab12a-19a Error deletin			

The right-click context menu for the table contains the following actions:

Refresh View	Refresh all information provided in the table.
Purge All Quaranti nes	Clears all files from the <b>Quarantines</b> tab.
Copy Details	Copies the quarantine information for the selected file to your clipboard.

The **Alerts** tab allows you to view any alerts relevant to the running File Collaboration job. Items shown here are based on the configured Alerts Severity setting on the Logging and Alerts configuration page. You can specify the maximum number of alerts to store in the table by adjusting the Display Alerts spinner located in the top right corner of the panel. The alerts are also written to a tab delimited file named **fc\_alert.log** within the subdirectory 'Hub/logs' within the installation directory of the Peer Management Center. See the Logging and Alerts settings for more information about log files.

You can click on any column header to sort by that column. For example, clicking on the Severity column will sort by alert severity. Warnings are displayed in light gray, while errors and fatal alerts are displayed in red. In general, you should not see any alerts, but if an error or fatal alert occurs, it usually means something is wrong with the collaboration session. It may need to be restarted or a configuration setting may need to be changed. You should consult the text in the message field for details on what occurred.

ert Log					
) errors, 4 warnings, (	others   Filt	er by Severity:	~		Display 1000 🗘 Ale
Received Date	Severity	Туре	Host	Message	
8-22-2019 11:55:31	WARNING	Application	Lab12a-19a	Error making backup copy of file=E\QASpotChecks\directions.docx : Win32Exception [errorCode=32, msg=Error renaming path from "E\QASpotChecks\directions.docx" to "E\	
8-22-2019 11:54:45	WARNING	Application	Lab12a-19a	Error making backup copy of file=E\QASpotChecks\directions.docx : Win32Exception [errorCode=32, msg=Error renaming path from "E\QASpotChecks\directions.docx" to "E\	
8-22-2019 11:54:00	WARNING	Application	Lab12a-19a	Error making backup copy of file=E\QASpotChecks\directions.docx: Win32Exception [errorCode=32, msg=Error renaming path from "E\QASpotChecks\directions.docx" to "E\	
8-22-2019 11:53:14	WARNING	Application	Lab12a-19a	Error making backup copy of file=E\QASpotChecks\directions.docx : Win32Exception [errorCode=32, msg=Error renaming path from "E\QASpotChecks\directions.docx" to "E\	

The following options are available in the right-click context menu:

Ref res h Vie w	Refresh all information provided in the table. This can also be done from the right-click context menu of the table.
Cle ar Eve nts	Remove all items from the table. This can also be done from the right-click context menu of the table.

The **Participants** tab is divided into two sections:

- Host Participants
- Host Participant State Change Log

ost R	oot Path	Status	St	ste	Message	DFS Namespace	DFS Target Status	
b12-D-12R2a \	afs3\FullCycle45	Participating	Ad	tive		FullCycle->4.5.0.x->\\afs3\fullcycle45	Active	
ab12-D-16a \	nalab4\FullCycle45	Participating	Ad	tive		FullCycle->4.5.0.x->\\nalab4\fullcycle45	Active	
	ptsvm93a\FullCycle4	5 Participating	Ad	tive		FullCycle->4.5.0.x->\\ptsvm93a\fullcycle45	Active	
ab12-D-19b D	:\FullCycle45	Participating	Ad	tive		FullCycle->4.5.0.x->\\lab12-d-19b\fullcycl	Active	
ab12-Unity \	unity43a-ptsmb1\Ful	I Participating	Ad	tive				
	tate Change Log							
Filter by : Host:		Status:	~	State:	~			
Date	Host	Status	State	Message				
	52 Lab12-D-19b	Participating	Active					
	52 Lab12-D-16b	Participating	Active					
	52 Lab12-D-16a	Participating	Active					
	52 Lab12-D-12R2a		Active					
	52 Lab12-Unity-16	Participating	Active					
08-20-2019 14:47	19 Lab12-D-16b	Participating	Active					

# **Host Participants**

The **Host Participants** section contains a table that displays all the currently configured <u>host</u> <u>participants</u> for the selected File Collaboration job. The **State** column displays activity status occurring on the hosts. If a host has become unavailable, an error message is displayed in red next to the failed host.

The following options are available in the right-click context menu for this section:

Disable Host Particip ant	Temporarily disables the selected participant from taking part in the File Collaboration job. You might want to do this if the host is experiencing temporary network outages.
Cancel Auto Restart	This menu item is only available if the global auto-restart functionality is enabled and the selected host has been removed from the File Collaboration job that is currently being viewed. The canceling of the auto-restart functionality for the host will only be in effect until the next time you start the File Collaboration job. If quorum has been lost for the job, canceling auto-restart on all unavailable hosts will prevent the job from automatically restarting. If quorum has not been lost, canceling auto-restart will simply prevent a host from automatically re- joining collaboration.

# **Host Participant State Change Log**

The **Host Participant State Change Log** section contains a table that displays the most recent host participant state changes, e.g., when a host was removed from collaboration session, or when a host came back online.

The **Host Participant State Change Log** is a log of all host participant status changes (e.g., Collaborating, Not Collaborating) and/or state changes (e.g., Active, Pending Restart) of a host

participant. This table is limited to 250 rows and can be filtered by host, by status, and by state.

The following options are available in the right-click context menu for this section:

Refresh View	Refresh all information provided in the table.
Clear Events	Remove all items from the table.

The **Configuration** tab displays a quick summary of all configurable items for the selected job. Each page of the File Collaboration Configuration edit wizard is represented in its own part of the view and can be collapsed if desired. Clicking **Edit this Configuration** will immediately open the <u>File Collaboration Configuration edit wizard</u> where you can edit the current configuration.

<u>this Configuration</u> ble/Disable Full Scan urrently Running Confi	duration Summary				
Selected Participants and Confi	· ·	▼ Locking		▼ File Metadata Settings	
	Kchecks (Storage Platform: Nutanic Files) ks (Storage Platform: Windows Driver) AFS4-Win19 Testing 121 File Collaboration 1024 Kg tue tests 30	Include AutoCAD User Lock Information: Source Snapshot Synchronization: Source Vss Snapshot Synchronization: Snapshot File Extensions: Max File Size (MB):	true true true false inppedindicai, accelb 512 dwg 20	Enable attribute synchronization in real-time: false Enable attribute synchronization with master host during initial scan, false Enable ACL synchronization during real-time: true Enable ACL synchronization with master host during initial scan: false Prevent comuter ACL from being transformers: true Synchronize SACL Security Descriptors: true Synchronize DACL Security Descriptors: true Master Host for initial Scan and Conflicts: None Select	ed
Global Real-Time Background T File Synchronization Job Priority Timeout: Scan Delay: Remove Filtered Files On Folder	r 2 180 Seconds 10 Delete true	Conflict Resolution     Latest Modified Time (Truncate Millisecond     Quarantine Multi-edit Conflicts:     Offline Folder Rename Detection Detection:	true false	Logging Alerts     Logging Severity: All     Logging Severity: All     Everet Types: File Open, File Add, File Rename, File Lock, File Modify, Attribut     File Close, File Delete, ACL Change     Alert Severity: INFO	e Change,
Require All Hosts At Start: Auto Start: Tags	false false	Offline Delete Detection During Scan: Delete Detection Master Host: Delta Replication Settings	true none	▼ Target Protection Settings	
Tags Tags: None Selected File Filters File Collaboration Sync Only ()	Synchronization Only) - 4	Detra Replication Settings     Enable Block/Byte Synchronization:     Disable on Session Startup:     Checksum Transfer Size:     Detra Block/Transfer Size:     Detra Block/Transfer Size:	true false 256 KB 512 KB	Targe Protection Enabled: Number of Beckorp Files to Keep: 3 Number of Days to Keep: 30 Trash Bin Name: .pc-trash_bin	

#### Dashboard Summary View

The **Dashboard View** displays metrics and key performance indicators from all running File Collaboration, File Locking, File Replication, and File Synchronization jobs. It is automatically displayed when the Peer Management Center client is started and can be opened at any other time by selecting **View Dashboard** from the **Window** menu or by clicking the **View Dashboard** icon in the Peer Management Center toolbar.

Entries in the first column of the **File Collaboration** and **Agents** categories can be doubleclicked, which will take the user to a filtered runtime view of the selected item for additional details.

to-Update   Refresh 10 🔶 sec	onds				
File Collaboration					
1 Running with Disconnected A	gents! 1 Running	Active Collaborat	ion Statistics	Active Collabo	ration Watch Set
Running with Quarantines	1	Failed Participants:	1 of 7	Total Size:	8.7 MB
Running with Disconnected Agent	s 1	Bytes Pending:	11 bytes	Total Files:	1655
Lost Quorum	0	Bytes Transferred:	200 bytes	Total Directories:	357
Not Running - Stopped	83	Opens:	210		
Running in Good State	0	Initial Scans Completed:	0 of 1		
ent Summary View Agents					
All Connected				Top Connectivity Offenders	
Disconnected	0				
Connected	12				
Needing Upgrade	0				

# **Automatic Updates**

For performance reasons, this view is not updated in real-time. However, the table can be set to automatically update every few seconds. Select the **Auto-Update** checkbox to enable this functionality; set the refresh interval (in seconds) in the **Refresh** checkbox. Each refresh cycle will update the totals across all active jobs listed at the bottom of the view.

# File Locking Jobs

This section provides information about creating a File Locking job:

- <u>Overview</u>
- Before You Create Your First File Locking Job
- Creating a File Locking Job

#### Overview

A File Locking job is designed to prevent multiple users from simultaneously accessing the same file across multiple file servers. You can combine it with Microsoft DFS Replication to provide an entry-level collaboration option for teams sharing project files that are distributed across multiple locations. Since it is only available with Microsoft DFS-R, File Locking jobs are only available for use with Windows file servers.

# Before You Create Your First File Locking Job

We strongly recommend that you configure global settings such as SMTP configuration and email alerts before configuring your first File Locking job. See <u>Preferences</u> for details on what and how to configure these settings.

## Creating a File Locking Job

The **Create Job Wizard** walks you through the process of creating a File Locking job:

Step 1: Job Type and Name

Step 2: Participants

Step 3: Email Alerts

Step 4: Save Job

#### Step 1: Job Type and Name

- 1. Open the Peer Management Center.
- 2. From the **File** menu, select **New Job** (or click the **New Job** button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click File Locking, and then click Create.



4. Enter a name for the job in the dialog that appears.

The job name must be unique.

🕺 Create File Locking Job		$\times$
Enter a unique name.		
Job name cannot be blank.		
	OK	Cancel

5. Click **OK**.

The <u>Participants</u> page is displayed.

#### Step 2: Participants

A File Locking job must have two or more participants. A <u>participant</u> consists of an Agent and the volume/share/folder to be protected from version conflicts. The server that the Agent is installed upon is called the <u>host</u> (or <u>host participant</u>). A File Locking job prevents other users from modifying the files of the participants while the files are locked.

1. Complete the four substeps:

**Participants** 

Storage Platform

Management Agent

<u>Path</u>

After you add a participant, it appears in the **Participants** table.

ticipants						
-	ants to this File Locking job.					
articipants mail Alerts	Host	Computer Description	Directory	Enabled	Storage Platform	Add
	DGAgent1		C:\Users\Public	Yes	Windows	
	DGAgent2		C:\Users\Public	Yes	Windows	Edit
						Delete
						_
						_
						-

- 2. Repeat the five substeps for each participant you want to add to the job.
- 3. Once you have added all the participants, click **Next** to specify <u>email alerts</u> for the job. (Don't click **Finish**.)

The **Participants** page is where you select and configure which <u>hosts</u> will be participating in this job. The **Participants** page is empty until you finish the process of adding your first participant. Once you have added the participants, they are listed on the **Participants** page.

To begin the process of adding a participant:

## 1. Click the **Add** button.

Oreate File Locking Job Wizard							
Participants							
Add two or more participants to t	his File Locking jo	b.					
Participants Email Alerts	Host	Computer Description	Directory	Enabled	Storage Platform		Add
						- 1	Edit
							Delete
			< Back	Ne	xt >		Cancel

Another wizard opens to guide you through the process of adding a participant to the job. The first step in the process involves selecting the <u>storage platform</u>.

The **Storage Platform** page lists the types of storage platforms that File Collaboration supports. A storage device hosts data you want to lock. It is often referred to as the <u>host or host participant</u>.

1. Select the type of storage platform that hosts the data you want to lock.

🕺 Add New Participant	_		$\times$
Storage Platform Select the type of storage platform			
Storage Platform Management Agent Path	Windows File Server		
	NetApp ONTAP   Clustered Data ONTAP		
	O NetApp Data ONTAP 7-Mode		
	O EMC' Dell EMC Isilon		
	O EMC' Dell EMC Unity		
	O EMC' Dell EMC Celerra   VNX   VNX 2		
	O Nutanix Files		
	< Back Next >	Cance	

# 2. Click Next.

The <u>Management Agent</u> page is displayed.

The **Management Agent** page lists available <u>Agents</u>. You can have more than one Agent managing a storage device—however, the Agents must be managing different volumes/shares/folders on the storage device. For your File Locking job, you should select the <u>Management Agent</u> that manages the volumes/shares/folders you want to lock in this job.

1. Select the Agent that manages the host.

anagement Agent			
elect the server hosting the P	eer Agent that manages this stora	age device.	
Storage Platform			
Management Agent	Host	Computer Description	
Path	DGAgent1		
	DGAgent2		

**Tip:** If the Agent you want is not listed, try restarting the Peer Agent Windows Service on that host. If it successfully connects to the Peer Management Broker, then the list is updated with that Agent.

# 2. Click Next.

The <u>Path</u> page is displayed.

The **Path** page is where you specify the path to the volume/share/folder you want to lock. This volume/share/folder is referred to as the <u>watch set</u>. The watch set can contain a single volume/share/folder. If you want to lock multiple volumes/shares/folders, you need to create a separate job for each one.

1. Browse to or enter the path to the watch set.

Add New Participant			$\times$
Path			
Browse to or enter a path on the st	orage device.		
Storage Platform			
Management Agent Path	Enter Path	Browse	:
	< Back Next >	Cance	I

If you selected **Browse**, the **Folder Browser** dialog appears:

Ø Folder Browser			$\times$
		Refres	h
> 🗆 💷 C:\			
			_
			_
		Reviev	v
	OK	Cancel	

- a. Expand the folder tree.
- b. Select the appropriate volume/share/folder.
- c. (Optional) Click the **Review** button to see your selection.
- d. Click OK.
- 2. Click **Finish** to complete the wizard for this participant.
- 3. Return to <u>Step 2: Participants</u> to add more participants, if applicable.

A File Locking job must have at least two participants.

4. After adding all participants, click **Next**.

The Email Alerts page is displayed.

## Step 3: Email Alerts

This step is optional.

An <u>email alert</u> notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job.

1. Click the **Select** button.

🙆 Create File Locking Job Wizard					- 🗆 X
Email Alerts					
Select email alerts.					
Participants Email Alerts	Edit Email Alerts				
	Name	Enabled	Event Types	Recipients	Select
					Delete
					View Details
				- Dark Nach -	t Creat
				< Back Next > Finit	sh Cancel

The **Select Email Alert** dialog appears.

2. Select an alert from the **Email Alert** drop-down list.

🧔 Select Email Alert				×
Email Alert: File Quarantined File Quarantined				~
Selected Em Scan Error New Email Alert File Quarantined				
Selected Alerts: File Quarantined				
Recipients: debrag@peersoftware.com				
	Ok	(	Canc	el

3. Click **OK**.

The alert is listed on the **Email Alerts** page.

🕺 Create File Locking Job Wizard					- 🗆 X
Email Alerts					
Select email alerts.					
Participants Email Alerts	Edit Email Alerts				
	Name	Enabled	Event Types	Recipients	Select
	Scan Error	Yes	Scan Error, Job Started	debrag@peersoftware.com	Delete
					View Details
					_
					_
				< Back Next > Finish	Cancel

- 4. (Optional) Repeat steps 1-3 to apply additional alerts.
- 5. Continue to <u>Step 4: Save Job</u>.

#### Step 4: Save Job

Now that you have completed the first three steps of the wizard, you are ready to save the job configuration.

1. If you are satisfied with your job configuration, click **Finish** to save your job. Otherwise, click the **Back** button and make any necessary changes.

Congratulations! You have created a file locking job. It is now listed in the **Jobs** view under **File Locking** and a summary of the job appears in the **Runtime Summaries** area. You can start the job from either place.

: 🛛 🕞 🖉 🖗 📎 🚺 💈	- A					
	🛃 💖					
Jobs 🛛 🏹 📎 🔳 🔕	▽ - □ 💧	North America-West 🕺				- 6
e filter text	?	Job Status	Stopped			
<ul> <li>File Locking (1)</li> <li>North America-West</li> </ul>		Start Time		Elapsed Time		
• Horarvanenca Hest		Watch Set				
		Total Files	0	Total Folders	0	
		Total Bytes	0 bytes			
		Activity				
		Active Opens	0	File Quarantines	0	
		Files Pending	0	Renames Pending	0	
		Bytes Pending	0 bytes	Deletes Pending	0	
Agents 🧟 🏹	<u> </u>	Metadata Pending	0	File Retries	0	
pe filter text	0	Replication Status				
		Bytes Transferred	0 bytes	Delta-level Savings		
	andwidth	Added	0	Renamed	0	
JEAgent1 (Connected) JEGAgent2 (Connected)		1 0 07:00 PM Status: Stopped		—Priority Queue —Repl	cation Queue — Active Opens	
		Jacus. propped				

# **File Replication Jobs**

This section provides information about creating a File Replication job.

- Overview
- Before You Create Your First File Replication Job
- Creating a File Replication Job

## Overview

A File Replication job is designed to push files one way from a single file server (known as the source) to another single file server (known as the destination or target). This job type requires two Agents, although only the Agent at the source location will register with its local storage platform for real-time activity. The destination Agent will simply act as a relay to the destination file server.

# Before You Create Your First File Replication Job

We strongly recommend that you configure global settings such as SMTP configuration and email alerts before configuring your first File Replication job. See <u>Preferences</u> for details on what and how to configure these settings.

## Creating a File Replication Job

The **Create Job Wizard** walks you through the process of creating a File Replication job:

Step 1: Job Type and Name

Step 2: Source Platform

Step 3: Source Agent

Step 4: Storage Information

Step 5: Source Path

Step 6: Destination Agent

Step 7: Destination Path

Step 8: File Metadata

Step 9: Email Alerts

Step 10: Save Job

#### Step 1: Job Type and Name

- 1. Open the Peer Management Center.
- 2. From the File menu, select New Job (or click the New Job button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click File Replication, and then click Create.



4. Enter a name for the job in the dialog that appears.

The job name must be unique.

🕺 Create File Replication Job	×	
Enter a unique name.		
Job name cannot be blank.		
	OK Cancel	

5. Click **OK**.

The <u>Storage Platform</u> page is displayed.

#### Step 2: Storage Platform

The **Storage Platform** page lists the types of source storage platforms that File Replication supports. The source storage device hosts the data you want to replicate.

1. Select the type of storage platform you want to replicate.

© Create File Replication	Job Wizard		$\times$
Storage Platform Select the type of storage	ge platform.		
Storage Platform Source Agent Source Path Destination Agent Destination Path File Metadata Email Alerts	<ul> <li>Windows File Server</li> <li>NetApp ONTAP   Clustered Data ONTAP</li> <li>NetApp Data ONTAP 7-Mode</li> <li>EMC' Dell EMC Isilon</li> <li>EMC' Dell EMC Unity</li> <li>EMC' Dell EMC Celerra   VNX   VNX 2</li> <li>Nutanix Files</li> </ul>		
	< Back Next >	Cano	:el

## 2. Click Next.

The <u>Source Agent</u> page is displayed.

#### Step 3: Source Agent

The **Source Agent** page lists available Agents. You can have more than one Agent managing a storage device—however, the Agents must be managing different volumes/shares/folders. You should select the Agent that manages the volumes/shares/folders you want to replicate in this job.

elect the server hosting t	he Peer Agent that mana	ges the source.	
Storage Platform Source Agent Storage Information	Host DGAgent1	Computer Description	
Gource Path Destination Agent Destination Path	DGAgent2		
ile Metadata Imail Alerts			

1. Select the Source Agent for the volume/share/folder you want replicated.

## 2. Click Next.

The <u>Storage Information</u> page is displayed if you selected any storage platform other than Windows. If you selected Windows, skip to the <u>Source Path</u> page.

#### Step 4: Storage Information

If you selected any storage platform other than Windows File Server in <u>Step 2</u>, the **Storage Information** page appears. It requests the credentials necessary to connect to the storage device you want to replicate.

If you selected **Windows File Server**, skip to <u>Step 5: Source Paths</u>.

- 1. Select New Credentials or Existing Credentials.
- 2. If you selected **Existing Credentials**, select a credential from the drop-down list, and then click **Next**. Continue with <u>Step 5. Source Paths</u>.

If you selected **New Credentials**, enter the credentials for connecting to the storage platform. The information you are prompted to enter varies, depending on the type of storage platform:

NetApp ONTAP | Clustered Data ONTAP

NetApp Data ONTAP 7-Mode

Dell EMC Isilon

Dell EMC Unity

Dell EMC Celerra | VNX | VNX 2

Nutanix Files

- 3. Click **Validate** to test the credentials, and then click **OK** in the confirmation message that appears.
- 4. Click Next.

The <u>Source Path</u> page is displayed.

1. Enter the credentials to connect to the Storage Virtual Machine hosting the data to be replicated or select existing credentials.

💩 Create File Replication Job	o Wizard					×
Storage Information						
Enter the information require	red to connect to the storage devi	ce.				
Storage Platform Source Agent Storage Information Source Path	Credentials New Credentials *SVM Name:					
Destination Agent Destination Path File Metadata Email Alerts	*SVM User Name: *SVM Password: SVM Management IP: *Peer Agent IP:				Advar	
	O Existing Credentials SVM9X-1, user:vsadmin Validate Having trouble connecting? Ple	ase verify that all prere	equisites are met for	NetApp ONTAP/cD		~
	1	< Back	Next >	[	Cance	el

SVM Name	Enter the name of the Storage Virtual Machine hosting the data to be replicated.
SVM Userna me	Enter the user name for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Passw ord	Enter the password for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Manag ement IP	Enter the IP address used to access the management API of the NetApp Storage Virtual Machine. If the data LIFs (Logical Interfaces) corresponding to the SVM Name above already allow management access, this field is not required.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Storage Virtual Machine. The Storage Virtual Machine must be able to route traffic to this IP address. The Storage Virtual Machine must be able



# 2. Click Validate.

3. Click Next.

The <u>Source Path</u> page is displayed.

1. Enter the credentials to connect to the NetApp 7-Mode filer or vFiler hosting the data to be replicated or select existing credentials.

🕺 Create File Replication Jo	b Wizard	
Storage Information		
Enter the information requ	red to connect to the storage device.	
Storage Platform	Credentials	
Source Agent	New Credentials	
Storage Information Source Path	*Filer Name:	
Destination Agent		Advanced
Destination Path		Advanced
File Metadata	O Existing Credentials	
Email Alerts		$\sim$
	Validate	
	Having trouble connecting? Please verify that all prerequisites are met for NetApp 7-Mode env	ironments
	naving rouble connecting: riease verify that an <u>prerequisites</u> are thet for NetApp 7-Mode env	inoninents.
	De la sur d	C
	< Back Next >	Cancel

Filer Name	Enter the name of the NetApp 7-Mode filer or vFiler hosting the data to be replicated.
------------	--

## 2. Click Validate.

## 3. Click Next.

The <u>Source Path</u> page is displayed.

# 1. Enter the credentials to connect to the EMC Isilon cluster hosting the data to be replicated or select existing credentials.

🕺 Create File Replication Jo	b Wizard	- 🗆 X
Storage Information Enter the information requ	ired to connect to the storage device.	
Storage Platform Source Agent Storage Information Source Path Destination Agent Destination Path File Metadata Email Alerts	Credentials  New Credentials  Cluster Name:  Cluster Username:  Cluster Password:  Cluster Management IP:  Nodes:  Existing Credentials  Validate Having trouble connecting? Please verify that all prerequisites are meters	et for EMC Isilon environments.
	< Back Next >	Cancel

Cluster Name	Enter the name of the EMC Isilon cluster hosting the data to be replicated.
Cluster Usernam e	Enter the user name for the account managing the EMC Isilon cluster.

Cluster Passwor d	Enter the password for account managing the EMC Isilon cluster.
Cluster Manage ment IP	Enter the IP address of the system used to manage the EMC Isilon cluster. Required only if multiple Access Zones are in use on the cluster.
Nodes	For each node in the Isilon cluster, enter an IP address that can be reached by the Agent. Separate multiple values with a comma.

# 2. Click Validate.

# 3. Click Next.

The <u>Source Path</u> page is displayed.

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

🙆 Create File Replication Job	b Wizard	$\Box$ $\times$
Storage Information		
Enter the information require	red to connect to the storage device.	
Storage Platform Source Agent Storage Information Source Path Destination Agent Destination Path File Metadata Email Alerts	Credentials  New Credentials  *CIFS Server Name:  *Unisphere Username:  *Unisphere Password:  *Unisphere Management IP:	
	O Existing Credentials           Validate           Having trouble connecting? Please verify that all prerequisites are met for EMC Unity environment	Advanced ~
	< Back Next >	Cancel

CIFS Server Name	Enter the name of the CIFS server hosting the data to be replicated.
Unisphere Username	Enter the user name for the Unisphere account managing the Unity storage device.
Unisphere Password	Enter the password for the Unisphere account managing the Unity storage device.
Unisphere Manageme nt IP	Enter the IP address of the Unisphere system used to manage the Unity storage device. This should not point to the NAS server.

- 2. Click Validate.
- 3. Click Next.

The <u>Source Path</u> page is displayed.

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

🙋 Create File Replication Jo	bb Wizard – 🗆 🗙
Storage Information Enter the information requ	ired to connect to the storage device.
Storage Platform Source Agent Storage Information Source Path Destination Agent Destination Path File Metadata Email Alerts	Credentials <ul> <li>New Credentials</li> <li>*CIFS Server Name:</li> <li>*Control Station Username:</li> <li>*Control Station Password:</li> <li>*Control Station Password:</li> <li>*Control Station IP:</li> <li>Advanced</li> <li>Casting Credentials</li> </ul> <li>Validate</li> <li>Having trouble connecting? Please verify that all prerequisites are met for EMC VNX/Celerra environments.</li>
	< Back Next > Cancel

CIFS Server Name	Enter the name of the CIFS Server hosting the data to be replicated.
Control Station Username	Enter the user name for the Control Station account managing the Celerra/VNX storage device.
Control Station Password	Enter the password for the Control Station account managing the Celerra/VNX storage device.
3. Click Next.

The <u>Source Path</u> page is displayed.

1. Enter the credentials to connect to the Nutanix Files cluster hosting the data to be replicated or select existing credentials.

Create File Replication Job V	lizard – 🗆	$\times$
Storage Information		
Enter the information required	to connect to the storage device.	
Storage Platform Source Agent Storage Information Source Path Destination Agent Destination Path File Metadata Email Alerts	Credentials  New Credentials  Nutanix File Server Name:  Username:  Password:  Peer Agent IP:  Advanced  Cxisting Credentials  AFS2, user:admin	
	Validate         Having trouble connecting? Please verify that all prerequisites are met for Nutanix Files environments.         < Back       Next >         Cancel	

Nutanix FileEnter the name of the Nutanix Files cluster hosting the data to be replicated.
--

Server Name	
Usernam e	Enter the user name for the account managing the Nutanix Files cluster via its management APIs.
Password	Enter the password for the account managing the Nutanix Files cluster via its management APIs.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Nutanix Files cluster. The Files cluster must be able to route traffic to this IP address. If the IP address you want does not appear, manually enter the address. This should not point to the Files cluster itself.

3. Click Next.

The <u>Source Path</u> page is displayed.

### Step 5: Source Path

The **Source Path** page is where you specify the path to the volume/share/folder you want to replicate. This volume/share/folder is referred to as the <u>watch set</u>. The watch set can contain a single volume/share/folder. If you want to replicate multiple volumes/shares/folders, you need to create a separate job for each one.

1. Browse to or enter the path to the watch set.

b Wizard					$\times$
on the storage device.					
\\AFS2\ Enter Path				Brow	wse
	< Back	Next >		Cance	I I
	n the storage device.				

If you selected **Browse**, the **Folder Browser** dialog appears:

Folder Browser		$\Box$ $\times$
\\AFS2\		Refresh
> \\AFS2\		
		Review
	ОК	Cancel
	UK	Cancer

- a. Expand the folder tree.
- b. Select the appropriate volume/share/folder.
- c. (Optional) Click the **Review** button to see your selection.
- d. Click OK.
- 2. Click Next.

The <u>Destination Agent</u> page is displayed.

## Step 6: Destination Agent

The **Destination Agent** page lists available Agents, not including the Agent used as the Source Agent. This Destination Agent will be responsible for writing files and metadata to the destination storage device. No credentials are required for this Agent as it will not be monitoring anything in real-time.

1. Select the Agent that manages the destination storage device. If the destination is a Windows file server, the Agent should be installed on it.

🙆 Create File Replication Jo	ob Wizard			×
Destination Agent				
Select the server hosting the	ne Peer Agent that manage	ges the destination.		
Storage Platform Source Agent Storage Information	Host DGAgent2	Computer Description		
Source Path Destination Agent Destination Path File Metadata Email Alerts				
		< Back Next >	Cance	ł

**Tip:** If the Agent you want is not listed, try restarting the Peer Agent Windows Service on that host. If it successfully connects to the Peer Management Broker, then the list is updated with that Agent.

## 2. Click Next.

The **Destination Path** page is displayed.

### Step 7: Destination Path

The **Destination Path** page is where you specify the volume/share/folder that you want to replicate to. If the destination storage device is a Windows file server, this path should be a local path such as D:\Data. This path can also be the UNC path to any SMB-capable file server.

1. Browse to or enter the destination path:

- If the path field is empty when you click **Browse**, the **Folder Browser** dialog will present a list of local drives and folders on the Agent server itself.
- If you enter the start of a UNC path and click **Browse**, the **Folder Browser** dialog will attempt to present a list of the available shares on the file server specified in the path.

😰 Create File Replication Job	Wizard				$\times$
Destination Path					
Browse to or enter a path or	the storage device.				
Storage Platform Source Agent	Enter Path			Bro	wse
Storage Information Source Path					
Destination Agent Destination Path File Metadata Email Alerts					
		< Back	Next >	Cance	1

## 2. Click Next.

The <u>File Metadata</u> page is displayed.

## Step 8: File Metadata

This step is optional.

The **File Metadata** page allows you to specify whether you want to replicate NTFS security permissions metadata and the types of metadata to synchronize. It also allows you to specify which volume/share/folder's metadata should be used if there is a conflict during the <u>initial</u> synchronization. The volume/share/folder used if there is a conflict is referred to as the <u>master host</u>.

For more information on synchronizing NTFS metadata, see <u>File Metadata Synchronization</u> in the <u>Advanced Topics</u> section.

To enable file metadata synchronization:

- 1. Select when you want the metadata replicated (you can select one or both options):
  - Enable synchronizing NTFS security descriptors (ACLs) in real-time Select this option if you want the metadata synchronized in real-time. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be transferred to the target host file(s) as they occur.
  - Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan Select this option if you want the metadata replicated during the initial scan. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized during the initial scan.

Create File Replication Job Wi	zard —		$\times$
File Metadata			
Configure the replication of NTF	s security permissions.		
Storage Platform Source Agent Storage Information Source Path	Synchronize Security Descriptors (ACLs)   Synchronizing NTFS security descriptors (ACLs) in real-time  Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan		
Destination Agent Destination Path File Metadata Email Alerts	Synchronize Security Descriptor Options Owner DACL: Discretionary Access Control List SACL: System Access Control List		
	Metadata Conflict Resolution Select Master Host for initial scan:		
	< Back Next > Finish	Cance	2

- 2. Click **OK** in the message that appears after selecting a metadata option.
- If you selected either of the first two options in the Synchronize Security Descriptor Options section, select the security descriptor components (Owner, DACL, and SACL) to be synchronized.
- 4. If you selected the option for metadata synchronization during the initial scan, select the host to be used as the <u>master host</u> in case of file metadata conflict.

If a master host is not selected, then no metadata synchronization will be performed during the initial scan. If one or more security descriptors do not match across participants during the initial scan, <u>conflict resolution</u> will use permissions from the designated master host as the winner. If the file does not exist on the designated master host, a winner will be randomly picked from the other participants.

## 5. Click Next.

The <u>Email Alerts</u> page is displayed.

### Step 9: Email Alerts

This step is optional.

An <u>email alert</u> notifies recipients when a certain type of event occurs, for example, session abort, host failure, system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job.

1. Click the **Select** button.

Ø Create File Replication Jc	b Wizard					
Email Alerts						
Select email alerts.						
Storage Platform Source Agent	Edit Email Alerts	5				
Storage Information Source Path	Name	Enabled	Event Types	F	Recipients	Select
Destination Agent Destination Path						'iew Detail
File Metadata Email Alerts						
			< Back	Next >	Finish	Cancel

The Select Email Alert dialog appears.

2. Select an alert from the **Email Alert** drop-down list.

💩 Select Em	ail Alert	—		×
Email Alert:	File Quarantined			$\sim$
	File Quarantined			
Selected En				
Email Alert	New Email Alert			
File Quarant	ined			
Selected Ale File Quarant Recipients: debrag@pe				
	O	К	Can	cel

# 3. Click **OK**.

The alert is listed on the **Email Alerts** page.

🙆 Create File Replication J	ob Wizard				
Email Alerts					
Select email alerts.					
Storage Platform Source Agent	Edit Email Alerts				
Storage Information	Name	Enabled	Event Types	Recipients	Select
Source Path Destination Agent	File Quarantined	Yes	File Quarantined	debrag@peersoftware.c	Delete
Destination Path File Metadata Email Alerts					'iew Detail
			< Back No	ext > Finish	Cancel

- 4. (Optional) Repeat steps 1-3 to apply additional alerts.
- 5. Continue to <u>Step 10: Save Job</u>.

### Step 10: Save Job

Now that you have completed the first nine steps of the wizard, you are ready to save the job configuration.

1. If you are satisfied with your job configuration, click **Finish** to save your job. Otherwise, click the **Back** button and make any necessary changes.

Congratulations! You have created a File Replication job. It is now listed in the **Jobs** view under **File Replication** and a job run-time view appears in the **Runtime Summaries** area. You can start the job from either place.

🙋 Peer Management Center (Client Mo	ode)					- 0	×
File Window Help							
🔁 🔜 🔞 📓 📾 🔊 📎 🔒 💈 🖉	Cloud Summary	Collab and Sync Sum	mary 🕼 Namespace Sun	nmary 🚍 FR-4 ⊠			
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> 🗠 Cloud Backup and Replication (	Summary View (Au	to-updates are disabled)	Actions 🔻			🗌 Auto-Update   Refresh 10 📮 se	conds
DFS-N Management (0)							^
<ul> <li>→ File Collaboration (3)</li> <li>→ File Replication (4)</li> </ul>	Job Status	Stopped					
<ul> <li>FR-1</li> </ul>	Start Time		Elapsed Time				
FR-2							
@ FR-3	Watch Set Total Files	0	Total Folders	0			
FR-4	Total Bytes	0 0 bytes	Total Folders	U			
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DGAgent1 (Connected) DGAgent2 (Connected)				-Priority Queue -Replic	ation Queue — Active Opens		
DOAgeniz (connected)	Status: Stopped						
	Status. Stopped						_
	💈 Job Alerts 🛛						- 0
	30 errors, 2 warnings	18 others   Filter by : H	ost: Nam	ne:	Severity: V Type:	<ul> <li><u>Clear Alerts</u></li> </ul>	
	Received Date Se	verity Type N	ame	Host Message	2	Exception	^
< >	09-24-2019 23· Int	Auto Start I Cl	R-5	PMC sta	rtun after iob creation		>
	-					1	

# **File Synchronization Jobs**

This section provides information about creating a File Synchronization job:

- <u>Overview</u>
- Before You Create Your First File Synchronization Job
- Creating a File Synchronization Job
- Editing a File Synchronization Job
- Running and Managing a File Synchronization Job

## Overview

A File Synchronization job provides real-time, multi-directional synchronization between various storage platforms and across locations. It is designed to handle non-collaborative workloads where files still need to be kept in-sync at multiple locations in real-time without locking. This job type is specifically optimized for use with user home directories and profiles.

## Before You Create Your First File Synchronization Job

We strongly recommend that you configure global settings such as SMTP configuration and email alerts before configuring your first File Synchronization job. See <u>Preferences</u> for details on what and how to configure these settings.

## **Creating a File Synchronization Job**

The **Create Job Wizard** walks you through the process of creating a File Synchronization job:

- Step 1: Job Type and Name
- Step 2: Participants
- Step 3: File Metadata
- Step 4: Email Alerts
- Step 5: Save Job

## Step 1: Job Type and Name

- 1. Open the Peer Management Center.
- 2. From the **File** menu, select **New Job** (or click the **New Job** button on the toolbar).

The **Create New Job** wizard displays a list of job types you can create.

3. Click **File Locking**, and then click **Create**.



4. Enter a name for the job in the dialog that appears.

The job name must be unique.

🕺 Create File Synchronization Job		$\times$
Enter a unique name.		
Job name cannot be blank.		
	ОК	Cancel

5. Click **OK**.

The <u>Participants</u> page is displayed.

### Step 2: Participants

A File Synchronization job must have two or more participants. A <u>participant</u> consists of an Agent and the volume/share/folder to be replicated. The server that the Agent is installed upon is called the <u>host</u> (or <u>host participant</u>). A File Synchronization job synchronizes the files of participants in real-time.

1. Complete the five substeps:

**Participants** 

Storage Platform

Management Agent

Storage Information

<u>Path</u>

After you add a participant, it appears in the **Participants** table.

I two or more partic	ipants to this File Sy	nchronization job.					
r <mark>ticipants</mark> e Metadata nail Alerts	Host DGAgent1	Computer Description	Directory \\AFS1\Share1\Mar	Enabled Yes	Storage Platform Nutanix Files	Seeding Target No	Add
	DGAgent2		C:\Users\Public\Do	Yes	Windows	No	Edit

- 2. Repeat the five substeps for each participant you want to add to the job.
- 3. Once you have added all the participants, click **Next** to specify <u>file metadata</u> for the job. (Don't click **Finish**.)

The **Participants** page is where you select and configure which <u>hosts</u> will be participating in this job. The **Participants** page is empty until you finish the process of adding your first participant. Once you have added the participants, they are listed on the **Participants** page.

To begin the process of adding a participant:

1. Click the **Add** button.

cipants two or more partic	ipants to this File	e Synchronization job.					
ticipants							
Metadata	Host	Computer Description	Directory	Enabled	Storage Platform	Seeding Target	Add
ail Alerts							Edit
							Delet
							-

Another wizard opens to guide you through the process of adding a participant to the job. The first step in the process involves selecting the <u>storage platform</u>.

The **Storage Platform** page lists the types of storage platforms that File Synchronization supports. A storage device hosts data you want to synchronize. It is often referred to as the host or host participant.

1. Select the type of storage platform that hosts the data you want to synchronize.

Add New Participant			$\times$
Storage Platform			
Select the type of storage p	platform.		
Storage Platform Management Agent Path	<ul> <li>Windows File Server</li> <li>NetApp ONTAP   Clustered Data ONTAP</li> <li>NetApp Data ONTAP 7-Mode</li> <li>EMC' Dell EMC Isilon</li> <li>EMC' Dell EMC Unity</li> <li>EMC' Dell EMC Celerra   VNX   VNX 2</li> <li>Nutanix Files</li> </ul>		
	< Back Next >	Canc	el

## 2. Click Next.

The <u>Management Agent</u> page is displayed.

The **Management Agent** page lists available <u>Agents</u>. You can have more than one Agent managing a storage device—however, the Agents must be managing different volumes/shares/folders on the storage device. For your File Synchronization job, you should select the <u>Management Agent</u> that manages the volumes/shares/folders you want to replicate in this job.

1. Select the Agent that manages the host.

🧔 Add New Participant						$\times$
Management Agent						
Select the server hosting the	ne Peer Agent that ma	anages this sto	rage device.			
Storage Platform Management Agent Storage Information Path	Host DGAgent1 DGAgent2	C	omputer Description			
		< Back	Next >		Cance	el

**Tip:** If the Agent you want is not listed, try restarting the Peer Agent Windows Service on that host. If it successfully connects to the <u>Peer Management Broker</u>, then the list is updated with that Agent.

## 2. Click Next.

The <u>Storage Information</u> page is displayed if you selected any storage platform other than Windows. If you selected Windows, skip to the <u>Path</u> page.

If you selected any storage platform type other than Windows File Server in the <u>Storage</u> <u>Platform</u> page, the **Storage Information** page appears. It requests the credentials necessary to connect to the storage device you want to replicate. If you selected Windows Files Server in the previous wizard page, skip to <u>Step 3: File Metadata</u>.

## 1. Select New Credentials or Existing Credentials.

2. If you selected **Existing Credentials**, select a credential from the drop-down list, and then click **Next** to continue to the <u>Path</u> page.

If you selected **New Credentials**, enter the credentials for connecting to the storage device. The information you are prompted to enter varies, depending on the type of storage platform:

NetApp ONTAP | Clustered Data ONTAP

NetApp Data ONTAP 7-Mode

Dell EMC Isilon

Dell EMC Unity

Dell EMC Celerra | VNX | VNX 2

Nutanix Files

3. Click **Validate** to test the credentials.

After the credentials are validated, a success message appears.

4. Click **Next**.

The <u>Path</u> page is displayed.

#### NetApp ONTAP | Clustered Data ONTAP

1. Enter the credentials to connect to the Storage Virtual Machine hosting the data to be replicated or select existing credentials.

🔕 Add New Participant		— 🗆 X
Storage Information		
Enter the information requi	ired to connect to the storage device.	
Storage Platform Management Agent Storage Information Path	Credentials <ul> <li>New Credentials</li> <li>*SVM Name:</li> <li>*SVM User Name:</li> <li>*SVM Password:</li> <li>SVM Password:</li> <li>SVM Management IP:</li> <li>*Peer Agent IP:</li> <li>*Peer Agent IP:</li> <li>Existing Credentials</li> <li>SVM9X-1, user.vsadmin</li> </ul>	 Advanced
	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for NetApp	ONTAP/cDOT environments.
	< Back Next >	Cancel

SVM Name	Enter the name of the Storage Virtual Machine hosting the data to be replicated.
SVM Username	Enter the user name for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Password	Enter the password for the account managing the Storage Virtual Machine. This must not be a cluster management account.
SVM Managem ent IP	Enter the IP address used to access the management API of the NetApp Storage Virtual Machine. If the data LIFs (Logical Interfaces) corresponding to the SVM Name above already allow management access, this field is not required.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Storage Virtual Machine. The Storage Virtual Machine must be able to route traffic to this IP address. If the IP address you want does not appear, you can manually enter the address.

3. Click Next.

The <u>Path</u> page is displayed.

#### NetApp Data ONTAP 7-Mode

1. Enter the credentials to connect to the NetApp 7-Mode filer or vFiler hosting the data to be replicated or select existing credentials.

🙆 Add New Participant				$\times$
Storage Information				
Enter the information requi	red to connect to the storage device.			
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials  Filer Name:  Existing Credentials  Validate Having trouble connecting? Please verify that all prerequisites are met for NetApp 7-Mode environment	vironme	Advan	ced
	< Back Next >		Cance	I

	Enter the name of the NetApp 7-Mode filer or vFiler hosting the data to be replicated.
er	
Na	
me	

- 2. Click Validate.
- 3. Click Next.

ſ

The <u>Path</u> page is displayed.

### Dell EMC Isilon

1. Enter the credentials to connect the EMC Isilon cluster hosting the data to be replicated or select existing credentials.

🙆 Add New Participant				$\times$
Storage Information				
Enter the information requi	ired to connect to the storage device.			
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials *Cluster Name: *Cluster Username: *Cluster Password: Cluster Management IP: Nodes: O Existing Credentials Validate Having trouble connecting? Please verify that all prerequisites are met for EMC Isilon	environments.	Advar	
	< Back Next >		Cance	el 🛛

Cluster Name	Enter the name of the EMC Isilon cluster hosting the data to be replicated.	
Cluster Usernam e	Enter the user name for the account managing the EMC Isilon cluster.	
Cluster Passwor d	Enter the password for account managing the EMC Isilon cluster.	
Cluster Manage ment IP Enter the IP address of the system used to manage the EMC Isilon cluster. Required only if multiple Access Zones are in use on the cluster.		
Nodes	Enter one IP from each node that the Agent can access to perform open file lookups. Use commas to separate nodes.	

## 3. Click Next.

The <u>Path</u> page is displayed.

### Dell EMC Unity

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

🔕 Add New Participant			$\times$
Storage Information Enter the information requi	ired to connect to the storage device.		
Storage Platform Management Agent Storage Information Path	Credentials <ul> <li>New Credentials</li> <li>*CIFS Server Name:</li> <li>*Unisphere Username:</li> <li>*Unisphere Password:</li> <li>*Unisphere Management IP:</li> </ul> O Existing Credentials   Validate   Having trouble connecting? Please verify that all prerequisites are met for EMC Unity environments.	Advar	nced
	< Back Next >	Cance	el

CIFS Server Name	Enter the name of the CIFS server hosting the data to be replicated.
Unispher e Usernam e	Enter the user name for the Unisphere account managing the Unity storage device.
Unispher e Passwor d	Enter the password for the Unisphere account managing the Unity storage device.
Unispher e Manage ment IP	Enter the IP address of the Unisphere system used to manage the Unity storage device. This should not point to the CIFS server.

	Used only when experiencing access issues. Contact Peer Software support for more information.
--	--

3. Click Next.

The <u>Path</u> page is displayed.

#### Dell EMC Celerra | VNX | VNX 2

1. Enter the credentials to connect to the CIFS Server hosting the data to be replicated or select existing credentials.

🙆 Add New Participant				$\times$
Storage Information				
Enter the information requi	ired to connect to the storage device.			
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials *CIFS Server Name: *Control Station Username: *Control Station Password: *Control Station IP: O Existing Credentials Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for EMC VNX/Celerrary	environm	Advan	ced
	< Back Next >		Cance	I

CIFS Server Name	Enter the name of the CIFS Server hosting the data to be replicated.
Control Station Usernam e	Enter the user name for the Control Station account managing the Celerra/VNX storage device.
Control Station Passwor d	Enter the password for the Control Station account managing the Celerra/VNX storage device.
Control Station IP	Enter the IP address of the Control Station system used to manage the Celerra/VNX storage device. This should not point to the CIFS Server.

3. Click Next.

The <u>Path</u> page is displayed.

### Nutanix Files

1. Enter the credentials to connect to the Nutanix Files cluster hosting the data to be replicated or select existing credentials.

Add New Participant	- D X
Storage Information	
Enter the information required to	o connect to the storage device.
Storage Platform Management Agent Storage Information Path	Credentials  New Credentials  Nutanix File Server Name:  Username:  Password:  Peer Agent IP:  Advanced
	O Existing Credentials
	AFS2, user:admin 🗸 🗸
	Validate Having trouble connecting? Please verify that all <u>prerequisites</u> are met for Nutanix Files environments.
	< Back Next > Cancel

Nutanix File Server Name	Enter the name of the Nutanix Files cluster hosting the data to be replicated.
Username	Enter the user name for the account managing the Nutanix Files cluster via its management APIs.
Password	Enter the password for the account managing the Nutanix Files cluster via its management APIs.
Peer Agent IP	Select the IP address of the server hosting the Agent that manages the Nutanix Files cluster. If the IP address you want does not appear, you can manually enter the address. This should not point to the Files cluster itself.

3. Click Next.

The <u>Path</u> page is displayed.

The **Path** page is where you specify the path to the volume/share/folder you want to replicate. This volume/share/folder is referred to as the <u>watch set</u>. The watch set can contain a single volume/share/folder. If you want to replicate multiple volumes/shares/folders, you need to create a separate job for each one.

1. Browse to or enter the path to the watch set.

🙆 Add New Participant						$\times$
Path						
Browse to or enter a path o	on the storage device.					
Storage Platform Management Agent Storage Information Path	\\AFS1\ Enter Path Seeding Target:				Bro	wse
		< Back	Next >	Finish	Cance	21

If you selected **Browse**, the **Folder Browser** dialog appears:

Folder Browser			×
\\AFS1\		Refr	esh
> \\AFS1\			
		Rev	iew
	ОК	Cancel	

- a. Expand the folder tree.
- b. Select the appropriate volume/share/folder.
- c. (Optional) Click the **Review** button to see your selection.
- d. Click OK.
- 2. (Optional) Select the **Seeding Target** checkbox, and then click **OK** in the dialog that appears.

If you select this option, a message describing seeding behavior is displayed. Multiple participants in a File Synchronization job can be set as smart data seeding targets; however, at least one participant should not be set as a smart data seeding target. This participant will be acting as the "master" source for the smart data seeding targets. For

more information about smart data seeding, see <u>Smart Data Seeding</u> or contact <u>support@peersoftware.com</u>.

🙆 Mark	Host Participant DGAgent1 as Smart Data Seeding Target	$\times$
?	Marking a host participant as a Smart Data Seeding Target will set this participant to utilize Smart Data Seeding logic.	
	Smart Data Seeding helps to efficiently integrate a host that has been disconnected for a long period of time or a new host into a job. Such existing hosts or new hosts with pre-seeded data (using methods like shipping a drive or server) should be set as Seeding Targets within a collaboration job. When the scan starts, non-Seeding Targets will become the masters and bring the Seeding Targets up to date. Stale updates, deletes, and rename will NOT be brought back from the Seeding Targets. All local real-time activity from this host will be QUARANTINED. Once that initial scan is complete, the Seeding Targets will become full participants with real-time enabled. For more information on Smart Data Seeding and it's potential options, please contact support@peersoftware.com.	g ne es
	Are you sure you want to continue and mark the host participant DGAgent1 as a Smart Data Seeding Target?	
	OK Cancel	

- 3. Click **Finish** to complete the wizard for this participant.
- 4. Return to <u>Step 2: Participants</u> to add more participants, if applicable. A File Synchronization job must have at least two participants. If you have added all the participants, continue with <u>Step 3: File Metadata</u>.

#### Step 3: File Metadata

This step is optional.

The **File Metadata** page allows you to specify whether you want to synchronize NTFS security permissions metadata and the types of metadata. It also allows you to specify which volume/share/folder's metadata should be used if there is a conflict during the initial synchronization. The volume/share/folder used if there is a conflict is referred to as the master host.

For more information on synchronizing NTFS metadata, see <u>File Metadata Synchronization</u> in the <u>Advanced Topics</u> section.

To enable file metadata synchronization:

- 1. Select when you want the metadata synchronized (you can select one or both options):
  - Enable synchronizing NTFS security descriptors (ACLs) in real-time Select this option if you want the metadata synchronized in real-time. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be transferred to the target host file(s) as they occur.
  - Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan Select this option if you want the metadata replicated during the initial scan. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized during the initial scan.

onfigure the replication of	f NTFS security permissions.
Participants File Metadata Email Alerts	Synchronize Security Descriptors (ACLs) Superior Synchronizing NTFS security descriptors (ACLs) in real-time Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan
	Synchronize Security Descriptor Options Owner DACL: Discretionary Access Control List SACL: System Access Control List
	Metadata Conflict Resolution Select Master Host for initial scan:

- 2. Click **OK** in the message that appears after selecting a metadata option.
- If you selected selected either of the first two options in the Synchronize Security Descriptor Options section, select the security descriptor components (Owner, DACL, and SACL) to be synchronized.
- 4. If you selected the option for metadata synchronization during the initial scan, select the host to be used as the <u>master host</u> in case of file metadata conflict.

If a master host is not selected, then no metadata synchronization will be performed during the initial scan. If one or more security descriptors do not match across participants during the initial scan, <u>conflict resolution</u> will use permissions from the

designated master host as the winner. If the file does not exist on the designated master host, a winner will be randomly picked from the other participants.

### 5. Click Next.

The Email Alerts page is displayed.

#### Step 4: Email Alerts

This step is optional.

An email alert notifies recipients when a certain type of event occurs, for example, session abort, host failure, or system alert. The **Email Alerts** page displays a list of email alerts that have been applied to the job. When you first create a job, this list is empty. Email alerts are defined in <u>Preferences</u> and can then be applied to multiple jobs of the same type.

Peer Software recommends that you create email alerts in advance. However, from this wizard page, you can select existing alerts to apply to the job or create new alerts to apply.

To create a new alert, see <u>Email Alerts</u> in the <u>Preferences</u> section.

To apply an existing email alert to the job.

ail Alerts					
elect email alerts.					
articipants ile Metadata	Edit Email Alerts				
mail Alerts	Name	Enabled	Event Types	Recipients	Selec
					Delet
					'iew De

1. Click the **Select** button.

The **Select Email Alert** dialog appears.

2. Select an alert from the **Email Alert** drop-down list.



3. Click **OK**.

The alert is listed on the **Email Alerts** page.

New File Synchronization Job					– 🗆 X
Email Alerts Select email alerts.					
Participants File Metadata Email Alerts	Edit Email Alerts				
Email Alerts	Name	Enabled	Event Types	Recipients	Select
	Scan Error	Yes	Scan Error, Job Started	debrag@peersoftware.com	Delete
					View Details
				< Back Next > Finish	Cancel

- 4. (Optional) Repeat steps 1-3 to apply additional alerts.
- 5. Continue to <u>Step 5: Save Job</u>.

### Step 5: Save Job

Now that you have completed the first four steps of the wizard, you are ready to save the job configuration.

1. If you are satisfied with your job configuration, click **Finish** to save your job. Otherwise, click the **Back** button and make any necessary changes.

Congratulations! You have created a File Synchronization job. It is now listed in the **Jobs** view under **File Synchronization**.

2. Click the **Summaries** tab to view the summary information about the job.

See <u>Starting a File Synchronization Job</u> for information about starting the job.

Peer Management Center (Client Mo	de)					– 🗆 ×
File Window Help						
📑 🗟 🔞 🖻 🧐 📎 🕛 💈 🖄	) & <sup>0</sup>					
💈 Jobs 📃 🗖	Cloud Summary	Collab and Sync Sum	mary 🛛 📓 Namespace Sun	nmary 🛛 🖸 FS-3 🛙 🔪		
<b>∀ ⊗ 0 ≡ Q</b> <sup>∨</sup>	Summary Session E	vent Log Quarantines (0)	Retries (0) Alerts (0) Partici	pants (2) Configuration		
type filter text ⑦						
✓ ➡ File Replication (4) ^	Summary View (A	uto-updates are disabled)	Actions 🔻			Auto-Update Refresh 10 🖨 seconds
<ul> <li>FR-1</li> <li>FR-2</li> </ul>						^
• FR-2	Job Status	Stopped				
FR-4	Start Time		Elapsed Time			
✓ C File Synchronization (3)						
FS-1	Watch Set Total Files	0	Total Folders	0		
<ul> <li>FS-2</li> <li>FS-3</li> </ul>	Total Bytes	0 bytes	Total Polders	0		
· · ·		0 0)(00				
< >	Activity					
🕼 Agents 🛛 🧠 🌄 🗖	Active Opens	0	File Quarantines	0		~
type filter text 🕜						
△ Agent Avg. E	0 J					
DGAgent1 (Connected)				-Priority Queue -Replic	ation Queue — Active Opens	
ØGAgent2 (Connected)						
	Status: Stopped					
	💈 Job Alerts 🛙					- 0
	30 errors, 2 warnings	s, 18 others   Filter by : H	ost: Nan	ne:	Severity: V Type:	<ul> <li><u>Clear Alerts</u></li> </ul>
	Received Date Se	everity Type N	ame	Host Messag	e	Exception ^
< >	09-24-2019 23 <sup>,</sup> In ≮	fo Auto Start I CI	3-5	PMC sta	artun after iob creation	~
`````						

## Editing a File Synchronization Job

You can edit a File Synchronization job while it is running; however, any changes will not take effect until the job is restarted.

## **Overview**

When you create a File Synchronization job, the **Create Job** wizard guides you through the process, presenting the <u>most common</u> options for configuration. When editing a job, you have access to <u>all options</u>, allowing you to fine-tune the job configuration. Options not included in the initial job creation include:

- Application Support
- <u>Conflict Resolution</u>
- Delta Replication
- <u>DFS-N</u>
- File Filters
- File Locking
- <u>General</u>

- Logging and Alerts
- **SNMP Notifications**
- Target Protection
- <u>Tags</u>

You can edit multiple File Synchronization jobs simultaneously. For information about simultaneously editing multiple jobs, see <u>Editing Multiple Jobs</u>.

# **Editing a Job**

To edit a File Synchronization job:

- 1. Select the job in the **Jobs** view.
- 2. Right-click and select **Edit Job**.

ticipants reral	Participants					
Filters	Available					
flict Resolution a Replication Metadata Locking blication Support ging and Alerts get Protection git Alerts AP Notifications s	Host	Cor	nputer Description	ings	Delete	
	Selected Host DGAgent1 DGAgent2	Computer Description	Directory \\SVM9X-1\105k_1\FLDR1 C:\Users\MSSQL\$SQLEXPRESS\D	Enabled Yes Yes	Storage Platform NetApp cDOT Windows	Seeding Target No No

## The Edit File Synchronization Configuration dialog appears.

- 3. Select a configuration item in the navigation tree and make the desired changes:
  - <u>Participants</u>
- <u>General</u>
- File Filters
- File Conflict Resolution
- <u>Delta Replication</u>
- File Metadata
- File Locking
- Logging and Alerts
- Application Support
- <u>Target Protection</u>
- Email Alerts
- <u>SNMP Notifications</u>
- <u>Tags</u>
- <u>DFS-N</u>
- 4. Click **OK** when finished.

#### **Participants**

The Participants page in the Edit File Synchronization Job dialog allows you to:

- Add and remove participants from a job.
- Modify a participant's attributes.
- Modify a participant's detector settings.

The **Participants** page in the **Edit File Synchronization Jobs** dialog has two tables: the **Available** table and the **Selected** table. The **Available** table lists the available hosts and the **Selected** table lists hosts that have already been added to the job. The **Computer Description** field displays the name of the server that the Peer Agent is running on.

ticipants neral	Participants						
Filters	Available						
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts	Host	Compu	ter Description				
MP Notifications s 5-N	Selected Host	A Computer Description	dd Edit Detector Se Directory \\SVM9X-1\105k_1\FLDR1	ttings Enabled Yes	Delete Storage Platform NetApp cDOT	Seeding Target	
	DGAgent1			163			
	DGAgent1 DGAgent2		C:\Users\MSSQL\$SQLEXPR	Yes	Windows	No	

This topic describes adding and removing participants in a File Synchronization job.

# **Adding a Participant**

To add a participant:

1. Click the participant in the **Available** table.

To be available, a host must have Peer Agent installed and successfully connect to the Peer Management Broker. If a particular host is not displayed in the list, try restarting the Peer Agent Windows Service on that host, and if it successfully connects to the Peer Management Center Broker, then the list will be updated with the computer name of that host.

rticipants :neral	Participants						
e Filters	Available						
nflict Resolution Ita Replication e Metadata e Locking uplication Support gging and Alerts gget Protection nail Alerts MP Notifications gs	Host DGAgent3		Computer Description				
S-N							
	Selected Host DGAgent1	Computer Description		Enabled	Delete Storage Platform Nutanix Files	Seeding Target	
		Computer Description				Seeding Target No No	

## 2. Click the **Add** button.

The participant is moved to the **Selected** table.

rticipants meral	Participants						
e Filters	Available						
Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Host	C	omputer Description				
	Selected	Computer Descriptio	Add Edit Detector S		Delete Storage Platform	Seeding Target	
	Host	Computer Descriptio	n Directory	Enabled	Storage Platform	Seeding Target	
		Computer Descriptio				Seeding Target No No	
	Host DGAgent1	Computer Descriptio	n Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	

- 3. (Optional) Enter the computer's name in the **Computer Description** column.
- 4. Enter the path to the folder to be watched in the **Directory** column.
- 5. (Optional) Modify whether the participant is a <u>seeding target</u>.
- 6. (Optional) Modify the participant's <u>detector settings</u>.
- 7. Click **OK** or select another item to modify.

# **Removing a Participant**

To remove a participant:

- 1. Click the participant in the **Selected** table.
- 2. Click the **Remove** button.

The participant is moved to the **Available** table.

**Note:** A File Synchronization job must have at least two participants, so if after removing a participant, there is only a single participant, you must add another participant to the job.

3. Click **OK** or select another item to modify.

For more information on smart data seeding, see <u>Smart Data Seeding</u> in Advanced Topics or contact <u>support@peersoftware.com</u>.

To set a host as a smart data seeding target:

1. Select the host in the **Selected** table.

al	Participants							 -
lters ict Resolution	Available							
Replication	Host		Compute	er Description				
letadata								
ocking								
cation Support								
ng and Alerts								
t Protection								
Alerts Notifications								
<sup>i</sup> Notifications								
ı	Selected			Add Edit Detector S		Delete		
ı	Host	Computer Descrip	otion	Directory	Enabled	Storage Platform	Seeding Target	
ı	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
ı	Host	Computer Descrip	otion	Directory	Enabled	Storage Platform		
ı	Host DGAgent1	Computer Descrip	ption	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
ı	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
ı	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
1	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
1	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
1	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	
4	Host DGAgent1	Computer Descrip	otion	Directory \\AFS2\Share1\Frosty	Enabled Yes	Storage Platform Nutanix Files	No	

- 2. Select **Yes** in the **Seeding Target** column.
- 3. Review the information in the message that appears.

Multiple participants in a File Collaboration job can be set as smart data seeding targets; however, at least one participant should not be set as a smart data seeding target. This participant will be acting as the "master" source for the smart data seeding targets. For more information about smart data seeding, see <u>Smart Data Seeding</u> or contact <u>support@peersoftware.com</u>.

🙆 Mark	Host Participant DGAgent2 as Smart Data Seeding Target	$\times$
?	Marking a host participant as a Smart Data Seeding Target will set this participant to utilize Smart Data Seeding logic.	)
	Smart Data Seeding helps to efficiently integrate a host that has been disconnected for a long period of time or a new host into a job. Such existing hosts or new hosts with pre-seeded data (using methods like shipping a drive or server) should be set a Seeding Targets within a collaboration job. When the scan starts, non-Seeding Targets will become the masters and bring the Seeding Targets up to date. Stale updates, deletes, and renames will NOT be brought back from the Seeding Targets. All local real-time activity from this host will be QUARANTINED. Once that initial scan is complete, the Seeding Targets will become full participants with real-time enabled. For more information on Smart Data Seeding and it's potential options, please contact support@peersoftware.com.	
	Are you sure you want to continue and mark the host participant DGAgent2 as a Smart Data Seeding Target?	
	OK Cancel	

## 4. Click **OK**.

ers t Resolution	Available					
plication tadata king g and Alerts orotection lerts Votifications	Host		Add Edit Detector :	Settings	Delete	
	Selected Host DGAgent1 DGAgent2	Computer Descriptio	n Directory \\AFS2\Share1\Frosty C:\Users\Public\Documents	Enabled Yes Yes	Storage Platform Nutanix Files Windows	Seeding Target No Yes

The value in the **Seeding Target** column is updated.

In addition to <u>global real-time detection options</u> that apply to all jobs, you can set additional detection-related options for a specific File Synchronization job. For example, you can exclude real-time events by certain users. This is helpful if you are trying to prevent events generated from backup and/or archival tools from triggering activity.

To modify the detector settings for a host:

1. Select the host in the **Selected** table.

🕺 Edit File Synchronization Job									×
Participants	Participants								
General File Filters	Available								
Conflict Resolution									_
Delta Replication	Host		Computer	r Description					
File Metadata File Locking									
Application Support									
Logging and Alerts									
Target Protection									
Email Alerts SNMP Notifications									_
Tags									_
DFS-N									
				Add Edit Detector Setti	ngs	Delete			
	Selected								
	Host	Computer Descript	tion	Directory	Enabled	Storage Platform	Seeding Target		
	DGAgent1			\\SVM9X-1\105k_1\FLDR1	Yes	NetApp cDOT	No		
	DGAgent2			C:\Users\MSSQL\$SQLEXPRESS\D	Yes	Windows	No		
									_
									_
							ОК	Cance	el

2. Click Edit Detector Settings.

The information you are prompted to enter varies, depending on the type of storage platform. Examples for a Windows platform and a NetApp platform are shown below.

Windows Detector Option	15			_		×
Filter open/close events fro Access Event Suppression T Reparse Point Options Follow Junction Points Follow Mount Points	lime:	-1				•
Follow Symbolic Links						
			OK		Cance	el 🛛
NetApp Options			-			×
NetApp Options for this Jo	b					
Filter open/close` events f	rom these users:					٦
Filter all events from these	users:					1
Filter events from these IP	Addresses:					Ī
Access Event Suppression	Time:	-1			-	
Advanced FPolicy cDOT Se	ttings for host: [	DGAgent1 and SVM: SVI	M9X-1			
*SVM Username:	vsadmin					
*SVM Password:	•••••					
SVM Management IP:						
*Agent IP for SVM Conn.:	192.168.171.76				```	~
Filtered Extensions:						
Admin Share Override:						
NOTE: Any changes made other session in which the						
				_		
			OK		Cancel	

- 3. Modify the values as needed.
- 4. Click **OK**.

#### General

The **General** page in the **Edit File Synchronization Job** dialog presents miscellaneous settings pertaining to a File Synchronization job. You may want to consult with Peer Software's support team before modifying these values.

To modify these settings:

1. Enter the values recommended by Peer Software Support.

Edit File Synchronization	Job				$\times$
Participants	General				
General File Filters	Job ID:	131			
Conflict Resolution Delta Replication	Job Type:	File Synchronization			
File Metadata	Job Name:	FS-1			
File Locking	Transfer Block Size (KB):	1024			-
Application Support Logging and Alerts	File Synchronization Job Priority:	2			•
Target Protection	Timeout (Seconds):	180			-
Email Alerts SNMP Notifications	First Scan Mode:	FOLDER_BY_FOLDER			$\sim$
Tags DFS-N	Remove Filtered Files On Folder Delete Require All Hosts At Start: Auto Start:				
		0	K	Cancel	J

Job ID	Unique, system-generated job identifier that cannot be edited.
Job Type	Identifies the job type. This cannot be modified.
Job Name	Name of this File Synchronization job. This name must be unique.

Transfer Block Size (KB)	The block size in Kilobytes used to transfer files to hosts. Larger sizes will yield faster transfers on fast networks but will consume more memory in the <u>Peer Management Broker</u> and <u>Peer Agents</u> .
File Synchroniza tion Job Priority	Use this to increase or decrease a job's file synchronization priority relative to other configured job priorities. Jobs are serviced in a round-robin fashion, and this number determines the maximum number of synchronization tasks that will be executed sequentially before yielding to another job.
Timeout (Seconds)	Number of seconds to wait for a response from any host before performing retry logic.
First Scan Mode	Determines which scan type will be used when the job is first started. For environments where most data is NOT seeded, the FOLDER_BY_FOLDER method will be best. For environments where most data IS seeded, the BULK_CHECKSUM method will result in a faster first scan.
Remove Filtered Files On Folder Delete	If selected, then all child files on target hosts will be deleted when its parent folder is deleted on another source host. Otherwise, filtered files will be left intact on targets when a parent folder is deleted on another source host.
Require All Hosts At Start	If selected, requires all <u>participating hosts</u> to be online and available at the start of the File Synchronization job in order for the job to successfully start.
Auto Start	If selected, then this file synchronization session will automatically be started when the Peer Management Center Service is started.

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### File Filters

The **File Filters** page in the **Edit File Synchronization Job** dialog displays a list of <u>file and</u> <u>folder filters</u>. A file or folder filter enables you to exclude and/or include files and folders from the job based on file type, extension, name, or directory path. Any file or folder that matches the filter is excluded or included from replication, depending on the filter's definition. By default, all files and folders selected in the **Source Paths** page will be replicated.

1. Select the file and folder filters you want to apply to the job.

If you want to create a new file or folder filter or modify an existing one, click **Edit File Filters**. See <u>File Filters</u> in the <u>Preferences</u> section for information about creating or modifying a file filter.

ticipants	File I	Filters						
neral								
e Filters								
nflict Resolution	Edit F	File Filters						
Ita Replication		Name	Filter Type	Exclusions	Inclusions	Date Filter	Size Filter	
e Metadata e Locking		Default	General	~*.*, *.BAK, *.BCK, *.WBK,	None Selected	Include all dates	None	
plication Support		File Collaboration Sync O	Sync. Only	None Selected	*.LOG, *.EXE, *.DLL, *.OTF,	Include all dates	None	
gging and Alerts		Invalid Characters	General	<<.*[.]\$>>	None Selected	Include all dates	None	
get Protection		Locking Only	Locking Only	None Selected	\*	Include all dates	None	
ail Alerts		MacOS Exclusions	General	*\_MACOSX, *\.Tempora	None Selected	Include all dates	None	
MP Notifications		PEER_Autodesk AutoCAD	General	*.BAK, *.DWL	None Selected	Include all dates	None	
gs		Synchronizing Only	Sync. Only	None Selected	\*	Include all dates	None	
S-N		User Profile Exclusions	General	*\AppData\Roaming\Mic	None Selected	Include all dates	None	
		nclude Files Without Extension	s					

2. Select the **Include Files Without Extensions** checkbox if you want to replicate file that do not have extensions.

**Note:** Files without extensions are ignored during replication unless you select this checkbox.

3. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **Conflict Resolution**

By default, any file conflicts that are encountered during the <u>initial synchronization process</u> are automatically resolved by the Peer Management Center. The PMC resolves the conflict by selecting the file with the most recent modification time. Conflicts that cannot be automatically be resolved result in the files being quarantined. The **Conflict Resolution** page in the **Edit File Synchronization Job** allows you to select options for resolving file conflicts and quarantines. However, if you want to resolve the conflicts yourself, you can contact Peer Software to enable manual resolution. With manual resolution, you can select the host with the correct version of the file.

For more information about the cause of file conflicts, see <u>Conflicts, Retries, and Quarantines</u>.

To modify conflict resolution settings for the File Synchronization job:

1. In the **File Conflict Resolution** section, select the **Truncate Milliseconds** option if you want the millisecond value truncated from each time stamp when comparing the time stamps of a file on two or more hosts.

As some storage platforms and applications track milliseconds slightly differently, selecting this option will prevent subtle millisecond differences from causing an otherwise in-sync file to be replicated or quarantined.

Edit File Synchronization Job			$\times$
<ul> <li>Edit File Synchronization Job</li> <li>Participants</li> <li>General</li> <li>File Filters</li> <li>Conflict Resolution</li> <li>Delta Replication</li> <li>File Metadata</li> <li>File Locking</li> <li>Application Support</li> <li>Logging and Alerts</li> <li>Target Protection</li> <li>Email Alerts</li> <li>SNMP Notifications</li> <li>Tags</li> <li>DFS-N</li> </ul>	Conflict Resolution         Image: Second structure         Image: Second structure         Advanced File Conflict Resolution         Image: Quarantine Offline Version Conflicts         Image: Second structure         Image: Second str		×
	File Quarantine Resolution		
	ОК	Cance	el 👘

2. Select the **Advanced File Conflict Resolution** options you want applied:

Enable Deletion of Quarantin ed Files	Select this option if you want Peer Management Center to process a delete event for a quarantined file. If it is not selected, the quarantined file is not deleted and remains quarantined.
Offline Delete Detection During Scan	Select this option (and enabled <u>target protection</u> ), if you want any files or folders that were deleted while the job was stopped to be deleted from all participants when the job is restarted. If it is not selected, then the deleted file or folder is restored from a participant with the file or folder to any participant where it no longer exists.

3. Select an option for automatically resolving quarantines (this option is intended to be used in environments where a single file server is active for a job):

Disable Automatic Resolutio n of Quarantin es	Select this option if you want to manually resolve quarantines. For more information, see <u>Removing a File from Quarantine</u> .
Last Modified Time	Select this option if you want quarantines automatically resolved by selecting the file with the latest modification time.
Use Master Host	Select this option if you want quarantines automatically resolved by selecting the file on the Master Host.

4. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **Delta Replication**

The **Delta Replication** page in the **Edit File Synchronization Job** dialog allows you to specify the delta-replication options to use for the selected File Synchronization job. Delta-level replication is a byte replication technology that enables block/byte level synchronization for a File Synchronization job. Through this feature, Peer Management Center is able to transmit only the bytes/blocks of a file that have changed instead of transferring the entire file. This results in much lower network bandwidth utilization, which can be an enormous benefit if you are transferring files across a slow WAN or VPN, as well as across a high-volume LAN.

Delta-level replication is enabled on a per File Synchronization job basis and generally affects all files in the <u>watch set</u>. You will only benefit from delta-level replication for files that do not change much between file modifications, which includes most document editing programs.

Edit File Synchronization	Job				×
Participants	Delta Replication				
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N		256 512 5000 0.30	Excluded File Name Patterns	Add	¢ ¢
			ОК	Ca	ncel

To modify delta-level replication options:

1. Modify the following the fields as necessary.

Enable Delta- Level Replication	Select to enable delta encoded file transfers which only sends the file blocks that are different between source and target(s). If this is disabled, the standard file copy method will be used to synchronize files.
Checksum Transfer Size (KB)Enter the block in kilobytes used to transfer checksur from target to source at one time. Larger sizes will re in faster checksum transfer, but will consume more memory on the Peer Agents	
Delta Block Transfer Size (KB)	Enter the block size in kilobytes used to transfer delta encoded data from source to target at one time. Larger sizes will result in faster overall file transfers but will consume more memory on the Peer Agents.

Minimum File Size (KB)	Enter the minimum size of files in kilobytes to perform delta encoding for. If a file is less than this size, then delta encoding will not be performed.
Minimum File Size Percentage Target/Source	Enter the minimum allowed file size difference between source and target, as a percentage, to perform delta encoding. If the target file size is less than this percentage of the source file size, then delta encoding will not be performed.
Excluded File Extensions	Enter a comma-separated list of file extension patterns to be excluded from delta encoding, e.g., zip, jpg, png. In general, compressed files should be excluded from delta encoding and the most popular compressed file formats are excluded by default.
Excluded File Name Patterns	Enter a list of file name patterns to be excluded from delta encoding. If a file name matches any pattern in this list, then it will be excluded from delta encoding transfers and a regular file transfer will be performed. See <u>File and Folder</u> <u>Filters</u> for more information on specifying wildcard expressions.

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### File Metadata

The **File Metadata** page in the **Edit File Synchronization Job** dialog allows you to modify your file metadata synchronization settings and provides some additional options not available when creating the job. See <u>File Metadata Synchronization</u> in <u>Advanced Topics</u> for more information about file metadata replication.

To enable file metadata synchronization:

- 1. Select when you want the metadata synchronized (you can select one or both options):
  - Enable synchronizing NTFS security descriptors (ACLs) in real-time Select this option if you want the metadata replicated in real-time. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be transferred to the target host file(s) as they occur.
  - Enable synchronizing NTFS security descriptors (ACLs) with master host during initial scan Select this option if you want the metadata replicated during

the initial scan. If enabled, changes to the selected security descriptor components (Owner, DACL, and SACL) will be synchronized during the initial scan.

🕺 Edit File Synchronization Job		_		$\times$
Participants	File Metadata			
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SIMUP Notifications Tags DFS-N	Synchronize Security Descriptors (ACLs) Synchronize Security Descriptors (ACLs) in real-time Reable synchronizing NTFS security descriptors (ACLs) with master host during initial scan Reable prevention of corrupt or blank Owner or DACLs on source or master host from being applied to any targe	et host		
	Synchronize Security Descriptor Options Owner DACL: Discretionary Access Control List SACL: System Access Control List			
	Metadata Conflict Resolution         Select a Master Host for initial scan:         DGAgent1         Enable enhanced metadata conflict resolution         File Reparse Point Synchronization         Reparse Tag Name (numerical value only):         Reparse Master Host:			
	Alternate Data Streams Transfer  Enable transfer of file Alternate Data Streams (ADS)			
	ОК		Cancel	I

- 2. Click **OK** in the message that appears after selecting a metadata option.
- If you selected either of the first two options in the Synchronize Security Descriptor Options section, select the security descriptor components (Owner, DACL, and SACL) to be synchronized.

Note: To synchronize SACLs or Owner, the user that a <u>Peer Agent</u> service is run under on each <u>participating host</u> must have permission to read and write Owner and SACLs.

4. If you selected the option for metadata synchronization during the initial scan, select the host to be used as the <u>master host</u> in case of file metadata conflict.

If a master host is not selected, then no metadata synchronization will be performed during the initial scan. If one or more security descriptors do not match across participants during the initial scan, <u>conflict resolution</u> will use permissions from the designated master host as the winner. If the file does not exist on the designated master host, a winner will be randomly picked from the other participants.

5. (Optional) Click the **Enable enhanced metadata conflict resolution** checkbox.

If enabled, this option ensures that when a metadata conflict occurs and a file or folder is written to a target, the Peer Agent service account is not assigned as the owner of that file or folder. If the Peer Agent service account is the owner, the user may not have permission to access the file or folder.

Note: The Peer Agent service account cannot be a local or system administrator. As described in <u>Peer Global File Service - Environmental Requirements</u>, the Peer agent service account should be an actual user.

- 6. (Optional) Enter values for one or both file reparse point data synchronization options:
  - **Reparse Tag Name** Enter a single numerical value. Must be either blank (if blank, reparse synchronization will be disabled) or greater than or equal to 0. The default for Symantec Enterprise Vault is 16. A value of 0 enables reparse point synchronization for all reparse file types. If you are unsure as to what value to use, then contact Peer Software technical support, or you can use a value of 0 if you are sure that you are only utilizing one vendor's reparse point functionality.
  - **Reparse Master Host** Select a master host. If a master host is selected, then when the last modified times and file sizes match on all hosts, but the file reparse attribute differs (e.g. archived/offline versus unarchived on file server), then the file reparse data will be synchronized to match the file located on the master host. For Enterprise Vault, this should be the server where you run the archiving task on. If the value is left blank, then no reparse data synchronization will be performed, and the files will be left in their current state.

Note: Use this option only if you are utilizing archiving or hierarchical storage solutions that make use of NTFS file reparse points to access data in a remote location, such as Symantec's Enterprise Vault. Enabling this option allows synchronization of a file's reparse data, and not the actual offline content, to target hosts, and prevents the offline file from being recalled from the remote storage device.

7. (Optional) Select the Enable transfer of file Alternate Data Stream (ADS) checkbox.

If enabled, Alternate Data Streams (ADS) of updated files will be transferred to the corresponding files on target participants as a post process of the normal file synchronization.

**Known limitation:** ADS information is transferred only when a modification on the actual file itself is detected. ADS will not be compared between participants. The updated file's ADS will be applied to the corresponding files on target participants.

8. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### File Locking

The **File Locking** page in the **Edit File Synchronization Job** dialog presents options for managing how source and target files are locked by Peer Management Center.

## To modify file locking options:

1. Modify the fields in Source Snapshot Synchronization section as needed:

le Edit File Synchronization	lob				$\times$
Participants	File Locking				
General	Source Snapshot Synchronization				
File Filters Conflict Resolution	Enable Source Snapshot Copy Sync.:	1			
Delta Replication		512			A
File Metadata		mdb,accdb,zip,psd,ai,indd			-
File Locking	Use Storage Snapshots:	niub,accub,zip,psu,ai,niuu			
Application Support					
Logging and Alerts Target Protection	Sync. On Save				
Email Alerts	Enable Sync. On Save:	des de side es dese			
SNMP Notifications		xlsx,doc,docx,dwg			
Tags	Synchronization Delay (Seconds): 20				* *
DFS-N					
			OK	Cancel	

Enable Source Snapshot Sync.	If enabled, a snapshot copy of the source file is created for files that meet the snapshot configuration criteria below, and this copy is used for synchronization purposes. In addition, no file handle is held on the source file except while making a copy of the file.
Snapshot Copy Max File Size (MB)	The maximum file size for which source snapshot synchronization is utilized.
Snapshot Copy File Extension s	A comma-separated list of file extensions for which source snapshot synchronization is utilized.
Use Storage Snapshots	If enabled, a storage volume snapshot is created and used for synchronization purposes. As a result, no file handle is held on the source file. The snapshot is created using either VSS or storage- platform specific snapshot technologies. This option is in addition to the <b>Enable Source Snapshot Sync.</b> option above and will only apply to files with pst, mdf, ldf, and ndf extensions.

2. Modify the fields in the **Sync. on Save** section as needed.

Enable Sync. On Save	If enabled, this feature allows supported file types to be synchronized after a user saves a file, rather than waiting for the file to close.
Included File Extension s	A comma separated list of file extensions for which to enable the Sync. On Save feature.
Synchroni zation Delay (Seconds)	The number of seconds to wait after a file has been saved before initiating a synchronization of the file.

## 3. Click **OK**.

#### **Application Support**

When you create a File Synchronization job, you have the option of <u>selecting applications that</u> <u>are automatically optimized</u>. You can modify your selections when editing the job.

To modify which applications are optimized:

1. Select the applications to be optimized.

💿 Edit File Synchronization Job		_		$\times$
Participants General	Application Support			
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Select below to optimize this job fo Adobe Products Adobe Illustrator Adobe InDesign	or any of the following file types:		
	Autodesk Products Autodesk AutoCAD Autodesk Civil 3D Autodesk Inventor	Autodesk Revit		
	Other ArcGIS Dassault Systems CATIA Microsoft Office	☐ Microsystems Allegro ☐ Newforma Project Center ☐ Rhinoceros Rhino3D		
		ОК	Cance	5

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

### Logging and Alerts

# **Overview of File Event Logging**

Various types of file synchronization events can be written to a log file and to the Event Log tab located within the File Synchronization Runtime view for the selected File Synchronization job. Each job will log to the **fc\_event.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory. All log files are stored in a tab-delimited format that can easily be read by Microsoft Excel or other database applications.

## **Log Entry Severity Levels**

Info rmat iona I	Informational log entry, e.g., a file was opened.
War ning	Some sort of warning occurred that did not produce an error but was unexpected or may need further investigation.

Erro r	An error occurred performing some type of file activity.
Fata I	A fatal error occurred that caused a host to be taken out of the session, a file to be quarantined, or a session to become invalid.

# Configuration

By default, all file synchronization activity is logged for all severity levels. You can enable or disable file event logging as well as select the level of granularity.

🙆 Edit File Synchronization J	ob		$\times$
Participants	Logging and Alerts		
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Enabled: Severity: All ~ Alerts Severity: INFO ~		
	OK	Cancel	

Below is a list of logging fields and their descriptions:

Enabled	Selecting this option will enable file event logging based on the other settings. Deselecting this option will completely disable all logging.
Severity	Determines what severity levels will be logged. There are two options: • All (Informational, Warnings, Error, Fatal) • Errors & Warnings (Warnings, Error, Fatal)
Event Types	If checked, the corresponding event type will be logged.

File Open	A file was opened by a remote application on a source host.
File Lock	A file lock was acquired on a <u>target host</u> during synchronization of a file.
File Close	A file was closed.
File Add	A file was added to the <u>watch set</u> .
File Modify	A file was modified in the watch set.
File Delete	A file was deleted.
File Rename	A file was renamed.
Attribut e Change	A file attribute was changed.
Security (ACL) Change	The security descriptor of a file or folder was changed.
Director y Scan	Indicates when a directory was scanned as a result of the initial synchronization process.
File ADS Transfer	The Alternate Data Stream of a modified file was synced to target host(s).

# Alerts

Configured in the screen shown above, various types of alerts will be logged to a log file and to the **Alerts** table located within the File Synchronization Runtime view for the selected job. Each File Synchronization job will log to the **fc\_alert.log** file located in the **Hub\logs** subdirectory within the Peer Management Center installation directory. All log files are stored in a tab-delimited format that can easily be read by Microsoft Excel or other database applications.

The default log level is WARNING, which will show any warning or error alerts that occur during a running session. Depending on the severity of the alert, the job may need to be restarted.

#### **Target Protection**

Target protection is used to protect files on <u>target hosts</u> by saving a backup copy before a file is either deleted or overwritten on the target host. If enabled, then whenever a file is deleted or modified on the source host but before the changes are propagated to the targets, a copy of the existing file on the target is moved to the Peer Management Center trash bin.

The trash bin is located in a hidden folder named **.pc-trash\_bin** found in the root directory of the <u>watch set</u> of the target host. A backup file is placed in the same directory hierarchy location as the source folder in the watch set within the recycle bin folder. If you need to restore a previous version of a file, you can copy the file from the trash bin into the corresponding location in the watch set and the changes will be propagated to all other collaboration hosts.

Target protection configuration is available by selecting **Target Protection** from the tree node within the Edit File Synchronization Configuration dialog.

🙆 Edit File Synchronization J	ob			$\times$
Participants	Target Protection			
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N		3 30 .pc-trash_bin		
		ОК	Cancel	

Modify the fields as needed:

Enabled	Enables target protection.
---------	----------------------------

# of Backup Files to Keep	The maximum number of backup copies of an individual file to keep in the trash bin before purging the oldest copy.
# of Days to Keep	The number of days to keep a backup archive copy around before deleting from disk. A value of 0 will disable purging any files from archive.
Trash Bin	The trash bin folder name located in the root directory of the watch set. This is a hidden folder and the name cannot be changed by the end user.

#### **Email Alerts**

The **Email Alerts** page in the **Edit File Synchronization Job** dialog allows you to select which email alerts to apply to a File Synchronization job. Email alerts are defined in the <u>Preferences</u> dialog, and can then be applied to individual jobs. See <u>Email Alerts</u> in the **Preferences** section for information about creating an email alert for a File Synchronization job.

To apply email alerts to a File Synchronization job while editing the job:

1. Click the **Select** button.

😰 Edit File Synchronization .	Job					$\times$
Participants	Email Alerts					
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Name Scan Error	Enabled Yes	Event Types Scan Error, Job Started	Recipients debrag@peersoftware.com	Select Delete 'iew Detail	
				ОК	Cancel	~

The Select Email Alert dialog opens.

Select Email Alert		$\times$
Email Alert: File Quarantined		$\sim$
File Quarantined Selected En New Email Alert		
Email Alert Name: File Quarantined		
Selected Alerts: File Quarantined		
Recipients: debrag@peersoftware.com		
ОК	Canc	el

2. Select the email alert from the drop-down list, and then click **OK**.

The newly added email alert appears in the **Email Alerts** table.

🙆 Edit File Synchronization J	lob					$\times$
Participants General	Email Alerts					
File Filters Conflict Resolution	Edit Email Alerts					Â
Delta Replication File Metadata	Name File Quarantined	Enabled Yes	Event Types File Quarantined	Recipients debrag@peersoftware.com	Select	
File Locking	Scan Error	Yes	Scan Error, Job Started	debrag@peersoftware.com	Delete 'iew Detail	
Application Support Logging and Alerts						
Target Protection Email Alerts						
SNMP Notifications Tags						e.
DFS-N						
						~
					Concel.	
				OK	Cancel	

- 3. Repeat to add additional alerts to the job.
- 4. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### **SNMP** Notifications

The **SNMP Notifications** page in the **Edit File Synchronization Job** dialog allows you to select which SNMP notification to apply to a File Synchronization job.

SNMP notifications, like email alerts and file filters, are configured at a global level in the <u>Preferences</u> dialog, then applied to individual jobs. For more information about SMNP Notifications, see <u>SNMP Notifications</u> in the **Preferences** section.

To enable or disable SNMP notifications for a File Synchronization job:

1. To enable, select an SNMP notification from the drop-down list.

#### To disable, select **None - Disabled**.

Edit File Synchronization	Job			$\times$
Participants	SNMP Notifications			
General File Filters Conflict Resolution Delta Replication File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Edit SNMP Notifications SNMP Notification: None - Disabled Selected SNMP Notification Information No SNMP Notification Selected SNMP notifications disabled for this job			~
		ОК	Cancel	

2. Click **OK** to close the Edit wizard or select another configuration item to modify.

#### Tags

The **Tags** page in the **Edit File Synchronization Jobs** dialog allows you to assign existing tags and categories to the selected job. This page is not available in <u>Multi-Job Editing</u> mode. For more information about tags, see <u>Tags</u> in the <u>Basic Concepts</u> section.

Edit File Synchronization Participants	Tags				- 🗆 X	
General File Filters Conflict Resolution Delta Replication	Tagging resources helps wh Unassigned tags	en managing large number o	of resources.	urces. Use this dialog to view/assign tags to that resource. Assigned tags		
File Metadata	Tag Name Filter	Category Filter		Tag Name Filter	Category Filter	
File Metadata File Locking Application Support Logging and Alerts Target Protection Email Alerts SNMP Notifications Tags DFS-N	Tag Name Available	Category Resources	>> <	Tag Name	Category	
					OK Cancel	

#### DFS-N

The **DFS-N** page in the **Edit File Synchronization Job** dialog presents options for linking a DFS namespace folder to this job. See <u>Link a Namespace Folder with an Existing File</u> <u>Collaboration or Synchronization Job</u> for more information.

Edit File Synchronization Jol Participants General	DFS-N						:	
File Filters Conflict Resolution Delta Replication File Metadata File Locking	DFS Namespace	Link a namespace folder to an existing file collaboration or file synchronization job. DFS Namespace Folder Namespace V Folder V Configure Auto Create Targets						
		Namespace:     ✓     Folder:     ✓     Configure     Auto Create Targets       Host Participants						
Application Support Logging and Alerts	Host	Root Path	DFS-N Folder Target		Enabled		Revert	
Target Protection	DGWin16C	C:\Users\Labadmin			No		Auto Select Targets	
Email Alerts SNMP Notifications	DGWin16d	C:\Users\labadmin			No		, and the second s	
Tags								
DFS-N								
							OK Cancel	

#### Editing Multiple Jobs

The Peer Management Center supports multi-job editing, allowing you to quickly and effectively manipulate multiple File Synchronization jobs simultaneously. For example, you can use this feature to change a single configuration item such as **Auto Start** for any number of already configured jobs in one operation instead of having to change the item individually for each.

While this feature does cover most of the options available on a per-job basis, certain options are unavailable in multi-job edit mode, specifically ones tied to <u>participants</u>. Configuration of participants must be performed on a per job basis.

To edit multiple jobs simultaneously:

- 1. Open the Peer Management Center.
- 2. Select the jobs you want to edit in the **Jobs** view.
- 3. Right-click and select **Edit Jobs**.

For the most part, the original configuration dialog remains the same with a few minor differences depending on similarities between the selected File Synchronization jobs. A sample dialog is as follows:

🙆 Edit File Synchronization J	obs - Multiple Selected		$\times$			
General	General					
File Filters Delta Replication	Job ID:	MULTIPLE SELECTED				
File Metadata	Job Type:	MULTIPLE SELECTED				
File Locking Logging and Alerts	Transfer Block Size (KB):	1024	•			
Target Protection	File Synchronization Job Priority:	2	▲ ▼			
Email Alerts SNMP Notifications	Timeout (Seconds):	180	▲ ▼			
SINIMP INOUTICATIONS	First Scan Mode:	FOLDER_BY_FOLDER	$\sim$			
	Remove Filtered Files On Folder Delete:					
	Require All Hosts At Start:					
	Auto Start:	$\checkmark$				
	0	K Cancel				

In this dialog, any discrepancies between multiple selected jobs will generally be illustrated by a read-only text field with the caption **Multiple Values - Click to Edit**. Clicking this field will bring up a dialog similar to the following:

Transfer Block S	ize (KB)	×	
Select a value to a	pply to all select	ed configurations:	
1024 (from: Travel Expenses)			
🔿 256 (from: Health Costs)			
O Use a different	t value:		
1024		* *	
[	ОК	Cancel	

This dialog gives you the option of choosing a value that is already used by one or more selected File Synchronization jobs, in addition to the ability to use your own value. Notice that variances in the look and feel of this pop-up dialog above depend on the type of information it is trying to represent (for example, text vs. a checkbox vs. a list of items).

Upon clicking OK, the read-only text field you originally clicked will be updated to reflect the new value. Any fields that have changed will be marked by a small caution sign. On saving in this multi-job edit dialog, the changed values will be applied to all selected jobs.

**Note:** Read all information on each configuration page carefully when using the multijob edit dialog. A few pages operate in a slightly different manner then mentioned above. All of the necessary information is provided at the top of these pages in bold text.

## Running and Managing a File Synchronization Job

The topics in this section provide some basic information about starting, stopping, and managing File Synchronization jobs:

- Overview
- Starting a File Synchronization Job
- Starting a File Synchronization Job
- Auto-Restarting a File Synchronization Job
- Host Connectivity Issues
- <u>Removing a File from Quarantine</u>
- <u>Manual Retries</u>

#### Overview

This topic describes:

• The <u>initialization process</u> for a File Synchronization job: What occurs the first time you run a File Synchronization job.

• The <u>initial synchronization process</u>: How files are synchronized the first time you run a File Synchronization job.

The initialization process for a File Synchronization job consists of the following steps:

- 1. All participating hosts are contacted to make sure they are online and properly configured.
- 2. <u>Real-time event detection</u> is initialized on all participating hosts where file locks and changes will be propagated in real-time to all participating hosts. You can view real-time activity and history via the various Runtime views for the open job.
- 3. The <u>initial synchronization process</u> is started; all of the configured root folders on the participating hosts are scanned in the background, and a listing of all folders and files are sent back to the running job.
- 4. The background directory scan results are analyzed and directory structures compared to see which files are missing from which hosts. In addition, file conflict resolution is performed to decide which copy to use as the master for any detected file conflicts based on the <u>File Conflict Resolution</u> settings.
- 5. After the analysis is performed, all files that need to be synchronized are copied to the pertinent host(s).

Before you start a File Synchronization job for the first time, you need to decide how you would like the <u>initial synchronization</u> to be performed. During the initial synchronization process:

- The watch set is recursively scanned on all participating hosts.
- File conflict resolution is performed.
- Any files that require updating are synchronized with the most current copy of the file.

The two primary options are:

• Have the File Synchronization job perform the initial synchronization based on the <u>Conflict Resolution</u> settings.

• <u>Pre-seed</u> all <u>participating hosts</u> with the correct folder and file hierarchy for the configured root folders before starting the session.

If you have a large data set, we strongly recommend that you perform the initial synchronization manually by copying the data from a host with the most current copy to all other participating hosts. This needs to be done only once--before the first time that you run the File Synchronization job.

If you choose the first option, click the **Start** button to begin <u>synchronization session</u> <u>initialization</u>. Otherwise, pre-seed each participating host with the necessary data, then click the **Start** button.

#### Starting a File Synchronization Job

Before starting a File Synchronization job for the first time, make sure that you have decided how you want the <u>initial synchronization</u> to be performed.

When running a File Synchronization job for the first time, you must manually start it. After the initial run, a job will automatically start, even when the Peer Management Center server is rebooted.

**Note:** You cannot run two jobs concurrently on the same volume if the <u>watch sets</u> contain an overlapping set of files and folders.

To manually start a job:

- 1. Choose one of three options:
  - Right-click the job name in the **Jobs** view.
  - Right-click the job name in the **File Synchronization Job Summary** view, and then choose **Start** from the pop-up menu.
  - Open a job and then click the **Start/Stop** button in the bottom left corner of the job's **Summary** tab (shown below).

Summary View (Auto-up	dates are disabled) Actio	ns 🔻		🗌 Auto-Update   Refresh 10 🚍 second
lob Status Start Time	Stopped	Elapsed Time		
tart Time		Elapsed Time		
/atch Set				
otal Files	0	Total Folders	0	
otal Bytes	0 bytes			
	1			
ctivity				
ctive Opens	0	File Quarantines	0	
les Pending	0	Renames Pending	0	
ytes Pending	0 bytes	Deletes Pending	0	
Aetadata Pending	0	File Retries	0	
eplication Status				
tes Transferred	0 bytes	Delta-level Savings		
dded	0	Renamed	0	
pdated	0	Deleted	0	
letadata Updates	0			
ackground Scan				
tatus	Stopped			
art Time		Elapsed Time		
les to Replicate	0	Files Replicated	0	
tes to Replicate	0 bytes	Bytes Replicated	0 bytes	
letadata to Replicate	0	Metadata Replicated	0	
6				
00 PM				
				-Priority Queue -Replication Queue -Active Opens

2. Click **Yes** in the confirmation dialog.

After the job initialization has completed, the job will run. Once the job starts, the icon next to the job name in the **Jobs** view changes from gray to green.



#### Stopping a File Synchronization Job

You can stop a File Synchronization job at any time by clicking the **Stop** button. Doing this shuts down the real-time file event detection and close all running operations (e.g., file transfers).

#### Auto-Restarting a File Synchronization Job

Peer Management Center includes support for automatically restarting File Synchronization jobs that include <u>participating hosts</u> that have been disconnected, have reconnected, and are once again available.

After a host becomes unavailable and the <u>quorum</u> is lost on a running File Synchronization job, the job automatically stops running and enters a pending state, waiting for one or more hosts to become available again so that the quorum can be met. Once the quorum is met, the pending job will automatically be restarted, beginning with a scan of all root folders.

In a job where a host becomes unavailable but quorum is not lost, the remaining hosts will continue synchronizing. If the unavailable host becomes available once again, it is brought back into the running job and a background scan begins on all participating hosts, similar in fashion to the initial background scan at the start of a job.

You can enable all File Synchronization jobs to auto-restart. You can also disable auto-restart File Synchronization jobs on a per-job and host instance.

To enable all File Synchronization jobs to auto-restart:

- 1. Select **Preferences** from the **Window** menu.
- 2. Select File Collab, Sync, Repl, and Locking in the navigation tree.

Preferences	— 🗆 X
type filter text	File Collab, Sync, Repl, and Locking $rightarrow \bullet$
<ul> <li>Cloud Backup and Replication</li> <li>DFS-N Management</li> <li>Email Configuration</li> <li>File Collab, Sync, Repl, and Locking</li> <li>General Configuration         <ul> <li>Licensing</li> <li>MED Configuration</li> <li>NAS Configuration</li> <li>Real-time Event Detection</li> </ul> </li> <li>Task Scheduler         <ul> <li>User Management</li> </ul> </li> </ul>	Use New Participants View: Host Connectivity Auto Reconnect when Host Becomes Available: Minimum Host Reconnect Time (in minutes): 2 Advanced Reporting Enable Advanced Reporting Tab:
	OK Cancel Apply

- 3. Select the Auto Reconnect when Host Becomes Available checkbox.
- 4. Enter the minimum number of minutes to wait after an Agent reconnects before reenabling it in any associated jobs in the **Minimum Host Reconnect Time** field.
- 5. Click **OK**.

#### **Host Connectivity Issues**

Peer Management Center is designed to be run in an environment where all <u>participating hosts</u> are highly available and on highly available networks. The two primary connectivity issues result from:

- <u>Unavailable Hosts</u>
- <u>Quorum Not Met</u>

# **Unavailable Hosts**

If a host becomes unavailable while a File Synchronization job is running, and is unreachable within the configured timeout period (specified in the job's <u>General settings</u>), it may be removed from synchronization. If no response is received while performing a file synchronization operation within the timeout period, the Peer Management Center pings the host; if still no response, the host is taken out of the running session, a FATAL event is logged, and the **Participants** tab for the job is updated to indicate that the host has failed. In addition, if <u>email alerts</u> and/or <u>SNMP notifications</u> are configured and enabled for **Host Timeouts**, then the appropriate message(s) are sent.

If <u>auto-restart</u> not enabled, you must stop and start the File Synchronization job to bring any failed hosts back into the session. As a result, all root folders on all hosts will need to be scanned again to detect any inconsistencies. Therefore, if you are operating over a WAN with low bandwidth you will want to set the timeout to a higher value on each related job.

## **Quorum Not Met**

For a File Synchronization job to run correctly, a quorum of available hosts must be met. Quorum is currently set to at least 2 hosts, and if quorum is not met, then the synchronization session is automatically be terminated. If <u>email alerts</u> and/or <u>SNMP notifications</u> are configured and enabled for **Session Aborts**, then the appropriate message(s) are sent.

#### Removing a File from Quarantine

Quarantines are a key feature of Peer Global File Service, used for resolving version conflicts. For more detailed information on how quarantines work, see <u>Conflicts, Retries, and</u> <u>Quarantines</u> in the <u>Advanced Topics</u> section.

You must explicitly remove a file from quarantine in order to have it participate in the synchronization session once again.

You may also choose to perform no action, in which case, the file is removed from the **Quarantines** table but none of the file versions are modified; therefore if the files are not currently in-sync, then the next time the file is modified, changes will be propagated to the other hosts. If an error occurs while removing the quarantine, then the **Status** field in the **Quarantines** table is updated to reflect the error.

To remove a file (or multiple files) from quarantine:

- 1. Open the job.
- 2. Open the **Quarantines** tab in the **Runtime Summaries** view.
- 3. Select the file(s) in the Quarantines table.
- 4. Select the host with the correct version.
- 5. Click the **Release Conflict** button.

After doing this, all hosts are checked to make sure the file is not currently locked by anyone. If no locks are found, then locks are obtained on all versions of the file and the targets that are out-of-date are synchronized with the selected source host.

#### Manual Retries

Retries are a key feature of Peer Global File Service, used for automatically handling errors in the collaboration environment that would have otherwise led to a quarantine. For more detailed information on how retries work, see <u>Conflicts, Retries, and Quarantines</u> in the <u>Advanced Topics</u> section.

When a file is put in the retry list, it will be automatically retried based on the settings defined in <u>File Retries</u> in <u>Preferences</u>. If need be, you can also manually force the retry of a file. This can be done from the Retries list of a specific File Synchronization job.

You may also chose to perform no action, in which case, the file is removed from the Retries list but none of the file versions are modified; therefore if the files are not currently in-sync, then the next time the file is modified, changes will be propagated to the other hosts. If an error occurs while forcing the retry, then the **Status** field in the **Retries** table is updated to reflect the error.

To manually force the retry of a file (or multiple files):

- 1. Select the file(s) in the **Retries** list.
- 2. Select the host with the correct version.
- 3. Click the **Release Conflict** button.

After doing this, all hosts are checked to make sure the file is not currently locked by anyone. If no locks are found, then locks are obtained on all versions of the file and the targets that are out-of-date are synchronized with the selected source host.

## PeerSync Management Jobs

This section provides information about creating, editing, running, and managing a PeerSync Management job:

- Creating a PeerSync Management Job
- <u>Running and Managing a PeerSync Management Job</u>

## Creating a PeerSync Management Job

The topics in this section provide some basic information about creating and editing PeerSync Management jobs.

# **Integrating Existing PeerSync Instances**

To integrate existing PeerSync instances in the Peer Management Center, follow the <u>step-by-step</u> instructions.

## **Creating and Deploying New PeerSync Instances**

To create a new job and deploy the PeerSync installation to one or more hosts, click the **Create New** button in toolbar of the Peer Management Center or select the **New** menu item from the **File** menu. A list of all installed job types will be displayed. Select the PeerSync Management option to open the PeerSync Management Configuration dialog. Go to the <u>Step-by-Step</u> instructions for more information.

When configuring Alerts, you will want to configure global settings like SMTP configuration, which is specific to the Peer Management Center. Details on what and how to configure these global options can be found in the <u>Before You Create Your First PeerSync Management Job</u> section.

To edit the PeerSync Management configuration, right-click on the job in the Jobs view and select **Edit Job(s).** Within the **Edit PeerSync Management Job** dialog, select the **Associated Profile** node from the left. For step-by-step instructions, see <u>Running and Managing PeerSync Management Jobs</u>.

- Integrating Existing PeerSync Instances
- Deploying New PeerSync Instances

#### Before You Create Your First PeerSync Management Job

Before creating your first PeerSync Management job, we highly recommend preconfiguring a number of global options that can be applied to all PeerSync Management jobs.

The following configuration items are not always required, but highly recommended:

- Email Configuration
- Email Alerts

## **Overview**

The Peer Management Center supports the concept of email alerts, where a single alert (consisting of a unique name, a selection of event types along with a list of email addresses) can be applied to multiple file synchronization jobs without requiring repeat entry for each job. When an email alert is applied to a job, an email is sent to all listed recipients anytime a selected event type is triggered by that job.

To manage email alerts, right-click any file synchronization job from the Jobs view and select the **Email Alerts** node from the **Monitoring** node. Click **Edit PeerSync Email Alerts**. The following screen represents the list of defined email alerts, along with buttons to add new ones and edit, copy, and remove existing ones.

0		Preferences		+ -	
type filter text	PeerSync Email Alerts			÷	• 🗘 • •
PeerSync Email Alerts SMTP Email Configuration	Edit SMTP Email Configuratio	<u>n</u>			
	Name	Configured Alerts	Recipients		Add
	Email Alert Configuration	Session Abort, Failed Even	admin@company.com		Edit Copy Remove
					Kentove
			ОК		Cancel

Upon adding or editing an email alert, the following dialog is displayed:

Email Alert Configuration		
Configuration Name: Help Desk Email Alert Configuration		
Alert Types Session Abort 🗹 Failed Events 🗹 Host Failure 🗹 Failed State		
Recipients HelpDesk@Company.com		
Add Edit Remove		
OK Cancel		

Within this dialog, you can select specific event triggers on which an email will be generated and configure the list of email recipients of the alert(s). Event types are defined below.

# **Event Types**

Session Abort	Enables sending an alert when a session is aborted because of lack of quorum due to one or more failed host agents.
Failed Events	Enables sending an alert when a failed event is received from the PeerSync machine.
Host Failure	Enables sending an alert when a host agent timeout occurs or a PeerSync service timeout occurs.

Failed StateEnables sending an alert when the state of the File Synchronization mach changes from Active to "Failed State" indicating that either a failed scan failed event was detected in the latest set of synchronization stats.
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Integrating Existing PeerSync Instances

The topics in this section provide some basic information on how to integrate existing PeerSync instances within the Peer Management Center.

- <u>Requirements</u>
- <u>How to Integrate Existing PeerSync Instances</u>
- PeerSync must be installed as a Service and running version 9.3.0 or newer.
- Peer Agent must be installed on the PeerSync machine and connected to the Peer Management Center.

- 1. Open the profile on the PeerSync machine with the PeerSync Profiler.
- 2. Add the argument /LZTAI in Options/Command section.
- 3. Save the profile.
- 4. Restart the PeerSync Service.
- 5. Install the Peer Agent.
- 6. Start the Peer Agent.

Once the Peer Agent is started and connected to the Peer Management Center, PeerSync will be auto detected and a Peer Management Center file synchronization job will be generated with the name of the machine. Optionally you can edit the job and add <u>email alerts</u> and save and restart the File Synchronization job for changes to take effect.

### Deploying New PeerSync Instances

The topics in this section provide basic information on how to integrate existing PeerSync instances within the Peer Management Center:

- <u>Requirements</u>
- <u>How To</u>

- Peer Agent must be installed on the machine where PeerSync will be deployed to.
- It is recommended to run the Agent under a domain admin account or account with enough rights to modify registry and service configuration.

The topics in this section provide step-by-step instructions on how to create and deploy new PeerSync instances through the PMC.

- <u>Step 1: General Information</u>
- Step 2: PeerSync Profile
- Step 3: Jobs Configuration List
- <u>Step 4: Installation Settings</u>

#### Step 1: General Information

Create a new PeerSync Management job by clicking the **Create New** button in the toolbar of the Peer Management Center, or by selecting the **New** from the **File** menu. A list of all available job types will be displayed. Selecting the **PeerSync Management** option will open the PeerSync Management **Configuration** dialog.

The first page of configuration will be for general information such as Host Participants and Job name tag.

0	File Synchronization Configuration			
1 of 4 - General Information				
Generic information on this PeerSync co	Job Name			
	Tag			
Name: [COMPUTERNAME] - EMEA_Re	egion			
Available				
Host Win12x64a	Computer Description			
WIIIIZAATA				
	Add Remove			
Selected				
Host Computer Descrip	tion			
	< Back Next > Finish	Cancel		

1. The job name will default to the computer name of the host participant. If you wish to group your computers, you can optionally add a name tag in the text box next to the job name (e.g., East Coast, EMEA, Region2). This will help in filtering machines by their given tag.

2. A list of all available hosts that have not yet been configured with a PeerSync installation, will appear in the **Available** table on the top of the page. Available hosts are any host with a Peer Agent installed that has successfully connected to the configured Peer Management Center Broker. The name that will be displayed is the computer name of the server that the Peer Agent is running on. If a particular host is not displayed in the list, then try restarting the Peer Agent Windows Service on that host, and if it successfully connects to the Peer Management Center Broker, then the list will be updated with the computer name of that host.

**Note: Computer Description** is defined through Windows on a per-computer basis.

3. Select one or more hosts from the **Available** table and click the **Add** button to add the hosts to the **Selected** table. These are the hosts you wish to deploy the PeerSync configuration and installation to.

#### Step 2: PeerSync Profile

In the second page, choose a preconfigured profile from the available templates, or browse to load a PeerSync profile you may have configured through the PeerSync Profiler and saved as a .snc file on this system.

You may also choose to start from scratch by choosing **Other** from the drop-down menu.

Enter or update the **Profile Description** and **Performance Options**.

File Synchronization Configuration	_ <b>D</b> X
2 of 4 - PeerSync profile	
Profile Configuration	
Pre-Defined Profile Browse	
Backup.snc Migration.snc	
Profile Description	
Performance Options	
Maximum number of Job Threads 5	
Maximum number of Copy Threads 10	
< Back Next > Finish	Cancel

Profile Description	A textual description of the current profile.	
Maximum number of Job Threads	Maximum number of job scans that can run parallel to one another.	
Maximum number of Copy Threads	Maximum number of events that can be processed parallel to one another.	

#### Step 3: Jobs Configuration List

In this page, modify the loaded PeerSync jobs and/or add new jobs by clicking on the **Add** or **Edit** button to the right of the view.

0			File Synchronization Configurat	tion	_ <b>D</b> X
<b>3 of 4 - Jobs Conf</b> Jobs Configuration	iguration	List			6
Configure/Review bac	kup jobs b	elow			
Filter by:	¥ [	🗹 include	e Disabled Jobs		Add
Name	#	Source	Target	Туре	Edit
<ul> <li>Data Backup</li> </ul>	1	c:\source	\\BackupServer\Share\	Real Time Backup	Сору
					Remove
			<	Back Next >	Finish Cancel

For more information, see <u>Edit/Configure Jobs</u>.

### Step 4: Installation Settings

In the last page of the PeerSync Management Configuration wizard, enter the installation settings for this PeerSync instance.

0	File Synchronization Configuration	_ <b>D</b> X
4 of 4 - Insta	allation Settings	
Remote Insta	allation Settings	
Pre-Defined	Settings EastCoast V Name EMEA	
Installation F	Path %ProgramFiles%\Peer Software\PeerSync	
Existing Exe	peersync93-9_3_1_1007.exe V Browse	
Imported Ex	e Version: v9.3.1.1007 [C:\Program Files (x86)\Peer Software\Peer Management Hub\Hub\workspace\peersync\templates\exes\peersyn	nc93-9_3_1_100
License		
L L		
Options	Password	
Service Logon User	bytemetrics\admindanielad	
Password		
	< Back Next > Finish	Cancel

Pre-	A list of previously used Installation Settings with the Name given at
Define	the time of use.
d	Note: If the installation settings have the same path, service user
Setting	name, license password, and installation exe, a new Installation record
S	will not be created, regardless if a new name has been given to the Installation Settings.

Install ation Path	Path where PeerSync will be installed. When using the %ProgramFiles % variable, PeerSync will install in the x86 Program Files directory for 64-bit systems, otherwise it will install in the Program Files base directory.
Existin g Exe	A list of PeerSync executables available in the template folder or used in a past installation. This is the PeerSync executable that will be used to install PeerSync.
License User Name	License information provided by Peer Software. Cut and paste the User Name section in this field.
License Compa ny	License information provided by Peer Software. Cut and paste the Company section in this field.
License Option s	License information provided by Peer Software. Cut and paste the Options section in this field.
License Passwo rd	License information provided by Peer Software. Cut and paste the Password section in this field.
Service Logon User*	This is the Service account User Id used to run the PeerSync Service (DOMAIN\USER). Note: This account must be valid on all included participants for this File Synchronization Configuration.
Service Passwo rd	PeerSync Windows Service account Password.

**\*Note:** When using a service account that has not been granted to run as a service on the machine, PeerSync will fail to start return the following Global Alert to the Peer Management Center. This will indicate that PeerSync could not start and you will have to log on to that machine and confirm the credentials to grant access to that account to run as a service.

Hub Alert Details	<b>~</b>
Received at:	09-30-2015 13:08:52
Severity:	Warning
Category:	Global Resource
Host Name:	Peer Management Center
Locally Generated at:	09-30-2015 13:08:52
Name:	Process PeerSyncEvent
Message:	peLast Event=PeerSyncEvent [host=Win12x64a, eventType=SERVICE_CMD, description=The service did not start due to a logon failure., exception=null, errorCode=0, coordinationId=null, eventId=66, properties = {}] : The service did not start due to a logon failure.
	Click outside of popup to close

Once the Configuration Settings have completed, click **Finish** and the installation configuration will be sent to the selected Participants.

A File Synchronization job will be auto created for each Participant and set to be in a Pending Installation state. Once the installation completes and PeerSync reports to the Peer Management Center, the state will change to Running/Active.

Synchronization Summary 🖄									
-Runtime Summary View (auto-up	date enabled)								
Filter by: 🗸 🗸	Actions •	•							🗹 Enable Auto
Name	Overall Status	Backup Status	Failed Scans	Failed Events	Messages	Pending Events	Pending Retries	Checked	Updated
Composite4a[East_Coast]	PeerSync Service Not Avail	N/A							
DDWin12R2a[EastCoast]	Running	Normal	0	0	0	No Pending Items	0	5738	5389
DDWin12R2b[WestCoast]	Running - Failed State	Target Folders	1	3	8	No Pending Items	0	258	0
VMSRV2008X32[Asia]	Stopped [Pending Installat	N/A							
Win12x64a[EMEA_Region]	Running	Normal	0	0	0	No Pending Items	0	26880	0
	٥		Install	PeerSync	_				
	-		motan	reerbyne					
	<u> </u>	Scheduling PeerSyn	c Operation Task						
	Alway	s run in backgroun	d						
						1			
			Run in Bac	kground Ca	ncel Deta	ails >>			

## Logging and Alerts

Use the following dialog to enable or disable logging and alerts, including specifying event types to log.

0	File Synchronization Configuration [DDWin12R2b]
<ul> <li>▲ Monitoring</li> <li>▲ Logging and Alerts</li> <li>Email Alerts</li> <li>▲ Associated Profile Jobs Global Settings Associated Installation</li> </ul>	Logging and Alerts         Enabled:         Severity:         All         Event Types         Stats Update         Profile Update         PeerSync Service Start         PeerSync Service Stop         Failed Events Reprocess         Restart Detected         Alerts         Severity:         WARNING
	OK Cancel

Stats Update	Log when PeerSync Stats are received (This could generate large amount of Log Entries).
Profile Update	Log whenever the PeerSync Profile configuration is updated.
Profile Distribu tion	Log when the PeerSync Profile is distributed to one or more hosts.

PeerSy nc Service Start	Log when a user initiates a PeerSync Service Start.
PeerSy nc Service Stop	Log when a user initiates a PeerSync Service Stop.
Failed Events Reproc ess	Log when a user initiates a Failed Event Reprocess.
Restart Detecte d	Log when Peer Management Center detects that the PeerSync service has been restarted by comparing known Session Id with received one.

## Email Alerts

Email alerts configuration is available by selecting **Email Alerts** from the tree node within the PeerSync Management Configuration dialog.

Email alerts are configured at a global level, then applied to individual jobs. The following screen shows how this is accomplished.

🧔 🛛 🛛 File Syr	nchronization Configuration [Composite4a] 🛛 📃 🗖 🗙
<ul> <li>Monitoring Logging and Alerts Email Alerts</li> <li>Associated Profile Jobs Global Settings</li> </ul>	Email Alerts     Edit PeerSync Email Alerts   Email Alert Configuration:   None - Disabled     Selected Email Alert Information   No Email Alert Configuration Selected   Email Alerts disabled for this session
	OK Cancel

To enable email alerts for this job, select an email alert from the drop-down list. To disable, select **None - Disabled**.

## Running and Managing a PeerSync Management Job

This section includes topics for managing your PeerSync Management Jobs.

- Starting and Stopping
- Synchronization Summary View
- Synchronization Dashboard Summary View

- <u>PeerSync Profile Management</u>
- <u>PeerSync Service Management</u>
- Runtime Job Views
- <u>Upgrade/Reprocess Installation</u>

### **Starting and Stopping**

# **Starting a PeerSync Management Job**

A PeerSync Management job is auto-started as soon as the Agent connects to the Peer Management Center; normally you will not need to manually start the job.

Click the **Start** button to begin the session.

# **Stopping a PeerSync Management Job**

You can stop a PeerSync Management job at any time by pressing the **Stop** button. Doing this will shut down the monitoring of the specific PeerSync host(s).

**Note:** If the job is stopped and the participating host is still running an instance of the PeerSync software, the job will auto start the next time that host agent is restarted or a Reconnect is detected.



#### PeerSync Management Summary

The **Synchronization Summary** view aggregates critical status and statistical information from all configured PeerSync Management jobs in a single table view. It is automatically displayed when the Peer Management Center client is started and can be opened at any other time by double-clicking on the **PeerSync Management** parent tree node in the Job's View or by clicking the **View Runtime Summary** icon in the toolbar of the Jobs view.

Information in this view can be sorted and filtered. Operations such as starting, stopping, and editing multiple jobs at once are available, in addition to the ability to clear Monitoring Alerts, Start PeerSync, Stop PeerSync, Reprocess Failed Events, Request Support Info File and Reprocess/Upgrade Installation.

Filter by:	¥	Actions 🔻				🗹 Enable Auto-U	pdate   Refresh 🔤	10 🗘 secor
Name	Overall Status	Backup Status	Failed Scans	Failed Events	Messages	Pending Events	Pending Retries	Checked
Composite4a	● Running - Failed State	Target Folder i	1	0	0	No Pending It	0	0
DDWin12R2a[East		Normal	0	0	0	No Pending It	0	484
DDWin12R2b[Wes	Running	Normal	0	0	2	No Pending It	0	2895

Unlike other views within the Peer Management Center, the **Synchronization Summary** view is not updated in real-time. This is done for performance reasons. Instead, the table can be set to automatically update itself every few seconds. Clicking **Enable Auto-Update** enables this functionality, while the refresh interval (in seconds) can be set right beside the checkbox. Additional columns can be added to and removed from the table from the right-click context menu.

Double-clicking any item in the table will automatically open the selected PeerSync Management job in a tab within the **Runtime Summary** view, allowing you to drill down and view specific information about that single job. Items in the summary table can be filtered by job name, overall status, activity state and host participant name.

Selecting one or more items in the table, then right-clicking will bring up a context menu of available actions that can be performed on the selected jobs. The actions that are unique to this table are as follows:

	Clears all monitoring alerts for the selected jobs. This can be performed while a job is running.
--	---------------------------------------------------------------------------------------------------

PeerSync multi-job global actions:

Clear Clears all monitoring alerts for the selected jobs. This can be Monitori performed while a job is running. ng Alerts 🖸 Synchronization Summary 🖾 Runtime Summary View (auto-update enabled) Filter by: \$ Refresh View  $\checkmark$ Enable Auto-Update Name Composite4a[E Show Details DDWin12R2a[E Copy Details DDWin12R2b[V Open VMSRV2008X32 Open in New Tab Win12x64a[EM] 0 Start Monitoring Stop Monitoring Edit Configuration(s) 1 **Clear Monitoring Alerts** Start PeerSync lacksquareStop PeerSync **Reprocess Failed Events** 9 2 Request Support Info File

Start PeerSync	Send a Start command to the PeerSync service instance running on the selected jobs' participant. This can be performed while the associated File Synchronization Job is running.
Stop PeerSync	Send a Stop command to the PeerSync service instance running on the selected jobs' participant. This can be performed while the associated File Synchronization Job is running.
Reproces s Failed Events	Send a Reprocess Failed Events command to the PeerSync instance running on the selected jobs' participant. This can be performed while the associated File Synchronization Job is running.
Request Support Info File	Send a request to collect the Support info File from the PeerSync instance running on the selected jobs' participant. This can be performed while the associated File Synchronization Job is running.

Reprocess/Upgrade Installation

.....

Clear Monitori ng Alerts	Clears all monitoring alerts for the selected jobs. This can be performed while a job is running.
Reproces s/Upgra de Installati on	Deploy an upgrade or reprocess an existing installation for the selected File Synchronization Job(s). <u>Upgrade/Reprocess Installation</u>

Clicking the **Actions** table menu provides the following options:

Refresh View	Refresh all information provided in the table.
Copy All Filtered Statistics	Copy detailed information to the system clipboard for all items current displayed in the table, taking any filters into account. This information can then be pasted into a document editor.
Export Entire Table to File	Dump the entire contents of the table to a text file that can be viewed in any document editor.

## PeerSync Management Dashboard Summary View

The **PeerSync Management Dashboard Summary** view is a view that displays metrics and key performance indicators from all running PeerSync Management jobs. It is automatically displayed when the Peer Management Center client is started and can be opened at any other time by selecting **View Dashb**oard from the **Window** menu or by clicking the **View Dashboard** icon in the Peer Management Center toolbar.

oard Summary View to-Update   Refresh 10 🔷	seconds				
chronization Summary View					
File Synchronization					
3 PeerSync Monitoring Not R	unning!	Active Synchro	onization Statistics		
Not Running	0	Failed Scans:	0	Updated:	0 (0 bytes)
Running in a Failed State	0	Failed Events:	0	Added:	0 (0 bytes)
Not in a Synchronized State	0	Messages:	0	Deleted:	0 (0 bytes)
n a Current State	0	Pending Events:	0	Bytes Transferred:	0 bytes
PeerSync Monitoring Not Runni	ng 3	Pending Retries:	0		
ent Summary View					
Agents All Connected				Top Connectivity Offenders	
Disconnected	0				
Connected	12				
Needing Upgrade	0				
record obdinge	Ŭ				
			11		

The Dashboard is not updated in real-time. This is done for performance reasons. Instead, the table can be set to automatically update itself every few seconds. Enabling the **Auto-Update** option will enable this functionality, while the **Refresh** interval (in seconds) can be set right beside the checkbox.

Entries in the first column of the **PeerSync Management Job** and **Agents** categories can be double-clicked, which will take the user to a filtered Runtime view of the selected item for additional details.

### Managing the PeerSync Profile

The topics in this section provide some basic information about PeerSync Profile Management:

- <u>Updating the Profile Configuration</u>
- Importing an Existing Profile
- Distributing a Profile

This topic provides information on how to update a PeerSync profile from the Peer Management Center.

If using the Peer Management Center to manage the PeerSync instances, we recommend making changes through the Peer Management Center. If changes are made directly on the PeerSync machine, they should be <u>imported</u> in the Peer Management Center job manually to keep the Peer Management Center PeerSync Configuration in sync.

# How to Update a PeerSync Profile through the Peer Management Center

- From the **PeerSync Management Summary** runtime view (double-click the **PeerSync Management jobs** node from the left), right-click the machine you wish to modify the profile for and choose **Edit Configuration(s)**. Alternatively, you can right-click the machine job from the left menu under the **PeerSync Management** node and choose **Edit Configuration(s)**.
- You can update the Profile by importing an updated Profile through the **Import** button in the **Associated Profile** page, or manually update the configuration through **Jobs** and/or Global Settings section.
- If you wish to update the profile outside of the Peer Management Center, export the existing configuration using the **Export** button in **Associated Profile** page. Make your changes through the PeerSync Profiler and import the updated Profile back in the PMC client through the **Import** button.
- After having made your entire configuration changes either through the PMC client or by <u>importing</u> the updated Profile, choose **OK** and close the **Edit Configuration** dialog.

Your configuration changes will not reach the PeerSync machine until they are <u>distributed</u>. The updated profile will become active on the machine after the PeerSync service has been restarted.

- Import Existing Profile
- Edit/Configure Jobs
- Edit Global Settings
- <u>Distribute Profile</u>

Importing an Existing Profile

In the **Associated Profile** section of the **PeerSync Management Configuration** dialog, you can update the configured profile with one you have saved and configured outside of the Peer Management Center.

**Note:** If making changes outside of the Peer Management Center, we recommend exporting the profile from the Peer Management Center (by clicking the **Export** button), making necessary changes outside of the Peer Management Center, and finally importing the profile back into the Peer Management Center.

Click the **Import** button on the right of the dialog to import the profile. To propagate this new updated profile, close the **PeerSync Management** dialog, reopen it and distribute to the PeerSync host through the <u>Distribute</u> button.

🧔 🛛 File Syr	chronization Confi	iguration [DDWin12R2a]	_ <b>□</b> ×
<ul> <li>Monitoring         <ul> <li>Logging and Alerts</li> <li>Email Alerts</li> </ul> </li> <li>Associated Profile         <ul> <li>Jobs</li> <li>Global Settings</li> <li>Associated Installation</li> </ul> </li> </ul>	Associated Prof	file Backup DDWin12R2a.snc	Export Import Distribute
		OK	Cancel

**Editing and Configuring Jobs** 

From the **Jobs** view in the **PeerSync Management Configuration** dialog, you can make several configuration changes:

- Add New Job
- Edit Existing Job
- Enable/Disable Job
- <u>Copy Job</u>
- <u>Remove Job</u>

0		File Syr	chronization Configur	ation [DDWin12R2a]		_ <b>D</b> X		
	Jobs							
Email Alerts Associated Profile Jobs	Configured PeerSynt	Configured PeerSync Jobs Filter by:						
Global Settings	Name	#	Source	Target	Туре	Edit		
Associated Installation	<ul> <li>Data Backup</li> </ul>	1	c:\source	c:\target	Real Time Backup	Сору		
						Remove		
					ОК	Cancel		

# **Add New Job**

To add a new job, click the **Add** button on the right of the **Jobs** view and select one of the job types available from the drop-down list below.

PeerSync Job Configur	ation - Type selection
Select a configuration type.	
	▼
Windows CDP Windows CDP - TCP Target Windows Real-Time Bi-directional NetApp 7-Mode CDP NetApp 7-Mode Real-Time Bi-directional NetApp cDOT CDP NetApp cDOT Real-Time Bi-directional	
	Apply Cancel

Once a job type has been selected, click **Apply** and complete the PeerSync Job Configuration wizard to complete the job configuration and add the job to the profile.

# **Edit Existing Job**

To edit an existing job, select the job in the **Jobs** view, and then click the **Edit** button on the right. The **PeerSync Job Properties** dialog will open with all available settings grouped by category in the navigation tree.

0	PeerSync Job Properties
General Folder Selection Automation ■ File Options Managed Files ByteReplicator Revisioning Miscellaneous Exceptions	General Job Name Data Backup
	OK Cancel

# **Enable/Disable Job**

To enable or disable a job, click the checkbox to the left of the job name in the **Jobs** view.

To save these changes, click **OK** on the bottom right of the **PeerSync Management Configuration** dialog.

# **Copy Job**

You can copy an existing job by selecting the job from the **Jobs** view and clicking the **Copy** button on the right. The **PeerSync Job Properties** dialog will open, allowing you to make changes to the copied job.

**Note:** You must make at least one change to the job settings. If the job settings remain identical, it will not be saved after the **OK** button is clicked.

## **Remove Job**

To remove jobs from the PeerSync Configuration, select one job from the **Jobs** view, click the **Remove** button on the right. Repeat this for any additional jobs you wish to remove.

#### **Editing Global Settings**

In the **Global Settings** of the **PeerSync Management Configuration** dialog, you can make changes to settings that apply to all PeerSync Jobs within the profile.

ø	File Synchronization Configuration [DDWin12R2a]	-		x
<ul> <li>▲ Monitoring Logging and Alerts Email Alerts</li> <li>▲ Associated Profile Jobs Global Settings</li> <li>Associated Installation</li> </ul>	Global Settings         Recovery Options         Retry open/inaccessible files         I         Retry Failed Connection every         I         Performance Options         Maximum number of Job Threads         5         Maximum number of File Threads         10         Use Enhanced Event Processing         Reconnect Options         Run a Scan on reconect         Application Priority Selection		] tim	nes nutes
	ОК	C	ance	21

Recovery Options	These changes will update how we retry failed or inaccessible files as well as the interval in which we retry Failed Connections.
Performa nce Options	These settings allow you to change the maximum number of job scans that can run parallel to one another and the maximum number of events that can be processed parallel to one another.
Reconnec t Options	This setting allows you to choose how PeerSync handles a re- established connection. Options are to Run a Scan on Reconnect or Store missed events and process on reconnect.

#### Distributing a Profile

This topic covers information on how to distribute changes to the PeerSync profile from the Peer Management Center

To distribute the PeerSync profile changes, right-click the PeerSync Management job from the **Jobs** view, and then click **Edit Configuration**.

In the **PeerSync Management Configuration** screen, click the **Associated Profile** node, and then click the **Distribute** button.

In the event that one or more of your jobs are configured to use a ByteReplicator Relay Server (usually used in NetApp source environments), the Distribute Profile process will also distribute your relay Server configurations by compiling all unique target Hosts and relay servers into a *%profilename%.pls* file. This file will be distributed to the PeerSync machine alongside the profile.

**Note:** This action will distribute the profile to the machine and attempt to stop and start PeerSync Service to commit those changes. If you do not wish to restart the PeerSync service, wait to distribute the profile until you are ready to have the service restart.

0		File Synchronization Configuration [DDWin12R2a]	_ 🗆 X
▲ Monitoring Logging and Alerts	Associated Prot	file	
Email Alerts			Export
Jobs	Description:	Backup	
Global Settings	File Name:	DDWin12R2a.snc	Import
Associated Installation	Last Updated On:	Aug 24, 2015 10:47:38 PM	Distribute
	Current State:	Active	
	Total numbe	verwrite PeerSync profile with the currently configured profile         This action will distribute the current configured profile to the host(s).         Are you sure you want to overwrite the running Profile?         Yes       No	
		ОК	Cancel

### Managing the PeerSync Service

The following PeerSync service management actions are available from the <u>Synchronization</u> <u>Summary view</u> and the <u>Summary view</u> for a specific PeerSync Management job.

# **Starting the PeerSync Service**

To start the PeerSync service associated with any PeerSync Management job, right-click the view and choose **Start PeerSync**.

## **Stopping the PeerSync Service**

To stop the PeerSync service associated with any PeerSync Management job, right-click the view and choose **Stop PeerSync**.

**Note:** The associated PeerSync Management job must be running in order to successfully perform this action.

Runtime Summa	iry Vie	ew (auto-update enabled)
Filter by:	Ś	Refresh View
Name	$\checkmark$	Enable Auto-Update
Composite4a[E		Show Details
DDWin12R2a[E		Copy Details
DDWin12R2b[V		
VMSRV2008X32		Open
Win12x64a[EM		Open in New Tab
	O	Start Monitoring
		Stop Monitoring
	1	Edit Configuration(s)
		Clear Monitoring Alerts
	۲	Start PeerSync
		Stop PeerSync
	•	Reprocess Failed Events
	4	Request Support Info File
		Reprocess/Upgrade Installation

For information on the additional PeerSync multi-job global actions, see <u>Synchronization</u> <u>Summary View</u>.

## Runtime Job Views

Double-clicking on the PeerSync Management job from the <u>Synchronization Summary view</u> will open the job-specific runtime views.

- Summary View
- Failed Events View
- Monitoring Log View
- <u>Alerts View</u>
- <u>Participants View</u>
- <u>Configuration View</u>

Monitoring Peerlet Session	Failed		Started: 9/3	80/15 12	2:23 PM	
Stats Timestamp		15 1:56:51 PM	otarcea, oj o			
Stats State	Failed					
PeerSync Running Info			Started: 9/3	80/2015	12:09:46 PM	
Mode	Automa	atic and Real-Ti				
Status	Target f	olders are Not A				
PeerSync Real Time Stats						
Real Time Events	128					
Real Time Events Peak	53.318 e	vents/minute				
Real Time Events In Process	0					
Real Time Events Average	1.195 ev	ents/minute				
	lded Updat		ages			
Overview PeerSync Jobs Stats Ad	lded Updat		ages			
PeerSync Overall Status Checked	260	ed Deleted Mess	0		Current Event Status	Real-time Monitoring (Failed Scans: 1) (Failed Events
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items
PeerSync Overall Status	260	ed Deleted Mess	0	)		
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
CeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes
PeerSync Overall Status Checked Excluded	260 0	ed Deleted Mess Updated Added	0	)	Pending Event Status	No Pending Items 0 bytes

Summary ! Failed Events (2) Monitoring Log ! Alerts (16) Participants (1) Configuration

When double-clicking a PeerSync Management job, the default selected tab will be the **Summary** tab. This view will show information received by the PeerSync machine on the status of the PeerSync Management job.

Information found in this view is global to the PeerSync profile. To see PeerSync job-specific statistics, click the <u>PeerSync Jobs Stats</u> tab.

Information on this view is received whenever the information changes on the PeerSync machine, normally every 1 minute or so. To auto-refresh this view with the latest data, click **Enable Auto-Update** on the top right of the view, and choose a Refresh cycle. The cycle is

the not the cycle for receiving the information, just to refresh the view with the latest information received by PeerSync.

Summary 🚦 Failed Events (2) Monit	oring Log	l Palerts (16)	articipants	(1) Conf	iguration	
Summary View Actions 🔻						
Monitoring Peerlet Session	Failed		Started:	9/30/15 1:	2:23 PM	
Stats Timestamp	9/30/20	15 1:56:51 PM				
Stats State	Failed					
PeerSync Running Info			Started:	9/30/2015	12:09:46 PM	
Mode	Automa	tic and Real-Ti				
Status	Target F	olders are Not A				
PeerSync Real Time Stats	-					
Real Time Events	128					
Real Time Events Peak	53.318 e	vents/minute				
Real Time Events In Process	0					
Real Time Events Average	1.195 ev	ents/minute				
Overview PeerSync Jobs Stats Adde PeerSync Overall Status Checked Excluded	260 0	Updated Added	iges	0	Current Event Status Pending Event Status	Real-time Monitoring (Failed Scans: 1) (Failed Events No Pending Items
Messages	11	Deleted		0	Bytes Transferred	0 bytes
						Elapsed Time: 01:47:08 Xfer Rate: N/A

On this page, you can right-click to display the PeerSync **Actions** menu:



On the bottom half of the page, you will find a set of tabs showing more granular information regarding this PeerSync session.

- <u>PeerSync Jobs Stats</u>
- Added Files
- <u>Updated Files</u>
- Deleted Files
- <u>Messages</u>

#### PeerSync Jobs Stats

When clicking the **PeerSync Jobs Stats** view, a request goes out to the PeerSync machine to request job-specific statistics and return them to the Peer Management Center to be displayed. These statistics can be requested only if PeerSync is running on that machine and only if the PeerSync Management job is started on the Peer Management Center.

When the statistics are received, the view is updated with the job-specific statistics and the caption on the top of the view will show the date and time the list was last updated.

By right-clicking on the info table, you can choose to hide or show columns.

3 jobs Filte	er by:	•									
Job Na		Target	Last Scan (Status: Durati	Xfer Rate	Event Averages	Upda	Added	Delet	Mess	Faile	Status
🕽 Data	c:\source\	c:\target\	9/30/2015 12:09:47 PM (	N/A	0.00 per min (0	0 (0	0 (0	0 (0	0	0	Normal
Data2	c:\source2\	c:\target2\	9/30/2015 12:09:47 PM (	N/A	0.00 per min (0	0 (0	0 (0	0 (0	0	0	Normal
🔵 Data	c:\source3\	\\backupserve	N/A	N/A	0.00 per min (0	0 (0	0 (0	0 (0	11	3	Target Not Available (Scan on Re
All Jobs			N/A	N/A	0.00 per min (0	0 (0	0 (0	0 (0	11	3	Target Folders are Not Available f

#### Added Files

When clicking the **Added** tab, a request goes out to the PeerSync machine to request a list of latest added files and return it to the Peer Management Center to be displayed. This list can be requested only if PeerSync is running on that machine and only if the PeerSync Management job is started on the Peer Management Center.

When the list is received, the view is updated with the latest added events processed by PeerSync, and the caption on the top of the view will show the date and time the list was last updated.

By right-clicking on the info table, you can choose to hide or show columns.

This information in this table can be filtered by Path or by Job Name.

ldded Log							
0 errors, 0 warnin	igs, 100 oth	ers   Filter by:	<b>v</b>				
Date	Туре	Path	Comments	Message	Job Name	File Size	Modified Time
09-15-2015 17:0	Event	c:\target\FILE42.TXT	Added [Attrib		Data Backup	2.3 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE44.TXT	Added [Attrib		Data Backup	1.9 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE43.TXT	Added [Attrib		Data Backup	4.0 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE45.TXT	Added [Attrib		Data Backup	4.0 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE47.TXT	Added [Attrib		Data Backup	1.7 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE46.TXT	Added [Attrib		Data Backup	1.6 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE48.TXT	Added [Attrib		Data Backup	3.2 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE41.TXT	Added [Attrib		Data Backup	3.3 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE50.TXT	Added [Attrib		Data Backup	1.4 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE49.TXT	Added [Attrib		Data Backup	2.7 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE27.TXT	Added [Attrib		Data Backup	2.1 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE28.TXT	Added [Attrib		Data Backup	3.9 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE29.TXT	Added [Attrib		Data Backup	2.6 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE30.TXT	Added [Attrib		Data Backup	3.9 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE31.TXT	Added [Attrib		Data Backup	2.8 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE32.TXT	Added [Attrib		Data Backup	1.9 KB	09-15-2015 17:01:2
09-15-2015 17:0	Event	c:\target\FILE33.TXT	Added (Attrib		Data Backup	1.9 KB	09-15-2015 17:01:2

#### **Updated Files**

When clicking the **Updated** tab, a request goes out to the PeerSync machine to request a list of latest updated files and return it to the Peer Management Center to be displayed. This list can be requested only if PeerSync is running on that machine and only if the PeerSync Management job is started on the Peer Management Center.

When the list is received, the view is updated with the latest updated events processed by PeerSync, and the caption on the top of the view will show the date and time the list was last updated.

By right-clicking on the info table, you can choose to hide or show columns.

This information on this table can be filtered by Path or by Job Name.

Date	Туре	Path	Comments	Message	Job Name	File Size	Modified Time
09-15-2015 17:0	Event	c:\target\FLDR3\FILE33	Updated [Attri		Data Backup	2.5 KB	09-15-2015 17:03:50
09-15-2015 17:0	Event	c:\target\FLDR3\FILE35	Updated [Attri		Data Backup	1.9 KB	09-15-2015 17:03:50
09-15-2015 17:0	Event	c:\target\FLDR3\FILE37	Updated [Attri		Data Backup	3.8 KB	09-15-2015 17:03:50
09-15-2015 17:0	Event	c:\target\FLDR3\FILE36	Updated [Attri		Data Backup	1.7 KB	09-15-2015 17:03:50
09-15-2015 17:0	Event	c:\target\FLDR2\FILE13	Updated [Attri		Data Backup	3.6 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE16	Updated [Attri		Data Backup	1.6 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE12	Updated [Attri		Data Backup	1.3 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE14	Updated [Attri		Data Backup	2.9 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE15	Updated [Attri		Data Backup	2.1 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE10	Updated [Attri		Data Backup	3.0 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE11	Updated [Attri		Data Backup	1.4 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE17	Updated [Attri		Data Backup	2.3 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE18	Updated [Attri		Data Backup	1.0 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE19	Updated [Attri		Data Backup	2.3 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE23	Updated [Attri		Data Backup	1.9 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE21	Updated [Attri		Data Backup	1.3 KB	09-15-2015 17:03:48
09-15-2015 17:0	Event	c:\target\FLDR2\FILE20	Updated [Attri		Data Backup	3.0 KB	09-15-2015 17:03:48

Overview PeerSync Jobs Stats Added Updated Deleted Messages

#### **Deleted Files**

When clicking on the **Deleted** tab, a request goes out to the PeerSync machine to request a list of latest deleted files and return it to the Peer Management Center to be displayed. This list can be requested only if PeerSync is running on that machine and only if the PeerSync Management job is started on the Peer Management Center.

When the list is received, the view is updated with the latest deleted events processed by PeerSync, and the caption on the top of the view will show the date and time the list was last updated.

By right-clicking on the info table, you can choose to hide or show columns.

This information on this table can be filtered by Path or by Job Name.

Date	Туре	Path	Comments	Message	Job Name	File Size	Modified Time	
10-05-2015 11:5		c:\target\FLDR3	Scan		Session	0 bytes	10-05-2015 11:57:49	
10-05-2015 11:5	Data Bac	c:\target\FILE6.TXT	Scan		Session	1.2 KB	10-05-2015 11:57:49	
10-05-2015 11:5	Data Bac	c:\target\FILE4.TXT	Scan		Session	1.3 KB	10-05-2015 11:57:49	
10-05-2015 11:5	Data Bac	c:\target\FILE8.TXT	Scan		Session	1.5 KB	10-05-2015 11:57:49	
10-05-2015 11:5	Data Bac	c:\target\FILE2.TXT	Scan		Session	3.1 KB	10-05-2015 11:57:49	
10-05-2015 11:5	Data Bac	c:\target\FILE5.TXT	Scan		Session	0 bytes	10-05-2015 11:57:48	
10-05-2015 11:5	Data Bac	c:\target\FILE7.TXT	Scan		Session	2.1 KB	10-05-2015 11:57:48	
10-05-2015 11:5	Data Bac	c:\target\FILE9.TXT	Scan		Session	2.2 KB	10-05-2015 11:57:48	
10-05-2015 11:5	Data Bac	c:\target\FILE1.TXT	Scan		Session	1.3 KB	10-05-2015 11:57:48	
10-05-2015 11:5	Data Bac	c:\target\FILE3.TXT	Scan		Session	1.4 KB	10-05-2015 11:57:48	

Overview PeerSync Jobs Stats Added Updated Deleted Messages
#### Messages

When clicking on the **Messages** tab, a request goes out to the PeerSync machine to request a list of messages/errors logged and return it to the Peer Management Center to be displayed. This list can be requested only if PeerSync is running on that machine and only if the File Synchronization job is started on the Peer Management Center.

When the info list is received the view is updated with the messages logged by PeerSync, and the caption on the top of the view will show the date and time the list was last updated.

By right-clicking on the info table, you can choose to hide or show columns.

This information on this table can be filtered by Path, Job Name, or Message.

Overview Pe	eerSync	Jobs Stats	Added	Update	d Deleted	Messag	ges			
– Message Lo	ig ( List	Updated o	n 09-30-,	2015 13:5	53:45)					
0 errors, 0	warnin	gs, 13 othe	rs Filter	r by:		~				
Date		Path		Me	ssage		Jop V	lame		
09-30-201	5 13:2	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 13:2	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 13:2	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:2	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:1	\\backup	server\d	a Fai	ed Event -	Add	Data	3 Backup		
09-30-201	5 12:0	\\backup	server\d	a Co	nnection F	ailure	Data	3 Backup		
09-30-201	5 12:0	\\backup	server\d	a Ca	nnot create	:/got	Data	3 Backup		

The **Failed Events** view allows you to see all those events that have failed to be processed by PeerSync. The list is populated when the PeerSync Management job starts, as well as in real-time as new failures occur. The information can be filtered by File Name.

Summary 🚦 Failed Ev	rents (2) Monitoring Log 🚦 Alerts (1	6) Participants (1)	Configuration	
Failed Events				
2 Files   Filter by File	e Name:			
Date	File	Cause	Status	Message
09-30-2015 13:20:48	\\backupserver\data3\FLDR3\FILE	ADDFILE	Failed Event	Connection Failure (Target Not A
09-30-2015 13:20:48	\\backupserver\data3\FILE4 - Co	ADDFILE	Failed Event	Connection Failure (Target Not A

You can right-click the info table and choose to **Reprocess Failed Events.** This action will send a request to PeerSync to retry all the failed events in the list.

The **Monitoring Log** view allows you to view recent event history for the currently running PeerSync Management job based on your <u>Logging and Alerts</u> settings. You can specify the maximum number of events to store in the table by adjusting the **Display Events** spinner located in the top right corner of the panel. The maximum number of events that can be viewed is 3,000.

If you need to view more events or events from a prior session, then you can use the log files saved in the **Hub\logs** directory located in the installation directory. The event log files will start with **fs\_event.log** and are written in a tab-delimited format. Microsoft Excel is a good tool to use to view and analyze a log file. See <u>Logging and Alerts</u> for more information about log files.

You can click on any column header to sort by the column. Warnings are displayed in light gray; errors are displayed in red; fatal errors are displayed in orange. Error records will also contain an error message in the **Message** column.

To change what is being logged, update the selected Event Types in the Logging and Alerts settings.

0 errors, 0 warning	gs, 4 others	Filter by Severity:	✓ Filter by		¥	Actions 🔻	
Date	Severity	Туре	Host	Is Source	File	Comments	Message
09-30-2015 13:2	INFO	Failed Events Reprocess	DDWin12R2b	true			Failed Event Repro
09-30-2015 13:2	INFO	Failed Events Reprocess	DDWin12R2b	true			Failed Event Repro
09-30-2015 12:2	INFO	Watch Directory		true			
09-30-2015 12:2	INFO	Session Started		true			

Clicking the **Actions** table menu provides the following options:

Re fre sh Vie w	Refresh all information provided in the table.
Cle ar Ev en ts	Remove all items from the table.

The **Alerts** view allows you to view any alerts relevant to the running PeerSync Management job. Items shown here are based on the configured Alerts Severity setting on the Logging and Alerts configuration page. You can specify the maximum number of alerts to store in the table by adjusting the Display Alerts spinner located in the top right corner of the panel.

The alerts are also written to a tab-delimited file named **fs\_alert.log** within the subdirectory **Hub/logs** within the installation directory of the Peer Management Center. See the <u>Logging</u> and <u>Alerts</u> settings for more information about log files.

You can click on any column header to sort by that column. For example, clicking on the **Severity** column will sort by alert severity. Warnings are displayed in light gray; errors and fatal alerts are displayed in red. A common error may be the PeerSync service is not running, which will trigger a PeerSync Quorum lost alert.

lert Log 16 errors, 0 warnings	, 0 others   F	Filter by Severity:	¥	
Received Date	Severity	Туре	Host	Message
09-30-2015 12:09:30	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 12:09:30	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 12:09:30	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 12:09:30	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 12:07:30	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 12:07:30	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 12:07:30	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 12:07:30	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 11:53:59	FATAL	Application		Quorum lost for job DDWin12R2b[WestCoast]. Sessi.
09-30-2015 11:53:59	ERROR	Application	DDWin12R2b	Agent on host DDWin12R2b was restarted while job
09-30-2015 11:52:41	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 11:52:41	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 11:51:11	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 11:51:11	ERROR	Application	DDWin12R2b	Service Not Running
09-30-2015 11:50:54	FATAL	Application		PeerSync Quorum lost for job DDWin12R2b[WestCo.
09-30-2015 11:50:54	ERROR	Application	DDWin12R2b	Service Not Running

The following right-click menu items are unique to this table:

Ref res h Vie w	Refresh all information provided in the table. This can also be done from the right-click context menu of the table.
Cle ar Eve nts	Remove all items from the table. This can also be done from the right-click context menu of the table.

The **Participants** view shows the currently configured host participant for the selected PeerSync Management job and contains a column used to display activity status occurring on the hosts. If a host has become unavailable or the PeerSync service stopped, an error message will be displayed in red next to the failed host.

ost Participant	s						
Host F	Root Path		Status		State		Message
)DWin12R (	C:\Program File:	s (x86)\P	Participati	ng	Active		
Host Participar	nt State Change	Log					
Filter by : He	ost:		Status:		<b>v</b> S	tate:	~
Theorem 1	· · · · · · · · · · · · · · · · · · ·				J		¥
Date	Host	Status		State	Messa	ge	
09-30-2015	DDWin12R	Participat	ing	Active			
09-30-2015	DDWin12R	Not Parti	cipating	Inactive	Job St	opped	
09-30-2015	DDWin12R	Participat	ing	Active			
09-30-2015	DDWin12R	Not Parti	cipating	Inactive	Job St	opped	
09-30-2015	DDWin12R	Participat	ing	Active			
09-30-2015	DDWin12R	Not Parti	cipating	Inactive	Job St	opped	
09-30-2015	DDWin12R	Participat	ing	Active			
09-30-2015	DDWin12R	Host Reso	ource Av	Active	PeerSy	nc Service is run	ning
09-30-2015	DDWin12R	Host Reso	ource Av	Active	PeerSy	nc Service Availa	ble
09-30-2015	DDWin12R	Host Reso	ource Un	Inactive	PeerSy	nc Service Not R	unning
09-30-2015	DDWin12R	Host Reso	ource Av	Active	PeerSy	nc Service is run	ning
09-30-2015	DDWin12R	Host Reso	ource Av	Active	PeerS,	nc Service Availa	ble
09-30-2015	DDWin12R	Host Reso	ource Un	Inactive	PeerSy	nc Service Not R	unning
09-30-2015	DDWin12R	Participat		Active			-
09-30-2015	DDWin12R	Not Parti	-	Inactive	Job St	opped	
	DOW: HOD			Active			
09-30-2015	DDWin12R	Participat	ung	Active			
09-30-2015 09-30-2015		Participat	-	Active			

The **Participants** view also contains a table that displays the most recent host participant state changes, for example, when a host was removed from synchronization session, when a host came back online, or when the PeerSync service was stopped or started. This functionality is broken down into two parts: right-click context menu items and the **Host** Participant State Change Log view.

The Host Participant State Change Log is a log of all host participant status changes (e.g., Collaborating, Not Collaborating) and/or state changes (e.g., Active, Pending Restart) of a host participant. This table is currently limited to 250 rows and can be filtered by host, by status, and by state.

The following items are available in the right-click context menu for this table:

Refr esh Vie w	Refresh all information provided in the table.
Clea r Eve nts	Remove all items from the table.

The **Configuration** view displays a quick summary of all configurable items for the selected PeerSync Management job. Each page of the **File Synchronization Configuration** dialog is represented in its own part of the view and can be collapsed if desired.

Clicking **Edit this Configuration** will immediately bring you to the **PeerSync Management Configuration** dialog where you can edit the current monitoring configuration or the associated PeerSync profile.

General Settings					
Host Name: D	DWin12R2I	)			
		p[WestCoast]			
	01				
Alert Severity: 🛛 🕅	/ARNING				
Name	# 3	Source c:\source3	Target \\backupserver\data3	Type Real Time Backup	
🔳 Data 3 Backup			c:\target	Real Time Backup	
<ul> <li>Data 3 Backup</li> <li>Data Backup</li> </ul>	1	c:\source			
	1 2	c:\source2	c:\target2	Real Time Backup	

#### **Upgrade/Reprocess Installation**

From the <u>Synchronization Summary view</u>, you can click on one or more PeerSync Management jobs and choose **Reprocess/Upgrade Installation**. This option sends a request to the selected PeerSync instances to install/upgrade given the configured settings.

🖸 Synchronization Summary 🕺				
-Runtime Summary View (auto-u	ipdate e	nabled		Refresh View
Filter by: 🔍 👻			✓	Enable Auto-Update
Name	Ov	erall Sta		Show Details Copy Details
Composite4a[East_Coast]	0	PeerSy	-	
DDWin12R2a[EastCoast]	0	Runnir	-	Open
VMSRV2008X32[Asia]	0	Runnir		Open in New Tab
Win12x64a[EMEA_Region]	۲	Runnir	0	Start Monitoring
				Stop Monitoring
			1	Edit Configuration(s)
				Clear Monitoring Alerts
			$\odot$	Start PeerSync
				Stop PeerSync
			•	Reprocess Failed Events
			4	Request Support Info File
				Reprocess/Upgrade Installation
				ID

The installation settings should be common for ALL the PeerSync Management PeerSync instances in order to successfully install PeerSync.

🧔 File Synchroni	zation Configu	ration	D X
Installation Settings			
Remote Installation Settings			
Pre-Defined Settings EastCoast 🗸 Name EastCoast			
Installation Path %ProgramFiles%\Peer Software\PeerSync			
			]
Existing Exe V Browse			
Imported Exe Version: v9.3.1.1007 [C:\Program Files (x86)\Peer Software\Peer M	anagement Hub\H	ub\workspace\peersync\templates\exes\peersync93-9-3	1 1007.exe]
User Name Peer Software	Company	Peer Software	
Options	Password		
Service			
Logon User bytemetrics\admindanielad			
Password •••••			
		Finish	Cancel

See <u>Installation Settings</u> for information on the settings on this page.

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