CONTENTS

Chapter 1  Gateway Support
About CIFS-ECS support ................................................................. 6
CIFS-ECS cluster support ................................................................. 6
  Cluster configuration options ....................................................... 7
  Cluster configuration best practices ........................................... 7
  Configuring a cluster environment .............................................. 7
  Basic CIFS-ECS behavior in a cluster ........................................ 9
  Uninstall/Upgrade .................................................................. 9

Chapter 2  CIFS-ECS CLI Commands
About CIFS-ECS scripted installation and configuration .................. 12
CIFS-ECS scripted installation on a local system ................................ 12
  CIFS-ECS installer parameters ................................................... 12
CIFS-ECS remote installation .......................................................... 13
  Remote installer command .......................................................... 14
  Remote installer logging options ................................................ 14
  Remote installer properties options ............................................ 15
CIFS-ECS configuration using the CIFS-ECS_cli ................................ 15
  CLI help ............................................................................. 15
  Remote options ...................................................................... 16
  Command options .................................................................... 16

Chapter 3  CIFS-ECS administrator tasks
Verifying CIFS-ECS support for bucket retention .......................... 26
Translating ECS/Windows permissions .......................................... 26
  Enabling Windows/ECS Permission support ............................... 27
  Maintaining the user database .................................................. 27
CHAPTER 1
Gateway Support

The EMC CIFS-ECS tool establishes an enterprise “gateway” server designed to support multiple client user access to the ECS cloud. In this scenario, CIFS-ECS is hosted on a Windows server and shared to individual users via CIFS (each user maps a network drive). The use case described in this chapter assumes the use of a clustered Windows environment for failover support.

This chapter describes the following topics:

- **About CIFS-ECS support ............................................................................................ 6**
- **CIFS-ECS cluster support ................................................................................................ 6**
About CIFS-ECS support

The CIFS-ECS use case is designed to support many users accessing the ECS cloud without the need for individual CIFS-ECS clients running on each local system. The system provides data availability by utilizing the standard CIFS-ECS to ECS cloud interface, and ease of access by allowing users to map a network drive through the CIFS-ECS to the ECS cloud. Optionally, the system can provide fault tolerance by placing CIFS-ECS in a Windows cluster environment.

For fault tolerance, CIFS-ECS supports installation on a Windows Failover Cluster. The CIFS-ECS resources are shared across the cluster so that the new primary CIFS-ECS always picks up the current configuration in the event of a failover.

This chapter provides guidelines for configuring CIFS-ECS in a clustered environment.

CIFS-ECS cluster support

CIFS-ECS is supported in a Windows clustered (active-passive) environment. Follow the guidelines in this section to configure CIFS-ECS to work in a cluster.

Note: The clustered environment must be up and running before installing CIFS-ECS.

During installation, if CIFS-ECS sees that a computer is in a cluster, the CIFS-ECS setup process automatically loads a cluster resource DLL and registers the CIFS-ECS Resource DLL with the cluster. This creates a new Resource Type called “CIFS-ECS.” When installing in a cluster, it is important that CIFS-ECS be installed on all nodes of the cluster using the same installation path (usually: C:\Program Files\EMC CIFS-ECS\).

No additional user configuration in CIFS-ECS is required to support running in a cluster. The administrator must configure the cluster server and create a resource group, but CIFS-ECS is able to analyze the cluster configuration to determine its role in the cluster and perform the appropriate actions. The administrator must follow a few simple rules:

1. The resource group must contain storage and network name resources. The CIFS-ECS resource must have both of those resources as dependents because it uses the dependency information to associate a cloud directory with the shared drive.
   - If you select “Other Server” when creating a resource group, you can select CIFS-ECS from a list of resources and the dependencies are automatically created.
   - If you select “File Server” when creating the cluster group, you must manually add the CIFS-ECS resource and set the correct dependencies.

2. The cluster group must be created and brought online before configuring CIFS-ECS.

   IMPORTANT

   Ensure that the cluster group is running on the node on which you are configuring CIFS-ECS.

If the cluster group is not online and owned by the current CIFS-ECS node, you cannot configure CIFS-ECS because the shared disk is not available. It is impossible to configure CIFS-ECS without a drive to host the data. When specifying the cache directory:
• Note that the “Drive” field that specifies the “virtual” drive is always disabled if CIFS-ECS is installed in a cluster. When configuring CIFS-ECS in a cluster, use the Advanced dialog to specify a cache path on the shared disk.

• The shared disk must be a dependent of the CIFS-ECS resource.

Cluster configuration options

CIFS-ECS is supported on cluster groups with multiple storage resources or on multiple cluster groups as follows:

• A single cluster group containing multiple storage resources and multiple cloud drives

As previously noted, the “CIFS-ECS” resource must be dependent on a network name and a storage resource. You should never have the CIFS-ECS resource dependent on more than one storage resource. If there are multiple storage resources, you must have the same number of CIFS-ECS resources, each one dependent on one of the storage resources.

• Multiple cluster groups

Multiple cluster groups, each containing a network name, storage and CIFS-ECS resources may be created. Each of these groups can be assigned to different nodes to provide for an Active-Active configuration.

• Sharing a folder

In general, you should share the CIFS-ECS cache path folder so that remote clients have access to the data. When sharing the folder, be sure to add a dependency to the file share so that it is also dependent on the corresponding CIFS-ECS resource.

Cluster configuration best practices

Ensure that the following guidelines are met when configuring CIFS-ECS resources:

• The CIFS-ECS resource must have at least two dependencies: Network Name and a single Storage resource. It cannot be dependent on multiple storage resources.

• If there are multiple storage resources, and you require multiple cloud drives that reference the storage resources, you must have one CIFS-ECS resource for each storage resource.

• When creating a share, it must be dependent on the corresponding CIFS-ECS resource.

Configuring a cluster environment

Use this procedure to configure a cluster environment to support CIFS-ECS:

1. In the Cluster administrator application, right-click Services and Applications.

2. Click Configure a Server or Application to start the configuration wizard. A list of supported services displays.
3. Select **File Server** or **Other Server**. This allows the CIFS-ECS files to be shared by the cluster. The wizard allows you to select storage, a network name, and an IP address. Additionally, if you selected **Other Server**, the wizard asks what other resources should be included in the group.

4. If you selected **Other Server** in step 3, then select **CIFS-ECS** from the resources list.

5. If you selected **File Server** in step 3, **add** the CIFS-ECS resource.
   
a. Right-click the created service and select **Add Resource/CIFS-ECS**.
   
b. After it is added, right-click the CIFS-ECS resource and select **Properties > Dependencies**.
   
c. Add the Network Name and Storage as dependencies.

6. Once the cluster group is created, bring the cluster group online.

7. Use the CIFS-ECS console to configure a cloud drive, as described in the *EMC CIFS-ECS User Guide*, while ensuring the following:
   
   • Ensure you are on the node that is the current owner of the resource group. If you are not, the shared drive does not exist and you cannot complete the configuration.
   
   • In a cluster, ensure that the cache path defaults to a subfolder of the shared disk.
   
   • In a cluster, CIFS-ECS enumerates all instances of the CIFS-ECS resources and looks at the dependent disks to create a default cache path. If multiple CIFS-ECS resources exist, a dialog appears listing all drives along with the associated CIFS-ECS resource name. You select the drive/resource to configure. A typical default path is:

     S:\EMC CIFS-ECS Data\New CIFS-ECS

     *S:* is the shared drive and *New CIFS-ECS* is the CIFS-ECS resource name.

     **Note:** This default path can be modified through the Advanced dialog if desired (during initial configuration only).

     **Note:** Do not duplicate the configuration of the cloud drive on every node of the cluster. Only configure the cloud drive on the current owner node of the cluster group. Once the configuration is set on that one node, the configuration is written to the distributed cluster database. Whenever the cluster is brought online on any node, the CIFS-ECS configuration is read from the cluster database and set on that node.

8. If enabled, configure the CIFS-ECS advanced options on each CIFS-ECS running on each node in the cluster. Use **CIFS-ECS Console > Home > Options** and refer to the *EMC CIFS-ECS User Guide*, “Advanced Options” section for details.

   The CIFS-ECS advanced options, which allow you to set logging, email, process, enterprise, and performance options, are not written to the distributed cluster database.
Basic CIFS-ECS behavior in a cluster

When the resource group (or just the CIFS-ECS resource in a group) goes offline, that state is immediately visible in the CIFS-ECS Console. The green light for that CIFS-ECS definition goes off (no indicators display). The indicator description is summarized below:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Enabled and connected to ECS.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Updates are paused.</td>
</tr>
<tr>
<td>Red</td>
<td>Not connected to ECS.</td>
</tr>
<tr>
<td>None</td>
<td>Disabled. This state is automatically entered if the resource goes offline. There is no way that an administrator can manually disable or enable a cloud definition.</td>
</tr>
</tbody>
</table>

The following rules apply:

- When a resource is brought offline, all cloud drive definitions that reference the drive in that resource are disabled.
- When a resource is brought online, all cloud drive definitions that reference the drive in that resource are enabled, and a recovery process is initiated.

Uninstall/Upgrade

An upgrade or uninstall of the CIFS-ECS on a system with Failover Cluster installed will generally require a reboot.
Gateway Support
EMC provides a set of CLI commands for installing and configuring the CIFS-ECS. These commands can be used in conjunction with or in place of the CIFS-ECS console installation and configuration processes. This chapter contains the following topics:

- About CIFS-ECS scripted installation and configuration ...........................................  12
- CIFS-ECS scripted installation on a local system ......................................................  12
- CIFS-ECS remote installation ...................................................................................  13
- CIFS-ECS configuration using the CIFS-ECS_cli .........................................................  15
CIFS-ECS CLI Commands

About CIFS-ECS scripted installation and configuration

CIFS-ECS for Windows is easily installed and configured on a single-user basis using the console documented in the *EMC CIFS-ECS User Guide*. However, in some cases, a CLI-based solution is desirable. An example is when you configure CIFS-ECS using the same repeatable installation/configuration process for remote configurations on a large number of systems.

CIFS-ECS provides the following executable files for scripted installation/configuration:

- **CIFS-ECS.<ver>_x64.exe** — The CIFS-ECS setup package (normally executed and run through the installation wizard GUI by the user). The install parameters can be modified (for example to change the install directory) or can be run with a reduced or invisible UI.
- **CIFS-ECS_Install.exe** — A remote installation utility that is packaged with CIFS-ECS but that acts as a standalone executable that can be copied and used on any supported computer.
- **CIFS-ECS_cli.exe** — Installed with CIFS-ECS, allows an administrator to configure CIFS-ECS using CLI commands.

To automate the installation process, you can write a script that uses the CIFS-ECSInstall.exe and CIFS-ECS.<ver>_x64.exe. After CIFS-ECS is installed, use CIFS-ECS_cli.exe to configure it in a separate script.

CIFS-ECS scripted installation on a local system

CIFS-ECS creates an installation wrapper (CIFS-ECS.<ver>_x64.exe) around the Windows Installer (msiexec.exe) to support custom CIFS-ECS installation requirements but still utilize the Windows Installer options.

For a complete list of available Windows Installer options from your local system, type at the command prompt: `msiexec.exe/?`

CIFS-ECS installer parameters

The syntax for the installer command is:

```
CIFS-ECS.<ver>_x64.exe [/L<languageID>] [/S] [/V"<msiexec parameters>"]
```
<table>
<thead>
<tr>
<th>Installer option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/L&lt;languageID&gt;</td>
<td>Numeric language identifier. By default, the installer uses the language specified for the operating system on the local system. To use a different language for the installer, specify this option. For example /L1036 specifies the French language. Depending on the CIFS-ECS version, the installer may not support all languages. If supported, here are examples of numeric identifiers: 1033 English (US) 2052 Chinese (PRC) 1036 French (France) 1042 Korean (Korea) 1041 Japanese (Japan) 1031 German (Germany) 1049 Russian (Russia) 2058 Spanish (Latin America) 1040 Italian (Italy) 1046 Portuguese (Brazil)</td>
</tr>
<tr>
<td>/S</td>
<td>Silent. Do not display initial dialogs. To also suppress Windows Installer dialogs, use: /S /V/qn</td>
</tr>
<tr>
<td>/V&quot;&lt; parameters&gt;&quot;</td>
<td>Pass parameters to the Windows Installer. The double quotation marks are generally required since the parameters usually contain spaces. CIFS-ECS-specific properties allow you to change the paths for the installation and data directories or to designate the TCP/IP port: INSTALLDIR=&lt;path&gt; DATADIR=&lt;path&gt; TCPIPPORT=&lt;port #&gt; For a complete list of parameters, type at the command prompt: msiexec.exe/?</td>
</tr>
</tbody>
</table>

In the following example, an administrator creates a script that installs CIFS-ECS, generates a full log ("/l*v" Windows Installer option) to c:\install.log, and creates the basic CIFS-ECS user interface ("/qb" Windows Installer option).

CIFS-ECS.<ver>_x64.exe /V="/l*v c:\install.log /qb"

In this example, the administrator creates a script that installs CIFS-ECS silently ("/S"), generates a full log, creates the basic UI ("/qb"), and also changes the install directory to C:\CIFS-ECS.

CIFS-ECS.<ver>_x64.exe /S /V="/l*v c:\install.log /qb INSTALLDIR=C:\CIFS-ECS"

**CIFS-ECS remote installation**

CIFS-ECS provides a remote installation utility (CIFS-ECS_Install.exe) that is packaged with CIFS-ECS. The CIFS-ECS_Install.exe acts as a standalone executable that can be copied and used on any supported computer.

**Note:** The remote installation utility CIFS-ECS_Install.exe is installed during CIFS-ECS installation on your local system. It is then available for use as a standalone executable.
During CIFS-ECS installation on your local system, the utility is installed to:
C:\Program Files\EMC CIFS-ECS\CIFS-ECS_Install.exe

Remote installer command

Syntax
CIFS-ECS_Install <options> [<properties>]

<table>
<thead>
<tr>
<th>Remote installer option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i &lt;path to setup files&gt;</td>
<td>Install (UNC path or local path)</td>
</tr>
<tr>
<td>/x</td>
<td>Uninstall</td>
</tr>
<tr>
<td>/u &lt;domain\user&gt;</td>
<td>Connect with specified 'domain\user' (required)</td>
</tr>
<tr>
<td>[/a &lt;password&gt;]</td>
<td>The password for the user specified in the /u parameter</td>
</tr>
<tr>
<td>[/r &lt;remote server&gt;]</td>
<td>Remote server</td>
</tr>
<tr>
<td>[/p]</td>
<td>Display progress</td>
</tr>
<tr>
<td>[/pv]</td>
<td>Verbose progress (list actions)</td>
</tr>
</tbody>
</table>

Remote installer logging options

Syntax
/l[i|w|e|a|r|u|c|m|o|p|v|x|+|!] <LogFile>

<table>
<thead>
<tr>
<th>Logging option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>Status messages</td>
</tr>
<tr>
<td>w</td>
<td>Nonfatal warnings</td>
</tr>
<tr>
<td>e</td>
<td>All error messages</td>
</tr>
<tr>
<td>a</td>
<td>Start up of actions</td>
</tr>
<tr>
<td>r</td>
<td>Action-specific records</td>
</tr>
<tr>
<td>u</td>
<td>User requests</td>
</tr>
<tr>
<td>c</td>
<td>Initial UI parameters</td>
</tr>
<tr>
<td>m</td>
<td>Out-of-memory or fatal exit information</td>
</tr>
<tr>
<td>o</td>
<td>Out-of-disk-space messages</td>
</tr>
<tr>
<td>p</td>
<td>Terminal properties</td>
</tr>
<tr>
<td>v</td>
<td>Verbose output</td>
</tr>
<tr>
<td>x</td>
<td>Extra debugging information</td>
</tr>
<tr>
<td>+</td>
<td>Append to existing log file</td>
</tr>
<tr>
<td>!</td>
<td>Flush each line to the log</td>
</tr>
<tr>
<td>*</td>
<td>Log all information, except for v and x options</td>
</tr>
</tbody>
</table>

/log <logfile> Equivalent of /l* <LogFile>
Remote installer properties options

The command line supports any number of installer properties. The most commonly used property values that can be passed into the installer are described below.

<table>
<thead>
<tr>
<th>Properties option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPERTYNAME=&quot;&lt;value&gt;&quot;</td>
<td>Pass parameters to the Windows Installer. The double quotation marks are</td>
</tr>
<tr>
<td></td>
<td>generally required since the parameters usually contain spaces. The following</td>
</tr>
<tr>
<td></td>
<td>CIFS-ECS-specific properties allow you to change the paths for the installation</td>
</tr>
<tr>
<td></td>
<td>and data directories:</td>
</tr>
<tr>
<td></td>
<td>INSTALLDIR=&lt;path&gt;</td>
</tr>
<tr>
<td></td>
<td>DATADIR=&lt;path&gt;</td>
</tr>
</tbody>
</table>

CIFS-ECS configuration using the CIFS-ECS_cli

During installation, CIFS-ECS also installs the CIFS-ECS_cli, which allows you to configure CIFS-ECS through a CLI instead of through the CIFS-ECS console. The CLI communicates with the CIFS-ECS service using TCP/IP. Communications are authenticated, digitally signed, and encrypted to prevent attacks and ensure privacy.

If the target system is in the same domain, credentials are not typically required. If the target computer is in another domain, the CLI allows you to specify credentials so the remote computer can successfully authenticate with the CLI process.

A single TCP/IP port is used for communications. If there are any firewalls between the CLI computer and the remote computer, the firewall must be configured to allow access for this port.

The syntax is:

```
CIFS-ECS_cli [remote options] command [options]
```

**IMPORTANT**

The default path to the CIFS-ECS drive cache directory is `C:\ProgramData\EMC CIFS-ECS Data\<drive #>`. When entering the path in CIFS-ECS CLI commands, remember to specify the path in double quotation marks since it contains spaces that are not allowed in the command. For example: “C:\ProgramData\EMC CIFS-ECS Data\Z_Drive”

CLI help

Access the CIFS-ECS CLI help that provides descriptions of all command and options with the `/?` option:

```
CIFS-ECS_cli/?
```
Remote options

Remote options allow you to specify a remote computer name/IP address and user ID.

<table>
<thead>
<tr>
<th>Remote option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/r &lt;computername/IP&gt;</td>
<td>Optional: If not present, connect to the local computer.</td>
</tr>
<tr>
<td>/user &lt;domain\account&gt;</td>
<td>Optional: If not present, connect using the user's login credentials.</td>
</tr>
<tr>
<td>/pass *</td>
<td>&lt;password&gt;</td>
</tr>
</tbody>
</table>

Command options

CIFS-ECS CLI commands allow you to list, add, modify, and delete hosts and drives, import and export CIFS-ECS configurations, collect log files, monitor the upload queue, display status, and list User Database entries.

Host command and options

The Host command allows you to list host entries, add a new host or modify an existing entry, delete a host, or test an entry to ensure connectivity.

**List option**

List specified (or all) host entries.

**Syntax**

CIFS-ECS_cli [<remote options>] Host [<name>] /list [<options>]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;name&gt;</td>
<td>Optional: Name of host entry. Lists the specified entry. If &lt;name&gt; is not specified, displays a list of all host entries.</td>
</tr>
<tr>
<td>/v</td>
<td>Optional: List all information about host entry. If /v is not specified, each host entry is a single line with minimal information.</td>
</tr>
</tbody>
</table>

**Example**

> CIFS-ECS_cli Host /list /v
IS-1-001: ECS Test Host
ed461c9bbecb43f58336bba602632c0e/1001
HTTP: 10.5.116.190
Geo2-002: QA Test Bed
38716c9e66b24170a1c96084d6eb0df4/2001
HTTP: 10.6.144.151
Add/Modify option

Add a new host entry or modify an existing entry.

Syntax

CIFS-ECS_cli [remote options] Host <name> /add [options]
CIFS-ECS_cli [remote options] Host <name> /modify [options]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;name&gt;</td>
<td>Name of host entry.</td>
</tr>
<tr>
<td>/description &lt;description&gt;</td>
<td>Optional description.</td>
</tr>
<tr>
<td>/UserID &lt;user ID&gt;</td>
<td>User ID for the ECS system (required for new entry). For ECS, this is the ECS Object User.</td>
</tr>
<tr>
<td>/shared-secret &lt;shared secret&gt;</td>
<td>Shared Secret (required for new entry).</td>
</tr>
<tr>
<td>/http</td>
<td>/https</td>
</tr>
<tr>
<td>/port &lt;port #&gt;</td>
<td>Optionally, set which ports are used for HTTP / HTTPS instead of using the default settings (HTTP = 80; HTTPS = 443).</td>
</tr>
<tr>
<td>/cloud-server &lt;IP or DNS name&gt;</td>
<td>At least one is required. Multiple values are accepted. For example: /cloud-server 1.2.3.4 /cloud-server 1.2.3.5</td>
</tr>
<tr>
<td>/proxy &lt;proxy server&gt;</td>
<td>Optional, proxy server.</td>
</tr>
<tr>
<td>/proxyport &lt;port #&gt;</td>
<td>If /proxy is specified, the port number is used.</td>
</tr>
<tr>
<td>/proxyuser &lt;proxy user&gt;</td>
<td>If authentication is required by the proxy server, set user or domain\user.</td>
</tr>
<tr>
<td>/proxypass &lt;proxy password&gt;</td>
<td>Password is required by proxy associated with proxy user.</td>
</tr>
<tr>
<td>/upstream-limit &lt;KBytes-sec&gt;</td>
<td>Upload throttle value. If 0, no throttle.</td>
</tr>
<tr>
<td>/downstream-limit &lt;KBytes-sec&gt;</td>
<td>Download throttle value. If 0, no throttle.</td>
</tr>
</tbody>
</table>

Delete option

Remove an existing host entry.

Syntax

CIFS-ECS_cli [remote options] Host <name> /delete [options]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;name&gt;</td>
<td>Name of host entry to delete (required).</td>
</tr>
</tbody>
</table>

If a host entry is currently referenced by a "Drive" definition, the host entry cannot be deleted.

Drive command and options

The Drive command allows you to list CIFS-ECS virtual drive definitions, and to add, modify, or delete a virtual drive definition.

List option

List specified (or all) CIFS-ECS definitions.
CIFS-ECS CLI Commands

Syntax

CIFS-ECS_cli [<remote options>] Drive [<CIFS-ECS>] /list [<options>]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;drive or path&gt;</td>
<td>Optional: Virtual drive (such as &quot;J&quot; or &quot;:&quot;) or path to drive cache directory. Lists the definition for the specified drive. If &lt;drive&gt; is not specified, display a list of all CIFS-ECS virtual drive definitions.</td>
</tr>
<tr>
<td>/v</td>
<td>Optional: List all information about the drive entry. If /v is not specified, each drive entry is a single line with minimal information.</td>
</tr>
</tbody>
</table>

Example

> CIFS-ECS_cli Drive /list /v

O:\, C:\ProgramData\EMC CIFS-ECS Data\O_Drive\ Enabled
   Modify Wait Time (seconds): 60
   Access Wait Time (seconds): 120
   Update Wait Time (seconds): 60
   Open Wait Time (seconds): 120
   Cloud Host: IS-1-001
   Bucket: 1001
   Metadata Rules:
      Tag: GD-replicate jpg
      Value: .jpg

Add/Modify option

Add or modify the CIFS-ECS definition.

Syntax

CIFS-ECS_cli [<remote options>] Drive /add [<options>]
CIFS-ECS_cli [<remote options>] Drive <CIFS-ECS> /modify [<options>]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
<th>add/modify</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;drive or path&gt;</td>
<td>Virtual drive (such as &quot;J&quot; or &quot;:&quot;) or path to drive cache directory.</td>
<td>/modify only</td>
</tr>
<tr>
<td>/drive &lt;driveletter&gt;</td>
<td>Creates a new drive. Specify the virtual drive letter to create (if available).</td>
<td>/add only</td>
</tr>
<tr>
<td>/newdrive</td>
<td>Creates a new drive without specifying a drive letter (default).</td>
<td>/add only</td>
</tr>
<tr>
<td>/nonewdrive</td>
<td>Do not create a virtual drive. Files are accessed through the cache path.</td>
<td>/add only</td>
</tr>
<tr>
<td>/cache &lt;cache path&gt;</td>
<td>Backing path. If not specified, a path off the data directory will be used. Either /letter or /cache must be specified.</td>
<td>/add only</td>
</tr>
<tr>
<td>/description &lt;description&gt;</td>
<td>Description.</td>
<td>Applies to both.</td>
</tr>
<tr>
<td>/fileexclude &lt;excludes&gt;</td>
<td>Per-file excludes, separated by ';'. (*.tmp for example).</td>
<td>Applies to both.</td>
</tr>
<tr>
<td>/direxclude &lt;excludes&gt;</td>
<td>Per-directory excludes, separated by ';'.</td>
<td>Applies to both.</td>
</tr>
</tbody>
</table>
Delete option
Remove an existing virtual drive definition.

Syntax
CIFS-ECS_cli [remote options] Drive <drive or path> /delete [options]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pathexcludes &lt;excludes&gt;</td>
<td>Excludes from the root of the cache directory (or virtual drive). For example: filetoexclude.txt;dirtoexclude\filetoexclude.txt</td>
</tr>
<tr>
<td>/AccessTime &lt;seconds&gt;</td>
<td>How long a time a file is not accessed before replacing the file with a stub.</td>
</tr>
<tr>
<td>/ModifyTime &lt;seconds&gt;</td>
<td>How long a time a file is not modified before uploading the file to the cloud.</td>
</tr>
<tr>
<td>/AccessUploadTime &lt;seconds&gt;</td>
<td>How long to wait before replacing a local file with a stub.</td>
</tr>
<tr>
<td>/AccessRestoreTime &lt;seconds&gt;</td>
<td>How long to wait before replacing a local file with a stub after restore.</td>
</tr>
<tr>
<td>/OpenTme &lt;seconds&gt;</td>
<td>If a file is open for longer than this specified value (in seconds), take a shadow copy of the file and upload it.</td>
</tr>
<tr>
<td>/UpdateTme &lt;seconds&gt;</td>
<td>How long CIFS-ECS waits before checking the cloud for updated content.</td>
</tr>
<tr>
<td>/Host &lt;host_id&gt;</td>
<td>Specify a host entry (created with &quot;CIFS-ECS_cli Host /add&quot;) location where the data is to be uploaded.</td>
</tr>
<tr>
<td>/bucket &lt;bucket name&gt;</td>
<td>Bucket used on the Host server.</td>
</tr>
</tbody>
</table>

Add and remove metadata commands and options
Add metadata tags to implement ECS policies. You can also remove metadata tags.

Syntax
CIFS-ECS_cli [remote options] Drive <drive or path> /addmd /tag <tagname> /value <value> [/path <directory>] [/subdirs] [/pattern <filename pattern>]
CIFS-ECS_cli [remote options] Drive <drive or path> /removemd [/tag <tagname>] [/all]

<table>
<thead>
<tr>
<th>Add or remove metadata option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive &lt;drive or path&gt;</td>
<td>Virtual drive (such as &quot;J&quot; or &quot;:&quot;) or path to drive cache directory.</td>
</tr>
<tr>
<td>/addmd</td>
<td>/removemd</td>
</tr>
<tr>
<td>/tag &lt;tagname&gt;</td>
<td>The name of the metadata tag.</td>
</tr>
</tbody>
</table>

CIFS-ECS CLI Commands

### ExportConfig command and options

Write the entire configuration to a file.

**Syntax**

```
CIFS-ECS_cli [remote options] ExportConfig <options>
```

<table>
<thead>
<tr>
<th>ExportConfig option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pass *</td>
<td>&lt;password&gt;</td>
</tr>
<tr>
<td>&lt;path to config file&gt;</td>
<td>The path to a file that is created containing the configuration (required).</td>
</tr>
</tbody>
</table>

### Force command and options

Force CIFS-ECS to start an upload.

**Syntax**

```
CIFS-ECS_cli [remote options] Force <path or drive>
```

<table>
<thead>
<tr>
<th>Force option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;path or drive&gt;</td>
<td>The path to the drive (or the drive) that you want to immediately force an upload on (as opposed to waiting for the CIFS-ECS upload wait time to expire).</td>
</tr>
</tbody>
</table>

### ImportConfig command and options

Restore the configuration from a file.

**Syntax**

```
CIFS-ECS_cli [remote options] ImportConfig <options>
```

<table>
<thead>
<tr>
<th>ImportConfig option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/pass *</td>
<td>&lt;password&gt;</td>
</tr>
<tr>
<td>&lt;path to config file&gt;</td>
<td>The path to a file containing the configuration.</td>
</tr>
</tbody>
</table>
Version command and options

Display the version of CIFS-ECS.

Syntax

CIFS-ECS_cli [remote options] Version

Log command and options

Display a portion of the CIFS-ECS logs.

Syntax

CIFS-ECS_cli [remote options] Log <options>

<table>
<thead>
<tr>
<th>Log options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/info</td>
<td>/noinfo</td>
</tr>
<tr>
<td>/warning</td>
<td>/nowarning</td>
</tr>
<tr>
<td>/severe</td>
<td>/nosevere</td>
</tr>
<tr>
<td>/error</td>
<td></td>
</tr>
<tr>
<td>/start &lt;time&gt;</td>
<td>Specify start time. If this option is omitted, start from the beginning of the log.</td>
</tr>
<tr>
<td>/end &lt;time&gt;</td>
<td>Specify end time. If this option is omitted, go to the end of the log.</td>
</tr>
<tr>
<td>/v</td>
<td>Verbose. Include all information for each log message.</td>
</tr>
</tbody>
</table>

The format for start and end <time> values is:

“<Month>/<Day>/<Year> <Hour>:<Minute> [AM/PM]”

depending on locale. For example, in much of Europe, this may be in a Day/Month/Year format. The <time> value must be enclosed in double quotation marks if it includes an embedded space.

Enter CIFS-ECS_cli /? to display usage and show the syntax for time and date for the current locale.

UploadQueue command and options

The CLI UploadQueue feature allows an administrator to generate a list of all files currently being transferred as well as those awaiting transfer. The files display in the order of the queue with the files at the top scheduled to be transferred last. Files listed with an asterisk are currently being transferred.

Syntax

CIFS-ECS_cli UploadQueue [/out <file>] [/utf8] [/utf16]

<table>
<thead>
<tr>
<th>Command option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/out &lt;file&gt;</td>
<td>The location to send the generated file. If the /out &lt;file&gt; option is not specified, the list is sent to the console.</td>
</tr>
<tr>
<td>/utf8 /utf16</td>
<td>Encode the list in UTF-8. Encode the list in UTF-16LE. If neither is specified, the file is formatted in ASCII.</td>
</tr>
</tbody>
</table>
Example

In the following example, the UploadQueue command is used to send the current queue to a file named “Test1” in the “My Documents” folder for user1:

C:\Users\user1>CIFS-ECS_cli UploadQueue /out “My Documents\Test1” /utf8
C:\Users\user1>

Each line of the output file provides the CIFS-ECS letter, file path, and file name. The following example shows the current queue of files awaiting upload and those currently being transferred (with an asterisk):

F:\Test Files\Zipped\Reading Materials.zip
F:\Test Files\Project\testplan.doc
* F:\Test Files\Sample Pdf\EMC Network Storage Topology.pdf
* F:\Test Files\Sample Pictures\Flower\Tulips.jpg
* F:\Test Files\Sample Videos\Wildlife.wmv
* F:\Test Files\Sample Word\Test Plan0.3.docx

Pause/Resume upload command and options

Pause or resume the upload of the specified CIFS-ECS.

Syntax

CIFS-ECS_cli [remote options] Pause|Resume <drive or path>

<table>
<thead>
<tr>
<th>Pause/Resume option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;drive or path&gt;</td>
<td>This is either the virtual Drive letter (:) or the path to the cache directory (for example “C:\ProgramData\EMC CIFS-ECS Data\E_Drive”).</td>
</tr>
</tbody>
</table>

Status command and options

Display the current status of the CIFS-ECS.

Syntax

CIFS-ECS_cli [remote options] Status [drive or path]

<table>
<thead>
<tr>
<th>Status option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;drive or path&gt;</td>
<td>This is either the virtual Drive letter (:) or the path to the cache directory.</td>
</tr>
</tbody>
</table>

This displays the status of each specified CIFS-ECS. If none is specified, it displays the status of all CIFS-ECSs.

The Connection status provides:

- If not connected: Last connection time, last connection error.

Example

Two examples follow. The first example shows no error.

C:\Users\Administrator\Desktop>CIFS-ECScli status
Host: ECS Test Drive, Path: C:\ProgramData\EMC CIFS-ECS Data\F_Drive

This second example shows a connection error:

C:\Users\Administrator\Desktop>CIFS-ECScli status
Host: ECS Test Drive, Path: C:\ProgramData\EMC CIFS-ECS Data\F_Drive
Disconnected - Last Error: 12002 - The operation timed out
UserDB command and options

The UserDB command allows you to list User Database entries, append new entries, or delete existing entries.

**List option**
Output a CSV (comma separated value) file of all entries in the user database.

**Syntax**
CIFS-ECS_cli [remote options] UserDB /list <filename>

**Append option**
Take as input a list of Window account/S3 user pairs. Optionally include the ECS S3 User ID. For each user specified, add it to the database. If the key is not specified, then SYSTEM_ADMIN credentials must have been supplied so it can obtain the key from the server.

**Syntax**
CIFS-ECS_cli [remote options] UserDB /append <filename>

**Delete option**
Take as input a list of Windows account/S3 user pairs. All matching users in the list are deleted.

**Syntax**
CIFS-ECS_cli [remote options] UserDB /delete <filename>
CHAPTER 3
CIFS-ECS administrator tasks

As an administrator, you should configure the CIFS-ECS software to meet the needs of your operations. To accomplish this, you may need to perform one or more tasks as described in this chapter. These require administrative privileges. This chapter contains the following topics:

- Verifying CIFS-ECS support for bucket retention ....................................................... 26
- Translating ECS/Windows permissions.................................................................... 26
Verifying CIFS-ECS support for bucket retention

CIFS-ECS supports buckets that are configured to put all data into retention. This support is automatic and does not require any specific configuration.

For bucket-retention support, ensure the following:

1. For ECS, open the ECS UI to verify that the bucket exists and the retention time period is set for the bucket. If the bucket does not exist or a retention time period is not set, use the ECS UI to create it and set the retention time period.

2. For CIFS-ECS, verify that a cloud drive is configured for the specific bucket. If the cloud drive is not configured, refer to the EMC CIFS-ECS User Guide for complete information about configuring a cloud connection.

Behavior for a bucket with a retention setting is different than the behavior for a bucket without retention. When using bucket-level retention, the behavior is:

- As soon as a file has been uploaded to ECS, it will become read-only. The Read Only attribute is set and cannot be changed.

- Any attempt to modify the file or remove the Read Only attribute results in Access Denied error.

- Once the retention time period has elapsed, the file will become writeable again, contingent on the following:
  - CIFS-ECS determines that the object is no longer in retention by comparing the object’s creation time and the retention period. To do so, the clock in ECS must be synchronized with the clock in the Windows server. If the times are not synchronized, the CIFS-ECS calculation will be inaccurate.
  - Update Wait Time can have an effect on when CIFS-ECS will check if an object is out of retention. For instance, if Update Wait Time is 1 week, then CIFS-ECS may not allow changes to the file up to 1 week after the object becomes writable in ECS.

Translating ECS/Windows permissions

During installation when creating an CIFS-ECS cloud drive, you can enable the Translate ECS/Windows Permissions option. If enabled, this option translates the Windows permissions into an equivalent ECS/S3 access control list (ACL) when uploading the file. To use this feature, CIFS-ECS needs the complete list of Windows users and their corresponding ECS/S3 account name. This is maintained using the CIFS-ECS console.

When CIFS-ECS uploads a file, it creates an ACL that attempts to match the corresponding ACL in the file security descriptor. CIFS-ECS reads through the list of ACE entries in the Windows security descriptor. Any DENY entries and write-only files are ignored.

For all Allow entries, CIFS-ECS looks up the user in the CIFS-ECS user database:

- If a user is found, CIFS-ECS creates an ACL entry for that user with the same capability (read/write/full control).

- If the user does not exist in the database, it is ignored.

- Top level group entries are expanded to their list of users.

- Audit entries, owner and primary group are ignored.
Note: When uploading files, the ACL is specified as an HTTP header entry. This creates an upper limit for the number of object user IDs that can be specified for a single file. For example, if you add "Domain Users" to the User Database and a file specifies "Domain Users" for READ access, the HTTP header size limit will likely be exceeded if you have hundreds or thousands of domain users.

Enabling Windows/ECS Permission support

While configuring a cloud connection, be sure to test the connection between the CIFS-ECS and the ECS cloud as described in the EMC CIFS-ECS User Guide. In some cases, a separate HTTPS certificate must be installed. Consult the EMC CIFS-ECS User Guide about troubleshooting and SSL certificates.

Enable the Translate ECS/Windows Permissions option on the Settings tab of the Create Cloud Drive wizard. By default, this feature is disabled since it impacts performance and requires that the User Database be maintained. Refer to the EMC CIFS-ECS User Guide for information about the Translate ECS/Windows Permissions option while configuring a cloud connection.

Maintaining the user database

The local database is maintained by the CIFS-ECS console and CLI.

To perform maintenance tasks, you must have ECS SYSTEM_ADMIN credentials for the ECS server.

To view the User Database list, next to the Home menu, select CIFS-ECS icon > Windows/ECS Accounts.

In the Windows/ECS Account Maintenance dialog, you can see the current User Database list, as well as add and remove entries individually or in bulk.

In the User Database list, the Windows Account name matches the ECS S3 user name. In some cases, the ECS S3 user name includes an optional prefix (for example “win.frank”).

If you want to create a Windows user name that is different from the ECS user name, you must use the Manual Add option (“Manually adding users” on page 28).

Adding or creating users

The first time you use the Add option, you are prompted for SYSTEM_ADMIN credentials for the ECS server. The CIFS-ECS uses the credentials to create users in ECS that correspond with the Windows accounts.

To add or create users in the User Database list:

1. In the Windows/ECS Account Maintenance dialog, click Add.
2. If prompted, provide your ECS SYSTEM_ADMIN user name and password.
   a. Click Test to verify the connection between the CIFS-ECS host and the ECS cloud. In some cases, a separate HTTPS certificate needs to be installed on the local server. Consult the EMC CIFS-ECS User Guide about troubleshooting and SSL certificates.
   b. Click OK.
3. In the form, select a Windows user or group to query the Windows Active Directory.
CIFS-ECS administrator tasks

If you selected a group, it is the same as selecting all of the users in that group. For each user, CIFS-ECS checks if the user exists in the User Database. If so, CIFS-ECS verifies that the user is also an ECS S3 user.

If the user is not in the User Database, CIFS-ECS creates the ECS S3 object user and creates an entry in the database.

**Manually adding users**

To add or to create a Windows user name that is different from the ECS user name:

1. In the Windows/ECS Account Maintenance dialog, click Manual Add.
2. In the form, provide the Windows account, ECS S3 object user ID and secret.

   The manual Add option will not create the S3 object user. The S3 object user ID must already exist.

**Deleting users**

To delete users from the User Database list and the corresponding ECS S3 object users:

1. In the Windows/ECS Account Maintenance dialog, select one or more entries from the User Database list.
2. Click Delete.