Tiger Technology

Tiger BRIDGE

Tiger Bridge 3.0 Administration Guide

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Introduction to Tiger Bridge

Congratulations on your purchase of Tiger Bridge, Tiger Technology's data lifecycle manager across storage tiers. By pairing heterogeneous storage systems into a virtual storage unity and automating the assignment of data to one or the other tier, Tiger Bridge allows you to address various workflow challenges - from alignment of data with storage costs, transparent data migration and synchronization between storage devices or geographically dispersed places, to extending your primary storage on the cloud and gateway to object storage.

How It Works

As soon as you install and activate Tiger Bridge on the computer, you can create pairs consisting of a local and a target storage system (see "Storage Requirements" on page 11 for a list of supported source and target storage systems). While users and applications work directly on the source location (the local storage tier), the virtual storage unity displays the contents of both the source and the target as if it is stored locally. By applying one or all of the following data lifecycle management mechanisms, Tiger Bridge distributes data among the two layers of the virtual unity:
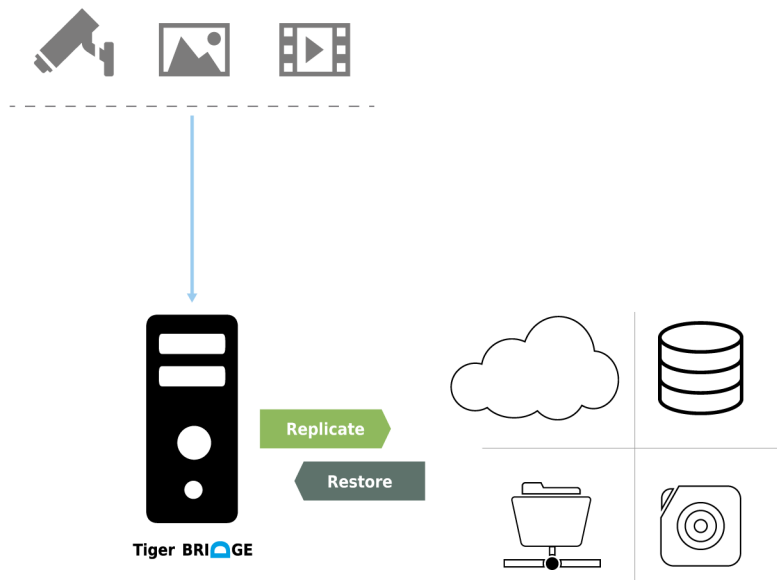
data replication — Tiger Bridge copies a file from the source to the target. Automatic replication is performed based on user defined criteria. You can also manually replicate data from the source to the target, using Tiger Bridge's command-line interface or the shell extension.

space reclaiming — Tiger Bridge frees space on the source by replacing a replicated file with a nearline file. A nearline file looks exactly like the actual file it replaces, but doesn't contain any data and doesn't take up space on your source. A nearline file points to the actual file on the target, which allows its retrieval back on the source. The retrieval from the target is automatic, should a user, an application or a process attempt to access the nearline file, or manual, through Tiger Bridge. Automatic space reclaiming is performed based on user defined criteria. You can also perform manual space reclaiming, using Tiger Bridge's command-line interface or the shell extension.

data archiving — Tiger Bridge frees space on the source by replacing a replicated file with an offline file. An offline file looks exactly like the actual file it replaces, but doesn't contain any data and doesn't take up space on your source. An offline file points to the actual file on the target, but unlike nearline files it can be retrieved back on the source only manually, through Tiger Bridge. Automatic archiving is performed based on user defined criteria. You can also manually archive files, using Tiger Bridge's command-line interface or the shell extension.

active sync — automatically synchronize the contents of multiple sources, each on a different computer running Tiger Bridge, through a common target. Designed to facilitate geo replication scenarios, this mechanism allows you to select whether to synchronize the contents across all sources paired with the same target or set some sources to update their contents with updates from other sources.

data synchronization — Tiger Bridge allows you to manually synchronize the contents of a target with its source. In case Tiger Bridge detects that a file on the target is not available on the source, the synchronization mechanism automatically creates a nearline counterpart for the missing file. Manual data synchronization facilitates scenarios involving data migration from one source to another and disaster recovery of data.

In combination with additional configuration parameters Tiger Bridge can be deployed for any of the following purposes:

• data backup and disaster recovery.

• alignment of data with storage costs.

• extending local storage or a file server's storage capacity on another storage system.

• lowering costs for block storage in the cloud.

• interfacing object storage.

• geo replication.

Tiger Bridge Interfaces

Command-line Interface

The command-line interface lets you activate and configure the product and perform manual data lifecycle operations. The main advantage of using the command-line interface is that you can automate specific tasks by including the commands in a script.

To access the command-line interface of Tiger Bridge:

1. In command prompt, execute the following:

```
tiercli
```

Tiger Bridge lists the available commands.

2. To view the command syntax with examples, simply execute a command without providing additional parameters. For example, to view the available commands for specifying target type, execute the following:

```
tiercli config target
```

Tiger Bridge Configuration

The Tiger Bridge Configuration provides graphical user interface for performing almost all commands available in the command-line interface. You can install the Tiger Bridge Configuration during installation of the product or later as a separate component.

To access the Tiger Bridge Configuration:

1. Do one of the following:

- Double-click the Tiger Bridge Configuration shortcut on the desktop.

• Navigate to the installation folder of the Tiger Bridge Configuration and double-click TigerBridgeConfiguration.exe
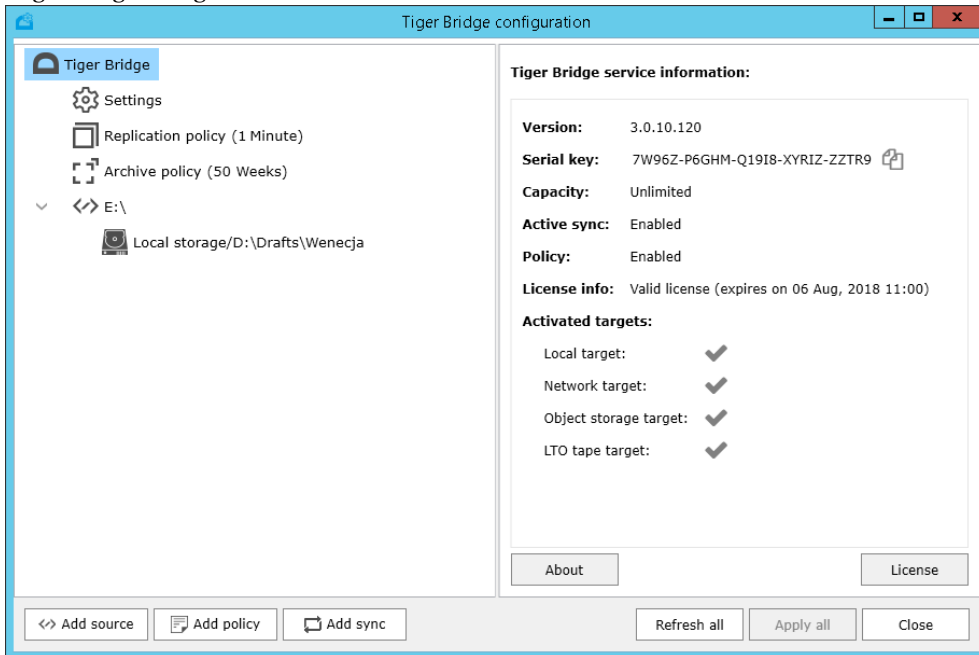
Tiger Bridge Shell Extension

The shell extension of Tiger Bridge is integrated with Windows Explorer and displays the status of files and folders on your source - replicated, nearline or archive, and also allows you to perform manual data lifecycle management operations, using the Tiger Bridge menu in the Windows Explorer context menu.

The shell extension can be installed during Tiger Bridge installation or later, following the same steps.

To access the Tiger Bridge shell extension context menu:

1. In Windows Explorer, navigate to a source paired with a target.

2. Right-click the file/folder you want to manage and in the context menu select the respective command under Tiger Bridge.
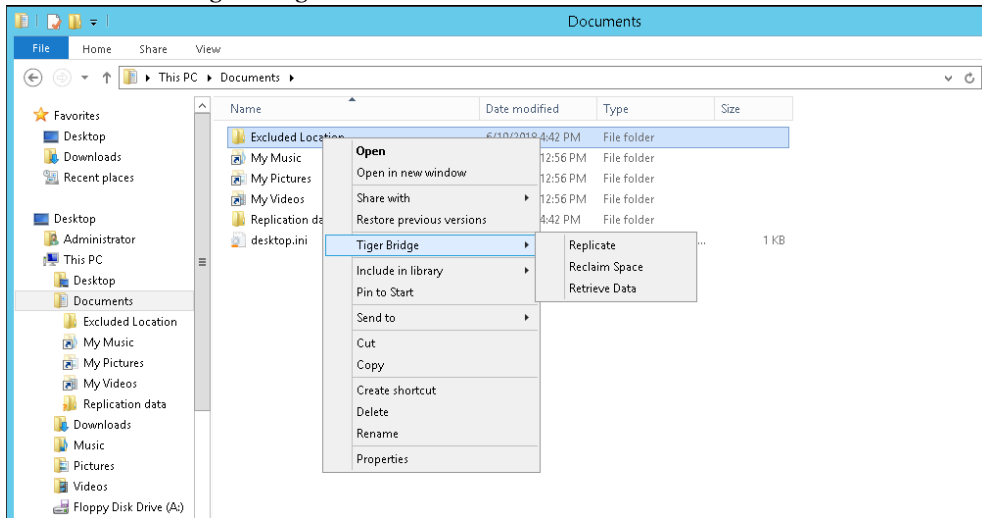
System Requirements

You can install Tiger Bridge and the Tiger Bridge Configurator on a computer that meets these minimum system requirements:

• PC with 64-bit (x64) processor.

> **Note:** *Tiger Bridge actively uses the APIs provided by the target provider (S3, DDN WOS, etc.). These APIs may take significant amount of CPU depending on connection and the amount of data moved. Please, refer to the minimum CPU requirements of your target provider.*

• 64-bit Microsoft Windows® 7/Server 2008 R2/Windows® 8/Server 2012/Server 2012 R2/ Windows® 10/Server 2016.

• 4 GB of physical RAM at least.

• 30 MB of available hard-disk space for installation.

> **Note:** *Tiger Bridge keeps track of the files it manages in a database, stored in the product installation folder. The size of the database grows proportionally to the number of files managed. For example, if Tiger Bridge manages 1 000 000 files, the size of the database is approximately 100MB. Unless there's enough free space for the database, Tiger Bridge is unable to operate.*

Storage Requirements

Source Storage Requirements

Tiger Bridge supports any already existing NTFS volume, mounted on the computer running Tiger Bridge as a local volume with Read & Write permissions. The source volume can contain data prior to pairing it with the target.

Target Storage Requirements

Currently, Tiger Bridge provides support for the following targets:

- Microsoft Azure Blob Storage

- Amazon S3 object storage

- S3-compatible object storage (using protocol signature version 2)

- Spectra BlackPearl Deep Storage Gateway

- IBM Cloud Object Storage

- DDN Web object scaler (WOS)

- Backblaze B2 Cloud Storage

- SMB/CIFS network share

- another volume, mounted on the computer as a local volume with Read & Write permissions

- tape library

    Note: *Currently, Tiger Bridge supports tape libraries with only up to 2 tape drives. Additionally, Tiger Bridge doesn't support active retrieval of data from a tape library target i.e. you can use a tape library only as a target only for archival purposes (data can be retrieved only manually).*

Introduction to Tiger Bridge

Get Started with Tiger Bridge

Before you configure Tiger Bridge for the desired deployment, you should perform the initial setup of the product, which consists of the following procedures:

• Install Tiger Bridge on the designated computer.

• Activate Tiger Bridge.

• Pair source location with a target.

• Specify a list of locations on your source(s), whose data Tiger Bridge should automatically manage.

> **Note:** *If you have paired the source and target through the command-line interface, by default, Tiger Bridge does not automatically manage any data on the source until you specify locations on the source, whose data should be automatically managed. If you have paired the source and target through the Tiger Bridge Configuration, by default, Tiger Bridge automatically manages all data on the source.*

• Enable SAN mode for sources on Tiger Store-managed volumes.

• Specify data format on the cloud (for object storage targets only).

Install Tiger Bridge

During Tiger Bridge installation, you can select to install the following components:

• Tiger Bridge - installs the product and the command-line interface.

• Shell Extension - provides integration with Windows Explorer, allowing you to view the status of files and folders on your source (replicated, nearline or offline), and to perform manual data lifecycle management operations through the Windows Explorer context menu.

• REST Service - provides the communication between the Tiger Bridge service and the other components and third party products.

• Tiger Bridge Configuration - provides graphic user interface for configuring the product.

To install Tiger Bridge and additional components:

1. Double-click the Tiger Bridge installation file.

2. Select the folder where to install Tiger Bridge, accept the terms of the software license agreement and click Next.
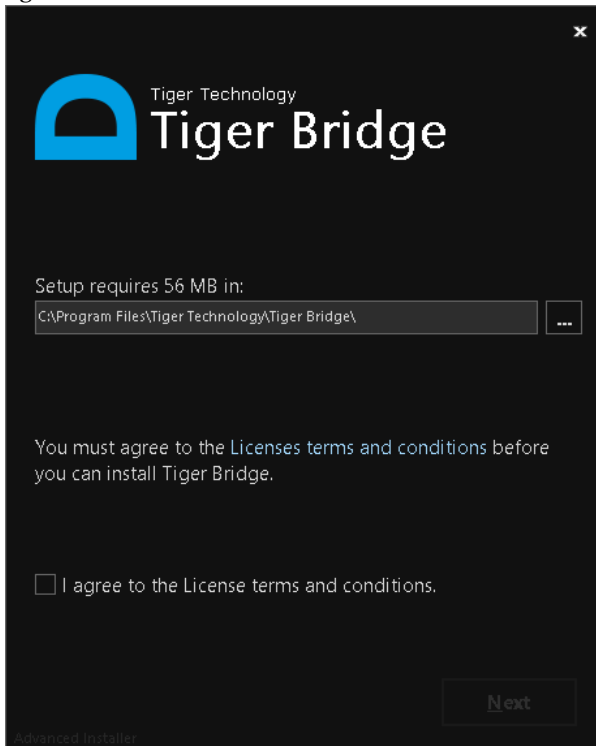
3. Make sure the check boxes of the components you want to install are selected and then click Install.
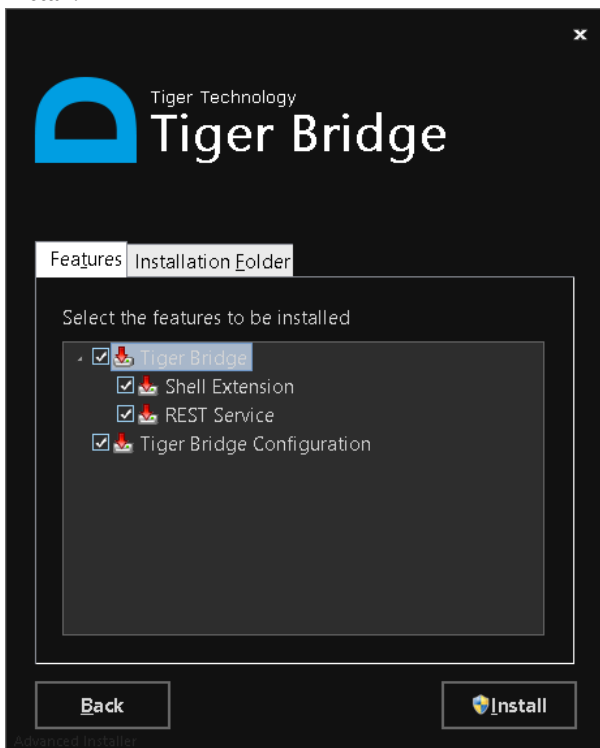
Note: *If you clear the check box of a component, you can install it later, following the same installation steps.*

4. When the installation finishes, click Finish.

5. Restart the computer, when prompted.

Uninstall Tiger Bridge

You can uninstall Tiger Bridge and/or any of the additional components at any time. After you uninstall Tiger Bridge, you will not be able to retrieve any replicated file, which has a copy only on the target, except by manually accessing the target. Tiger Bridge preserves the link between files on the source and the target, and should you decide to install it again, you will be able to retrieve all your files from the target.

To uninstall Tiger Bridge:

1. In Control Panel, go to Programs and Features.

2. Right-click Tiger Bridge and select Uninstall.

3. When prompted to confirm that you want to remove Tiger Bridge from the computer, click Yes.

The uninstallation of Tiger Bridge warns you that you will have to reboot the computer to complete the uninstallation.

4. Click OK.

5. When prompted, restart the computer.

To uninstall the Tiger Bridge Configuration:

1. In Control Panel, go to Programs and Features.

2. Right-click Tiger Bridge Configuration and select Uninstall.

3. When prompted to confirm that you want to remove the Tiger Bridge Configuration from the computer, click Yes.

Activate Tiger Bridge

Before you activate Tiger Bridge it cannot manage any data on the source and the target. Tiger Bridge uses capacity based licensing designating the maximum amount of data Tiger Bridge manages. The capacity is calculated as the sum of the sizes of all files Tiger Bridge manages i.e. the sizes of all already replicated, nearline and offline files on the source volumes. Once you reach the capacity for your license, Tiger Bridge will simply stop replicating new files, but can still retrieve nearline/offline files from the target. The license also holds information about the supported targets and additional features

You can activate Tiger Bridge using one of the following:

• software activation key;

• software protection dongle, if such is detected;

• Software as a service (SaaS) license;

To view the activation status of Tiger Bridge on your computer:

Note: *If you are using Tiger Bridge on a Tiger appliance, to view the activation status of the product, refer to the Tiger Store Administration Guide.*

Do one of the following:

- (command-line interface) Execute the following:

`tiercli license info`

Tiger Bridge displays the activation status of the product and the targets allowed for your license.

- (Tiger Bridge Configuration) Click Tiger Bridge in the left pane and check the Tiger Bridge service information displayed in the right pane.
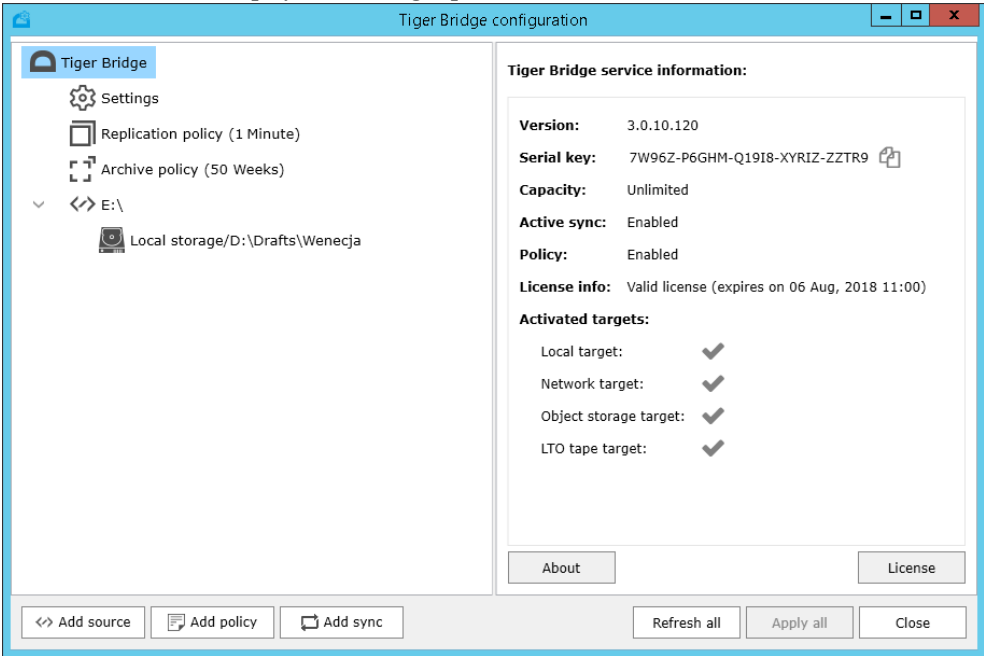
To activate Tiger Bridge with a software activation key in the Tiger Bridge Configuration:

1. Click Tiger Bridge in the left pane and click License in the right pane.
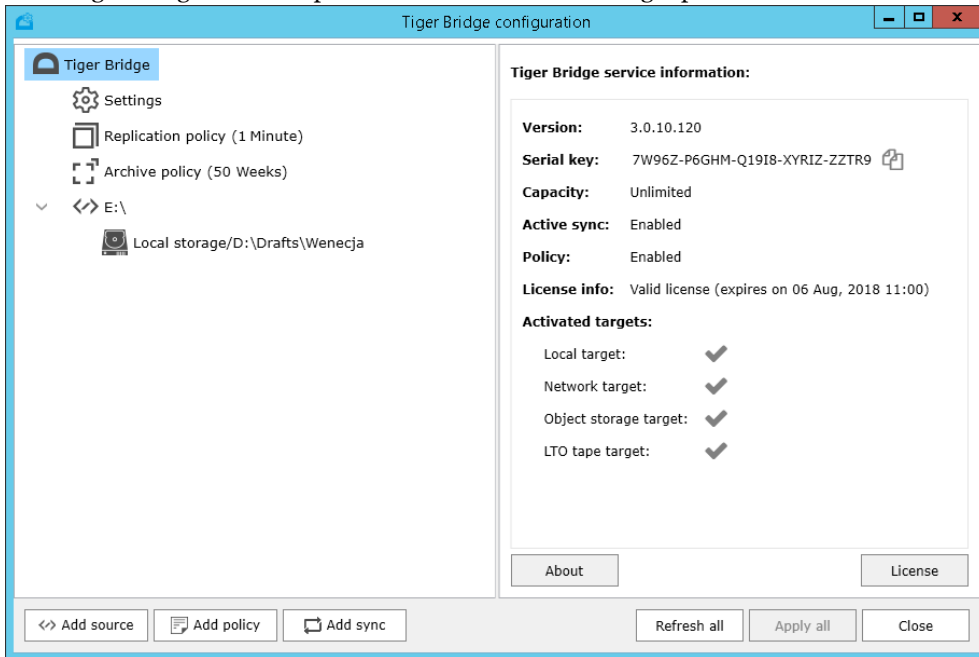
2. In the Tiger Bridge License dialog, select Soft and then copy the product serial key, by clicking the Copy button.
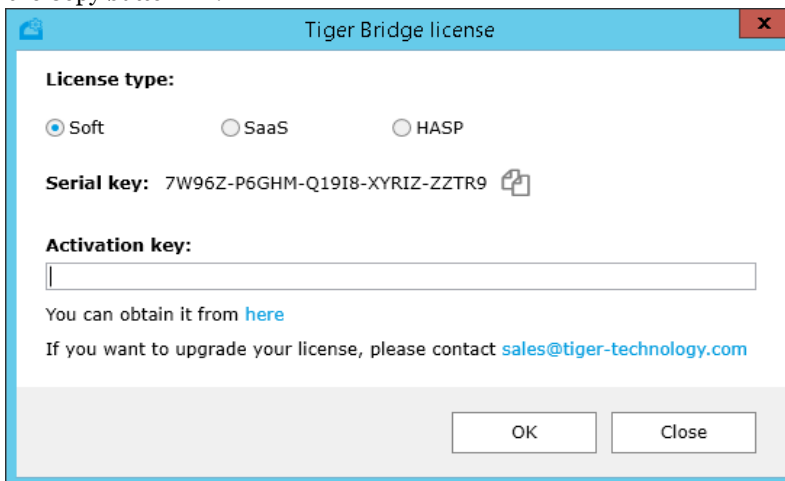
3. In a web browser go to
https://license.tiger-technology.com

> **Tip:** *You can click the link in the Tiger Bridge License dialog.*

4. In the home page of the licensing server, enter your order name and password in the corresponding fields, and click Log in.

> **Important:** *The order name and the password are case sensitive.*

5. In the Licensing Server menu, click Activate License.

6. Paste the serial number and click Generate Activation Key.

7. Copy the activation key generated for your license.

8. In the Tiger Bridge License dialog, paste the activation key and click OK.

To activate Tiger Bridge with a software activation key in command-line:

1. To display the Tiger Bridge serial key, execute the following:
```
tiercli license info
```

2. Copy the serial number and in a web browser go to
https://license.tiger-technology.com.

3. In the home page of the licensing server, enter your order name and password in the corresponding fields, and click Log in.

> **Important:** *The order name and the password are case sensitive.*

4. In the Licensing Server menu, click Activate License.

5. Paste the serial number and click Generate Activation Key.

6. Copy the activation key generated for your license.

7. In command prompt, execute the following:
```
tiercli license soft <activation key>
```

where **<activation key>** is the key generated for your serial number on the Tiger Technology licensing server.

To activate a Tiger Bridge SaaS license in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, click Tiger Bridge in the left pane and then click License in the right pane.
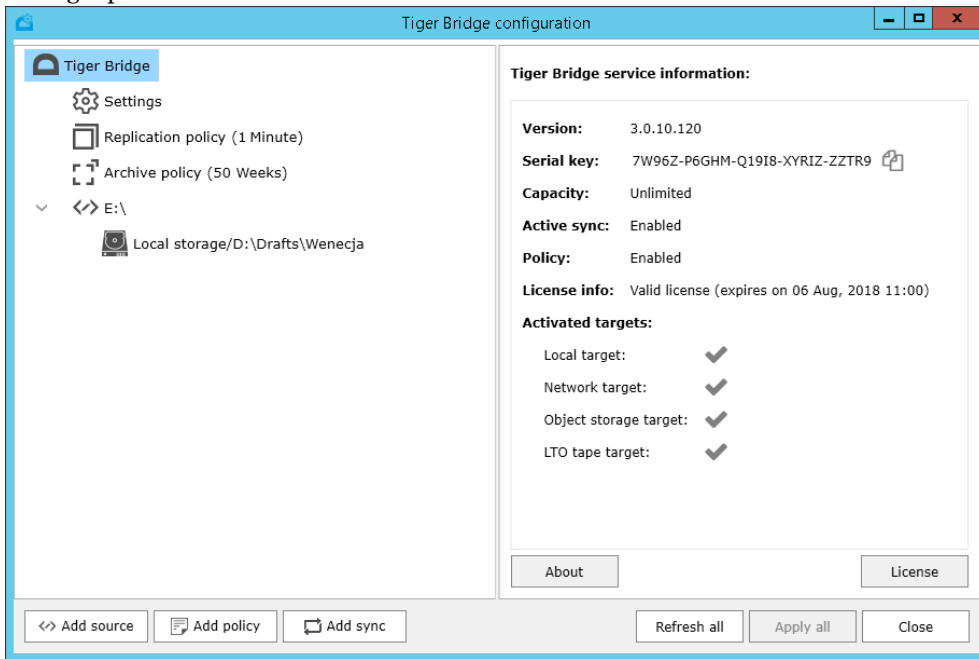
2. In theTiger Bridge License dialog, select SaaS, enter the username and password for your software subscription and then click OK.
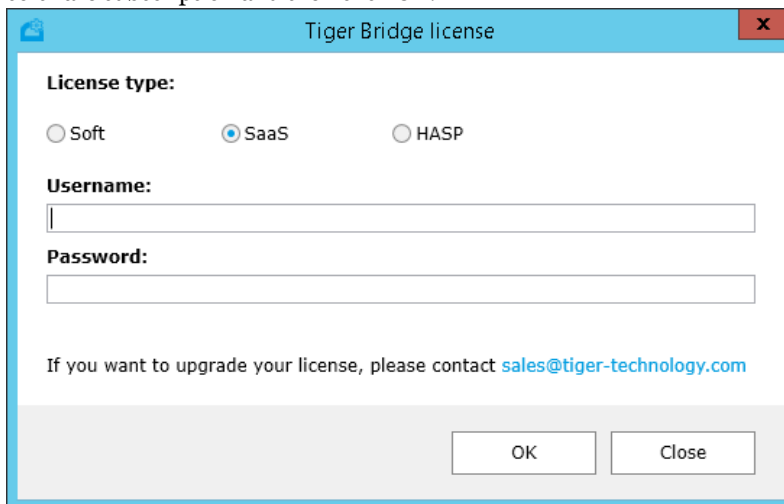
To activate a Tiger Bridge SaaS license in command-line:

In command prompt, execute the following:

```
tiercli license saas  <username> <password>
```

where **<username>** and **<password>** are the username and password for your software subscription.

To activate Tiger Bridge using a software protection dongle in the Tiger Bridge Configuration:

1. In a web browser go to https://license.tiger-technology.com.

2. In the home page of the licensing server, enter your order name and password in the corresponding fields, and click Log in.

Important: *The order name and the password are case sensitive.*

3. Next to the dongle name in the list, click "Download lic file".

Note: *The dongle name is its number, printed on the dongle itself.*

4. In the Tiger Bridge Configuration, click Tiger Bridge in the left pane and then click License in the right pane.
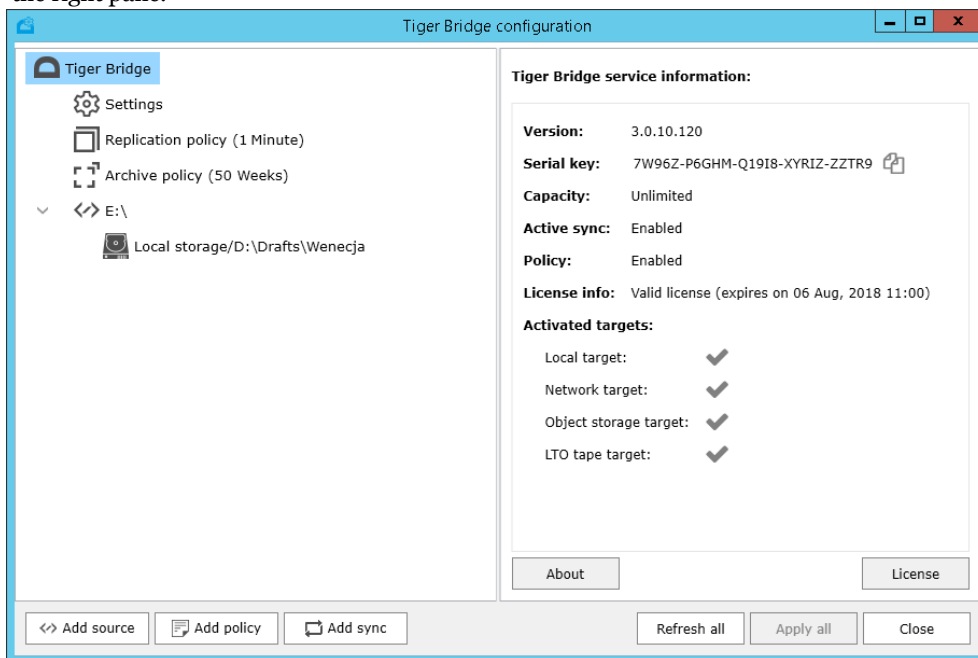
5. In the Tiger Bridge License dialog, select HASP and then click Browse.
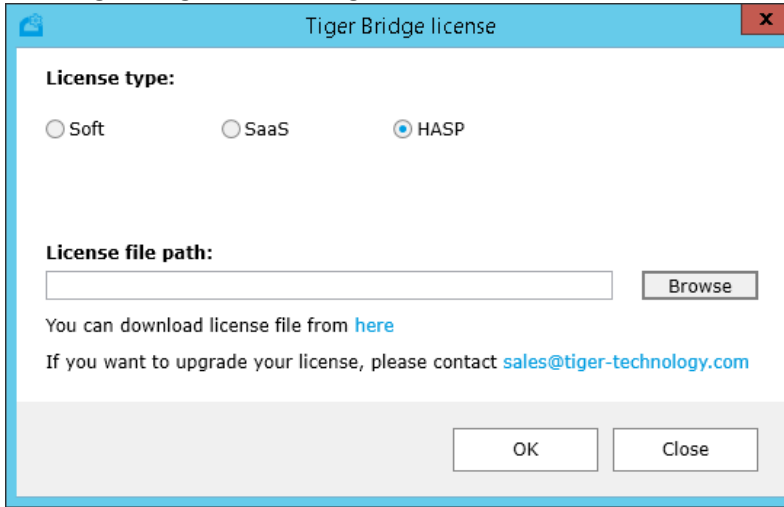
6. Browse to and double-click the downloaded license file, and then click OK.

To activate Tiger Bridge using a software protection dongle in command-line:

1. In a web browser go to
https://license.tiger-technology.com.

2. In the home page of the licensing server, enter your order name and password in the corresponding fields, and click Log in.

Important: *The order name and the password are case sensitive.*

3. Next to the dongle name in the list, click "Download lic file".

Note: *The dongle name is its number, printed on the dongle itself.*

4. In command prompt, execute the following:
`tiercli license hasp <lic_file_path>`

where `<lic_file_path>` is the full path to the downloaded license file on your computer.

Pair Source with a Target

To pair a source with the target, you need to specify the following parameters:

source — the root of a local NTFS volume or just a folder on it.

Note: *Specifying a folder as source allows you to pair folders on one and the same volume with different targets, and thus define different criteria for data replication, space reclaiming, data archiving, etc.*

target — you can pair a source with any of the following targets:

- Microsoft Azure Blob storage
- Amazon S3 object storage
- S3-compatible object storage (using protocol signature version 2)
- Spectra BlackPearl Deep Storage Gateway
- IBM cloud object storage
- DDN web object scaler (WOS)
- Backblaze B2 Cloud Storage
- SMB/CIFS network share
- another volume, mounted on the computer as a local volume with Read & Write permissions
- tape library

Note: *Currently, Tiger Bridge supports tape libraries with only up to 2 tape drives. Additionally, Tiger Bridge doesn't support active retrieval of data from a tape library target i.e. you can use a tape library as a target for archival purposes only (data can be retrieved only manually).*

In the command-line interface you can set a global target, valid for all sources and overwrite the global setting by assigning a different target for a specific source. In the Tiger Bridge Configuration you can set target only per source.

container on the target per source — each source must be paired with a container (a folder on a network share or NTFS volume, a bucket on an S3/DDN WOS storage system, etc.) on the selected target. The container prerequisites are outlined before the steps for pairing the source with each specific target.

Pair a Source with Microsoft Azure Blob Storage Target

To use Microsoft Azure Blob storage as a target, you should:

- provide the account name and key for access to the Azure Blob storage.

- create a separate container for each source on the same computer, from which you will replicate data to the same target.

Note: *You can use the same container for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

Important: *Do not change the name of the bucket as this may prevent Tiger Bridge replication from operating.*

To pair a source with Microsoft Azure in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/ folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select Azure and click OK.
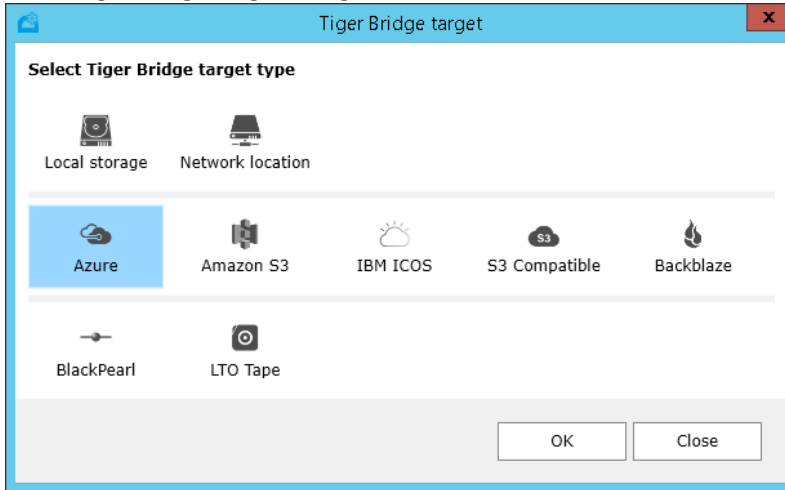
5. In the right pane of the Configuration, do the following:
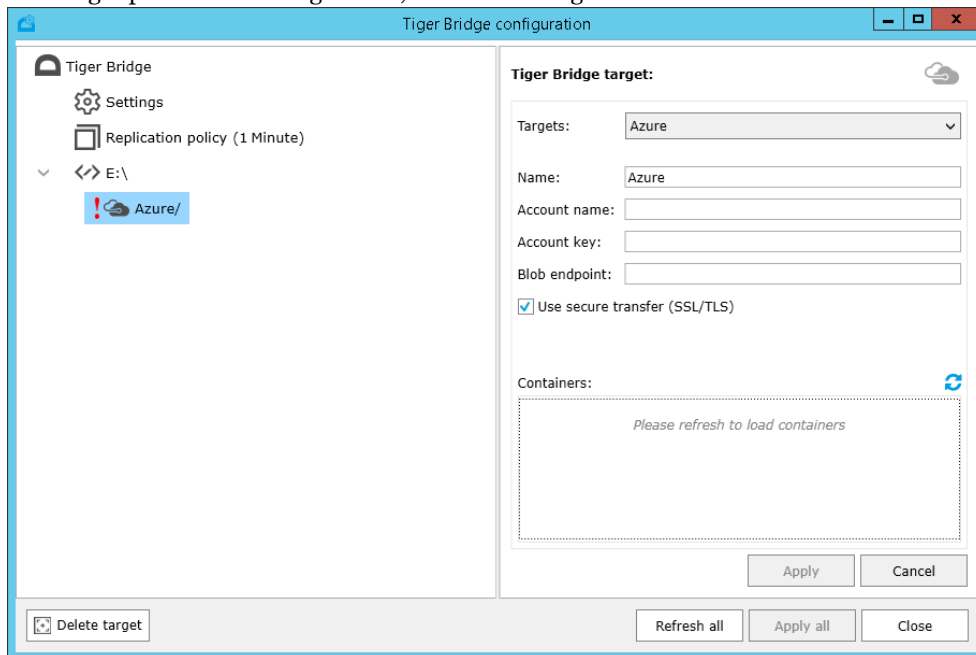
- Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the account name and key, and the Blob endpoint in the respective fields.

• Choose whether to access the target using secure transfer (SSL/TLS) by selecting or clearing the check box.

• Click the refresh button ⟳ to display the list of containers available for the account you have specified.

• Select the container on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same container for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with Microsoft Azure in the command-line interface:

1. In command prompt, set Microsoft Azure as target, by executing the following:
```
tiercli config <path to source> target azure <account_name>
<account_key> <blob_endpoint>
```
where:

• `<path to source>` is the full path to the source;

• `<account_name>` is the name of your account for the Azure service;

• `<account_key>` is the key for your account for the Azure service;

• `<blob_endpoint>` is the address of Azure Blob storage provider and is the protocol type you will use for access to it (http or https);

For example, to pair volume mounted as drive letter F:\ with Microsoft Azure Blob storage accessible with storage account **rwaccount** and account key:
`OPEkmf7v9ZHZPvNy2HWoxhDZu6QSFw0llCxam+ltoPegcAyw9YoJu8suuA/`
`QvDPQ4WdbekaTuoDn0wmDwoZ6pg==`, and the Azure Blob storage provider is accessible as
`test.blob.core.windows.net` through https protocol, execute the following:
```
tiercli config F: target azure rwaccount
OPEkmf7v9ZHZPvNy2HWoxhDZu6QSFw0llCxam+ltoPegcAyw9YoJu8suuA/
QvDPQ4WdbekaTuoDn0wmDwoZ6pg== https://test.blob.core.windows.net/
```

Note: *To set Microsoft Azure as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target azure <account_name> <account_key>
<blob_endpoint>
```

2. Pair the source with its container on the target, by executing the following:

`tiercli config <path to source> container <container name>`

For example, to pair volume "Projects" mounted as drive letter F: to a container "container1" on the Azure object storage, execute the following:

`tiercli config F: container container1`

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the container on the Azure object storage.*

3. Check if all settings are correctly configured, by executing the following:

`tiercli config show`

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

`tiercli config reload`

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with Amazon S3 Target

To use Tiger Bridge with Amazon S3 object storage as a target, you should:

• create a separate bucket for each source paired with the S3 object storage;

Note: *You can use the same bucket for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

• provide access key ID and secret access key for access to all buckets designated as containers for each source;

Important: *Do not change the name of the bucket on the S3 object storage as this may prevent Tiger Bridge replication from operating.*

To pair a source with Amazon S3 object storage in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, click Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume as a source, select the root of the volume and click OK.

• To add an existing folder as a source, browse to and select the folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, enter a name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select Amazon S3 and click OK.
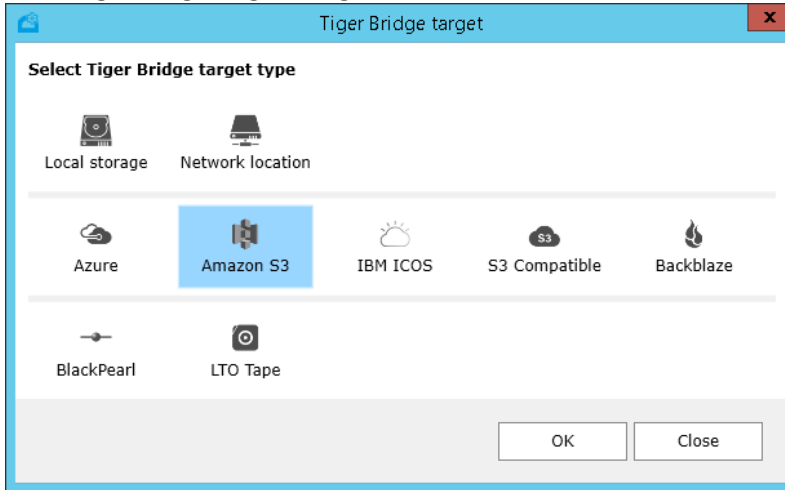
5. In the right pane of the Configuration, do the following:
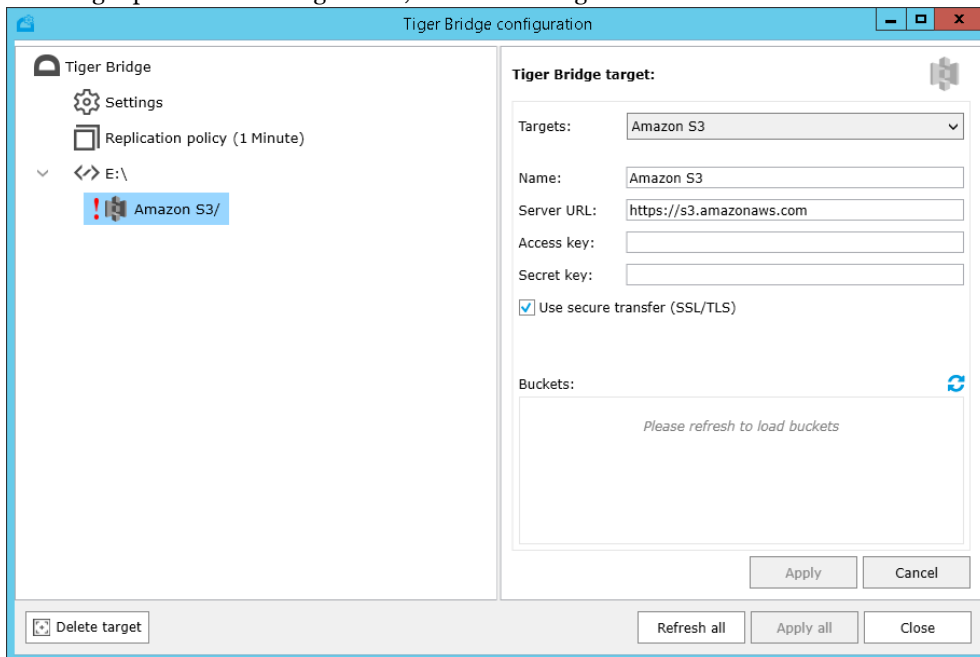
- Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the server URL, access and secret keys of the Amazon S3 target.

• Choose whether to access the target using secure transfer (SSL/TLS) by selecting or clearing the check box.

• Click the refresh button ⟳ to display the list of buckets available for the account you have specified.

• Select the bucket on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same bucket for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with Amazon S3 object storage in the command-line interface:

1. In command prompt, execute the following:

```
tiercli config <path to source> target s3 <access_id> <secret_key>
<server>
```

where:

• **<path to source>** is the full path to the source;

• **<access_id>** is the Access Key ID used for access to this server;

• **<secret_key>** is the Secret Access Key for access to this server;

• **<host name>** is the DNS name or IP address of the s3 object storage server;

For example, to pair volume mounted as drive letter F:\ with Amazon's web storage service (s3.amazonaws.com), accessible with Access Key ID: **AKIAI633LOZJPNTZUIBA** and Secret Access Key ID: **Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF**, execute the following:

```
tiercli config F: target s3 AKIAI633LOZJPNTZUIBA
Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF s3.amazonaws.com
```

Note: *To set Amazon S3 object storage as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target s3 <access_id> <secret_key> <server>
```

2. Pair the source with its designated bucket on the target, by executing the following:

```
tiercli config <path to source> container <name of the bucket on the
S3 object storage>
```

For example, to pair the local volume "Projects" mounted as drive letter F:\ with S3 object storage and replicate data in the bucket named "replicas", execute the following:

```
tiercli config F: container replicas
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the bucket on the S3-compatible object storage.*

3. Check if all settings are correctly configured, by executing the following:

```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with S3-compatible Object Storage Target

To use Tiger Bridge with S3-compatible object storage (using protocol signature version 2) as a target, you should:

• create a separate bucket for each source volume paired with the S3-compatible object storage.

Note: *You can use the same bucket for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

• provide access key ID and secret access key for access to all buckets designated as containers for each source volume;

Important: *Do not change the name of the bucket on the S3-compatible object storage as this may prevent Tiger Bridge replication from operating.*

To pair a source volume with S3-compatible object storage in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select S3 Compatible and click OK.
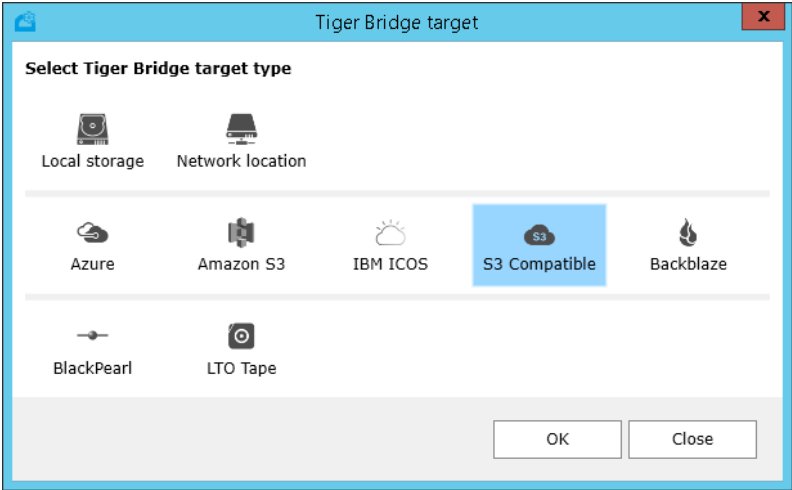
5. In the right pane of the Configuration, do the following:
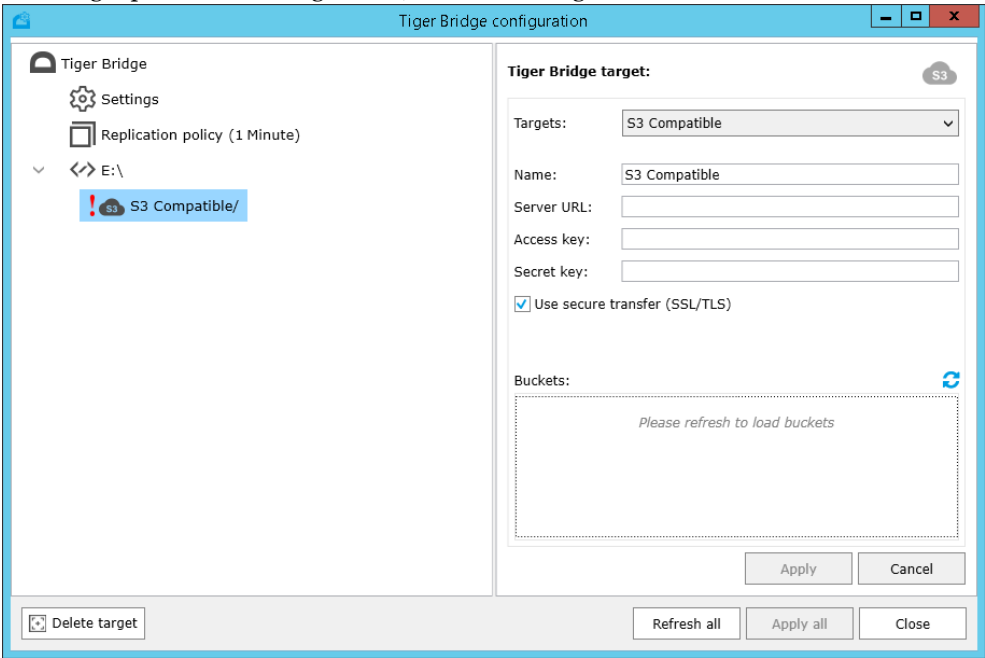
- Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the server URL, access and secret keys of the S3-compatible object storage target.

• Choose whether to access the target using secure transfer (SSL/TLS) by selecting or clearing the check box.

• Click the refresh button to display the list of buckets available for the account you have specified.

• Select the bucket on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same bucket for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source volume with S3-compatible object storage target in the command-line interface:

1. In command prompt, set s3-compatible object storage as target, by executing the following:
```
tiercli config <path to source> target s3compat <access_id>
<secret_key> <server>
```
where:

• **<path to source>** is the full path to the source;

• **<access_id>** is the Access Key ID used for access to this server;

• **<secret_key>** is the Secret Access Key for access to this server;

• **<server>** is the DNS name or IP address of the s3-compatible object storage server;

For example, to pair volume mounted as drive letter F:\ with a provider of S3-compatible object storage accessible through IP address 10.200.6.30, Access Key ID: **AKIAI633LOZJPNTZUIBA** and Secret Access Key ID: **Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF**, execute the following:
```
tiercli config F: target s3compat AKIAI633LOZJPNTZUIBA
Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF 10.200.6.30
```

Note: *To set S3-compatible object storage as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target s3compat <access_id> <secret_key> <server>
```

2. Pair the source with its container on the target, by executing the following:

```
tiercli config <path to the source> container <name of the bucket
on the S3–compatible object storage>
```

For example, to pair a volume "Projects" mounted as drive letter F:\ to an S3-compatible object storage and replicate data in the bucket named "replicas", execute the following:

```
tiercli config F: container replicas
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the bucket on the S3-compatible object storage.*

3. Check if all settings are correctly configured, by executing the following:

```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with BlackPearl Object Storage Target

To use Tiger Bridge with Spectra BlackPearl Deep Storage Gateway as a target, you should:

• create a separate bucket for each source paired with the BlackPearl object storage.

Note: *You can use the same bucket for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

• provide access key ID and secret access key for access to all buckets designated as containers for each source volume;

Important: *Do not change the name of the bucket on the BlackPearl object storage as this may prevent Tiger Bridge replication from operating.*

To pair a source with BlackPearl object storage in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select BlackPearl and click OK.
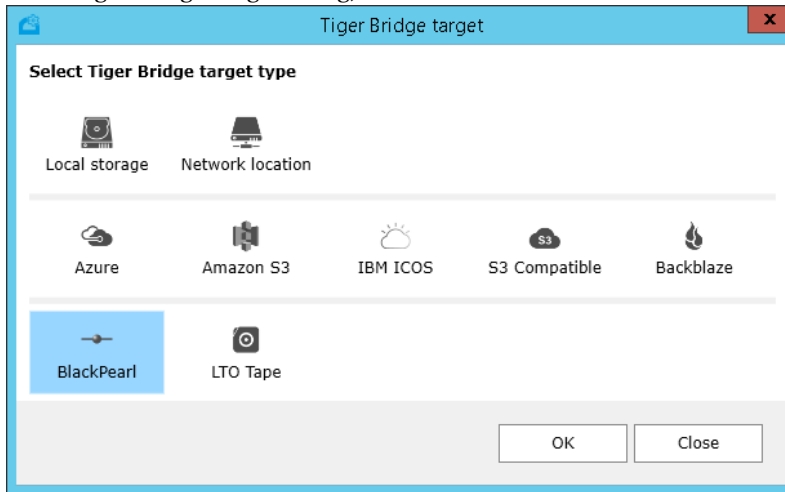
5. In the right pane of the Configuration, do the following:
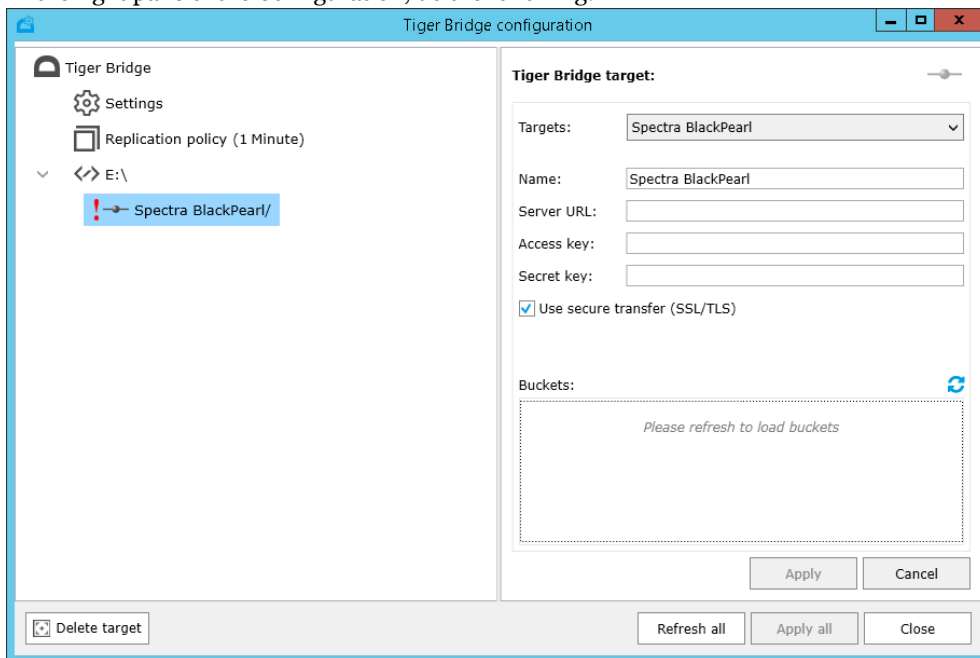
- Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the server URL, access and secret keys of the BlackPearl target.

• Choose whether to access the target using secure transfer (SSL/TLS) by selecting or clearing the check box.

• Click the refresh button to display the list of buckets available for the account you have specified.

• Select the bucket on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same bucket for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with BlackPearl object storage in the command-line interface:

1. In command prompt, set BlackPearl object storage as target, by executing the following:
```
tiercli config <path to source> target blackpearl <access_id>
<secret_key> <server>
```
where:

• **<path to source>** is the full path to the source;

• **<access_id>** is the Access Key ID used for access to the BlackPearl server;

• **<secret_key>** is the Secret Access Key for access to the BlackPearl server;

• **<server>** is the DNS name or IP address of the BlackPearl server;

For example, to pair volume mounted as drive letter F:\ with a BlackPearl object storage server accessible through IP address 10.200.6.30, Access Key ID: **AKIAI633LOZJPNTZUIBA** and Secret Access Key ID: **Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF**, execute the following:
```
tiercli config F: target blackpearl AKIAI633LOZJPNTZUIBA
Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF 10.200.6.30
```

Note: *To set BlackPearl object storage as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target blackpearl <access_id> <secret_key> <server>
```

2. Pair the source with its container on the target, by executing the following:

```
tiercli config <path to source> container <name of the bucket on the
BlackPearl object storage>
```

For example, to pair a volume "Projects" mounted as drive letter F:\ to a BlackPearl object storage and replicate data in a bucket named "replicas", execute the following:

```
tiercli config F: container replicas
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the bucket on the BlackPearl object storage.*

3. Check if all settings are correctly configured, by executing the following:

```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with IBM Cloud Object Storage Target

To use Tiger Bridge with IBM cloud object storage as a target, you should:

• create a separate bucket for each source paired with the IBM cloud object storage.

Note: *You can use the same bucket for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

• provide access key ID and secret access key for access to all buckets designated as containers for each source;

Important: *Do not change the name of the bucket on the IBM cloud object storage as this may prevent Tiger Bridge replication from operating.*

To pair a source with IBM cloud object storage in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select IBM ICOS and click OK.
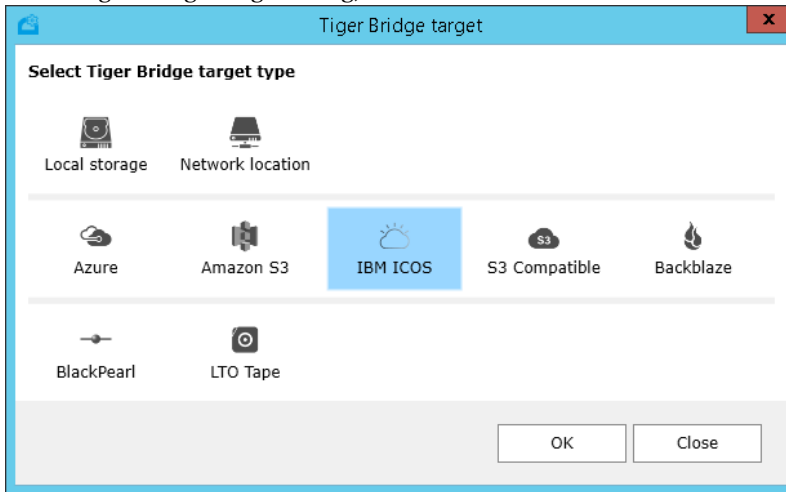
5. In the right pane of the Configuration, do the following:
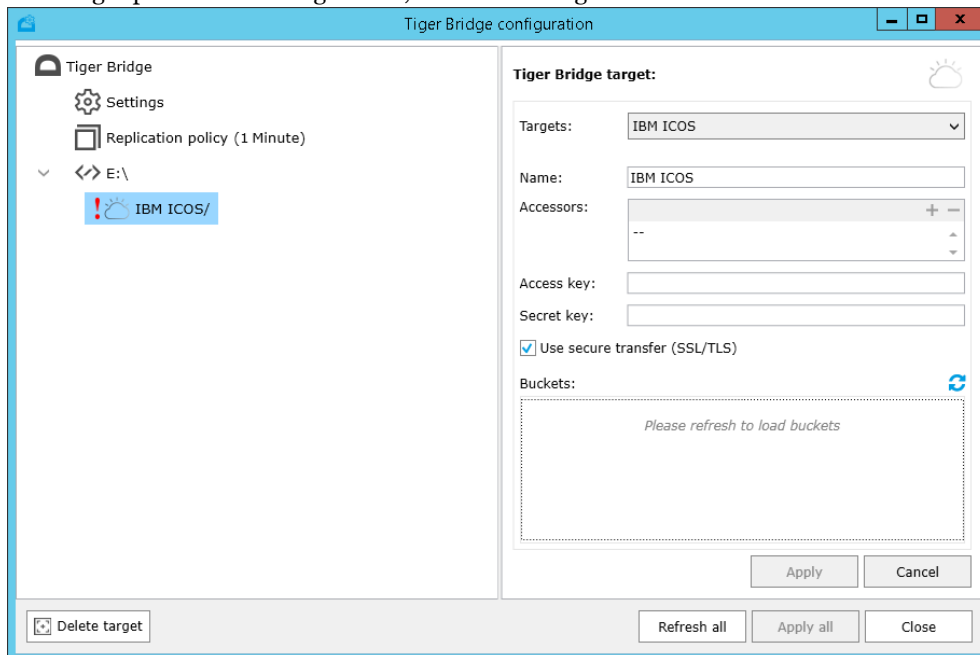
• Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the IP address of the main IBM cloud object storage server, the access ID and secret access key of the IBM cloud object storage.

Tip: *You can specify alternative IP address through which you can access the server providing access to your account for the IBM cloud object storage. For the purpose in the Accessors field click the "+" button, keeping in mind that the main IP address for access to it must be specified first.*

• Choose whether to access the target using secure transfer (SSL/TLS) by selecting or clearing the check box.

• Click the refresh button ⟳ to display the list of buckets available for the account you have specified.

• Select the bucket on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same bucket for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with IBM cloud object storage in the command-line interface:

1. In command prompt, set IBM cloud object storage as target, by executing the following:

```
tiercli config <path to source> target icos <access_id> <secret_key>
<accesser IP> [alternative accesser IP] [alternative accesser IP]
...
```

where:

• **<path to source>** is the full path to the source;

• **<access_id>** is the Access Key ID used for access to this server;

• **<secret_key>** is the Secret Access Key for access to this server;

• **<accesser IP >** is the DNS name or IP address of the main IBM cloud object storage server;

• **[alternative accesser IP]** is any alternative IP address through which you can access the server providing access to your account for the IBM cloud object storage;

Note: *You can add as many alternative IP addresses for access to the IBM cloud object storage server, keeping in mind that the main IP address for access to it must be specified first in the command.*

For example, to pair volume mounted as drive letter F:\ with an IBM cloud object storage server accessible through main IP address 10.200.4.10 and additional IP address 10.200.4.12, accessible with Access Key ID: **AKIAI633LOZJPNTZUIBA** and Secret Access Key ID: **Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF**, execute the following:
```
tiercli config F: target icos AKIAI633LOZJPNTZUIBA
Y2n1rXwda3T9yB7DEE7hRFtC6sMP83jeecwd4LfF 10.200.4.10 10.200.4.12
```

Note: *To set IBM cloud object storage as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target icos <access_id> <secret_key> <accesser IP>
[alternative accesser IP] [alternative accesser IP] ...
```

2. Pair the source with its container on the target, by executing the following:
```
tiercli config <path to source> container <name of the bucket on the
IBM cloud object storage server>
```

For example, to pair volume "Projects" mounted as drive letter F:\ with an IBM cloud object storage server and replicate data in the bucket named "replicas", execute the following:
```
tiercli config F: container replicas
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the bucket on the IBM cloud object storage.*

3. Check if all settings are correctly configured, by executing the following:
```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:
```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with DDN Web Object Scaler Target

Note: *Currently, you can pair a source with a DDN Web Object Scaler target only using the command-line interface of Tiger Bridge.*

To use Tiger Bridge with a DDN WOS appliance as a target, you should:

• provide the user name and password of an account that has Read & Write permissions to the DDN WOS appliance;

• create a separate policy for each source paired with the DDN WOS appliance. Each policy should meet the following requirements:

> • the policy is not used for another source;
>
> • each policy is searchable;
>
> • the "Search field" of each policy must contain the following values:
>
> **TT_ID**
> **TT_PARENT_ID**
>
> **Note:** *You can use the same policy for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

Important: *Do not change the name of the policy on the DDN WOS appliance as this may prevent Tiger Bridge replication from operating.*

To pair a source with a DDN WOS appliance:

1. In command prompt, set a DDN WOS as target, by executing the following:
```
tiercli config <path to source> target wos <server_url> <username>
<password>
```
where:

• **<path to source>** is the full path to the source;

• **<server_url>** is the address (URL) of the DDN WOS appliance;

• **<username>** is the name of the account that has Read & Write permissions to the DDN WOS appliance;

• **<password>** is the password of the account that has Read & Write permissions to the DDN WOS appliance;

For example, to pair volume mounted as drive letter F:\ with a DDN WOS appliance with URL **10.200.9.5**, account name: **rwaccount** and account password: **rwaccountpassword**, execute the following:
```
tiercli config F: target wos 10.200.9.5 rwaccount rwaccountpassword
```

Note: *To set a DDN WOS appliance as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target wos <server_url> <username> <password>
```

2. Pair the source with its container on the target, by executing the following:
```
tiercli config <path to source> container <name of the policy on the
wos appliance>
```
For example, to pair volume "Projects" mounted as drive letter F: to a DDN WOS appliance and replicate data in the policy named "policy1", execute the following:
```
tiercli config F: container policy1
```

> **Note:** *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the container on the DDN WOS appliance.*

3. Check if all settings are correctly configured, by executing the following:

```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with Backblaze Target

To use Tiger Bridge with Backblaze B2 cloud storage as a target, you should:

• create a separate bucket for each source paired with the Backblaze cloud storage;

> **Note:** *You can use the same policy for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

• provide account ID and application key for access to all buckets designated as containers for each source;

Important: *Do not change the name of the bucket on the Backblaze cloud storage as this may prevent Tiger Bridge replication from operating.*

To pair a source with Backblaze B2 cloud storage in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, click Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume as a source, select the root of the volume and click OK.

• To add an existing folder as a source, browse to and select the folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, enter a name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select Backblaze and click OK.
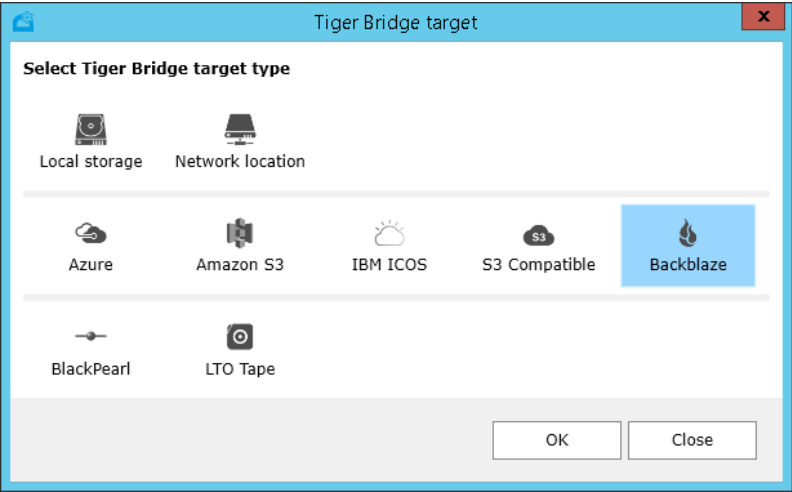
5. In the right pane of the Configuration, do the following:
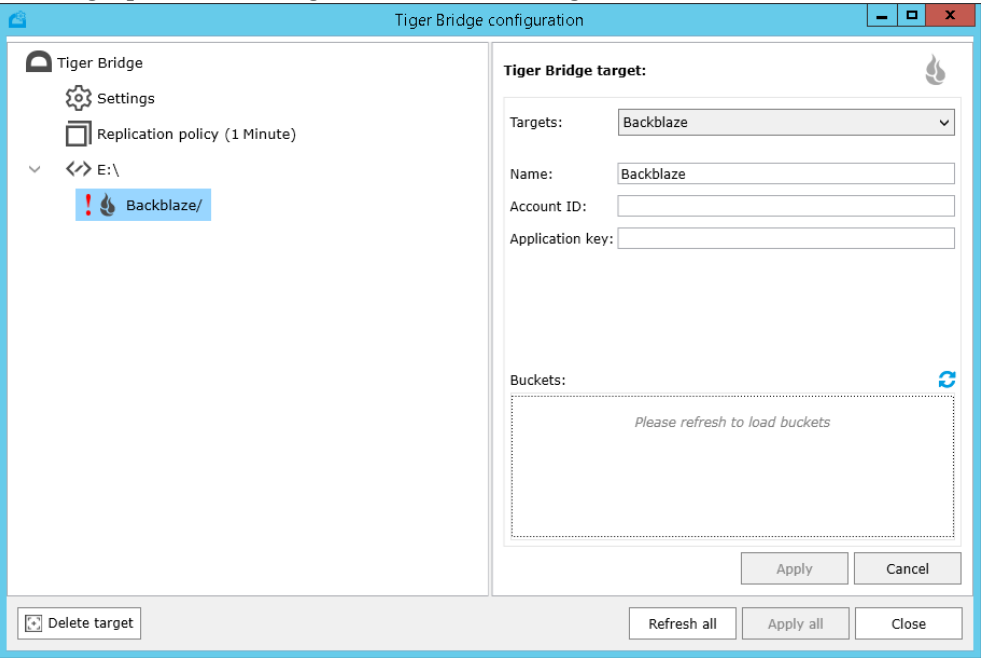
- Enter a name for the target.

Tip: *Specifying a unique name of the target lets you re-use its parameters, when you pair another source with the same target. The target and its parameters will appear in the Targets drop-down box.*

• Enter the account ID and application key for access to the Backblaze B2 cloud.

• Click the refresh button ⟳ to display the list of buckets available for the account you have specified.

• Select the bucket on the target, which to be paired with the selected source and click Apply.

Important: *Do not use the same bucket for two or more sources on the same computer. You can use the same container for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with Backblaze B2 cloud storage in the command-line interface:

1. In command prompt, execute the following:
```
tiercli config <path to source> target b2 <account_id>
<application_key>
```
where:

• `<path to source>` is the full path to the source;

• `<account_id>` is your account for the Backblaze B2 cloud storage;

• `<application_key>` is your application key for the Backblaze B2 cloud storage;

For example, to pair volume mounted as drive letter F:\ with Backblaze B2 cloud storage, accessible with account ID: **63cd7057483d** and application key: **000d6f3065670683d6250863c0746278cbbad71771**, execute the following:
```
tiercli config F: target b2 63cd7057483d
000d6f3065670683d6250863c0746278cbbad71771
```

Note: *To set Backblaze B2 cloud storage as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target b2 <account_id> <application_key>
```

2. Pair the source with its designated bucket on the target, by executing the following:
```
tiercli config <path to source> container <name of the bucket on the
Backblaze cloud>
```

For example, to pair the local volume "Projects" mounted as drive letter F:\ with Backblaze B2 cloud storage and replicate data in the bucket named "replicas", execute the following:
```
tiercli config F: container replicas
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the bucket on the Backblaze storage.*

3. Check if all settings are correctly configured, by executing the following:

`tiercli config show`

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

`tiercli config reload`

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with a Network Share Target

Currently, Tiger Bridge bridge supports SMB/CIFS network shares as target. To set a network share as a target, you should:

• provide the user name and password of an account that has Read & Write permissions to the network share;

Important: *You should use the same credentials for each source you pair with a network share exported by the same server.*

• specify a unique path on the network share serving as a container for each source you pair with the network share;

Note: *You can use the same folder on the network share for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

Important: *Do not change the name of the folders on the network share as this may prevent Tiger Bridge replication from operating.*

To pair a source with a network share in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select Network location and click OK.
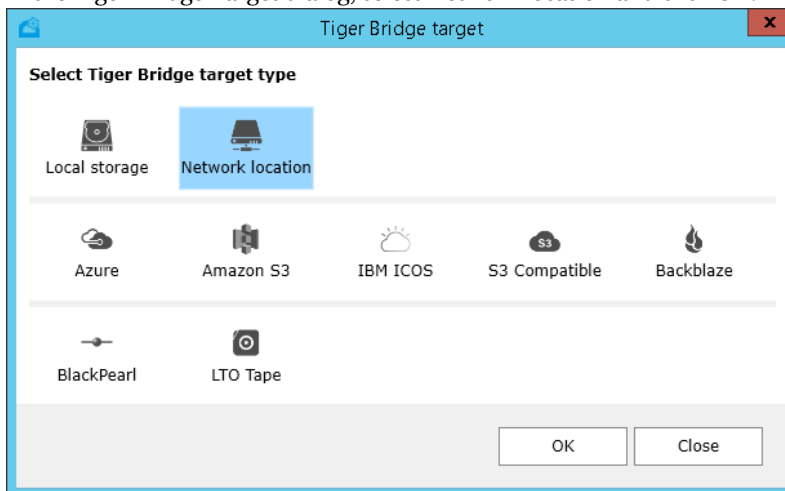
5. In the right pane of the Configuration, enter name of the target, path to the network share, credentials for access to it and the path to the folder designated for the selected source.
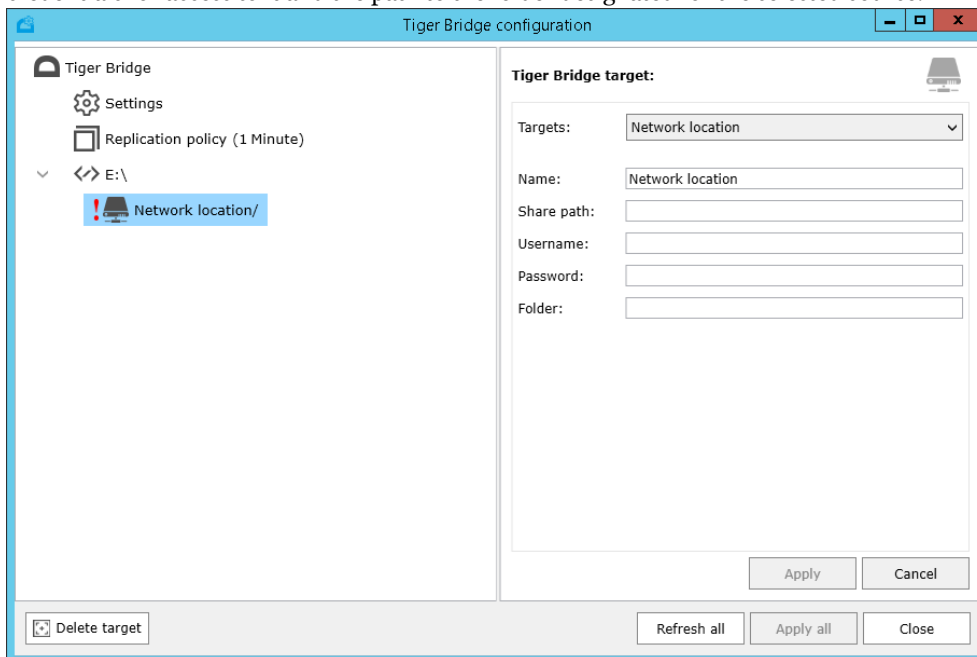
Important: *Do not use the same folder for two or more sources on the same computer. You can use the same folder for multiple sources each on a different computer, when you intend to deploy Tiger Bridge for geo replication (for more information, see "Active Sync" on page 82).*

6. Click Apply.

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

To pair a source with a network share in the command-line interface:

1. In command prompt, set a network share as target, by executing the following:
```
tiercli config <path to source> target network <sharepath>
<username> <password>
```
where:

- **`<path to source>`** is the full path to the source;

- **`<sharepath>`** is the full path to the SMB/CIFS network share;

- **`<username>`** is the name of the account that has Read & Write permissions to the network share;

- **`<password>`** is the password of the account that has Read & Write permissions to the network share;

For example, to pair volume mounted as drive letter F:\ with a SMB/CIFS network share accessible as **`\\server\share`** using the following credentials for access to the share - account name: **`rwaccount`** and account password: **`rwaccountpassword`**, execute the following:
```
tiercli config F: target network \\server\share rwaccount
rwaccountpassword
```

Important: *The path to the share must be provided without a final backslash.*

Important: *If the account for access to the network share is an Active Directory domain account, you must specify it with its full domain name. For example, user@domain.com.*

Note: *To set the network share as global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target network <sharepath> <username> <password>
```

2. Pair the source with its designated container on the network share, by executing the following:
```
tiercli config <path to source> container <name of the folder on the
network share>
```
For example, to pair volume "Projects" mounted as drive letter F: to a network share and replicate data in the folder "backup" on the network share, execute the following:
```
tiercli config F: container backup
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source, changing the name of the folder on the network share.*

3. Check if all settings are correctly configured, by executing the following:

`tiercli config show`

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

`tiercli config reload`

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair a Source with a Local Volume Target

To use another local volume as a target for data replication and space reclaiming, you should:

• make sure that the volume is mounted as a local volume with Read & Write permissions on the computer;

• provide a unique path on the volume (the root of the volume or a subfolder) serving as a container for each source paired with the target.

Note: *You can use the same container for two or more sources, each on a different computer running Tiger Bridge, to deploy the product for geo replication. See "Active Sync" on page 82.*

To pair a source with a local volume target in the Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select Local storage and click OK.
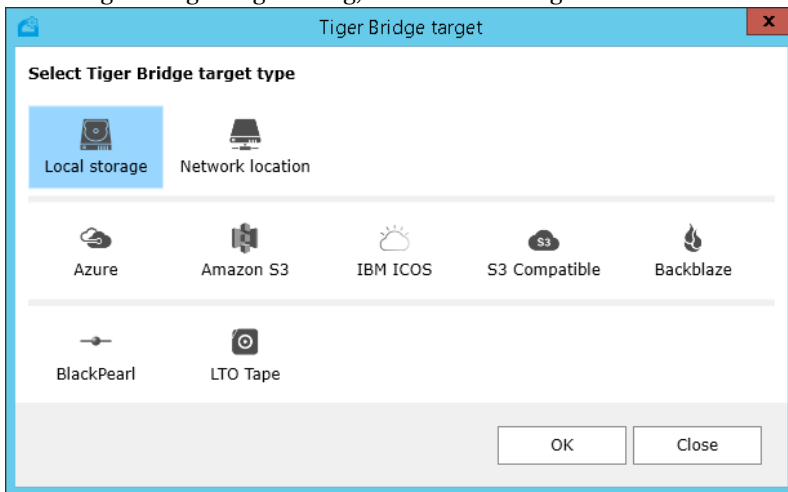
5. In the right pane of the Configuration, enter name of the target and then do one of the following:
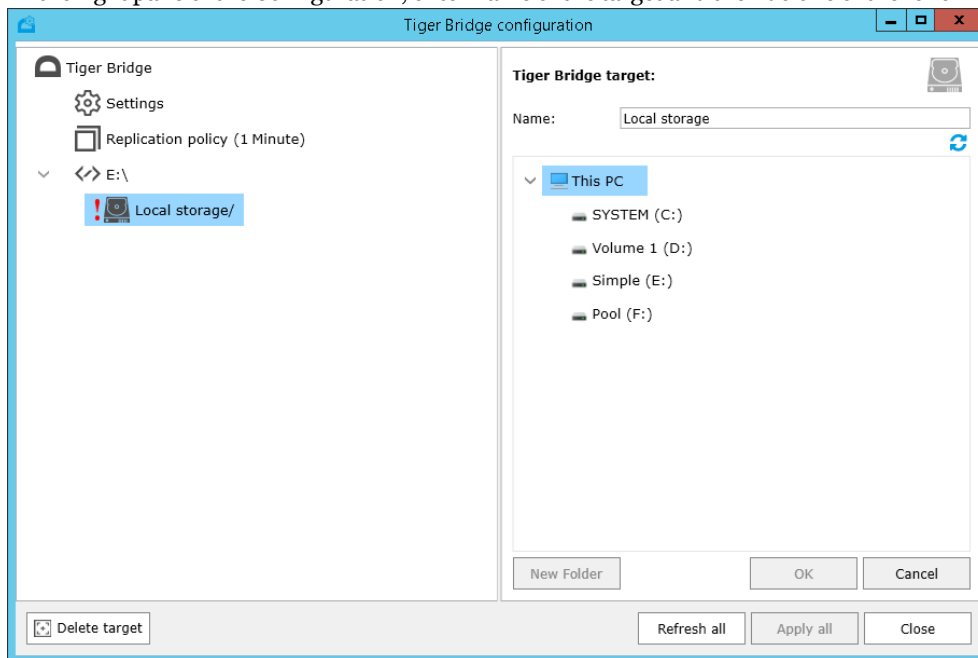
• To add an existing folder as a target, browse to and select the folder or the root of the volume and click OK.

- To create a new folder as a target, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

6. Click Apply.

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*
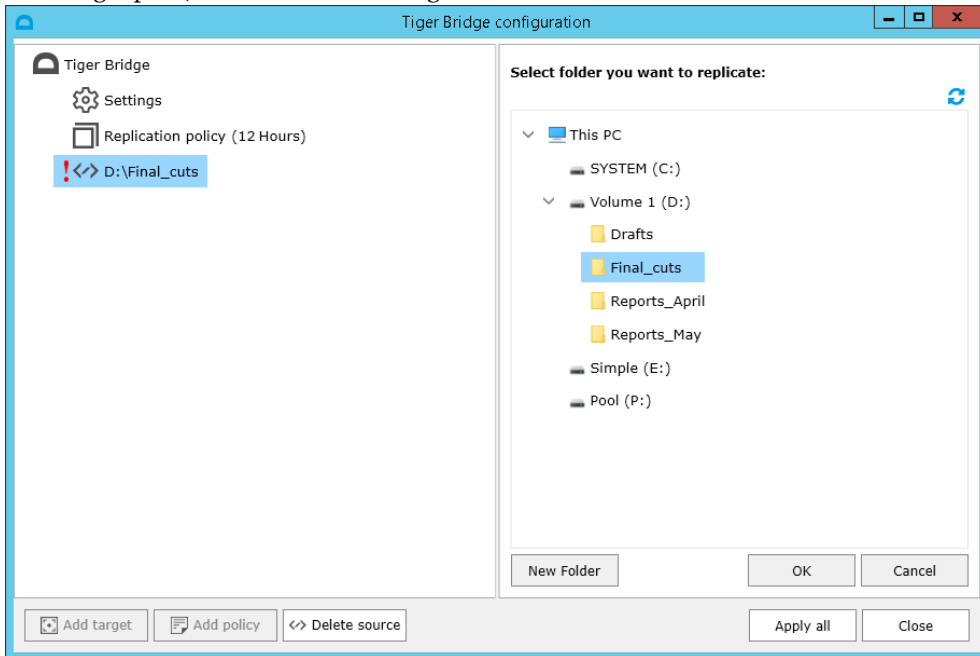
To pair a source with a local volume target in the command-line interface:

1. In command prompt, set a local volume as target, by executing the following:
```
tiercli config <path to source> target local
```
For example, to pair volume "Projects" mounted as drive letter F: with a local volume target, execute the following:
```
tiercli config F: target local
```

Note: *To set a local volume as a global target, valid for all sources, which are not paired with a specific target, simply execute the above command without specifying a source:*
```
tiercli config target local
```

2. Pair the source with its designated container on the target volume, by executing the following:
```
tiercli config <path to source> container <full path to the folder
on the target>
```
For example, to pair volume "Projects" mounted as drive letter F: with the folder "Projects" in the root of the NTFS volume mounted as drive letter G:, execute the following:
```
tiercli config F: container G:\Projects
```

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the name of the folder on the target volume.*

3. Check if all settings are correctly configured, by executing the following:
```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:
```
tiercli config reload
```

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Pair Source Volumes with Tape Library Target

Important: *Currently, retrieving nearline files from a tape library target is not supported. You can use tape library as a target for archiving purposes only.*

Currently Tiger Bridge supports only tape libraries with up to two tape drives. On tape libraries with just one tape drive, the tape drive processes both the automatic and the manual data lifecycle management tasks. On a tape library with two tape drives, Tiger Bridge uses one tape drive for processing automatic data lifecycle management tasks only, and the other just for manually initiated operations. If you let Tiger Bridge automatically detect the tape library, the tape driver it detects first will be used for processing automatic data lifecycle management operations and the other tape driver only for manually initiated operations. In case you want to specify which tape drive should be used for automatic and which for manual data lifecycle management operations, aside from providing the serial number of the tape library, you have to provide the serial numbers of both tape drives in the following order - the one for automatic operations first and the one for manual operations second. You also need to provide the serial number of the tape library you want to pair with source volumes, if there are more than one tape libraries on your network, in order to specify which one of them you will be using.

To pair a source with a tape target in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and click Add Source.

2. In the right pane, do one of the following:

• To add a whole volume or an existing folder as a source, browse to and select the volume/ folder and click OK.

• To create a new folder as a source, browse to the location where you want to create it, click New Folder, specify the name of the new folder and then click OK.

3. In the left pane select the source and click Add Target.

4. In the Tiger Bridge Target dialog, select LTO Tape and click OK.
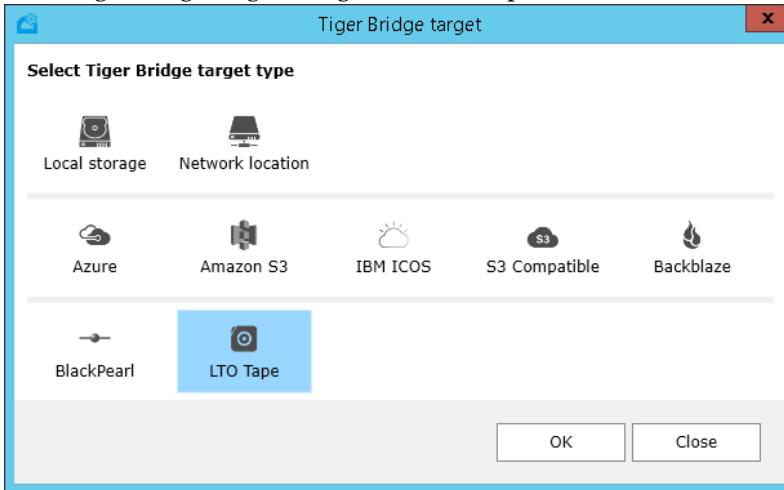
5. In the right pane of the Configuration, enter name of the target and click Apply.
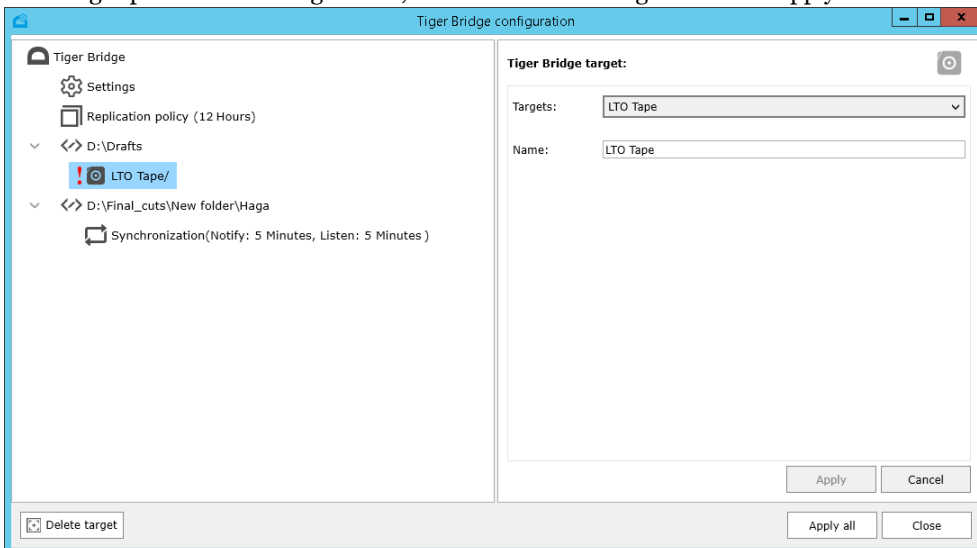
Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*
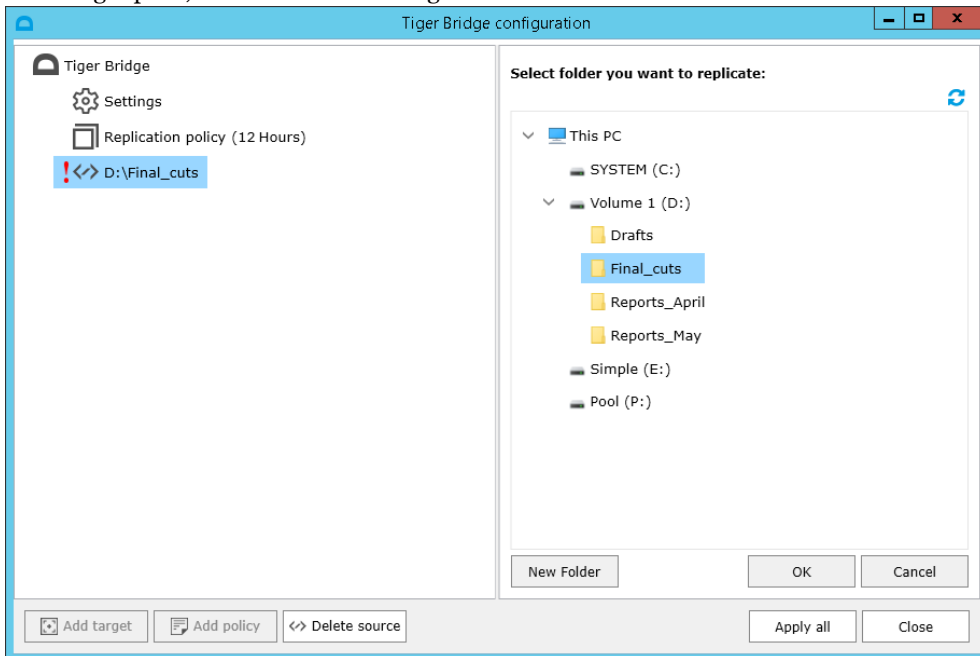
To pair a source with a tape library in the command-line interface:

1. In command prompt, set a tape library as target, by executing one of the following:

• to let Tiger Bridge automatically detect a tape library on the network:
`tiercli config <path to source> target tape autodetect`

• to pair the source with a specific library on the network and/or to specify which tape drive should process automatic data operations and which one the manual operations:
`tiercli config <path to source> target tape <device_serial> <manual_op_device_serial> <changer_device_serial>`

where:

`<device_serial>` is the serial number of the tape drive, which will process just automatic data operations only;

`<manual_op_device_serial>` is the serial number of the tape drive, which will process just automatic data operations only;

Note: *If your tape library has one tape drive only, enter again the serial number of the only one tape drive.*

`<changer_device_serial>` is the serial number of the tape library;

Tip: *You can find the serial numbers of the tape library and the tape drives in the web interface of your tape library.*

2. Pair the source with the target, by executing the following:
`tiercli config <path to source> container all`

For example, to pair volume "Projects" mounted as drive letter F: with the tape library, execute the following:
`tiercli config F: container all`

Note: *If you want to pair other source volumes with the same target, repeat the step above for each new source volume, changing the source volume drive letter only.*

3. Check if all settings are correctly configured, by executing the following:
`tiercli config show`

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:
`tiercli config reload`

Important: *Until you specify the list of included/excluded locations on the source, Tiger Bridge doesn't automatically manage any data on the source. For information refer to "Refine the List of Locations" on page 61.*

Note: *Until you specify data lifecycle management parameters, Tiger Bridge uses the default global data replication policy for all pairs of source and target. For more information, see "Automatic Data Replication" on page 67.*

Refine the List of Locations

Depending on the interface you have used to pair a source with a target, Tiger Bridge assumes that:

• (Tiger Bridge Configuration) it should automatically manage all data on the source.

• (command-line interface) it should not automatically manage any data on the source.

You can refine the list of locations on your sources, in which data should be automatically managed, by specifying a list of included and excluded locations, thus instructing Tiger Bridge to automatically manage:

• all data on a source, when the root of the source is added as an included location;

• all data on a source, except data in subfolders added as excluded locations, when the root of the source is added as an included location;

• no data on the source except data in subfolders added as included locations, when the root of the volume not added as an included location;

The list is valid for all sources and as long as at least one included/excluded location is already specified, all other locations not included in the list are not automatically managed, except if they are locations on sources paired with a target through the Tiger Bridge Configuration. Additionally, each time you want to update the list of included/excluded locations, you should specify the full list anew.

Note: *Although data in the excluded locations is not subject to Tiger Bridge's automatic data lifecycle management, you can manually perform such operations on files/folders in an excluded location. For more information, see "Manually Manage Data" on page 103.*

Currently, you can specify included and excluded locations for automatic data lifecycle management only using the command-line interface of Tiger Bridge.

To specify a list of included and excluded locations:

1. To configure the list of included locations on all sources, from which data should be automatically managed, execute the following:
```
tiercli config include <path to source> <path to a subfolder on the
source> ...
```

Important: *You must add all included locations using one command. For the purpose separate each added location with a space. Issuing the command anew will overwrite the previous setting.*

For example, to add to the list of included locations the root of source volume F: and the folder "Data" in the root of source volume G:, execute the following:
```
tiercli config include F: G:\Data
```

Tip: *To clear the included locations list and start configuring it anew, execute the following:*
```
tiercli config include ""
```

2. To configure the list of excluded locations on all sources, from which data should not be automatically managed, execute the following:

```
tiercli config exclude <path to source> <path to a subfolder on the
source> ...
```

Important: *You must add all excluded locations using one command. For the purpose separate each added location with a space. Issuing the command anew will overwrite the previous setting.*

For example, to add as excluded locations the root of source volume H: and the folder "Drafts", which is subfolder of the folder "Data" in the root of source volume G:, execute the following:

```
tiercli config exclude H: G:\Data\Drafts
```

Tip: *To clear the excluded locations list and start configuring it anew, execute the following:*
```
tiercli config exclude ""
```

3. Check if all settings are correctly configured, by executing the following:

```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

Enable SAN Mode for Sources

To ensure the compatibility with Tiger Store-managed volumes, on which you have enabled Tiger Bridge support as source locations, you need to enable SAN mode.

To enable SAN mode for sources on Tiger Store-managed volumes:

1. In the left pane of the Tiger Bridge Configuration, click Settings.
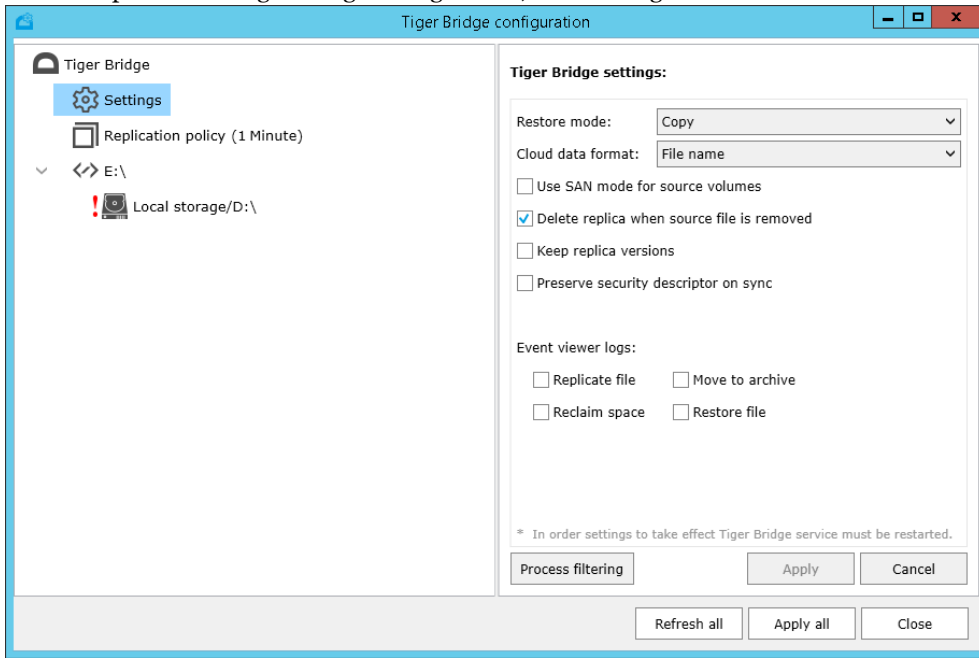
2. Do one of the following:

   • Select the "Use SAN mode for source volumes" check box, to enable compatibility with sources on Tiger Store-managed volumes.

   • Clear the "Use SAN mode for source volumes" check box, to disable compatibility with sources on Tiger Store-managed volumes.

3. Click Apply.

Specify Data Format on the Cloud

Note: *This parameter is valid only for object storage targets, which support using a cloud browser displaying the actual name and the full path of a file instead of its object ID.*

To facilitate you in interfacing the cloud, Tiger Bridge allows you to select whether to display files uploaded to the cloud with their full path and file name instead of object IDs in the cloud browser. If you select to display files with their full path and file name, it is advisable not to rename a replicated file on the source in order to avoid inconsistencies between file names on the source and on the target.

To set cloud data format through the Tiger Bridge Configuration:

1. In the left pane of the Tiger Bridge Configuration, click Settings.
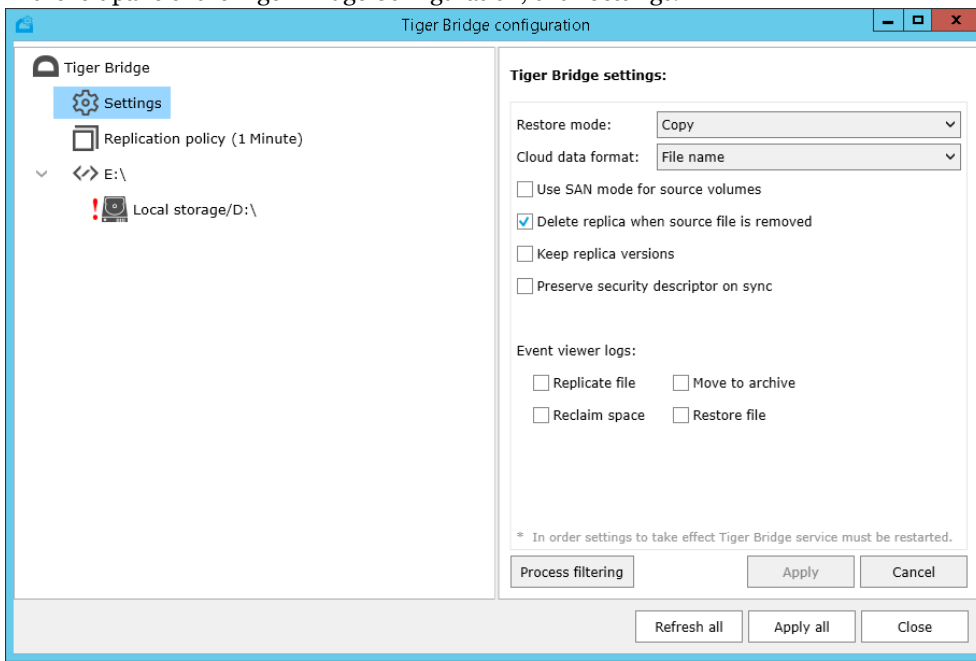
2. In the Cloud data format drop-down box, do one of the following:

- select ID, to display files on the cloud with their object IDs.

- select Filename, to display files on the cloud with their name and full path.

3. Click Apply and restart the computer running Tiger Bridge.

To set cloud data format through the command-line interface:

1. In command prompt, do one of the following:

- execute the following, to display files with their name and full path in the cloud browser:
`tiercli config global cloudfmt path`

- execute the following, to display files with their object IDs in the cloud browser:
`tiercli config global cloudfmt id`

2. Click Apply and restart the computer running Tiger Bridge.

3

Configure Tiger Bridge

To configure Tiger Bridge for the purposes of your desired workflow, you need to define one or more of the following parameters:

data replication policy — what files are automatically replicated to the target. As data replication is indispensable for any Tiger Bridge workflow, a global replication policy governing all pairs of source and target is configured by default. The global replication cannot be deleted and you can only change its settings. You can overwrite the global replication policy for any pair of source and target. For more details about managing replication policies, refer to "Automatic Data Replication" on page 67.

space reclaiming policy — what replicated files and when are replaced with nearline files on the source. You can configure global space reclaiming policy, valid for all pairs of sources and targets. You can also overwrite the global space reclaiming policy for any pair of source and target. For more details about managing space reclaiming policies, refer to "Space Reclaiming" on page 70.

data archiving policy — what replicated files are replaced with offline files on the source. You can configure global archiving policy, valid for all pairs of source and target. You can also overwrite the global archiving policy for any pair of source and target. For more details about managing archiving policies, refer to "Automatic Archiving" on page 78.

active sync — when a source on one computer sends a notification to sources on other computers that new data is replicated on the same target and also when a source updates its contents with files replicated on the same target from other sources. You can configure global active sync policy, valid for all sources. You can also overwrite the global active sync policy for any source. For more details about configuring active sync policies, refer to "Active Sync" on page 82.

operation mode parameters — whether Tiger Bridge should keep the copy on the target, when a nearline file is retrieved back on the source and also whether to keep the replicated file on the target, when its version on the source is deleted.

While data replication is indispensable for each Tiger Bridge workflow, depending on the specific application of the product you have to configure the following parameters:

	data replication	space reclaiming	data archiving	active sync	operation mode	retrieve mode	delete file mode
data backup and disaster recovery	✔	-	✔	-			

	data replication	space reclaiming	data archiving	active sync	operation mode	retrieve mode	delete file mode
alignment of data with storage costs	✔	✔	-	-	✔	✔	✔
extending local storage capacity on another storage system	✔	✔	-	-	✔	✔	✔
lowering costs for block storage in the cloud	✔		-	-	✔	✔	✔
interfacing object storage	✔		✔	-	✔	✔	✔
geo replication	✔	✔	-	✔	✔	✔	✔

Automatic Data Replication

To allow Tiger Bridge to automatically replicate files from the source volume to the target, you should simply specify for how long any file in the included locations should not have been modified in order Tiger Bridge to queue it for replication. By default, the global replication policy, valid for all pairs of sources and targets is set to queue for replication data not modified within the last 1 minute. You can specify the parameter for automatic data replication, which is valid for all source volumes. You can also overwrite the parameter for a specific source volume, assigning different criteria for replication of data from it.

By default, if a replicated file is modified on the source and is queued for replication again, the new copy on the target overwrites the previous one. As long as your target supports versioning, you can set Tiger Bridge to not overwrite the replica on the target and allow the versioning software to keep each copy as a separate version. See steps for enabling/disabling versioning during replication on page 70.

Note: *Whether or not versioning is enabled, using Tiger Bridge you can retrieve from the target only the last replicated version of the file. Retrieving a given version of the replicated file is up to the versioning software on the target.*

Additional Data Replication Options
You can manually replicate files even if they are not in the included locations, which are automatically scanned by Tiger Bridge. For more details, see "Manually Manage Data" on page 103.

You can also configure the following advanced settings in order to optimize your data replication workflow:

• specify the minimum size of a file for it to be replicated (see "Minimum File Size for Replication" on page 92).

• specify for how long Tiger Bridge should wait on startup for the file system scan before beginning to perform data replication (see "Set Startup Scan Wait Time" on page 97).

• specify the number of parallel threads run by Tiger Bridge when replicating files to the target (see "Set Number of Parallel Threads during Data Replication" on page 98).

To configure global data replication policy in the Tiger Bridge Configuration:

1. Click Replication policy in the left pane of the Tiger Bridge Configuration.
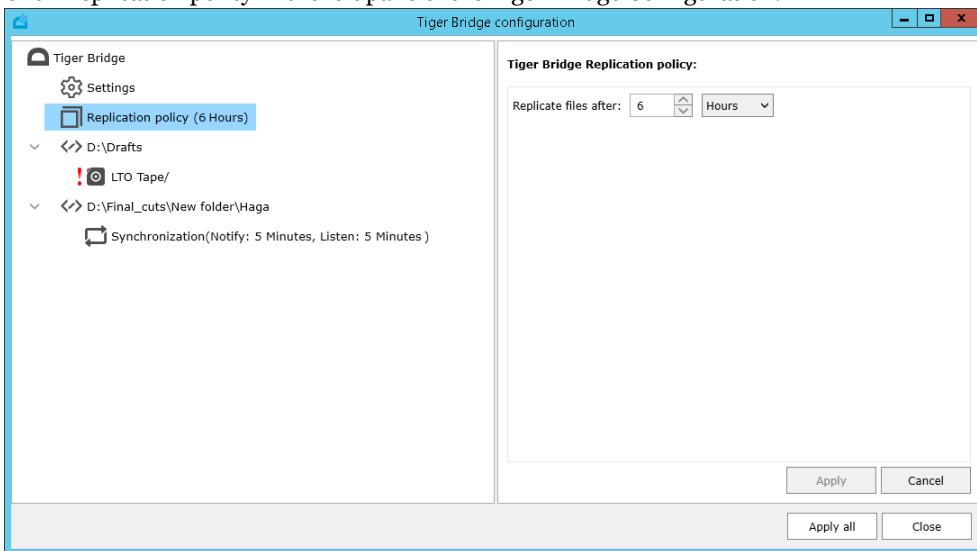
2. In the right pane, specify for how long a file should not have been modified for Tiger Bridge to replicate it, by entering the desired number and selecting the unit of measure in the drop-down box beside it.

The global replication policy is valid for all sources, which don't have their own policy assigned.

To overwrite the global replication policy for a specific pair in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select the source in the left pane and click Add policy.

2. In the Policy Type dialog, select Replicate and click OK.

> **Important:** *If the selected source already has its own replication policy assigned, you cannot add a new replication policy, but can edit the existing policy, following the steps below.*

> **Note:** *To make the source use the global replication policy set for all pairs, simply delete its own policy by selecting it and clicking Delete policy.*
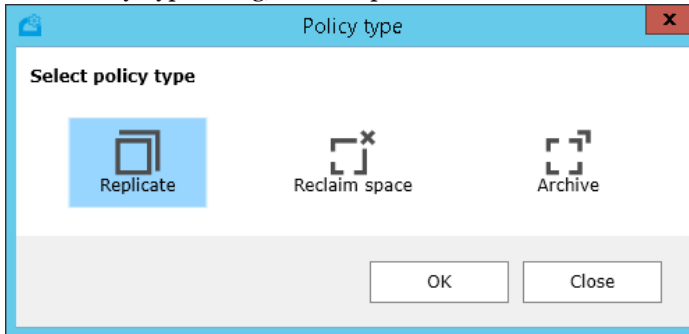
3. In the right pane, specify for how long a file should not have been modified for Tiger Bridge to replicate it, by entering the desired number and selecting the unit of measure in the drop-down box beside it.

4. Click Apply.

To configure automatic data replication in the command-line interface:

1. To configure global replication policy, execute the following:
```
tiercli config policy replicate <period>
```
Where `<period>` can be the desired period in seconds (`s`), minutes (`m`), hours (`h`), days (`d`), weeks (`w`).

For example, to specify that Tiger Bridge should replicate data only after it has not been modified for 36 hours, execute the following:
```
tiercli config policy replicate 36h
```

2. (optional) To overwrite the global replication policy for a specific source, execute the following:
```
tiercli config <path to source> policy replicate <period>
```
For example, to specify that data from source volume mounted as drive letter E: should be replicated only after it has not been modified for one day, execute the following:
```
tiercli config E policy replicate 1d
```

3. Check if all settings are correctly configured, by executing the following:
```
tiercli config show
```

4. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:

```
tiercli config reload
```

To enable/disable versioning during replication:

1. In the Tiger Bridge Configuration, click Settings in the left pane.
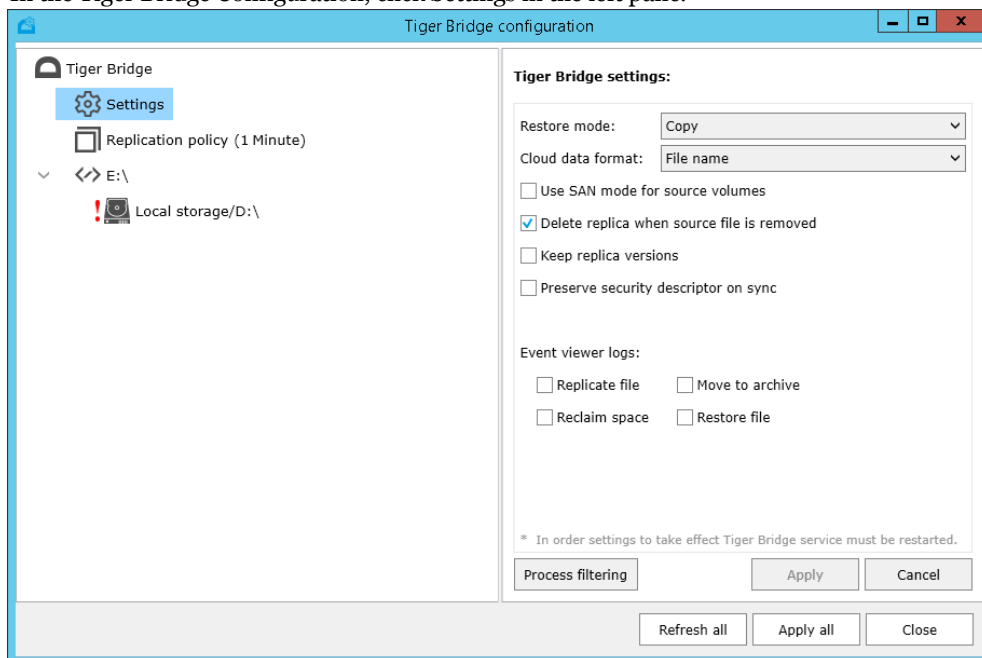
2. Do one of the following:

- Select the "Keep replica versions" check box, to enable versioning.

- Clear the "Keep replica versions" check box, to disable versioning.

3. Click Apply.

Space Reclaiming

Aside from turning space reclaiming on, to instruct Tiger Bridge under what conditions it should replace replicated files on the source(s) with nearline files, you must configure the following parameters:

space reclaiming policy — Tiger Bridge decides which replicated files to replace with nearline files on the source volume based on 2 parameters - minimal file size and time interval for

which the file has not been accessed. For example, if you set the file size threshold to 10MB and the time interval to 2 weeks, Tiger Bridge will replace with nearline files all replicated files with size 10MB or above that have not been accessed for at least 2 weeks, leaving on the source volume replicated files whose size is smaller than 10MB and also replicated files with bigger size that have been accessed by a client computer in less than 2 weeks. By default, Tiger Bridge replaces files with stubs only if they are bigger than 0 Bytes and if they have not been accessed for more than 4 weeks.

used space thresholds for space reclaiming — the default used space threshold is 0% and space reclaiming is triggered as soon as any file meets the criteria for replacement with a nearline file. You can increase the used space threshold and let Tiger Bridge reclaim space only when a given amount of your source is full. You can also specify maximum used space threshold on your source - it specifies when all files subject to replication are queued for replacement with nearline files regardless of their size and last access time. By default, maximum used space value is set to 90% for all source volumes.

Note: *Tiger Bridge processes the queue of files scheduled for replacement with nearline files starting from the ones, which are least recently accessed.*

processes triggering file retrieval — By default, each process, attempting to open a nearline file on the source volume, triggers its retrieval from the target. To prevent useless retrieval of nearline files by your antivirus software, for example, you can specify which processes exactly can trigger the file retrieval operation. You can do this by creating either a list of processes allowed to trigger retrieval or by creating a list of processes, which cannot trigger retrieval of nearline files. There is no need to create both lists. In case you create a list of processes allowed to trigger nearline file retrieval from the target, any process not included in the list will not trigger the operation, when this process attempts to open the file. In case you decide to specify the processes, which are not allowed to trigger file retrieval from the target, any process not mentioned in the list will trigger the nearline file retrieval, when this process attempts to open that file.

You can configure global space reclaiming policy, valid for each pair of source and target, which doesn't have its own space reclaiming policy assigned. You can overwrite the global space reclaiming policy for a given pair of source and target or disable space reclaiming for that pair only.

Additional Space Reclaiming Options
You can manually replace replicated files with nearline ones on your source volume and thus free space on it. For more details, see "Manually Manage Data" on page 103.

You can also configure the following advanced settings in order to optimize your data replication workflow:

• specify for how long Tiger Bridge should wait on startup for the file system scan before beginning to perform data replication (see "Set Startup Scan Wait Time" on page 97).

Configure Tiger Bridge

- specify whether a file should be retrieved each time a user or application attempts to open it (default behaviour) or only when you manually retrieve it through Tiger Bridge (see "Retrieving Nearline Files Behaviour" on page 93).

- specify whether an application can begin reading a file before it has been fully retrieved (see "Partial File Retrieve Behaviour" on page 94).

- specify whether to turn on/off write-through retrieving of files (see "Enable/Disable Write-through on File Retrieve" on page 94).

- specify timeout after which a file retrieving from the target should be considered unsuccessful (see "Set File Retrieve Timeout" on page 95).

- specify whether Tiger Bridge should show the actual size of a nearline file or the size of the replicated file it replaces (see "Set Stub File Allocation Size Display Option" on page 96).

- specify nearline file head and tail size (see "Set Nearline File Head and Tail Sizes" on page 96).
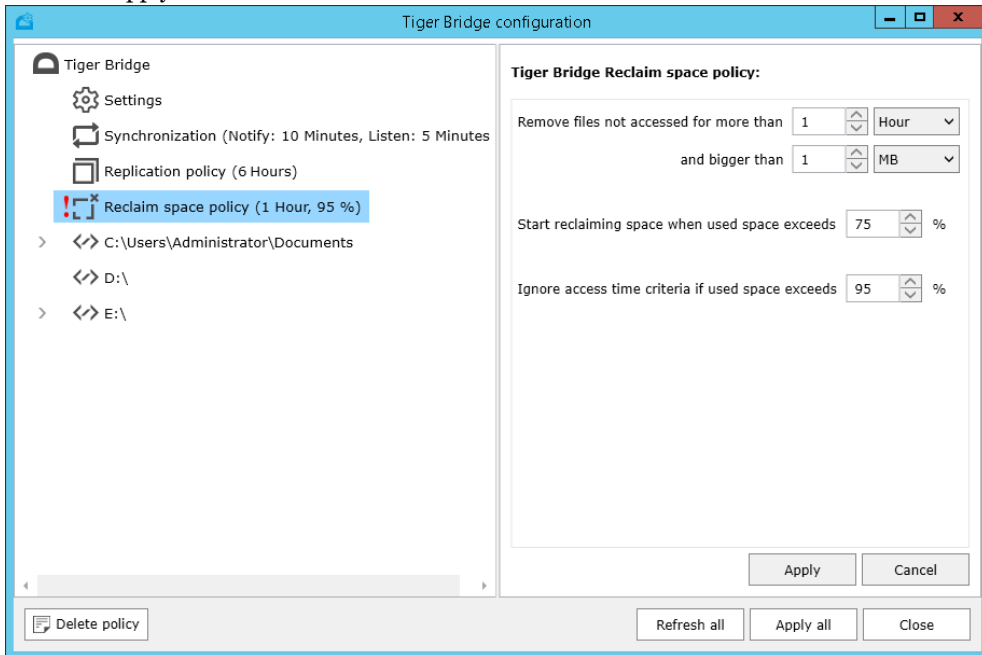
To configure global space reclaiming policy in the Tiger Bridge Configuration:

1. Select Tiger Bridge in the left pane and then click Add policy.

2. In the Policy Type dialog, select Reclaim space and click OK.
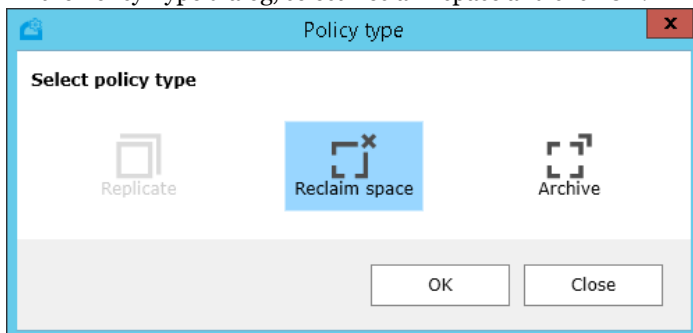
3. In the right pane, specify the parameters for file access time and size, for used space thresholds and click Apply.

The global space reclaiming policy is valid for all sources, which don't have their own policy assigned. To edit the global policy, simply select it in the left pane, edit the desired parameter and click Apply. To delete the global policy, select it in the left pane and click Delete policy.

To overwrite the global space reclaiming policy for a specific source in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select the source in the left pane and then click Add policy.

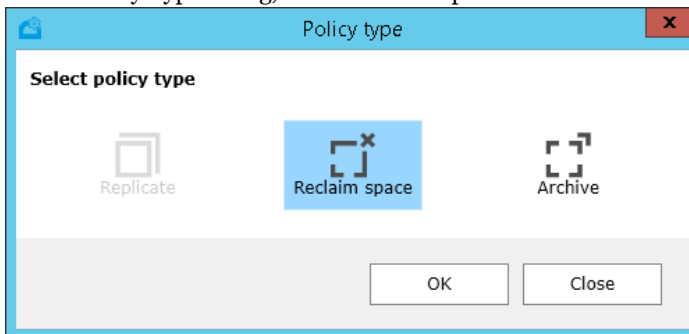**2.** In the Policy Type dialog, select Reclaim space and click OK.

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Important: *If the selected source already has its own space reclaiming policy assigned, you cannot add a new space reclaiming policy, but can edit the existing policy, following the steps below.*

3. In the right pane, make sure the Enabled check box is selected and specify the parameters for file access time and size, for used space thresholds, then click Apply.
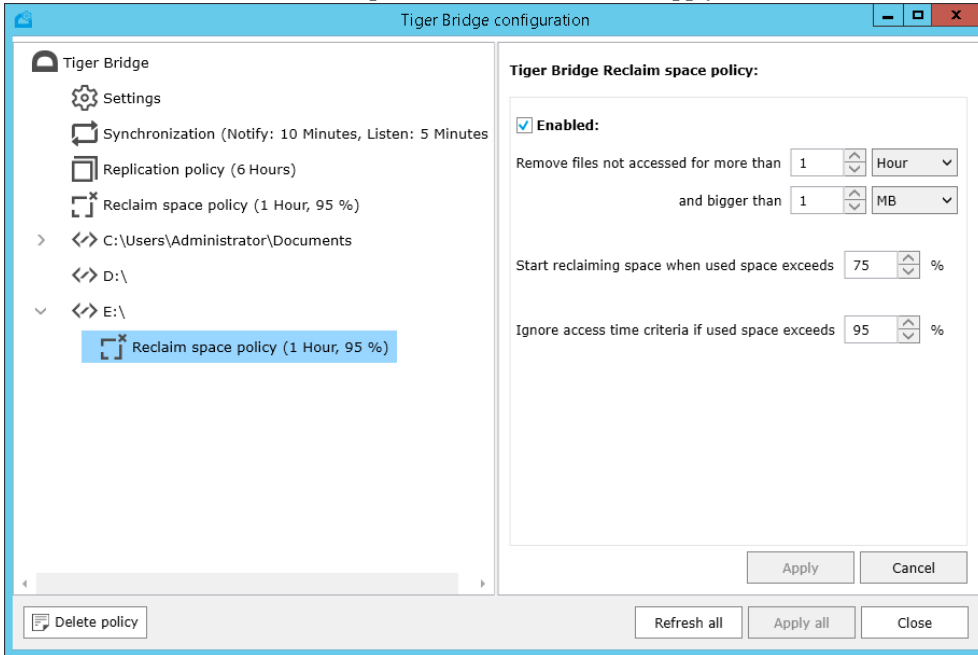
Note: *To make the source use the global space reclaiming policy set for all sources, either disable the space reclaiming policy specified just for it by clearing the Enabled check box in the right pane, or delete the policy by selecting it in the left pane and clicking Delete policy.*

To configure the processes, which can or cannot trigger retrieval of files from the target in the Configuration:

1. Click Settings in the left pane and then click Process Filtering in the right pane.
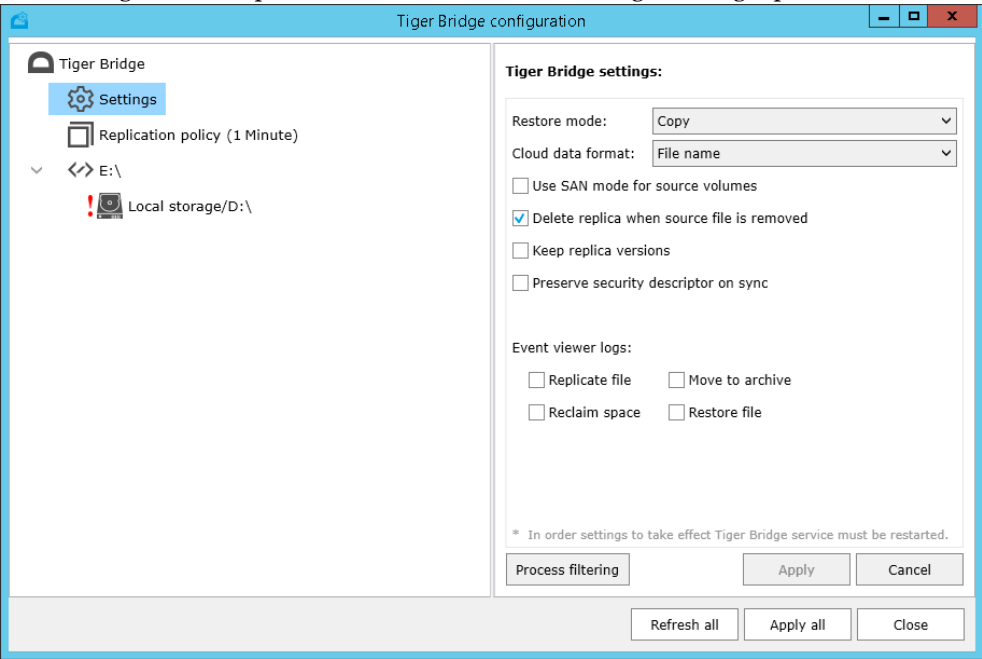
2. In the Process Filtering dialog, do one of the following:

- Enter the name of a process in either the list of processes allowed to trigger the retrieving of nearline files or in the list of processes forbidden to trigger the retrieving of nearline files and click OK.

Tip: *Click the + button on top of each list to place the cursor at the end of each respective list.*
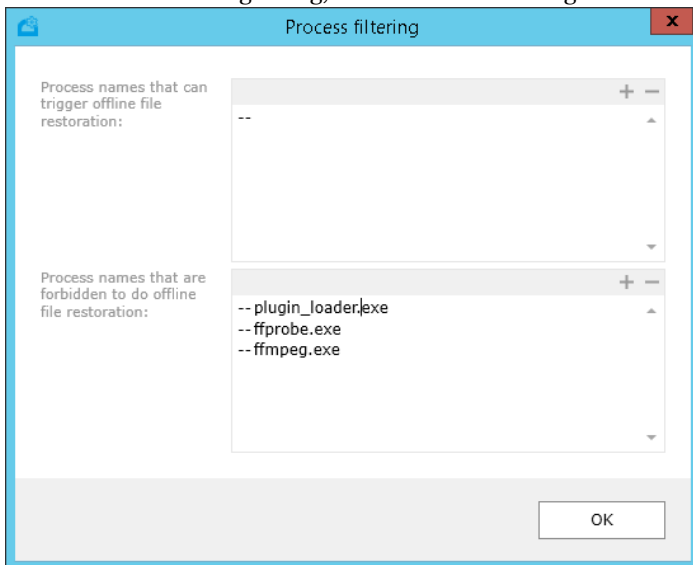
- Remove a process from either list and then click OK.

Tip: *Click the - button on top of each list to remove the last process of the respective list.*

3. In the Tiger Bridge Configuration, click Apply.

To configure automatic space reclaiming in the command-line interface:

1. To enable space reclaiming, execute the following:
```
tiercli config policy reclaimspace turn on
```

Note: *To disable space reclaiming for all source volumes, execute the following:*
```
tiercli config policy reclaimspace turn off
```

2. To configure for how long a replicated should not have been accessed in order to be replaced by a nearline file, execute the following:

```
tiercli config policy reclaimspace age <period>
```

Where **<period>** can be the desired period in seconds (**s**), minutes (**m**), hours (**h**), days (**d**), weeks (**w**).

For example. to specify that Tiger Bridge should replace files with nearline files only after they have not been accessed for 36 hours, execute the following:

```
tiercli config policy reclaimspace age 36h
```

3. To configure what is the minimal size of a file for it to be replaced by a nearline file, execute the following:

```
tiercli config policy reclaimspace size <size>
```

Where **<size>** is the size in bytes (**b**), KB (**k**), MB (**m**), GB (**g**), TB (**t**).

For example. to specify that Tiger Bridge should replace files with nearline files only if they are bigger than 1GB, execute the following:

```
tiercli config policy reclaimspace size 1g
```

4. To configure what used space on the source volumes should be reached for Tiger Bridge to trigger space reclaiming, execute the following:

```
tiercli config policy reclaimspace minused <percent>
```

Where **<percent>** is just the percent value without the % sign.

For example, to specify that Tiger Bridge should begin replacing files with nearline counterparts once used space on the source volumes reaches 65%, execute the following:

```
tiercli config policy reclaimspace minused 65
```

5. To configure what used space on the source volumes should be reached for Tiger Bridge to trigger space reclaiming of all replicated files regardless of their size and last access time, execute the following:

```
tiercli config policy reclaimspace maxused <percent>
```

Where **<percent>** is just the percent value without the % sign.

For example, to specify that Tiger Bridge should begin replacing all files with nearline counterparts once used space on the source volumes reaches 85%, execute the following:

```
tiercli config policy reclaimspace maxused 85
```

6. To limit the processes, which trigger the retrieval of a nearline file from the target, execute one of the following:

• to specify the processes allowed to trigger the retrieving of nearline files, execute the following:

```
tiercli config global whiteproc <process> ... <process>
```

Where **<process>** is the full name of the process with its extension.

Note: *To specify more than one process, list all processes separating them with a space.*

For example, to specify that only Microsoft Paint and AutoCAD can trigger the retrieving of a nearline file that they are attempting to open/read, execute this:
`tiercli config global whiteproc mspaint.exe acad.exe`

• to specify the processes, which cannot trigger the retrieving of nearline files, execute the following:
`tiercli config global blackproc <process> ... <process>`

Where **`<process>`** is the full name of the process with its extension.

Note: *To specify more than one process, list all processes separating them with a space.*

For example, to specify that only Windows Explorer and Eset NOD32 antivirus cannot trigger the retrieving of a nearline file that they are attempting to open/read, execute this:
`tiercli config global blackproc explorer.exe nod32.exe`

7. Check if all settings are correctly configured, by executing the following:
`tiercli config show`

8. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:
`tiercli config reload`

To overwrite the space reclaiming policy for a specific source:

Simply execute the command for a given parameter, including the drive letter of the source, for which you want to overwrite it.

For example, to specify that files on source volume mounted as drive letter E: must be replaced by nearline files when their size is equal to or bigger than 350MB, execute the following:
`tiercli config E policy reclaimspace size 350m`

Note: *You cannot overwrite the parameter specifying which processes can trigger the retrieving of a nearline file from the target for a specific volume.*

Automatic Archiving

Aside from turning archiving on, Tiger Bridge decides what replicated files from the source volumes to replace with offline files based on two parameters - minimal file size and time interval for which the file has not been accessed. For example, if you set the file size threshold to 10MB and the time interval to 2 weeks, Tiger Bridge will replace with offline files all replicated files with size 10MB or above that have not been accessed for at least 2 weeks, leaving on the source volume replicated files whose size is smaller than 10MB and also replicated files with bigger size that have been accessed in less than 2 weeks. By default, Tiger Bridge replaces files with offline files only if they are bigger than 10MB and if they have not been accessed for more than 50 weeks.

Note: *Tiger Bridge processes the queue of replicated files scheduled for archiving starting from the ones, which are least recently accessed.*

You can configure global archiving policy, valid for each pair of source and target, which doesn't have its own archiving policy assigned. You can overwrite the global archiving policy for a given pair of source and target or disable archiving for that pair only.

Additional Archiving Options

You can manually replace replicated files with offline ones on your source volume and thus free space on it. As long as the target supports it, you can manually rehydrate an offline file i.e. change its status to nearline, thus designating that it can be dynamically retrieved from the target, upon request. For more details, see "Manually Manage Data" on page 103.

You can also configure the following advanced settings in order to optimize your data archiving workflow:

• specify for how long Tiger Bridge should wait on startup for the file system scan before beginning to replacing replicated files with offline files (see "Set Startup Scan Wait Time" on page 97).

• specify whether Tiger Bridge should show the actual size of an offline file or the size of the replicated file it replaces (see "Set Stub File Allocation Size Display Option" on page 96).

• specify offline file head and tail size (see "Set Nearline File Head and Tail Sizes" on page 96).

To configure global archiving policy in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and then click Add policy.

2. In the Policy Type dialog, select Archive and click OK.
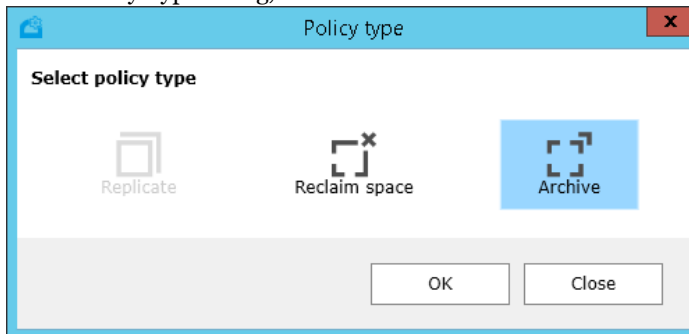
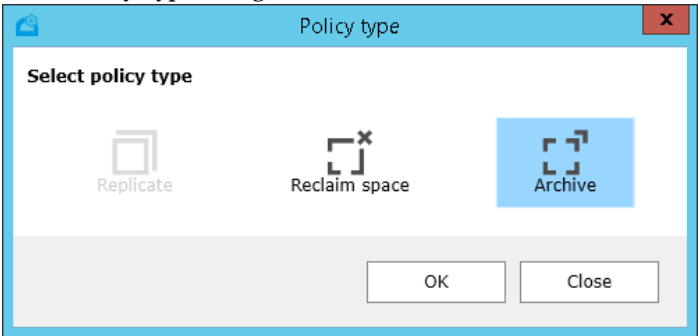**3.** In the right pane, specify the parameters for file access time and size, and click Apply.

The global archiving policy is valid for all sources, which don't have their own policy assigned. To edit the global policy, simply select it in the left pane, edit the desired parameter and click Apply. To delete the global policy, select it in the left pane and click Delete policy.

To overwrite the global archiving policy for a specific source in the Configuration:

1. In the Tiger Bridge Configuration, select the source in the left pane and then click Add policy.

2. In the Policy Type dialog, select Archive and click OK.

Important: *If the selected source already has its own archiving policy assigned, you cannot add a new archiving policy, but can edit the existing policy.*

3. In the right pane, make sure the Enabled check box is selected and specify the parameters for file access time and size, then click Apply.
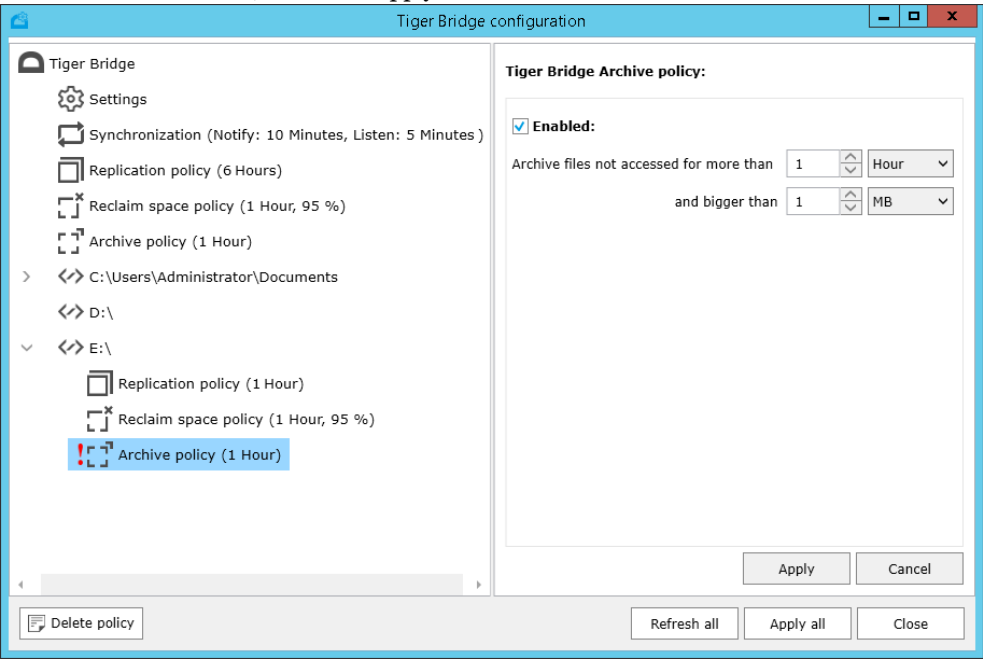
Note: *To make the source use the global archiving policy set for all sources, either disable the archiving policy specified just for it by clearing the Enabled check box in the right pane, or delete the policy by selecting it in the left pane and clicking Delete policy.*

To configure global archiving policy in the command-line interface:

1. To enable space reclaiming, execute the following:
```
tiercli config policy archive turn on
```

Note: *To disable archiving on all source volumes, execute the following:*
```
tiercli config policy archive turn off
```

2. To configure for how long a replicated should not have been accessed in order to be replaced by an offline file, execute the following:
```
tiercli config policy archive age <period>
```

Where **<period>** can be the desired period in seconds (**s**), minutes (**m**), hours (**h**), days (**d**), weeks (**w**).

For example. to specify that Tiger Bridge should replace replicated files with offline counterparts only after they have not been accessed for 36 hours, execute the following:
```
tiercli config policy archive age 36h
```

3. To configure what is the minimal size of a file for it to be replaced by an offline file, execute the following:
```
tiercli config policy archive size <size>
```

Where **<size>** is the size in bytes (**b**), KB (**k**), MB (**m**), GB (**g**), TB (**t**).

For example. to specify that Tiger Bridge should replace replicated files with offline counterparts only if they are bigger than 1GB, execute the following:
```
tiercli config policy archive size 1g
```

4. Check if all settings are correctly configured, by executing the following:
```
tiercli config show
```

5. Reload the updated configuration in the Tiger Bridge service in order to apply all changes, by executing the following:
```
tiercli config reload
```

To overwrite the global archiving policy for a specific source in the command-line interface:

Simply execute the command for a given parameter, including the drive letter of the source volume, for which you want to overwrite it.

For example, to specify that only files on source volume mounted as drive letter E: must be

replaced by archive files when they have not been accessed for 1 day, execute the following:
```
tiercli config E policy archive age 1d
```

Active Sync

Tiger Bridge's active sync allows you to synchronize the contents of two or more sources (each on a separate computer) through a common target. For the purpose you must pair all sources with the same target and configure the active sync policy. The active sync mechanism operates using two parameters - the time interval at which each source sends notifications to other sources about changes to its content on the target, and the time interval at which each source checks for notifications from other sources about modified content (new replicated data available, deleted content, etc.) on the target. After a source receives a notification for updated contents from other sources, Tiger Bridge automatically creates a nearline file for each new file replicated from other sources. Nearline files are created on the source on demand, only upon receiving a request (by a user or application) for access to the directory, which should contain them and each nearline file can then be retrieved manually or automatically, should a user or application attempt to open it. You can also set Tiger Bridge to begin retrieving new nearline files immediately after it finishes the synchronization.

You can use a global active sync policy, valid for all sources paired with the same target or you can create a separate policy, valid only for the source it is assigned to. You can choose to enable just one of the parameters on specific computers - thus one computer can be set to just send notifications about changes introduced on its source, letting sources on other computers synchronize their contents with these changes, but disable notifications from other sources paired with the same target, thus not synchronizing its own content with the changes introduced on other sources.

Additionally, you set Tiger Bridge to keep a file's security descriptor when it is being retrieved on other sources. It is advisable to enable this option only if all sources are in the same Active Directory domain.

To allow for the proper contents synchronization, it is advisable on all sources to set up Tiger Bridge operation mode parameters in such a way that a file on the target is not deleted when it is retrieved on one of the sources and also not to delete the file from the target, if it is deleted on any of the sources. Otherwise, other sources may fail to retrieve the respective file, even though the retrieve mode and delete mode on them are set to keep the replica. For more information, refer to "Operation Mode Parameters" on page 86.

To configure global active sync policy in the Tiger Bridge Configuration:

1. In the Tiger Bridge Configuration, select Tiger Bridge in the left pane and then click Add sync.

2. In the right pane, do the following:
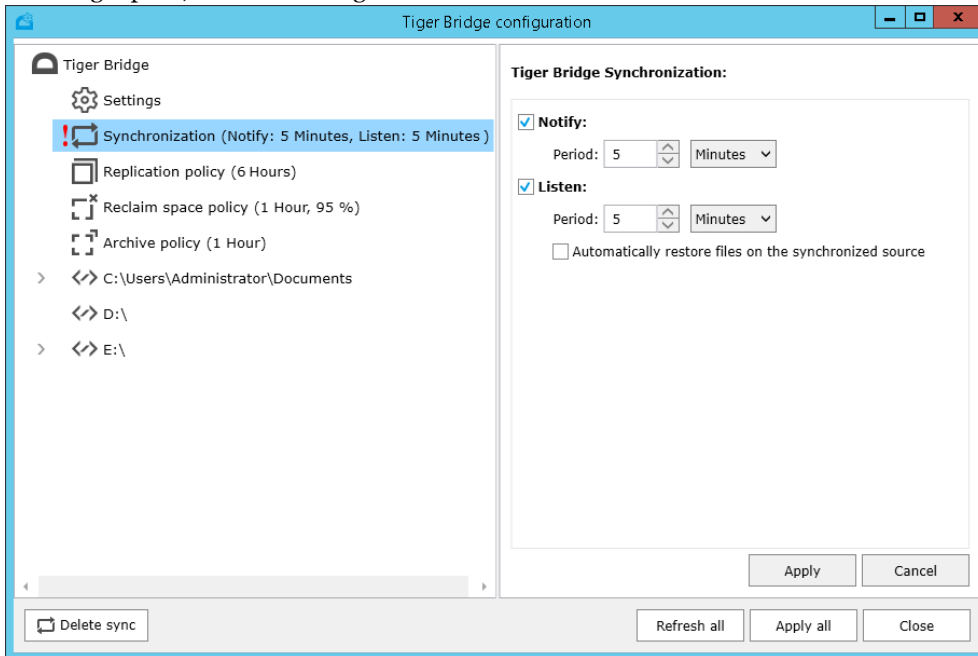
• Below Notify, enter the time interval at which the computer should send notifications to other computers about changes to its source contents and select the unit of measure in the drop-down box beside the Period box.

• Below Listen, enter the time interval at which the computer should check for notifications from other computers about changes in the contents of their sources and select the unit of measure in the drop-down box beside the Period box.

Note: *It is advisable to leave both the Notify and the Listen check boxes selected, when specifying the global active sync policy.*

• Select the "Automatically restore file on the synchronized source" check box, to let Tiger Bridge begin restoring the files immediately after contents is synchronized.

3. Click Apply.

The global active sync policy is valid for all sources, which don't have their own policy assigned. To edit the global policy, simply select it in the left pane, edit the desired parameter and click Apply.

To overwrite the global active sync policy for a specific source in the Configuration:

1. In the Tiger Bridge Configuration, select the source in the left pane and click Add sync.

2. In the right pane, do the following:
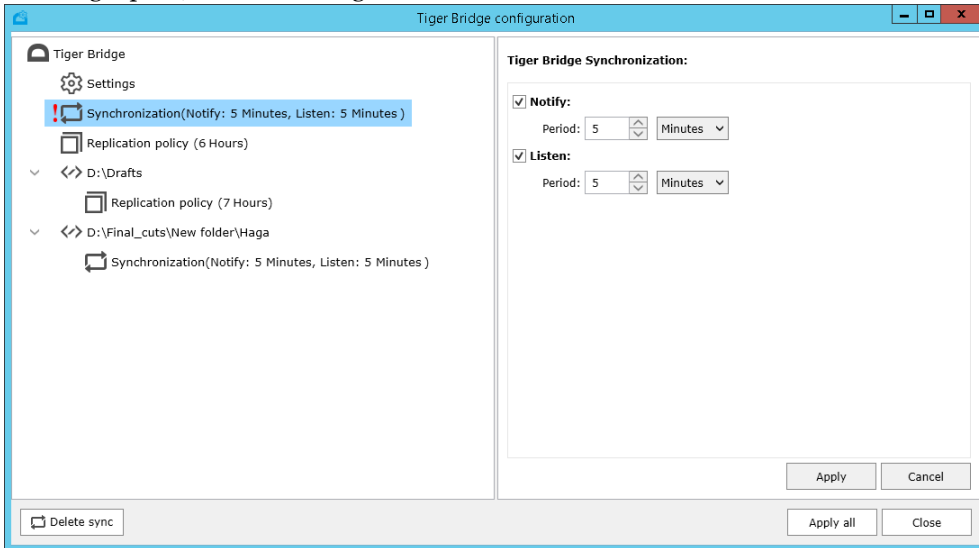
• Below Notify, enter the time interval at which the computer should send notifications to other computers about changes to its source contents and select the unit of measure in the drop-down box beside the Period box.

• Below Listen, enter the time interval at which the computer should check for notifications from other computers about changes in the contents of their sources and select the unit of measure in the drop-down box beside the Period box.

Note: *You can disable either the Notify check box or the Listen check box for the selected source, thus configuring this computer to only send notifications about changes to the contents at its source side, but not letting it synchronize its source contents with changes from other sources and vice versa.*

3. Click Apply.

To edit the active sync policy for this source, simply select it in the left pane, edit the desired parameter and click Apply. To delete the policy and let the source use the global active sync policy, select it in the left pane and then click Delete sync.

To configure global active sync policy in the command-line interface:

1. To configure at what interval sources should send notifications about changes to their contents, execute the following:

```
tiercli config sync notify <period>
```

Where **`<period>`** can be the desired period in seconds (**`s`**), minutes (**`m`**), hours (**`h`**), days (**`d`**), weeks (**`w`**).

For example, to specify that each source should send out notification to other sources every hour, execute the following:

```
tiercli config sync notify 1h
```

2. To configure at what interval sources should receive notifications from other sources about changes in their contents, execute the following:

```
tiercli config sync listen <period>
```

Where **`<period>`** can be the desired period in seconds (**`s`**), minutes (**`m`**), hours (**`h`**), days (**`d`**), weeks (**`w`**).

For example. to specify that each source should check for notifications from other sources every 50 minutes, execute the following:

```
tiercli config sync listen 50m
```

Note: *To disable the global active sync policy, execute the following:*
```
tiercli config sync mode off
```

To overwrite the global active sync policy for a source in the command-line interface:

1. To configure at what interval the source should send notifications about changes to its contents, execute the following:

```
tiercli config <path to source> sync notify <period>
```

Where **`<period>`** is the desired period in seconds (**`s`**), minutes (**`m`**), hours (**`h`**), days (**`d`**), weeks (**`w`**).

For example, to specify that source volume mounted as drive letter E: should send out notification to other sources every hour, execute the following:

```
tiercli config E: sync notify 1h
```

2. To configure at what interval the source should receive notifications from other sources about changes to their contents, execute the following:

```
tiercli config <path to source> sync listen <period>
```

Where **`<period>`** can be the desired period in seconds (**`s`**), minutes (**`m`**), hours (**`h`**), days (**`d`**), weeks (**`w`**).

For example. to specify that source volume mounted as drive letter E: should check for notifications from other sources every 50 minutes, execute the following:

```
tiercli config E: sync listen 50m
```
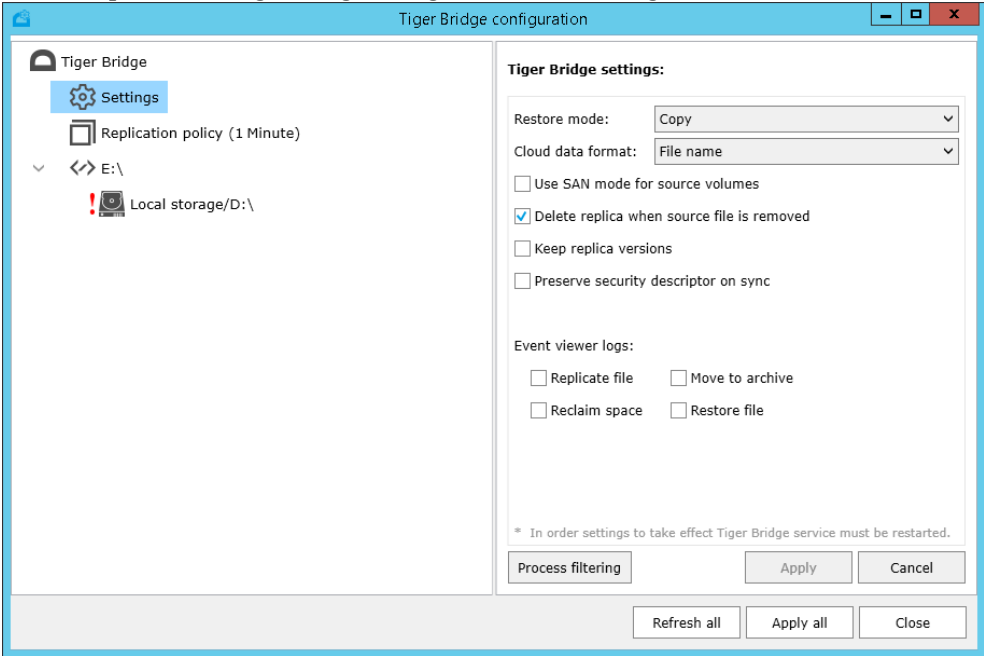
Note: *To disable the active sync policy for this source and use the global policy instead, execute the following:*

```
tiercli config <drive letter or mount point of the source volume> sync
mode off
```

To set Tiger Bridge to preserve the files security descriptor on all sources:

1. In the left pane of the Tiger Bridge Configuration, click Settings.

2. Do one of the following:

• Select the "Preserve security descriptor on sync" check box, to keep the security of all files on each source after contents synchronization.

• Clear the "Preserve security descriptor on sync" check box, to retrieve all files without security on each source after contents synchronization.

3. Click Apply.

Operation Mode Parameters

There are two operation mode parameters that you can specify:

retrieve mode — By default, Tiger Bridge is set up to keep the replica on the target when you retrieve it on the source. You can set Tiger Bridge to remove file replica from target when it is successfully retrieved on the source.

delete mode — By default, when a file is deleted from the source, Tiger Bridge automatically deletes its replica from the target as well. To ensure against accidental deletion of valuable data, for example, you can set Tiger Bridge to delete just the instance of the file on the source, but keep the copy on the target. To retrieve a file deleted only from the source, you will have to manually synchronize the contents of the source and the target (see "Synchronize Data on the Source and the Target" on page 111).

Note: *When you set Tiger Bridge to delete just the instance of the file on the source, to delete it from the target as well you should access the target and manually delete the file.*

To configure retrieve mode in the Tiger Bridge Configuration:

1. In the left pane of the Tiger Bridge Configuration, click Settings.
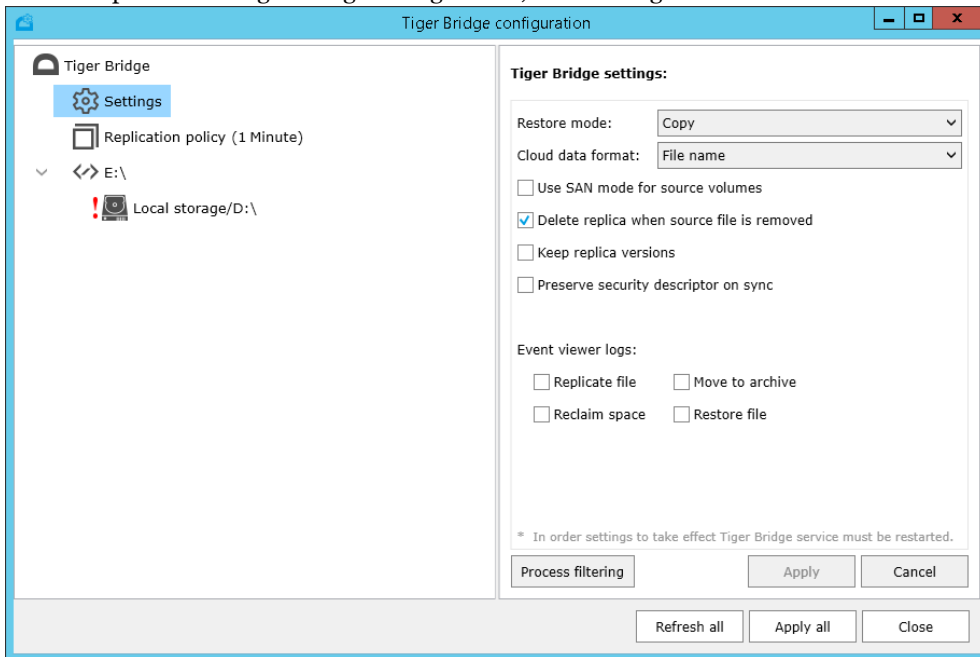
2. In the Restore mode drop-down box, do one of the following:

• To let Tiger Bridge keep the replica on the target, when the file is successfully retrieved on the source volume, select Copy.

• To let Tiger Bridge remove the replica from the target, when the file is successfully retrieved on the source volume, select Move.

3. Click Apply.

To specify the retrieve mode setting in the command-line interface:

Do one of the following:

• To let Tiger Bridge keep the replica on the target, when the file is successfully retrieved on the source volume, execute the following:
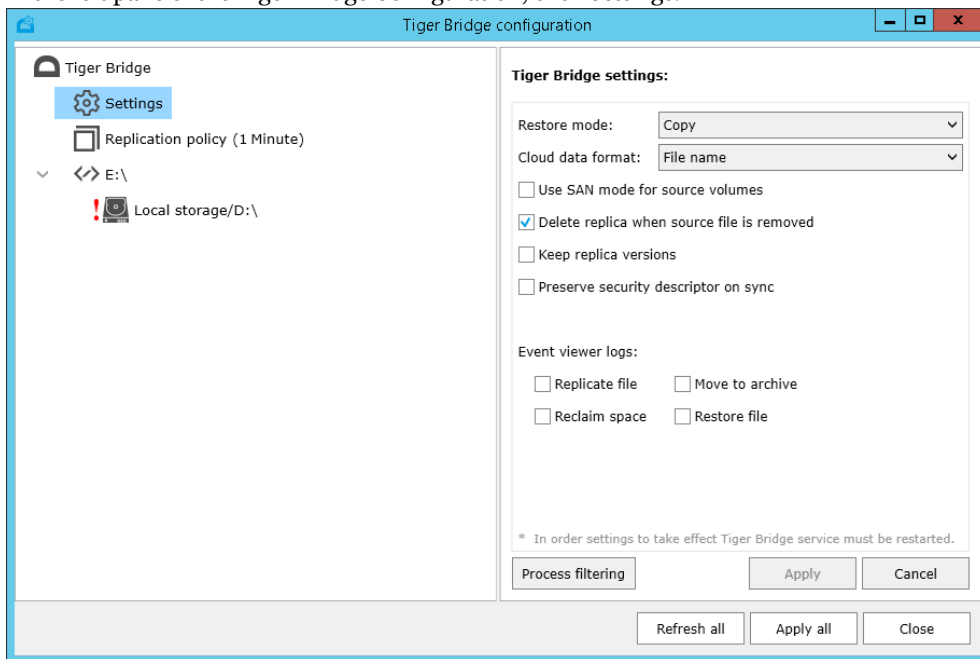
```
tiercli config global resmode copy
```

• To let Tiger Bridge remove the replica from the target, when the file is successfully retrieved on the source volume, execute the following:

```
tiercli config global resmode move
```

To configure delete mode setting in the Tiger Bridge Configuration:

1. In the left pane of the Tiger Bridge Configuration, click Settings.

2. Do one of the following:

• Select the "Delete replica when source file is removed" check box, to let Tiger Bridge remove the replica from the target, upon deleting the file from the source volume.

• Clear the "Delete replica when source file is removed" check box, to let Tiger Bridge keep the replica on the target, upon deleting the file from the source volume.

3. Click Apply.

To specify the delete mode setting in the command-line interface:

Do one of the following:

• To let Tiger Bridge remove the replica from the target, upon deleting the file from the source volume, execute the following:

`tiercli config global delmode on`

• To let Tiger Bridge keep the replica on the target, upon deleting the file from the source volume, execute the following:

`tiercli config global delmode off`

Disable Tiger Bridge

You can disable Tiger Bridge at any time without uninstalling it. Keep in mind that once you disable Tiger Bridge, you will not be able to retrieve any nearline or offline files from the target either on demand or manually. To enable Tiger Bridge again, you will have to configure all parameters anew.

To disable Tiger Bridge:

In command prompt, execute the following:

`tiercli config disable`

Configure Tiger Bridge

Manage Advanced Settings

To let you fine-tune your workflow with Tiger Bridge, you can change the following advanced settings:

• specify the minimum size of a file for it to be replicated (see "Minimum File Size for Replication" on page 92).

• specify whether a file should be retrieved from the target each time a user or application attempts to open it (default behaviour) or only when you manually retrieve it through Tiger Bridge (see "Retrieving Nearline Files Behaviour" on page 93).

• specify whether an application can begin reading a file before it has been fully retrieved from the target (see "Partial File Retrieve Behaviour" on page 94).

• specify whether to turn on/off write-through retrieving of files (see "Enable/Disable Write-through on File Retrieve" on page 94).

• specify timeout after which a file retrieve operation should be considered unsuccessful (see "Set File Retrieve Timeout" on page 95).

• specify whether Tiger Bridge should show the actual size of a nearline/offline file or the size of the replicated file it replaces (see "Set Stub File Allocation Size Display Option" on page 96).

• specify nearline file head and tail size (see "Set Nearline File Head and Tail Sizes" on page 96).

• specify for how long Tiger Bridge should wait on startup for the file system scan before beginning to perform data replication and space reclaiming (see "Set Startup Scan Wait Time" on page 97).

• specify the number of parallel threads run by Tiger Bridge when replicating files to the target (see "Set Number of Parallel Threads during Data Replication" on page 98).

• manage Tiger Bridge logs (see "Manage Tiger Bridge Logs" on page 98).

Minimum File Size for Replication

By default, the only criteria for queuing a file for replication is for how long this file have not been modified. You can also set Tiger Bridge to queue for replication only files whose size is above a given threshold, thus ignoring small files like log files, for example.

Note: *The minimum file size for replication setting is valid only for files scheduled for automatic replication. Should you manually replicate a file with size below this minimum, this file will be replicated.*

To specify minimum file size for it to be replicated:

1. Start the Registry Editor.

   Tip: *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the **replication_min_filesize** value and select Modify.

4. Do one of the following:

• to set Tiger Bridge to replicate any file regardless of its size, change the value to 0 and click OK.

• to set Tiger Bridge to schedule for automatic replication only files with size above the one you specify, enter the minimum file size in bytes and click OK.

For example, to set Tiger Bridge to replicate only files whose size is above 100MB, enter 104857600 and click OK.

5. Restart the computer running Tiger Bridge.

Retrieving Nearline Files Behaviour

By default, Tiger Bridge is set up to automatically retrieve a nearline file from the target each time a user or application accesses it. You can change this default behaviour and specify that nearline files should be retrieved from the target only when a manual retrieve operation is executed through the command-line interface or the shell extension of Tiger Bridge.

To specify file retrieve behaviour:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the **active_restore** string value and select Modify.

4. Do one of the following:

• to set Tiger Bridge to automatically retrieve a nearline file, when a user or application accesses it, change the value to 1 and click OK.

• to set Tiger Bridge to retrieve a nearline file, only if manual retrieve operation is executed from the command-line interface or the shell extension, change the value to 0 and click OK.

5. Restart the computer running Tiger Bridge.

Partial File Retrieve Behaviour

By default, when Tiger Bridge retrieves a nearline file from the target, an application can begin reading it only after it has been fully retrieved on the source volume. With network share or another local volume as targets, you can begin reading a file before it is fully retrieved. To achieve this, you must change the default partial file retrieve behaviour.

Important: *Allowing reading of nearline files when they have been only partially retrieved is not suitable for s3 storage and wos appliances as targets.*

To specify partial file retrieve behaviour:

1. Start the Registry Editor.

   Tip: *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
   HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `active_restore_partial` string value and select Modify.

4. Do one of the following:

   • to set Tiger Bridge to allow reading a nearline file, only when it has been fully retrieved, change the value to 0 and click OK.

   • to set Tiger Bridge to allow reading a nearline file, when just a part of it has been retrieved only, change the value to 1 and click OK.

5. Restart the computer running Tiger Bridge.

Enable/Disable Write-through on File Retrieve

By default, when a file is being retrieved, write-through is disabled. To specify that write operations should not go through any intermediate cache, but go directly to the disk of the source volume, you should enable write-through.

Important: *It is advisable to enable write-through on file retrieve, only when your source volume is accessible in SAN environment.*

To enable/disable write-through on file retrieve:

1. Start the Registry Editor.

   Tip: *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
   HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `write_through_restore` value and select Modify.

4. Do one of the following:

- to let Tiger Bridge buffer data when retrieving a file, change the value to 0 and click OK.

- to let Tiger Bridge retrieve data unbuffered to the source volume, change the value to 1 and click OK.

5. Restart the computer running Tiger Bridge.

Set File Retrieve Timeout

By default, when attempting to retrieve a nearline file from the target Tiger Bridge waits 60 seconds for the operation to begin before returning error for unsuccessful operation. You can change this default timeout adjusting it to the particular target you are using and the connection to it.

Additionally, you can specify a timeout for successfully retrieving a file, which is calculated as milliseconds for each 1MB of the file size. By default, the value is set to 1000 milliseconds.

To set timeout for successfully started file retrieving:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `active_restore_timeout` value and select Modify.

4. Enter the timeout value in seconds and click OK.

For example, to set Tiger Bridge to return error for unsuccessful file retrieve operation after 2 minutes, enter 120 and click OK.

5. Restart the computer running Tiger Bridge.

To set successful file retrieving timeout:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `active_restore_activity_timeout` value and select Modify.

4. Enter the timeout value in milliseconds per 1MB of the total file size and click OK.

For example, to set Tiger Bridge to return error for unsuccessful file retrieve if it is unable to retrieve 1MB of the file for 2 minutes, enter 120000 and click OK.

5. Restart the computer running Tiger Bridge.

Set Stub File Allocation Size Display Option

By default, when you request to view the actual size of a nearline or an offline file on the source volume, Tiger Bridge displays the actual size of the original file it has replaced. You can set Tiger Bridge to display the actual size of the nearline/offline file instead, keeping in mind that using this option may disturb the workflow of some applications.

To set stub file allocation size display option:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `stub_show_actual_size` value and select Modify.

4. Do one of the following:

   • to set Tiger Bridge to display the allocation size of the original file instead of the actual size of the stub file, change the value to 0 and click OK.

   • to set Tiger Bridge to display the actual size of the stub file, change the value to 1 and click OK.

5. Restart the computer running Tiger Bridge.

Set Nearline File Head and Tail Sizes

By default, nearline files keep none of the original file's data or metadata and take no space on the source volume. Because of this, it is possible a nearline file to be retrieved from the target simply because Windows Explorer, for example, attempts to read the supplemental data placed in the header of the nearline file (with some file types this information may also be stored in the end of a file). To prevent needless retrieving of nearline files, you can set Tiger Bridge to keep the beginning and/or the end of nearline files, specifying the size of respectively the head and the tail of the file. Thus, if the specified size is enough to hold the information from the header of a file, upon requesting to read it, Windows Explorer will not trigger the retrieving the original file from the target. With most file types a head/tail size of 64KB would be sufficient to include the information from the file header. Keep in mind that by specifying head and/or tail size, you automatically increase the size of each nearline file on your source volume with the sum of the head/tail sizes.

To set nearline file head size:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `stub_sparse_head_size` value and select Modify.

4. Enter the size of the head of each nearline file to be kept on the source volume and click OK.

5. Restart the computer running Tiger Bridge.

To set nearline file tail size:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `stub_sparse_tail_size` value and select Modify.

4. Enter the size of the tail of nearline stub file to be kept on the source volume and click OK.

5. Restart the computer running Tiger Bridge.

Set Startup Scan Wait Time

On startup Tiger Bridge scans the file systems of the source volumes it manages to determine what data on them needs to be processed. By default, Tiger Bridge is set to wait until this scan finishes, before beginning with data lifecycle management operations, thus ensuring maximum precision of the scheduled file operations. On source volumes with much data this scan may take significant time and you can set up Tiger Bridge to reduce this wait time before the scan finishes.

To set Tiger Bridge startup scan wait time:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click in the right pane and select New | String Value.

4. Rename the new REG_SZ value to:
`step_ready_wait_time`

5. Right-click the `step_ready_wait_time` value and select Modify.

6. Do one of the following:

• to set Tiger Bridge to wait until the startup scan finishes completely, change the value to 0 and click OK.

• enter the time in seconds, for which Tiger Bridge should wait before beginning to process data and click OK.

7. Restart the computer running Tiger Bridge.

Set Number of Parallel Threads during Data Replication

By default, when Tiger Bridge replicates files to the target, it runs just one thread. You can increase the number of threads for remote targets, like IBM cloud object storage for example.

To set the number of parallel threads during data replication:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `work_threads_count` value and select Modify.

4. Enter the number of threads that Tiger Bridge should use when replicating data to the target and click OK.

5. Restart the computer running Tiger Bridge.

Manage Tiger Bridge Logs

Tiger Bridge can log most events related to its operations, using a standard Windows output console like DebugView, for example. You can set Tiger Bridge to output its logs as files in a selected directory or in the Windows Event Viewer.

Important: *It is advisable to keep track of the amount of log files generated by Tiger Bridge, in order to avoid running out of disk space.*

You can also set Tiger Bridge to create logs for the following events:

• a file is replicated

• a file is replaced with a nearline/offline file

- a nearline file is retrieved from the target

- the status of a directory is changed (replicated, nearline, offline)

Manage Tiger Bridge Logs in the Configuration

The Tiger Bridge Configuration lets you specify which of the following events should be output as logs in Windows Event Viewer:

- a file is replicated

- a file is replaced with a nearline/offline file

- a nearline file is retrieved from the target

To configure Tiger Bridge logs in the Configuration:

1. In the left pane of the Tiger Bridge Configuration, click Settings and then do one of the following in the right pane:
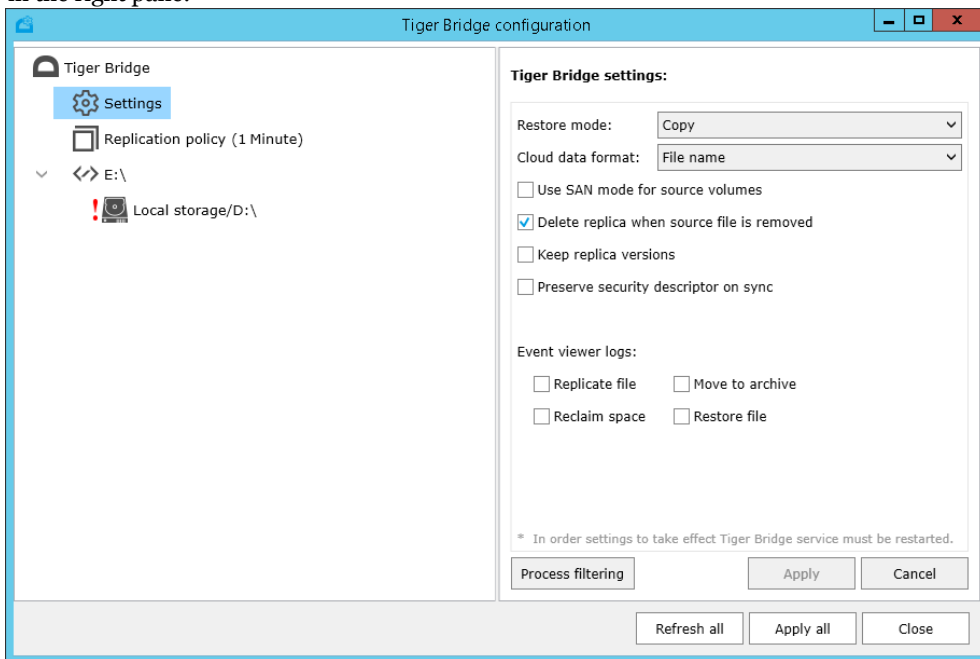
• Select the check box of an operation, to let Tiger Bridge output logs for it in Windows Event Viewer.

• Clear the check box of an operation, to prevent Tiger Bridge from outputting logs for it in Windows Event Viewer.

2. Click Apply.

Manage Tiger Bridge Logs in the Command-line Interface

To change the output of the Tiger Bridge logs:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `tiersvc` key and select New | Key.

4. Rename the new key to `log`.

5. Right-click in the right pane and select New | String Value.

6. Rename the new REG_SZ value to:
`user_destination`

7. Right-click the `user_destination` value and select Modify.

8. Do one of the following:

• To enable Tiger Bridge logging to a file in a selected directory, enter the following and then click OK:
`file://[full path to the directory]\`

For example, to set Tiger Bridge to create the log files in the "Logs" directory in the root of your system drive C:, enter the following:
`file://C:\Logs\`

> **Note:** *The directory you specify must exist. The backslash at the end of the path is obligatory.*

• To enable Tiger Bridge in the Windows Event Viewer, enter the following and then click OK:
`eventlog:[logging source name]`

For example, to set the Tiger Bridge logs in the Event Viewer to appear with source "TigerBridge", enter the following:
`eventlog:TigerBridge`

9. Restart the computer running Tiger Bridge.

> **Note:** *To disable logging to a file or in Event Viewer, simply delete the* `user_destination` *registry value.*

To enable/disable Tiger Bridge logging on each file replicate operation:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Navigate to:
HKEY_LOCAL_MACHINE\SOFTWARE\Tiger Technology\tiger-bridge\tiersvc\settings

3. Right-click the `log_replicate` value and select Modify.

4. Do one of the following:

- To enable Tiger Bridge logging, change the value to 1 and click OK.

- To disable Tiger Bridge logging, change the value to 0 and click OK.

5. Restart the computer running Tiger Bridge.

To enable/disable Tiger Bridge logging on replace with a nearline/offline file operation:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Right-click the `log_reclaim_space` value and select Modify.

3. Do one of the following:

- To enable Tiger Bridge logging, change the value to 1 and click OK.

- To disable Tiger Bridge logging, change the value to 0 and click OK.

4. Restart the computer running Tiger Bridge.

To enable/disable Tiger Bridge logging on file retrieve operation:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Right-click the `log_restore` value and select Modify.

3. Do one of the following:

- To enable Tiger Bridge logging, change the value to 1 and click OK.

- To disable Tiger Bridge logging, change the value to 0 and click OK.

4. Restart the computer running Tiger Bridge.

To enable/disable Tiger Bridge logging on directory status change:

1. Start the Registry Editor.

> **Tip:** *To start Registry Editor, on the Start menu click Run and in the dialog type regedit.*

2. Right-click the `log_dir_status` value and select Modify.

3. Do one of the following:

- To enable Tiger Bridge logging, change the value to 1 and click OK.

- To disable Tiger Bridge logging, change the value to 0 and click OK.

4. Restart the computer running Tiger Bridge.

5

Manually Manage Data

Using the shell extension or the command-line interface you can manually perform data lifecycle management operations on separate files or whole folders.

Initiating a Tiger Bridge operation manually always takes precedence over the automatically scheduled tasks. That means that if you choose to manually replicate files through the shell extension or the command-line interface, for example, the execution of the operation will begin immediately and will pause the automatic replication queue that is being processed at the moment.

Manage Data Through the Shell Extension

Tiger Bridge is integrated with Windows Explorer and displays files and folders subject to replication, space reclaiming and/or archiving with separate icons.

File icons:

This is a replicated file, which has a copy on both the source volume and the target.

This is a nearline file, pointing to the copy of the actual file on the target. It can be automatically retrieved whenever a user or application attempts to open it on the source.

This is an offline file (the actual file exists only on the target). You can retrieve this file on the source volume only manually through Tiger Bridge.

Tiger Bridge is currently performing a data lifecycle management operation on the file. Wait until the operation finishes for the file icon to change.

Folder icons:

The folder contains only replicated files.

The folder contains only nearline files.

The folder contains only offline files.

Tiger Bridge is currently performing data lifecycle management operations on data in the folder. Wait until the operation finishes for the folder icon to change.

Tiger Bridge is currently scanning the contents of the folder and is unable to display its status.

To perform data lifecycle management operations through the Tiger Bridge shell extension:

Note: *The respective commands are available only to files/folders to which they apply i.e. you cannot issue the "Reclaim space" command for a nearline file, for example.*

1. In Windows Explorer, right-click the file/folder you want to manage.

2. In the context menu do one of the following:

• Select "Tiger Bridge | Replicate" to replicate the selected file or all files in the selected folder on the target.

• Select "Tiger Bridge | Reclaim space" to replace the selected replicated file or all replicated files in the selected folder with nearline file(s), pointing to the actual replicas on the target.

• Select "Tiger Bridge | Move to archive" to replace the selected replicated file or all replicated files in the selected folder with offline file(s), pointing to the actual replicas on the target.

• Select "Tiger Bridge | Rehydrate from archive" to change the status of an offline file to nearline i.e. to a file that can be retrieved from the target when a user or application attempts to open it on the source volume.

• Select "Tiger Bridge | Retrieve data" to retrieve from the target the selected nearline/offline file or all nearline/offline files in the selected folder.

Note: *Retrieving a file from the target is possible only if there's enough free space on the volume.*

Manage Data Through the Command-line Interface

You can perform the following manual data lifecycle management operations through the Tiger Bridge command-line interface:

action:	command:
show file/folder lifecycle status	`tiercli op info <path to file/ folder on source volume>`
replicate a file/folder to the target	`tiercli op replicate <path to file/folder on source volume>`
replace a replicated file with a nearline file. When you perform this command for a whole folder, all files in it are replicated and replaced by nearline files.	`tiercli op offline <path to file/folder on source volume>`
retrieve a nearline file from the target. When you perform this command for a whole folder, all nearline files in it are retrieved from the target.	`tiercli op restore <path to file/folder on source volume>`
delete a file or folder from the source volume.	`tiercli op delete <path to file/ folder on source volume>`
rehydrate an offline file, changing its status to nearline.	`tiercli op move_hot <path to file/folder on source volume>`
replace a replicated file on the source volume with an offline file.	`tiercli op move_archive <path to file/folder on source volume>`
display the status of the currently performed data lifecycle operation	`tiercli op status <path to file/ folder on source volume>`
abort the currently performed data lifecycle operation	`tiercli op abort <path to file/ folder on source volume>`
display a list of all queued data lifecycle operations.	`tiercli op list <path to file/ folder on source volume>`
check if the replica of a nearline/offline file is available on the target.	`tiercli op avail <path to file/ folder on source volume>`
show the content of a selected replicated folder on the target	`tiercli op target_enum <path to folder on source volume>`
pause a manually initiated data lifecycle operation	`tiercli op pause <path to file/ folder on source volume>`

To execute any of the above operations you should specify the full path to the file/folder on the source volume. For example, to manually replicate file "Schedule" in the folder "Schedules" on source volume F, execute the following:

`tiercli op replicate F:\Schedules\Schedule`

Synchronize Data on the Source and the Target

As means of disaster recovery, Tiger Bridge offers you the possibility to synchronize the contents of the source with the target. Thus, in case a replicated file has no nearline or offline counterpart on the source volume, Tiger Bridge automatically creates it after synchronizing a whole source volume or just a folder on it.

To synchronize content on the source and target volumes:

1. In command prompt, do one of the following:

• To synchronize a whole source volume's content with the content of its target, execute the following:

```
tiercli op sync <path to source>
```

For example, to synchronize the content of the source volume mounted as the drive letter F:, execute the following:

```
tiercli op sync F:\
```

• To synchronize the content of a folder on a source with the content of its target, execute the following:

```
tiercli op sync <path to folder on the source>
```

For example, to synchronize the content of the folder "Projects" in the root of the source volume mounted as drive letter F:, execute the following:

```
tiercli op sync F:\Projects
```

2. To check the progress of the synchronization operation, execute the following:

```
tiercli op status
```

Manually Manage Data

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