



Extend Your File Servers with Tiger Bridge

Step-by-step guide for using Tiger Bridge to extend your file server storage to the cloud

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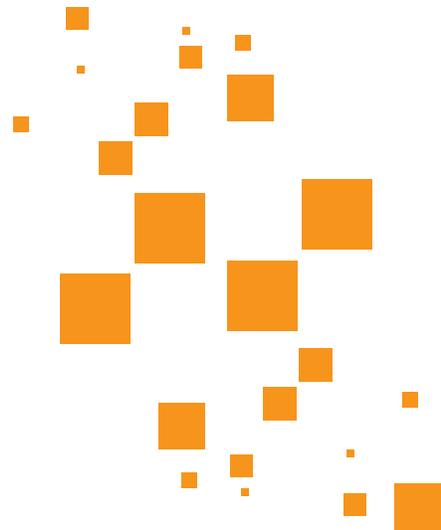


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Introduction

You need more storage space for all your data? Your file server's local storage is (almost) full and you're looking for ways to scale out non-disruptively? Adding a second file server doesn't feel like the best approach?

You can configure Tiger Bridge for extension or "reclaiming space", which means offloading some of your data by copying it to the cloud and replacing the local copies with the so-called stub files. Stub files are 0 bytes in size but are linked to their full versions in the cloud so when you click to open one of them, the full file gets retrieved from the cloud and you can work with it. If it is a big file, you do not need to wait for the whole download procedure. A portion of the file gets downloaded first so you can start working with it while the rest or part of the rest is still being downloaded.

Why Tiger Bridge?

Tiger Bridge is a non-proprietary, software-only data management solution that blends on-premises and multi-tier cloud storage into a single space and enables hybrid workflows. This human-friendly, transparent and seamless file server extension enables millions of Windows server users to benefit from cloud scale and services, while securely preserving legacy applications and workflows.

Tiger Bridge extends your local storage without the added costs and complexities of traditional hardware solutions. Data is replicated in its native format thus avoiding vendor lock-in and disruption.

Tiger Bridge addresses a number of other data management challenges including, but not limited to Disaster Recovery, Cloud Migration, Backup & Archive, Remote Collaboration & Multi-site Sync, and Continuous Data Protection. In addition, Tiger Bridge enables low-latency bi-directional metadata sync between your local file system and the cloud to bring powerful AI services to your existing operations.

Check out our [YouTube channel](#) to learn more.

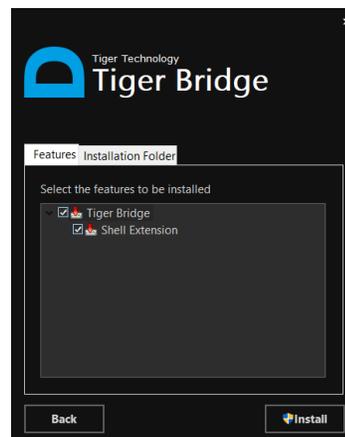
We have divided the Tiger Bridge extension configuration and usage in three main steps:

1. [Installation](#)
2. [Extension](#)
3. [Restoration](#)

Installation

First, you will need Tiger Bridge set up and running on your file server or on a machine with access to the file server over the network. In this section, we will outline the steps needed:

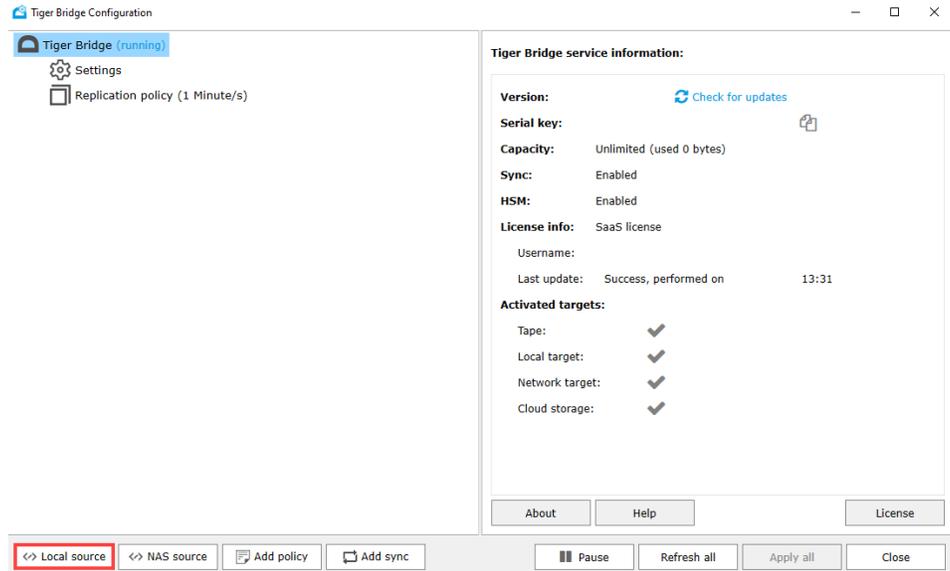
1. Open the Tiger Bridge installer and follow the first few steps. There is an installation wizard which guides you through the steps.



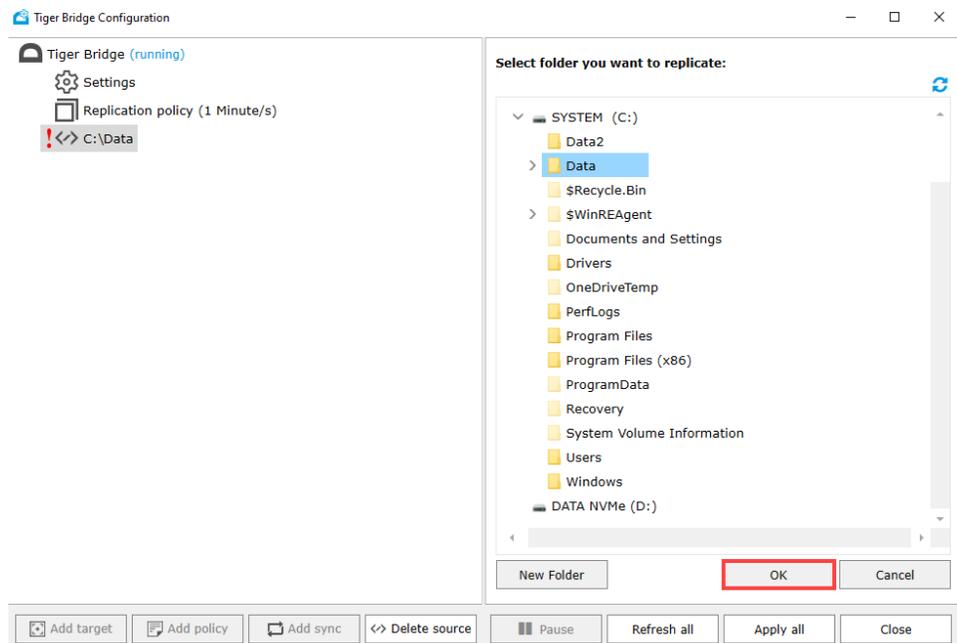
2. Once this is done, a **Tiger Bridge Configuration** icon will appear on your desktop. Click to open it or use the tray icon. You will be able to establish the communication between Tiger Bridge and a cloud provider there. Prior cloud account existence is required, along with a valid Tiger Bridge license.
3. Click the **Local source** button to specify a folder or drive to be extended to the cloud.

Note: You can also add a NAS source if Tiger Bridge is installed on a computer that accesses the server's storage as a network share.

Note: You can select a couple of different sources and be very specific as to which source gets extended where. Even two subfolders of the same main folder can point to different cloud targets, one to an archival tier and another one to a hot tier, for example.



4. Select the desired drive or folder and click the **OK** button to confirm.



5. Then select the **Add target** button at the bottom to specify a target in the cloud for your data.



6. You can pick any of the available public cloud or on-premises options.

Select Tiger Bridge target:

Public Cloud On-Premises

Object Store with Hot & Archive Tiers

 Amazon S3  Azure  Google Cloud  IBM Cloud

Object Store with Hot Tier

 Backblaze  Google Drive  LYVE Cloud  RSTOR Space

 S3 Compatible  Wasabi

7. Fill in the fields with accurate credentials, such as **Account name** and **Account key**. These may vary depending on the selected provider. Such sensitive information is available to cloud administrators with exclusive rights.

Tiger Bridge target: 

Targets:

Name:

Account name:

Account key:

Blob endpoint:

Use secure transfer (SSL/TLS)

Default access tier:

Rehydration priority:

Containers:

 spaces-nas

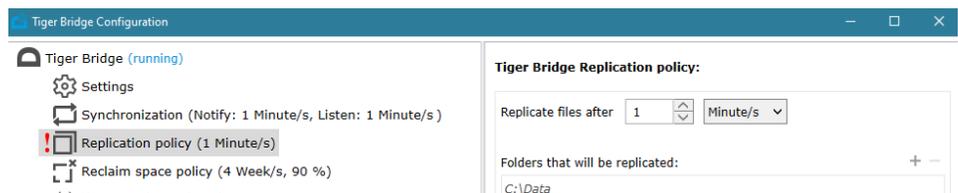
The available options are summarized in the following table:

Field	Description
Targets	The selected cloud provider
Name	Name of the target – the way it will appear in the Tiger Bridge Configuration
Account name	Your cloud provider’s assigned account name
Account key	The secret key for authorization in front of the cloud provider
Use secure transfer (SSL/TLS)	Checked by default for secure communication
Default access tier	The options names vary from one cloud provider to another but you will find the option to select hot, cool, or archive as your default tier. Archive is the cheapest option but retrieving the data is much more expensive and time-consuming than the other options.
Rehydration priority	Will be standard by default, but you can change that for some critical sources and give them priority over other standard ones
Buckets/Containers	You will have to select an individual bucket or container in the cloud to sync your data with. This will be the actual storage extension.

Click the **Apply** button once you are ready with your selections.

At the end of this initial configuration Tiger Bridge will be in a paused state waiting for you to finish setting everything up.

8. Next, set your **replication policy**, meaning which data is getting copied to the extension and when. By default, the value is **1 minute**, but it can be days or weeks as well. A new file put within the source directory or changes made to the file/folder structure in general would trigger a replication after the specified value.



To use only the extension functionality of Tiger Bridge, you need to stop the regular replication by setting the Replication policy to a very large number, like 2000 weeks, to make sure it doesn't replicate data until the Reclaim space policy kicks in.

Make sure you **Apply** your changes at the end.

9. Select the Settings option on the left and make the necessary choices for your environment.

Tiger Bridge settings:

Retrieve mode:

Delete replica when source file is removed

Keep replica versions

Preserve security descriptor on sync

Allow remote shell extension

Allow partial updates

Enable progressive retrieval

Enable ransomware protection

Maximum modified files to trigger:

Event viewer logs:

Replicate file Move to archive

Reclaim space Retrieve file

In the following table you can find a brief summary of these settings and their function.

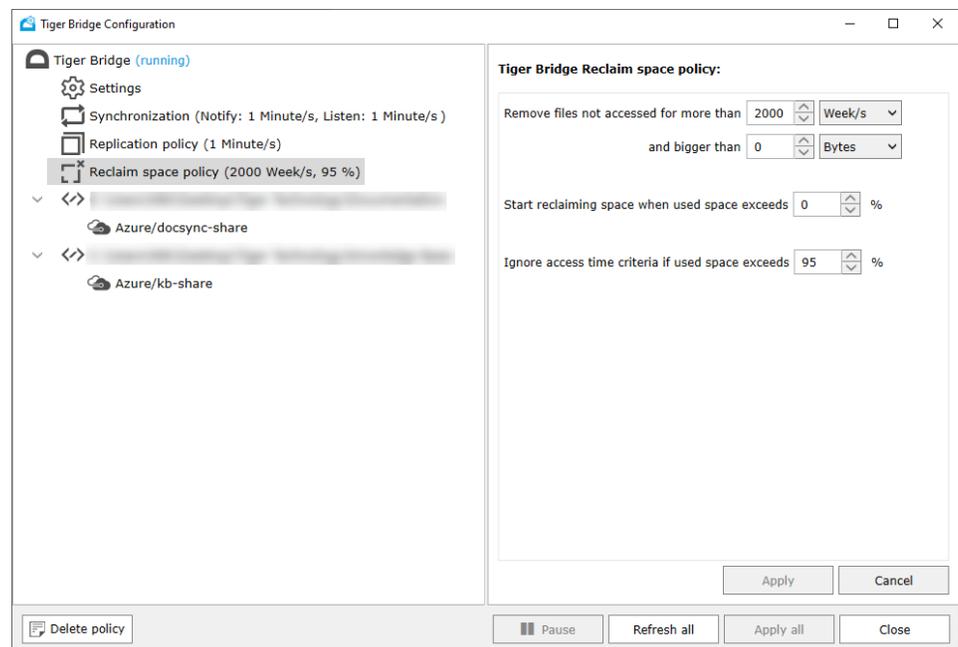
Setting	Function
Retrieve mode	To let Tiger Bridge keep the replica on the target when the file is successfully retrieved on the source volume, select Copy . To let Tiger Bridge remove the replica from the target when the file is successfully retrieved on the source volume, select Move .
Delete replica when source file is removed	Select the check box to let Tiger Bridge remove the replica from the target upon deleting the file from the source volume.
Keep replica versions	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 enable this feature and Tiger Bridge will not overwrite the replica on the target but allow the versioning software to keep each copy as a separate version.
Preserve security descriptor on sync	Select the check box to keep the security of all files on each source after contents synchronization.
Allow remote shell extension	You can install the Tiger Bridge shell extension as a standalone component on a remote computer and thus allow users with administrative privileges to perform manual Tiger Bridge operations on a NAS source or on a local source exported as an SMB share. To be able to use the shell extension from a remote computer, a Tiger Bridge administrator must enable this remote shell extension access setting. Important: Disabling the remote shell extension access only prevents users from executing the commands in the Tiger Bridge context menu in Windows Explorer but does not restrict their access to data on your source.
Allow partial updates	By default, when an already replicated file is modified on the source and needs to be replicated again, Tiger Bridge replicates the whole file on the target. By enabling partial file updates, you let Tiger Bridge overwrite on the target just the parts of the file which have been modified if your target supports this functionality.
Enable progressive retrieval	You can disable the progressive retrieval of data and this way configure Tiger Bridge to retrieve only the portion of the file which is currently being read by the application as long as the respective application supports reading only portions of a file.
Enable ransomware protection	As ransomware attacks usually result in the encryption of as many files as possible, Tiger Bridge lets you specify the maximum number of already replicated files queued for replication, because they have been modified on the source. When the number of modified files queued for re-replication reaches the threshold you have specified, Tiger Bridge automatically pauses all its operations and logs this in the Windows Event Viewer. You can then delete the encrypted files (if there are any), retrieve their unencrypted copies from the target, and then resume normal operations.
Event viewer logs	Select the check boxes for the Tiger Bridge actions you would like to get logged in Event Viewer.

Extension

A big part of the configuration is done on the Reclaim space policy screen of Tiger Bridge. The rules for this extension are set up here.

To extend the file server storage, Tiger Bridge will reclaim local space by transferring files to the cloud.

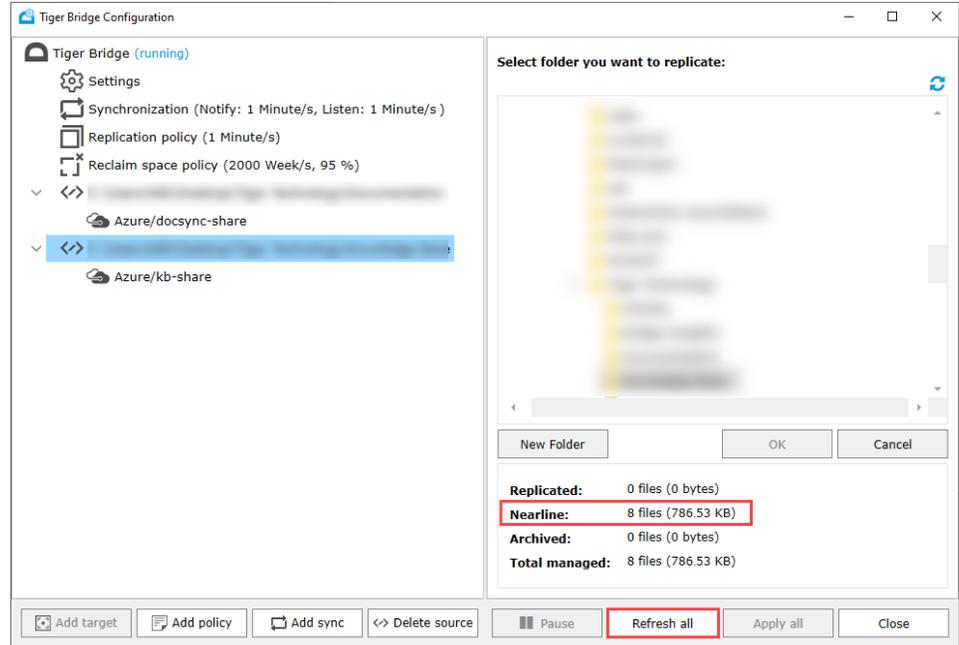
You can define which particular data to be offloaded with the parameters on the screen. It could be big files that haven't been accessed recently and only if you are running low on storage.



Maybe the most important setting is the **Ignore Access Time Criteria If Used Space Exceeds %**.

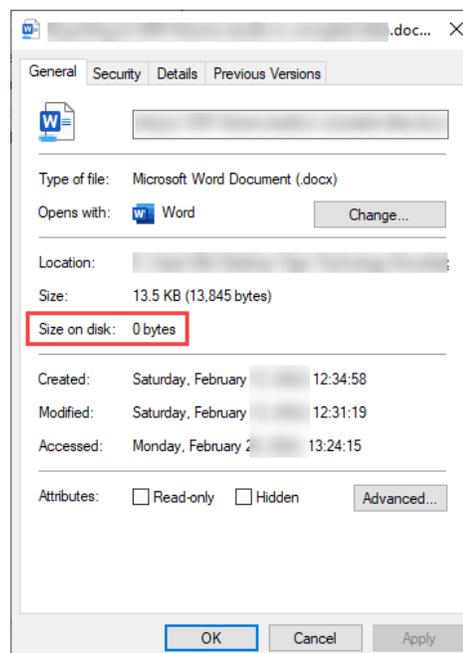
The default setting is 95%, which means that if the space usage becomes or is greater than this, Tiger Bridge is going to offload the least recently accessed data to the cloud. Tiger Bridge starts with the files with the oldest so-called accessed time. Using the accessed time, we divide the data into cold data (not recently accessed) and hot data (recently used). While working, Tiger Bridge will make sure the space on disc doesn't get above 80% and is at least 20% free by moving the not recently accessed files to the cloud so it can free up local storage space. These offloaded files are being stored in a non-proprietary form in the cloud and can be downloaded directly from your cloud's portal even without the use of Tiger Bridge, if needed.

You can monitor the offloading process by clicking the **Refresh All** button on the Tiger Bridge source configuration screen.



Refresh All will show us that currently out of the total managed files we have a certain number that are blue, which means stored only in the cloud.

If you right-click one of the blue replicated files in the source folder and select **Properties**, you will see that they are now not consuming any space on the local drive.



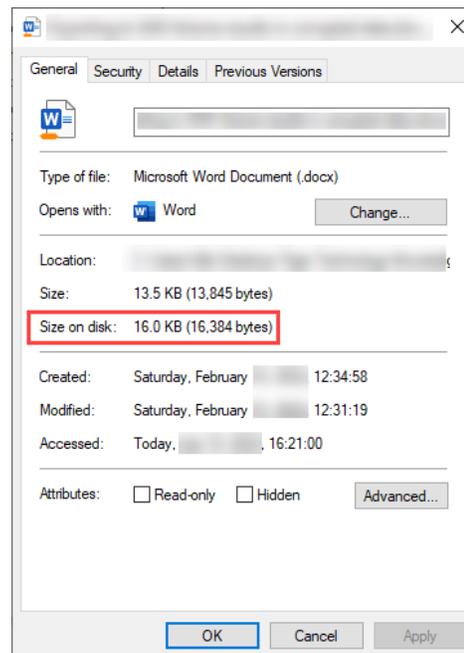
Note: If the default replication tier is the archival one, the file will display with an offline (gray) overlay.

This is how we freed up some of the space on the local drive. These files are now only stored in the cloud but have local shortcuts and are still usable on demand.

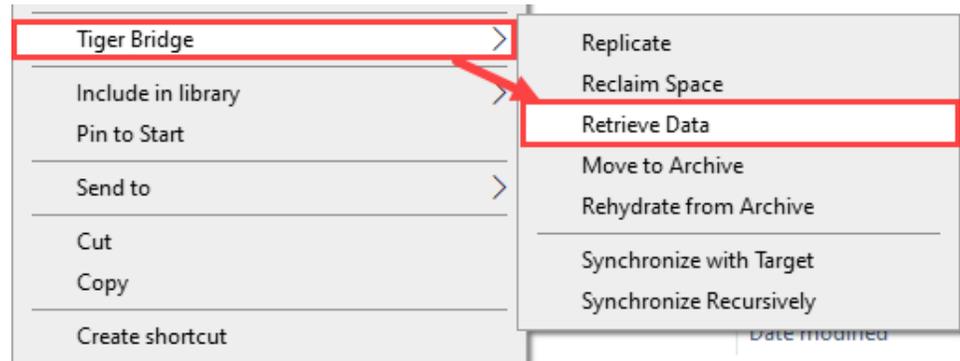
Restoration

You can still click to open any of these files which will trigger the restore and then open the file.

Once we have accessed it, if we right-click it, we can see that the file is now local again - it consumes local space.



If downloading this file exceeds the desired space on the managed drive as listed in the reclaim space policy, then another file gets offloaded. If you want to have a local copy of all the files in a certain folder for instance, you can right-click it and choose Retrieve Data.



All of the files inside this folder are now local and are still in the cloud where they remain protected.

Tiger Bridge can also handle big files very efficiently. If we would like to recover a big file, let's say a video, then we can get a part of it that we first need, which resolves the latency problem. If the video file is currently only in the cloud, then its local size will be 0 as shown earlier. You can click to play the video, get to somewhere in the middle of it, let it play for some seconds - you will see it plays smoothly - and then stop it. If you check the properties of the file after that, you will see that its size on disc value has changed, a part of the file has downloaded but still not the full file. As you didn't need the full file, Tiger Bridge has tried to optimize your costs and traffic load.

Tiger Bridge gives us the parts of a file as they are needed, and we do not need to wait for the full file to get downloaded before we start using it. This works with any large file, no matter if it is a picture, video, database backup file, virtual machine backup file, or a different file.

View our Extension playlist [here](#).

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Did you find the information you were looking for?
Email us your feedback at info@tiger-technology.com.

About Tiger Technology

Founded in 2003 and headquartered in Sofia, Bulgaria and Alpharetta, GA, USA, Tiger Technology specializes in the underlying technology of hybrid cloud workflows as well as data management software solutions designed to help customers of any size, scale and industry optimize their on-premises storage and enhance their workflows through cloud services. Tiger Technology solutions are admin-friendly, non-disruptive, transparent, and highly cost-effective.

Tiger Technology brings over 15 years of expertise in developing high-performance storage solutions for the most demanding workflows, which includes cross-platform NAS/SAN file system sharing, storage, user, project, and media management.

Throughout the years and the multitude of changes in IT and the digital landscape, Tiger Technology has chosen the path of growth and continual improvement, but it has never lost sight of what it all starts with - data. The company's current focus is enabling "on-premises-first" hybrid cloud workflows.

Find out more about Tiger Technology [here](#). Catch up on [our blog here](#).

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