



Tiger Client 2.9.2 User's Guide

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This guide provides you with instructions for installing and setting up the Tiger Client software on your computer in order to mount and work with volumes managed by a Tiger Store storage server on the same network.

Once you install the Tiger Client software, you can use the Tiger Client tray application (Windows), the menulet (Apple Mac) or command-line (Linux) to:

- create a list of the Tiger Store storage servers on your network (see “Create a List of Tiger Store Storage Servers” on page 9).
- connect to and disconnect from appliances on your list and mount/dismount the volumes they share (see “Connect/Disconnect from Tiger Store” on page 11).
- overwrite the volume mount location on Windows Tiger Client (see “Overwrite The Volume Mount Location (Windows)” on page 15).
- view connection status (see “View Connection Status” on page 17).
- easily access Tiger Store’s web interface (see “Access the Tiger Store Web Interface” on page 13).

Install and Uninstall the Tiger Client Software

Minimum System Requirements

Each system that you want to connect to Tiger Store as a Tiger Client must meet the following minimum system requirements:

Apple Mac:

- Intel-based Mac with 1.33-GHz CPU.
- Mac OS X Mountain Lion/Mountain Lion Server (64-bit), Mac OS X Mavericks/Mavericks Server, Mac OS X Yosemite (64-bit), Mac OS X El Capitan (64-bit), macOS Sierra (64-bit), macOS High Sierra (64-bit), macOS Mojave (64-bit), macOS Catalina (64-bit), Intel-based macOS Big Sur (64-bit); Intel-based macOS Monterey (64-bit);

Note: *No support for Mac OS X versions below 10.8.*

- 2 GB of physical RAM at least.
- 25 MB of available hard-disk space for Tiger Client software installation.
- 4Gb/8Gb FC, 10GbE and/or 1GbE adapter for connection to the storage.
- Network LAN connection (1Gb at least) for public communication.
- The following TCP ports - 3000, 3001, 8555, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127 - should not be blocked by a firewall if any.

Windows:

- PC with 1.33-GHz processor.
- 32-bit or 64-bit Microsoft Windows® 7/Server 2008 R2, Windows® 8/Server 2012/Server 2012 R2, Windows® 10/Server 2016/Server 2019.

Important: *Microsoft Windows® 7/Server 2008 R2 computers must run at least Service Pack 1 and have the KB3033929 security update installed.*

Note: *No support for Microsoft Windows® 95, Windows® 98, Windows® NT, Millennium Edition, Windows® 2000, Windows® XP/Server 2003/Server 2003 R2 or Windows® Vista.*

- 2 GB of physical RAM at least.
- 25 MB of available hard-disk space for Tiger Client software installation.
- 4Gb/8Gb FC, 10GbE and/or 1GbE adapter for connection to the storage.
- Network LAN connection (1Gb at least) for public communication.
- The following TCP ports - 3000, 3001, 8555, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127 - should not be blocked by a firewall if any.
- The GlobalSign certification authority's currently used root certificate must be installed on the computer and its "Code Signing" purpose must not be disabled. For more information, refer to "Digital Certificate Requirements" on page 5.

Linux:

- PC with 1.33-GHz Intel processor.
- Red Hat Enterprise Linux 7.x and derivatives:
 - 3.10.0-327.el7.x86_64
 - 3.10.0-327.36.3.el7.x86_64
 - 3.10.0-514.el7.x86_64
 - 3.10.0-514.16.1.el7.x86_64
 - 3.10.0-514.26.2.el7.x86_64
 - 3.10.0-693.el7.x86_64
 - 3.10.0-693.11.6.el7.x86_64
 - 3.10.0-862.3.2.el7.x86_64
 - 3.10.0-862.9.1.el7.x86_64
 - 3.10.0-1062.el7.x86_64

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- Red Hat Enterprise Linux 6.x and derivatives:

- 2.6.32-220.el6 (64-bit)
- 2.6.32-220.23.1.el6 (64-bit)
- 2.6.32-279.el6 (64-bit)
- 2.6.32-358.el6 (64-bit)
- 2.6.32-358.23.2.el6 (64-bit)
- 2.6.32-431.el6 (64-bit)
- 2.6.32-431.3.1.el6 (64-bit)
- 2.6.32-573.3.1.el6 (64-bit)
- 2.6.32-573.7.1.el6 (64-bit)
- 2.6.32-642.1.1.el6 (64-bit)
- 2.6.32-642.3.1.el6 (64-bit)
- 2.6.32-642.15.1.el6 (64-bit)
- 2.6.32-696.6.3.el6 (64-bit)
- 2.6.32-220.27.1.el6.x86_64 (64-bit)

- SUSE Linux 11 and derivatives:

- 2.6.32.12-0.7-default (64-bit)
- 3.0.80-0.7-default (64-bit)
- 3.0.13-0.27-default (64-bit)
- 3.0.76-0.11-default (64-bit)

Important: *Changing any of the default kernel setting may prevent Tiger Client from operating properly.*

Tip: *To check the exact version of the kernel used by your system, in command-line execute the following: `uname -a`*

Note: *Both uni and multiprocessor versions of the kernels are supported.*

- SELinux should be disabled prior to installing the Tiger Client software.
- 2 GB of physical RAM at least.
- 25 MB of available hard-disk space for installation.
- 4Gb/8Gb FC, 10GbE and/or 1GbE adapter for connection to the storage.
- Network LAN connection (1Gb at least) for public communication.

- The following TCP ports - 3000, 3001, 8555, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127- should not be blocked by a firewall if any.

Digital Certificate Requirements

The Windows Tiger Client driver uses a digital certificate issued by GlobalSign certification authority. For the digital certificate to be verified upon installing the Tiger Client driver, GlobalSign's currently used root certificate must be installed in the Trusted Root Certification Authorities of the Certificate Manager on the computer. Additionally, the root certificate's "Code Signing" purpose must not be disabled.

On computers operating in less restrictive environments, this is done automatically during installation of the Windows Tiger Client driver. If the computer, on which you want to install the Tiger Client driver operates in a more restrictive domain environment or is not connected to the Internet, you must manually download the currently used R3 GlobalSign Root Certificate from GlobalSign and install it yourself, before installing the Tiger Client driver. In addition, you must ensure that the "Code Signing" purpose of the root certificate is enabled.

Install the Tiger Client Driver

Important: *It is advisable to remove any other SAN management or device filter software prior to installing the Tiger Client driver. All Tiger Client computers must run the same version of the software as the metadata controller computer.*

To download and install the Tiger Client software (Apple Mac and Windows):

1. In a web browser, do one of the following:

- type the IP address of the Tiger Store storage server for your network connection;

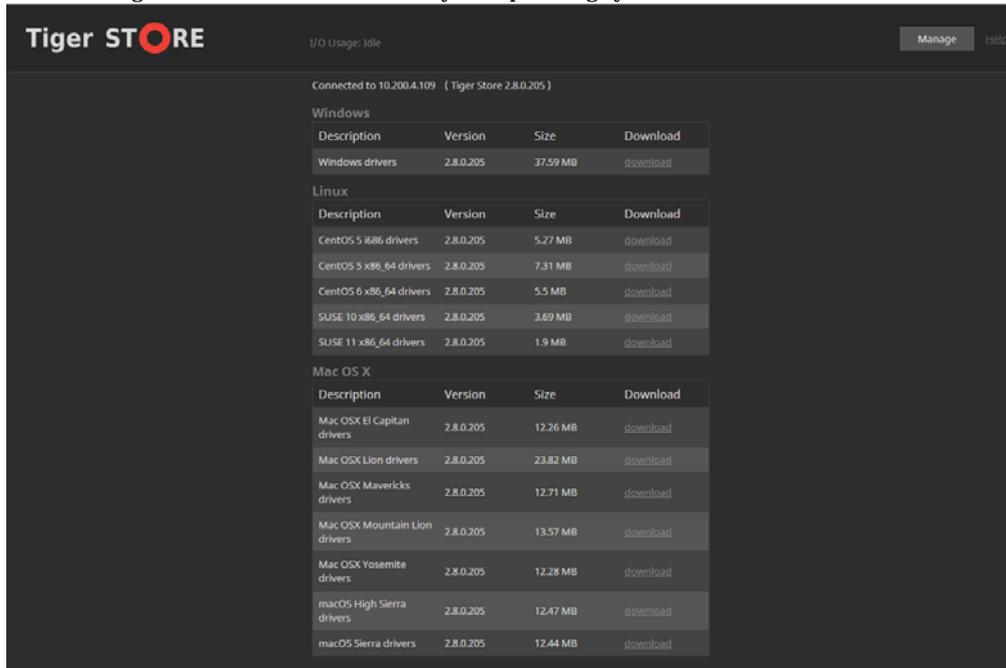
Note: *If your Tiger Store storage server is comprised of two server nodes, you can type the IP address of any of the server nodes as long as it is online.*

- type the domain name of the Tiger Store storage server;

Important: *A DNS server on the network must resolve the IP address of the appliance to its domain name.*

2. Press Enter.

3. Find the Tiger Client installation file for your operating system and click Download.



Note: The Tiger Client driver for macOS Big Sur is distributed as a separate installation, not as part of the Tiger Client bundle. Contact your Tiger Technology reseller for information how to download it.

4. When the installation file downloads to your computer, double-click it to start the installation.

Note: On macOS Catalina, to start the Tiger Client installation you may have to control-click it in Finder, choose Open from the menu, and then click Open in the dialog that appears.

5. Follow the on-screen instructions and when prompted, restart your computer.

Note: On Apple Mac, if prompted, confirm that you allow the loading of the Tiger Client kernel extensions.

On Apple Mac and Windows, the Tiger Client icon appears in the Menu Bar/System Tray of your computer.

Important: On Apple Mac, if the Tiger Client icon does not appear in the Menu bar, you should manually allow the Tiger Client software in the General tab of the Security & Privacy window in System Preferences.

To download and install the Tiger Client software (Linux):

1. In a web browser, do one of the following:

- type the IP address of the Tiger Store storage server for your network connection;

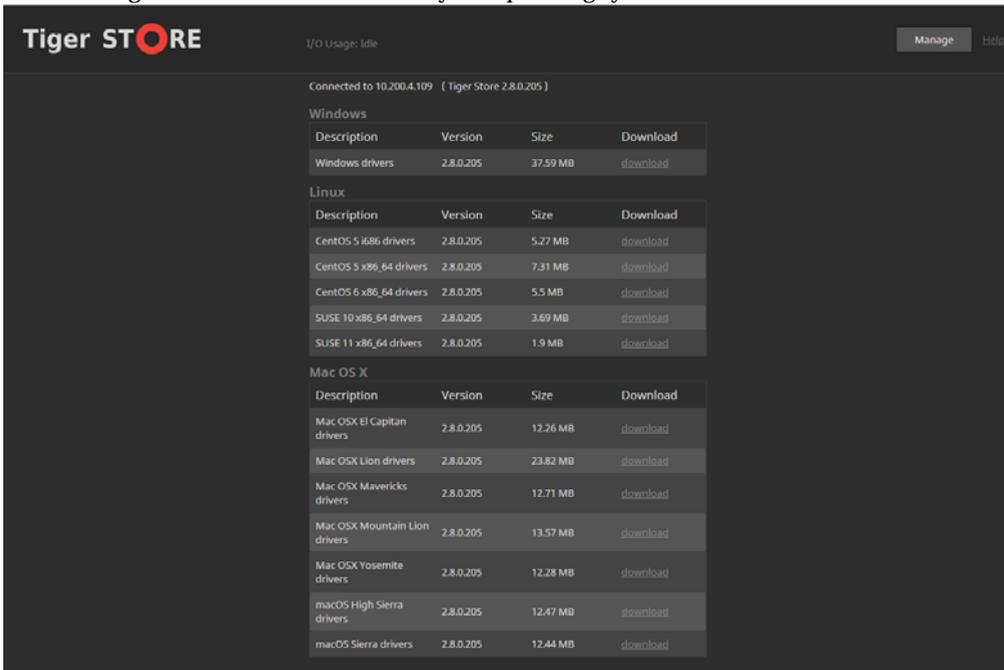
Install and Uninstall the Tiger Client Software

Note: If your Tiger Store storage server is comprised of two server nodes, you can type the IP address of any of the server nodes as long as it is online.

- type the domain name of the Tiger Store storage server;

Important: A DNS server on the network must resolve the IP address of the appliance to its domain name.

2. Press Enter.
3. Find the Tiger Client installation file for your operating system and click Download.



The screenshot shows the Tiger STORE web interface. At the top left is the logo "Tiger STORE". To its right, it says "I/O Usage: Idle" and "Manage Help". Below this, it indicates "Connected to 10.200.4.109 (Tiger Store 2.8.0.205)". The main content area is divided into three sections: Windows, Linux, and Mac OS X. Each section contains a table with columns for Description, Version, Size, and Download.

Windows			
Description	Version	Size	Download
Windows drivers	2.8.0.205	37.59 MB	download

Linux			
Description	Version	Size	Download
CentOS 5 i686 drivers	2.8.0.205	5.27 MB	download
CentOS 5 x86_64 drivers	2.8.0.205	7.31 MB	download
CentOS 6 x86_64 drivers	2.8.0.205	5.5 MB	download
SUSE 10 x86_64 drivers	2.8.0.205	3.69 MB	download
SUSE 11 x86_64 drivers	2.8.0.205	1.9 MB	download

Mac OS X			
Description	Version	Size	Download
Mac OS X El Capitan drivers	2.8.0.205	12.26 MB	download
Mac OS X Lion drivers	2.8.0.205	23.82 MB	download
Mac OS X Mavericks drivers	2.8.0.205	12.71 MB	download
Mac OS X Mountain Lion drivers	2.8.0.205	13.57 MB	download
Mac OS X Yosemite drivers	2.8.0.205	12.28 MB	download
macOS High Sierra drivers	2.8.0.205	12.47 MB	download
macOS Sierra drivers	2.8.0.205	12.44 MB	download

4. When the installation file downloads to your computer, log on to the Linux system as root.
5. In command-line, type:
`rpm -i <path to the Tiger Client software .rpm file>`
6. Press Enter.
7. In command-line, execute the following as root:
`/etc/init.d/tboxd start`

Important: On Red Hat Enterprise Linux/CentOS Linux 7 it is advisable to take measures against double mounts, following the steps in "Prevent Double Mounts on Red Hat Enterprise Linux/CentOS Linux 7" best practices topic in the latest version of the Tiger Store Administration Guide or the Tiger Store Release Notes.

Uninstall the Tiger Client Driver

To uninstall the Tiger Client software (Windows):

1. In Control Panel, double-click Programs and Features.
2. Right-click Tiger Client and select Uninstall.
You are prompted to confirm that you want to remove the Tiger Client software.
3. Click Yes, to confirm.
Tiger Client uninstallation 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 Client software (Apple Mac):

1. Go to Applications | Tiger Client.
2. Double-click Uninstall.
3. Provide administrator's user name and password.
4. When prompted, confirm that you want to uninstall the Tiger Client software.

To uninstall the Tiger Client software (Linux):

1. Log on to the Linux system as root.
2. In command-line, type:
`rpm -e Tiger-Client`
3. Press Enter.

Connect and Disconnect to Tiger Store

You should create a list of all available storage servers and then connect/disconnect to any of them in order to mount and work with the volumes they are sharing.

On Tiger Store storage servers with high availability add-on, there's no need to add both server nodes to the storage servers list. Should the node you have added to the list fail, the connection is automatically redirected to the other available Tiger Store node, which takes over sharing and supervising the volumes.

You can manage the Tiger Store storage server(s) on your computer using the Tiger Client application for your operating system:

- the tray application (Windows);
- the menulet (Apple Mac);
- the command-line interface (Linux).

Create a List of Tiger Store Storage Servers

Once you create a list of the available storage servers, you can connect and disconnect to any of them in order to mount/dismount the volumes they manage.

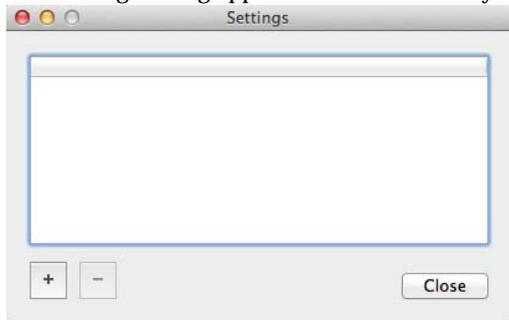
Important: *On LAN clients, always add the Tiger Store storage server to the storage servers list with the IP address set for the faster connection, if there is such. For more information, refer to the "Assigning IP Addresses to Network Ports" best practices topic in the latest version of the product release notes.*

Should a Tiger Store administrator change the name or IP address of a Tiger Store appliance on your list, you may have to add anew that storage server to your list, in order to connect to it and mount its volumes. You may also have to re-add a Tiger Store storage server with two server nodes to the list, if at the time of adding it, the IP address of only one of its nodes has been set.

To add a Tiger Store storage server to the list (Apple Mac and Windows):

1. Click the Tiger Client tray/menulet icon and then click Settings.

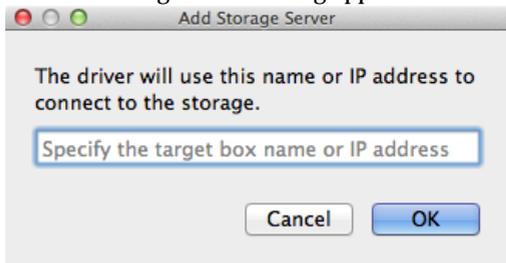
The Settings dialog appears. It lists all already added storage servers.



2. Do one of the following:
 - (Windows) Click Add.

- (Apple Mac) Click the “+” button.

The Add Storage Server dialog appears.



3. Enter the name or IP address of the Tiger Store storage server.

Note: For Tiger Store storage servers with two server nodes, at least one of the nodes must be online.

4. Click OK.

The storage server appears in the list.

To add a Tiger Store storage server to the list (Linux):

1. In command-line, type:

```
smct -a [name or IP address]
```

where [name or IP address] is the name or IP address of the Tiger Store storage server.

Note: For Tiger Store storage servers with two server nodes, at least one of the nodes must be online.

2. Press Enter.

If you have successfully added the storage server to the list, the Tiger Client software automatically attempts to mount the volumes it shares on your computer.

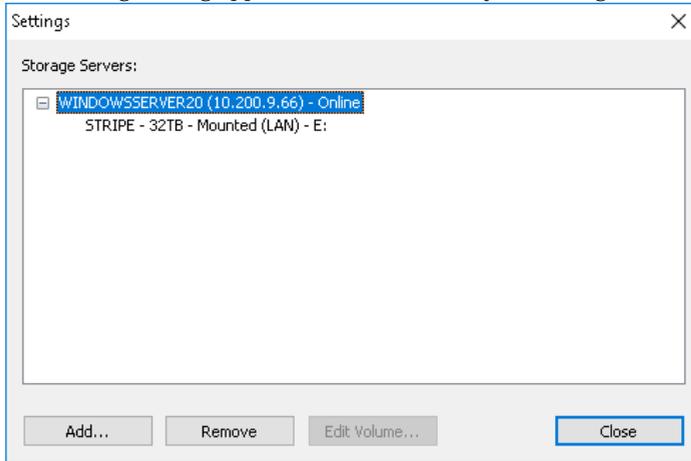
Tip: To view all storage servers added to the list on your computer, type `smct -l` and press Enter.

To remove a Tiger Store storage server from the list (Apple Mac and Windows):

Important: After you remove a Tiger Store storage server from the list, volumes shared by it are automatically dismounted from your computer.

1. Click the Tiger Client tray/menulet icon and then click Settings.

The Settings dialog appears. It lists all already added Tiger Store storage servers.



2. Select the storage server you want to remove from the list and do one of the following:
 - (Windows) Click Remove.
 - (Apple Mac) Click the “-” button.
3. Confirm that you want to remove the storage server from the list.
4. (optional, if clients restriction is enabled on Tiger Store) Enter the Tiger Store administrator’s password in the dialog, which shows and then click OK.

The storage server is removed from the list and its volumes are dismounted from your computer.

To remove a Tiger Store storage server from the list (Linux):

1. In command-line, type:


```
smct -r [name or IP address]
```

 where [name or IP address] is the name or IP address of the Tiger Store storage server.

Tip: To view all appliances added to the list on your computer, type `smct -l` and press Enter.
2. Press Enter.
3. (optional, if clients restriction is enabled on Tiger Store) Enter the Tiger Store administrator’s password when prompted and then press Enter.

Connect/Disconnect from Tiger Store

When you connect to a storage server on your list, you mount the volume(s) it shares to Tiger Clients. Vice versa, when you disconnect from a storage server, you automatically dismount the

volumes it shares. Note that when you disconnect from a storage server, you lose all unsaved information on the shared volumes.

To connect to a Tiger Store storage server (Apple Mac and Windows):

1. Click the Tiger Client tray/menulet icon and then click Connect/Disconnect.
2. Click a disconnected storage server (a storage server without a check mark in front of its name/IP address) to connect to it.

The volumes this storage server shares for your computer are mounted.

Important: *If a volume with enabled support for QOS Spaces is set to be hidden in the web interface of QOS Spaces, this volume will not mount on your computer, when you connect to the storage server.*

To connect to a Tiger Store storage server (Linux):

1. In command-prompt, type:
smct -c [number/host/IP address]
where [number/host/IP address] is the IP address of the storage server or its number in your list of appliances.
2. Press Enter.

Tip: *To connect to all storage servers on your list, type smct -c all and press Enter.*

Important: *If a volume with enabled support for QOS Spaces is set to be hidden in the web interface of QOS Spaces, this volume will not mount on your computer, when you connect to the storage server.*

To disconnect from a Tiger Store storage server (Apple Mac and Windows):

1. Click the Tiger Client tray/menulet icon and then click Connect/Disconnect.
2. Click a connected storage server (a storage server with a check mark in front of its name/IP address) to disconnect from it and dismount the volumes it shares.
3. If prompted, confirm that you want to disconnect from the appliance.

Note: *On Apple Mac, you are asked for confirmation only if a file operation on the shared volume is going on at the moment.*

4. (optional, if clients restriction is enabled on Tiger Store) Enter the Tiger Store administrator's password in the dialog, which shows and then click OK.

The volumes shared by this storage server for your computer are dismounted.

To disconnect from a Tiger Store storage server (Linux):

1. In command-prompt, type:
`smct -d [number/host/IP address]`
where [number/host/IP address] is the IP address of the storage server or its number in your list.
2. Press Enter.
Tip: *To disconnect from all appliances on your list, type `smct -d all` and press Enter.*
3. (optional, if clients restriction is enabled on Tiger Store) Enter the Tiger Store administrator's password, when prompted and then press Enter.

Access the Tiger Store Web Interface

Once Tiger Client computers adds a storage server to their list, they can load the web interface directly through the tray application (Windows), the menulet (Apple Mac), command-line (Linux).

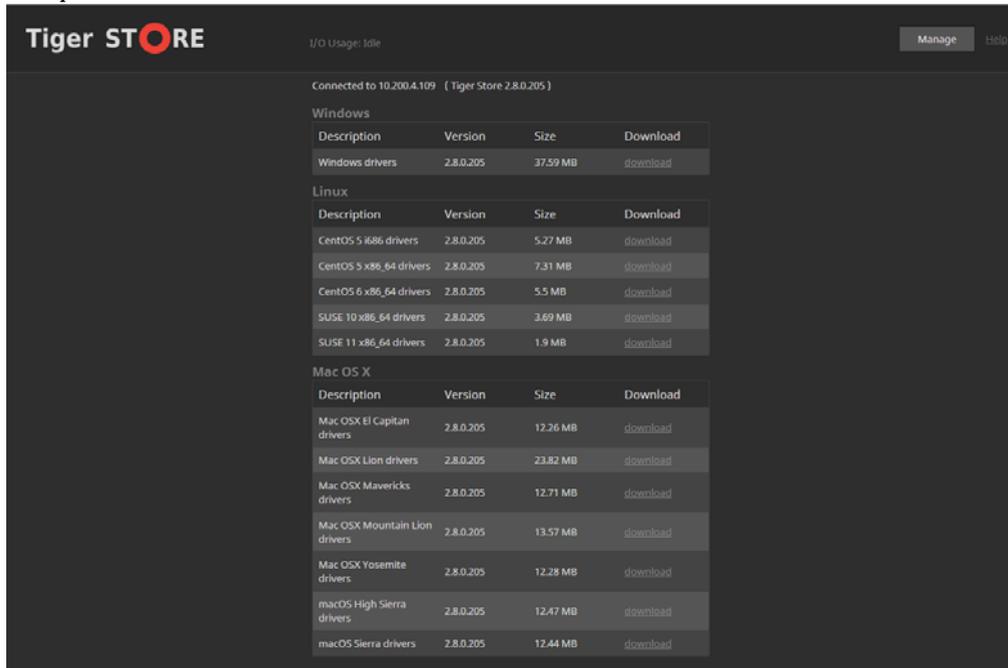
To access the web interface from a Tiger Client (Apple Mac and Windows):

Note: *To connect to the Tiger Store web interface from the tray application/the menulet, the storage server needs to be present in the list of accessible storage servers (see "Connect and Disconnect to Tiger Store" on page 8).*

1. Click the tray application/the menulet.
2. In the menu, click Open Configuration.

3. Click the storage server, whose web interface you want to open.

The web interface of the selected storage server loads in the default web browser of your computer.



To access the web interface from a Tiger Client (Linux):

Note: To connect to the Tiger Store web interface from a Linux Tiger Client, the storage server needs to be present in your list of accessible storage servers (see "Connect and Disconnect to Tiger Store" on page 8).

Tip: Instead of executing command-line commands, in a web browser you can simply type the IP address of the appliance, whose interface you want to access.

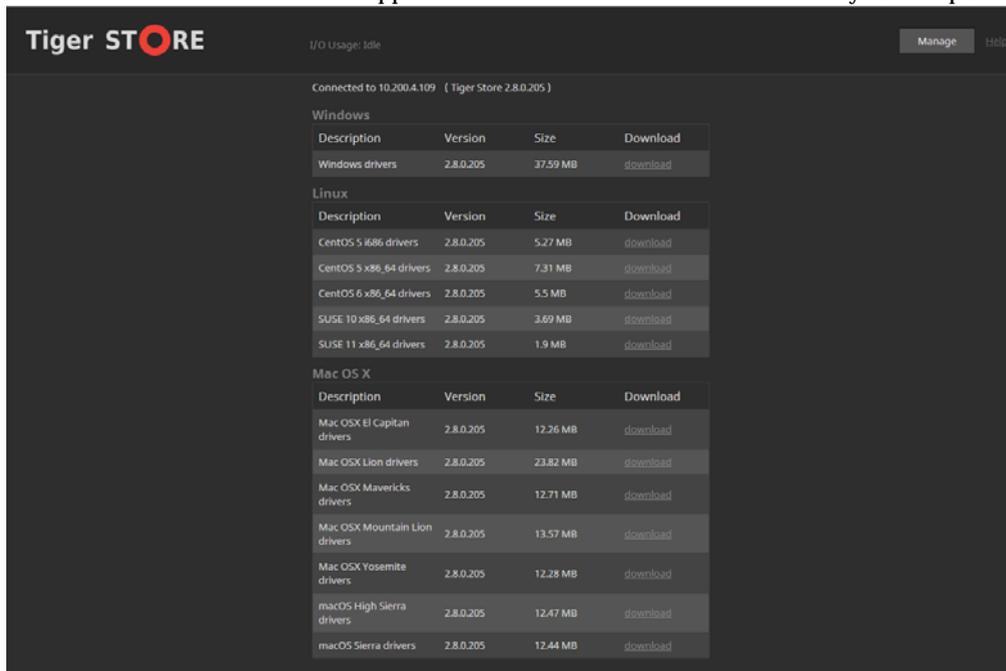
1. In command-line, type this:

```
smct -config [number/host/IP address]
```

where [number/host/IP address] is the IP address of the storage server or its number in your list.

2. Press Enter.

The web interface of the selected appliance loads in the default web browser of your computer.



Overwrite The Volume Mount Location (Windows)

By default, each volume shared by Tiger Store uses Automatic mount location on all Tiger Clients:

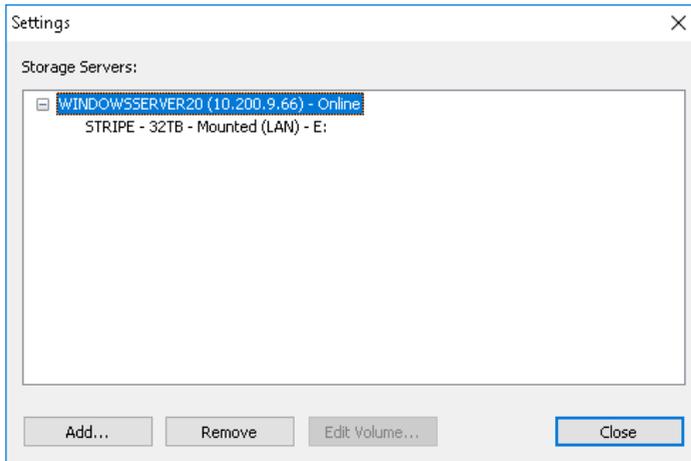
- Windows - the first available drive letter.
- Apple Mac - /Volumes.
- Linux - /mnt directory with an automatically created symbolic link /Volumes, which points to the /mnt directory.

In the web interface of Tiger Store, a Tiger Store administrator can specify a preferred drive letter as mount location of a Tiger Store volume on all Windows Tiger Clients. This way, a volume can be mounted in one and the same location on all Windows Tiger Clients that see it. Using the Tiger Client tray application, you can overwrite this setting on your Windows Tiger Client computer and specify a different drive letter as default mount point on this computer.

To overwrite the default volume mount location on your computer:

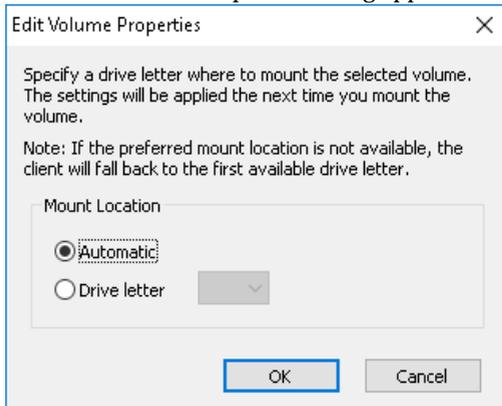
Note: To overwrite the mount location of a volume, it must be disconnected from your computer.

1. Click the Tiger Store tray application and then click Settings.
The Settings dialog appears. It lists all already added Tiger Store storage servers.
2. Expand a disconnected storage server and select the volume whose mount location you want to overwrite.



3. Click Edit Volume.

The Edit Volume Properties dialog appears.



4. Do one of the following:
 - Select Automatic to let the volume mount on your computer using the first available drive letter.

- Select Drive Letter and in the drop-down box select a drive letter.

Note: *Tiger Store doesn't allow you to select a drive letter that is already in use on your computer.*

5. Click OK.

The volume will be mounted in the new mount location on your computer the next time you mount it.

View Connection Status

The Tiger Client tray application/menulet icon on your computer shows the connectivity status of your computer:

• Windows:

-  - connected as SAN client to all storage servers in the list;
-  - connected as LAN client to all storage servers in the list;
-  - there's problem with the connection between your computer and one or more storage servers in the list;

• Apple Mac:

-  - connected to all storage servers in the list;
-  - there's problem with the connection between your computer and one or more storage servers in list;

Note: *On Apple Mac, you can check the type of connection by the icon of each Tiger Store volume mounted on your computer:*



- volume is mounted over Fibre Channel;



- volume is mounted over the Ethernet;

On Linux, to view the connectivity status of your computer for each storage servers on the list, type:

```
smct -l
```

and then press Enter:

- Online - the storage server is online, but you are not connected to it;
- Mounted (LAN) - your computer is connected as a LAN client to all storage servers on the list;
- Mounted (Fibre) - your computer is connected as a SAN client to all storage servers on the list;
- Offline - there's problem with the connection between your computer and one or more storage servers on the list;

Data on the Shared Volumes

By default, data on the shared storage is accessible to anyone seeing the shared volumes. When Tiger Store operates in an Active Directory domain, it utilizes access permissions for data on the shared volumes. When Tiger Store is set up to operate in domain environment, the permissions that are already set on the file system are respected. You can manage the permissions from any Windows Tiger Client computer, which can mount the shared volume(s). For more details, refer to the documentation of the Windows Domain Server that controls permissions on your network.

Important: *Whether or not the volumes are accessed in domain environment, the SYSTEM account must always have full control.*

Deleted Data

Tiger Store doesn't support Windows Recycle Bin on its volumes and any soft-deleted file is permanently deleted. Apple Mac Trash is supported on the shared volumes, allowing Apple Mac clients to soft-delete files and later restore them or permanently delete them by emptying the Trash.

When Tiger Store operates in Active Directory domain environment, each domain user moves their soft-deleted files to their own Trash folder. In workgroup environment, as the Trash folder is created per user ID and two or more different users on different Apple Mac clients may move their soft-deleted files to the same Trash folder and respectively - empty the Trash containing the files of other users with the same ID.

Data Managed by Tiger Bridge

When a shared volume is subject to Tiger Bridge's data lifecycle management mechanisms, data on it can have the following status:

Normal — a file that does not have a copy on the replication target or a file that has been modified after its last replication (i.e. is subject to replication again);

Replicated — a file that is replicated and exists on both the Tiger Store volume and the replication target;

Nearline — a stub file pointing to the actual file, which exists only on the target. A nearline file can be retrieved on the source through the Volume Browser.

Offline — a stub file pointing to the actual file, which exists only on the archival tier of the target.

To view the Tiger Bridge status of a file, you must open the Volume Browser in the web interface of Tiger Store.