Tiger Technology

Tiger Store 2.7.3 Administration Guide

January 10, 2017

Title: Tiger Store Administration Guide
Software version: Tiger Store 2.7.3
Date: January 10, 2017

Manual Revision and Control

Revision Record

Date	Description	Page	Version
20 Jan. 2014	Initial Draft		
01 Oct. 2014	Added support for storage servers running Windows® 8/Server 2012/Server 2012 R2.	10	2.5.1
01 Oct. 2014	Dropped support for Mac OS X Snow Leopard/Snow Leopard Server (64-bit).		2.5.1
01 Oct. 2014	Specifying Avid FS Emulation option when connecting to a storage server is removed.		2.5.1

Revision Record

Date	Description	Page	Version
01 Oct. 2014	Linux Tiger Clients mount the shared volumes in the /mnt directory with an automatically created symbolic link /Volumes, which points to the /mnt directory.	40	2.5.1
01 Oct. 2014	Enabling and disabling support for file security on the shared volumes topic added.	52	2.5.1
21 Oct. 2014	Tiger Client minimum system requirements updated with 2GB of physical RAM at least on each supported platform.	11, 13	2.5.1
22 Dec. 2014	Added support for kernel 2.6.32-431.el6 (64-bit) on Red Hat Enterprise Linux/CentOS Linux 6.x.	12	2.5.1
22 Dec. 2014	Added support for kernel 2.6.32-431.23.3.el6.centos.plus (64-bit) on CentOS Linux 6.x.	12	2.5.1
01 Apr. 2015	Linux Tiger Client commands changed from **`tclient`** to **`smct`**.		2.6
07 Apr. 2015	Unmarking volumes topic added.	54	2.6
17 July 2015	Volumes hidden through the Project Store web interface do not mount when connecting to a storage server.	39, 40	2.6.2
29 Sept. 2015	Added support for Microsoft Windows® 10 on the Tiger Store storage server.	10	2.7.1
29 Sept. 2015	Added support for Microsoft Windows® 10 on Tiger Clients.	11	2.7.1
02 Nov. 2015	Added support for Tiger Clients running Mac OS X El Capitan (64-bit).	11	2.7.1
03 May 2016	TCP port 80 must not be blocked by a firewall or in use by another service/application on the storage server computer.	11	2.7.1
30 Aug. 2016	Added support for kernels 2.6.32-431.3.1.el6, 2.6.32-573.7.1.el6, 2.6.32-642.1.1.el6 on Red Hat Enterprise Linux/CentOS Linux 6.x	12	2.7.2
20 Dec. 2016	Added support for Tiger Clients running macOS Sierra (64-bit).	11	2.7.3
10 Jan. 2017	Windows 7/Server 2008 R2 computers must run at least Service Pack 1 and have the KB3033929 security update installed.	10, 11	2.7.3

toc

Table of Contents

1 Getting Started with Tiger Store

Congratulations on your purchase of Tiger Store, Tiger Technology's complete software solution for shared storage workflows. This manual will guide you in the process of setting up and administering your Tiger Store network, and of accessing the shared volume(s) from client computers. This guide is intended for any user or administrator of Tiger Store.

You can find the most up-to-date version of this manual at the following address: http://www.tiger-technology.com/products/tiger-series/tiger-store/docs

Introducing Tiger Store

The Tiger Store Workflow

With the help of Tiger Store you can achieve a true SAN workflow, providing multiple Windows, Mac OS X and Linux computers with concurrent high-speed access to NTFS shared volumes. For the purpose, the metadata controller computer must be connected directly or through a switch to the shared storage through 8/16G FC or 1/10GbE (for iSCSI storage). The metadata controller can also provide block-level access to its internal disk(s) to computers on the same LAN.

Regardless of their connection Tiger Clients gain block-level access to each shared volumes. Tiger Clients can mount the shared volumes as:

- SAN clients - using FC or GbE connection to the storage.
- Fast LAN clients - using faster than 1GbE connection to the appliance.
- LAN clients - using 1GbE connection to the appliance.

To prevent data corruption when multiple computers access the same file system, the computer with Tiger Store installed acts as a metadata controller that processes requests, coming from clients using the LAN connection. Each computer that has the Tiger Client software installed can mount the volumes shared by the metadata controller. Computers without the Tiger Client software cannot mount volumes shared to Tiger Clients even if they are connected to them. These computers can only mount the volumes that Tiger Store has specified that it doesn't manage and protect.

Besides acting as a metadata controller on your SAN, Tiger Store greatly optimizes the shared storage workflow by providing you with automatic defragmentation of the shared storage volumes, storage usage and connectivity monitoring tools, etc. You can administer your Tiger Store network in the password-protected Tiger Store web interface, which is accessible to any device with a web browser that is on the same LAN as the metadata controller.

Data on the Shared Volumes

By default, data on the shared storage is accessible to anyone seeing the shared volumes. By adding Tiger Store in an Active Directory domain, you can utilize 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.*

By default, any file you delete from the Tiger Store volume(s) is permanently deleted.

Concepts Used Throughout the Guide

Storage Server — the computer that acts as a metadata controller on the Tiger Store network and that controls Tiger Clients' access to the shared storage. The metadata controller exchanges metadata with client computers over the Ethernet and thus provides or denies access to data on the shared volume(s). It protects the shared storage volumes from computers that see it, but don't have the Tiger Client software installed. For the Tiger Store network to operate, the storage server computer must always be online. When this computer is turned off, Tiger Clients lose access to the shared storage, but the volumes it manages are still protected. The storage server holds the information about the number of client computers that can access the shared storage concurrently.

Important: *Although the Tiger Store computer mounts the volumes it manages, it is strongly advisable not to work on them from it. Aside from decreasing its performance as a metadata controller, using the storage server as a workstation puts your entire Tiger Store network at risk of halting should an application you use on the computer freezes or crashes.*

Tiger Client — each computer running the Tiger Client software, which can mount the shared volume(s) via FC, iSCSI, 1/10 GbE or SAS connection. You can install the Tiger Client software on as many computers as you like. The storage server takes care to connect clients as long as their number doesn't exceed the number, specified in the activation key. Each Tiger Client computer can share the volumes it has mounted or folders on them to LAN clients on the network as SMB/CIFS shares.

SAN Client — a Tiger Client computer that is connected to the shared storage directly or through a switch using 8/16 Gb FC, 1/10 GbE (for iSCSI storage or FCoE) or SAS connection.

Fast LAN Client — a Tiger Client computer that mounts the shared volumes using 10 GbE connection to the metadata controller and gains block-level access to them unlike computers accessing network shares.

LAN Client — a Tiger Client computer that mounts the shared volumes using 1 GbE connection to the metadata controller. In contrast to computers on the LAN that don't have the Tiger Client

software installed and access only LAN shares of the shared storage, LAN clients mount the volumes and gain block-level access to them.

Tiger Store Administrator — the user account with which any user can log on to Tiger Store's web interface and administer the Tiger Store network. The web interface of Tiger Store is accessible to any device with a web browser that is on the same network as the storage server.

Shared volume — a volume managed by Tiger Store, which all connected Tiger Clients can mount and work with, in contrast to computers that have access to the volume but don't have the Tiger Client software installed.

Private volume — a volume managed by Tiger Store, which is accessible only to the metadata controller, usually for performing maintenance operations. Tiger Clients and computers without the Tiger Client software installed cannot mount and work with private volumes.

Offline volume — a volume that is not managed and protected by Tiger Store and that can be mounted by any computer that has access to it. Tiger Store cannot prevent data corruption on offline volumes, when more than one computer accesses them.

SAN to LAN failover — In case there is a failure of the FC HBA or FC cable on a Tiger Client, the SAN to LAN failover mechanism lets this computer re-connect to the shared volumes over the Ethernet and thus it can continue working with the volumes although with decreased performance. For the purpose the Tiger Client computer should disconnect from the storage server and then reconnect again. Once the problem with the FC HBA or cable is fixed, the Tiger Client should again disconnect and reconnect to the Tiger Store in order to mount the volume(s) over the Fibre Channel.

Storage Server System Requirements

To be able to play the role of a metadata controller, the computer on which you install the Tiger Store software must meet the following system requirements:

- PC with 1.8-GHz 64-bit (x64) processor.
- 64-bit Microsoft Windows® 7/Server 2008 R2, Windows® 8/Server 2012/Server 2012 R2, Windows® 10.

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

- 4 GB of physical RAM at least.
- 200 MB of available hard-disk space for installation.
- Network LAN connection (1 Gb at least).

- 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 - 80, 3000, 3001, 8555, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127 - must not be blocked by a firewall, if any, and must not in use by any other service or application.

Tiger Client System Requirements

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

Mac OS X:

- Intel-based Mac with 1.33-GHz CPU.
- Mac OS X Lion/Lion Server (32-bit and 64-bit), Mac OS X Mountain Lion/Mountain Lion Server (64-bit), Mac OS X Mavericks/Mavericks Server (64-bit), Mac OS X Yosemite/Yosemite Server (64-bit), Mac OS X El Capitan (64-bit), macOS Sierra (64-bit).

Note: *No support for Mac OS X versions below 10.7.*

- 2 GB of physical RAM at least.
- 25 MB of available hard-disk space for Tiger Client software installation.
- 4 Gb/8 Gb/16 Gb FC, 10 GbE and/or 1 GbE adapter for connection to the storage.
- Network LAN connection (1 Gb 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.

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/Server 2008.*

- 2 GB of physical RAM at least.
- 25 MB of available hard-disk space for Tiger Client software installation.
- 4 Gb/8 Gb/16 Gb FC, 10 GbE and/or 1 GbE adapter for connection to the storage.

- Network LAN connection (1 Gb 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.

Linux:

- PC with 1.33-GHz Intel processor
- Red Hat Enterprise Linux/CentOS Linux 5.x:
  - 2.6.18-128.el5 (32-bit and 64-bit)
  - 2.6.18-128.1.16.el5 (32-bit and 64-bit)
  - 2.6.18-164.2.1.el5 (32-bit and 64-bit)
  - 2.6.18-164.el5 (32-bit and 64-bit)
  - 2.6.18-164.6.1.el5 (32-bit and 64-bit)
  - 2.6.18-164.9.1.el5 (32-bit and 64-bit)
  - 2.6.18-164.10.1.el5 (32-bit and 64-bit)
  - 2.6.18-164.11.1.el5 (32-bit and 64-bit)
  - 2.6.18-164.15.1.el5 (32-bit and 64-bit)
  - 2.6.18-238.el5 (32-bit and 64-bit)
- Red Hat Enterprise Linux/CentOS Linux 6.x:
  - 2.6.32-220.el6 (64-bit)
  - 2.6.32-279.el6 (64-bit)
  - 2.6.32-358.el6 (64-bit)
  - 2.6.32-431.el6 (64-bit)
  - (CentOS Linux 6.x only) 2.6.32-431.23.3.el6.centos.plus (64-bit)
  - 2.6.32-431.3.1.el6
  - 2.6.32-573.7.1.el6
  - 2.6.32-642.1.1.el6
- Red Hat Enterprise Linux 5.x (Autodesk):
  - 2.6.18-128.el5.ADSK (64-bit)
- Red Hat Enterprise Linux 6.2 (Autodesk):

  - 2.6.32-220.27.1.el6.x86_64 (64-bit)
- FilmLightOS 2.x:
  - kernel 2.6.18-92.1.22.el5.centos.plus (64-bit)
  - kernel 2.6.18-194.11.4.el5.centos.plus (64-bit)
- SuSe Linux 10:
  - 2.6.16.21-0.8-default (64-bit)
  - 2.6.16.21-0.8-smp (64-bit)
  - 2.6.16.60-0.85.1-default (64-bit)
  - 2.6.16.60-0.85.1-smp (64-bit)
  - 2.6.16.60-0.103.1-default (64-bit)
  - 2.6.16.60-0.103.1-smp (64-bit)
- SuSe Linux 11:
  - 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)
- DaVinci Resolve Linux:
  - 2.6.18-164.el5 (64-bit)
  - 2.6.18-238.el5 (64-bit)
  - 2.6.32-358.el6 (64-bit)
- SGO Mistika Linux:
  - 2.6.32.12-0.7-default (64-bit)
  - 3.0.13-0.27-default (64-bit)

Important: *Changing any of the default kernel setting may prevent Tiger Store 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.

- 4 Gb/8 Gb/16 Gb FC, 10 GbE and/or 1 GbE adapter for connection to the storage.
- Network LAN connection (1 Gb 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.

iSCSI Requirements

Although Tiger Store is designed to work with any iSCSI initiator, it is currently certified to work with:

- Microsoft iSCSI Software Initiator
- UNH iSCSI Initiator
- Studio Network Solutions' globalSAN iSCSI initiator for OS X
- ATTO Xtend SAN iSCSI initiator

Note: *If you use an iSCSI initiator not listed above, you can contact Tiger Technology support team with inquiry about possible support.*

Storage Requirements

Tiger Store supports any simple or striped NTFS-formatted volume to which the storage server has Read & Write access. You can connect the storage server to the storage directly or using a switch through Fibre Channel or 1/10Gb Ethernet (for iSCSI storage). The storage server can also share its own internal disks, letting any computer on the same LAN gain block-level access to them.

Getting Started

To set up your Tiger Store network, you must perform the following:

1. Plan the topology of your network:
   - Check the requirements for storage (see “Storage Requirements” on page 14).
   - Check the requirements for the storage server (“Storage Server System Requirements” on page 10).
   - Check the requirements for Tiger Clients (see “Tiger Client System Requirements” on page 11).
   - Make sure the storage server and all Tiger Clients are on the same LAN (whether or not in an Active Directory domain).
   - Make sure the storage server and each SAN Tiger Client can see and mount the shared storage volumes using FC, FCoE, iSCSI or SAS, taking care not to corrupt the file system of the volumes, by preventing simultaneous access to the storage from more than one computer.

- Make sure any other SAN management or device filter software is removed from the computers, on which you install Tiger Technology software (the storage server and all Tiger Clients).

2. Install the Tiger Store software on the metadata controller (see "Installing and Uninstalling Tiger Store" on page 15) and activate Tiger Store and the Tiger Client licenses (see "Activating Tiger Store" on page 22).
3. Specify what volumes will be shared to Tiger Clients (see "Sharing and Unsharing Volumes" on page 50) and what will not be managed (see "Making a Volume Offline" on page 53)
4. Download and install the Tiger Client software on each client computer (see "Installing and Uninstalling the Tiger Client Software" on page 34).
5. On each Tiger Client, connect to the metadata controller and mount the shared volumes (see "Managing Storage Server(s) on a Tiger Client" on page 36).

Installing and Uninstalling Tiger Store

You should install the Tiger Store software on the computer that will play the role of metadata controller on your Tiger Store network. Once you install the software and activate Tiger Store on the computer, all supported storage devices that the computer sees and that meet the storage requirements can be shared to Tiger Clients, preventing computers that don't run the Tiger Client software from mounting them.

Additionally, to allow client computers to download the Tiger Client software from the home page of Tiger Store's web UI, you should also install the client bundle, containing the Tiger Client installation for all supported platforms.

Should you decide to change the metadata controller on your Tiger Store network, you should uninstall and deactivate the Tiger Store software from the current storage server and install and activate it on the new computer that will play the role of metadata controller. For steps about uninstalling and deactivating Tiger Store, refer to "Activating and Deactivating Tiger Store" on page 22.

Important: *It is advisable to set all volumes seen by the storage server to Offline, before uninstalling Tiger Store from the computer. In case you forget to set them to Offline, you will have to manually unmark the volumes (following the steps described in "Unmarking Volumes" on page 54) in order to be able to use them on another computer.*

Once the Tiger Store software is installed on a computer on your network, you can access and work in Tiger Store's web interface (see "Accessing Tiger Store's Web Interface" on page 18), in which you can activate the product on the metadata controller and the client licenses, and administer your Tiger Store network.

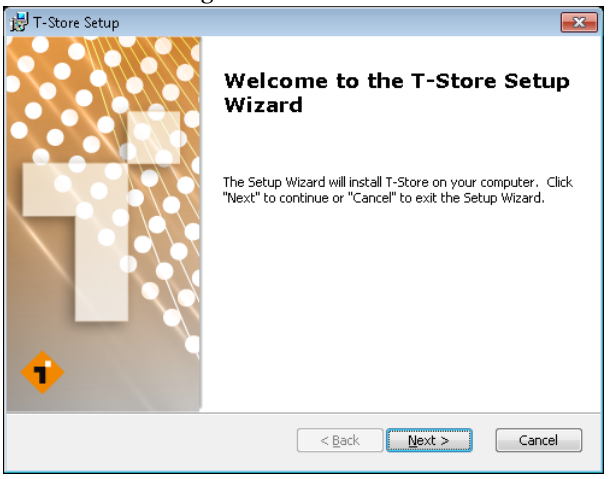
The Tiger Store installation creates the **tbox_db** user account to run maintenance tasks scheduled for it in the Tasks Scheduler of the metadata controller computer. It is important not to delete or disable neither the user account nor the tasks set to it.

To install Tiger Store and the client bundle on the storage server:

Important: *Before you install Tiger Store on the storage server, make sure that any other SAN management software is uninstalled from the system.*

1. On the selected computer, log on using an account with administrative privileges.
2. Browse for and double-click the Tiger Store installation file.

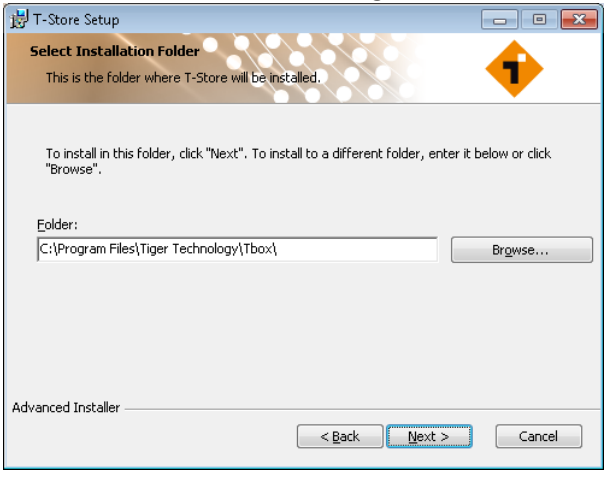
   The installation begins.



3. Click Next.

4. Accept the terms of the Software license agreement and click Next.

5. Select the folder where to install Tiger Store and click Next.

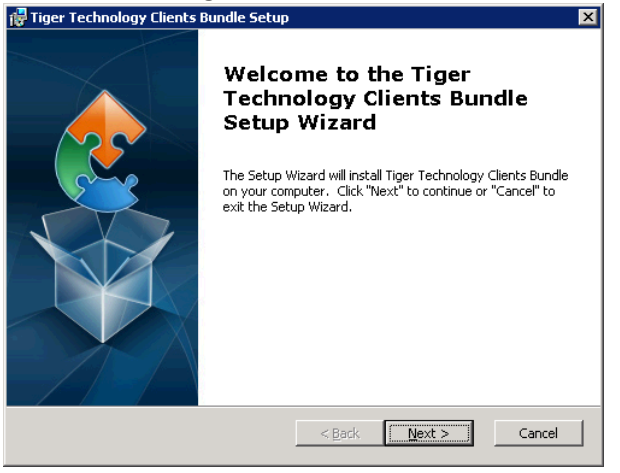


6. Click Install and then Finish.

7. Select not to restart the computer, when prompted.

8. Browse for and double-click the Tiger Store clients bundle installation file.

   The installation begins.



9. Click Next and then Install.

10. When the installation finishes, restart the computer.

Accessing Tiger Store's Web Interface

Tiger Store can be administered through its web interface, which is accessible to every device with a web browser that is on the same network as the metadata controller, whether or not this computer has the Tiger Client software installed.

Tiger Clients can also access the web interface of a storage server they have connected to using the tray application (Windows), the menulet (Mac OS X) or command-line (Linux).

By default, the web interface uses a pre-set password:
`admin`

It is advisable to set new password for the web interface during the initial setup of Tiger Store in order to prevent unauthorized access to the Tiger Store network administration. See "Changing the Password for the Web Interface" on page 21.

Note: *Tiger Store's web interface is accessible with most web browsers as long as JavaScript is enabled. If you experience any problems with Tiger Store's web interface, please, contact Tiger Technology support.*

To access the web interface from a network computer:

1. In a web browser, do one of the following:
   - type the IP address of the storage server;
   - type the domain name of the storage server;

   Important: *A DNS server on the network must resolve the IP address of the storage server to its domain name.*
2. Press Enter.

   The web interface of Tiger Store loads.

3. Click Manage and type the password for the web interface.

   Note: *By default, the web interface uses a pre-set password -* **`admin`**. *It is advisable to change this password during the initial setup.*

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

Note: *To connect to the web interface from the tray application/the menulet, you must first add the storage server to the list of accessible storage servers (see "Managing Storage Server(s) on a Tiger Client" on page 36).*

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

3. Click the name/IP address of the storage server to whose web interface you want to connect.

   The web interface of Tiger Store loads in the default web browser of your computer.

4. Click Manage and type the password for the web interface.

   Note: *By default, the web interface uses a pre-set password -* **`admin`**. *It is advisable to change this password during the initial setup.*

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

Note: *To connect to the web interface from a Linux computer, you must first add the storage server to the list of accessible storage servers (see "Managing Storage Server(s) on a Tiger Client" on page 36).*

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 of storage servers.

2. Press Enter.

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

3. Click Manage and type the password for the web interface.

   Note: *By default, the web interface uses a pre-set password -* **`admin`**. *It is advisable to change this password during the initial setup.*

Changing the Password for the Web Interface

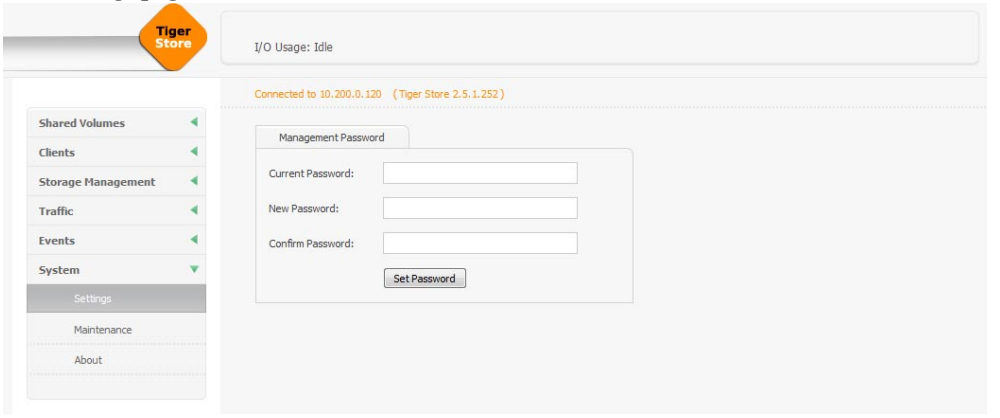
By default, Tiger Store's web interface is accessible after supplying a predefined password (**`admin`**). It is advisable to change this password during the initial setup as after that the web interface becomes accessible to every computer on the same network whether or not it runs the Tiger Client software.

You can change the password for the web interface at any time.

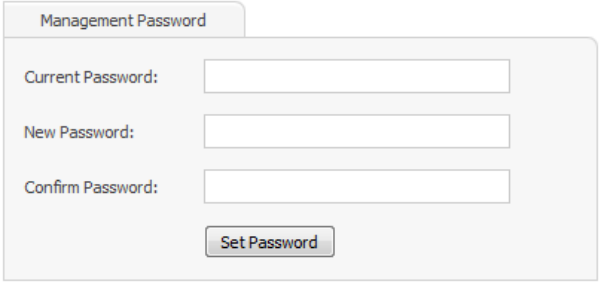
To change the web interface password:

1. In the left pane of Tiger Store's web interface, click System and then Settings.

   The Settings page loads.



2. In the Management Password field, enter the current password and the new password in the respective fields, and then click Set Password.



Activating and Deactivating Tiger Store

Activating Tiger Store

To benefit from Tiger Store you have to activate both the Tiger Store and Tiger Clients licenses in the web interface.

Important: *Until you activate Tiger Store on the metadata controller, the volumes it is connected to are not protected from data corruption and cannot be shared to Tiger Clients.*

The Tiger Clients license holds information about the type and number of clients that can connect concurrently to the shared volumes. The Tiger Clients license is activated on the metadata controller and there is no need for activation on client computers. This allows you to install the Tiger Client software on as many computers as you wish. Should a Tiger Client attempt to connect

to the metadata controller and mount the volumes shared by it, the metadata controller checks if there are available connections and either provides access to its volumes, or denies it until another Tiger Client is disconnected.

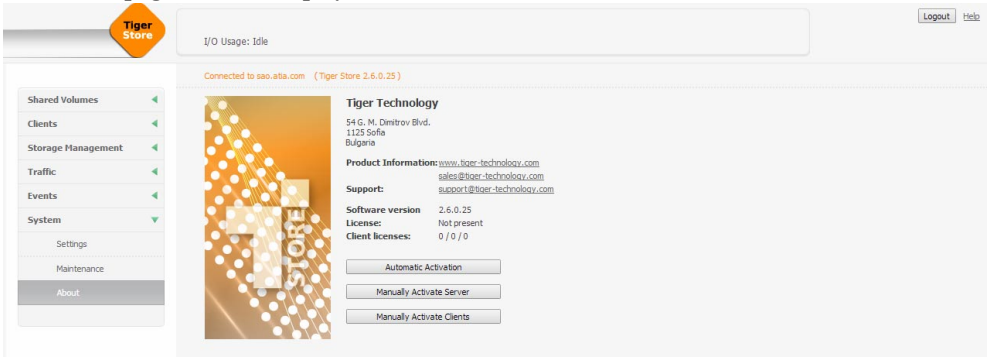
The activation procedure of both Tiger Store and Tiger Clients licenses consists of two parts - obtaining an activation key on the licensing server and activating the licenses in the web interface of Tiger Store. To facilitate this process, Tiger Store offers two methods for activation - automatic and manual. Automatic activation connects you to the licensing server, generates an activation key, and activates it on the computer. In case the machine from which you want to activate Tiger Store is not connected to the Internet, or you want to store the activation key, you should use the manual activation method.

Important: *To activate the Tiger Clients license, you must first activate Tiger Store on the metadata controller.*

To activate the Tiger Store and Tiger Client licenses automatically:

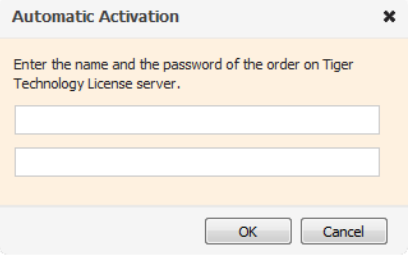
1. In the left menu of Tiger Store's web interface, click System and then About.

   The About page loads. It displays license information about the metadata controller.



2. Click Automatic Activation.

   The Automatic Activation dialog appears.



3. Enter your order name and password, and click Activate.

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

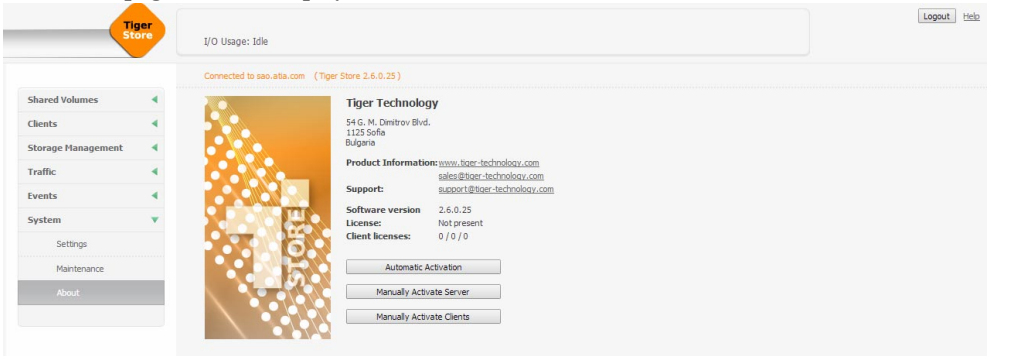
Both the Tiger Store and the Tiger Clients licenses are activated on the metadata controller.

Note: *To verify that you have successfully activated Tiger Clients, check the "Client licenses" field in the About page - it lists the number of activated Tiger Clients as follows: SAN Clients/ Fast LAN Clients/LAN Clients. For example, if you activate 3 SAN Clients and 8 LAN Clients, after successful activation the field should display "Client licenses: 3/0/8".*

To activate Tiger Store manually:

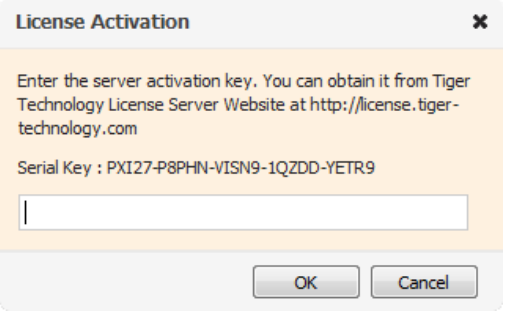
1. In the left menu of Tiger Store's web interface, click System and then About.

   The About page loads. It displays license information about the metadata controller.



2. Click Manually Activate Server.

   The License Activation dialog appears.



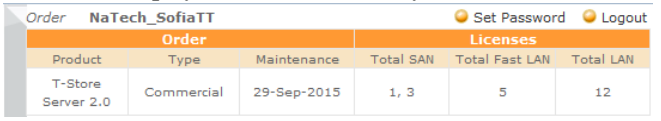
3. Copy the serial number and in a web browser go to https://license.tiger-technology.com

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

   Note: *If you enter the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

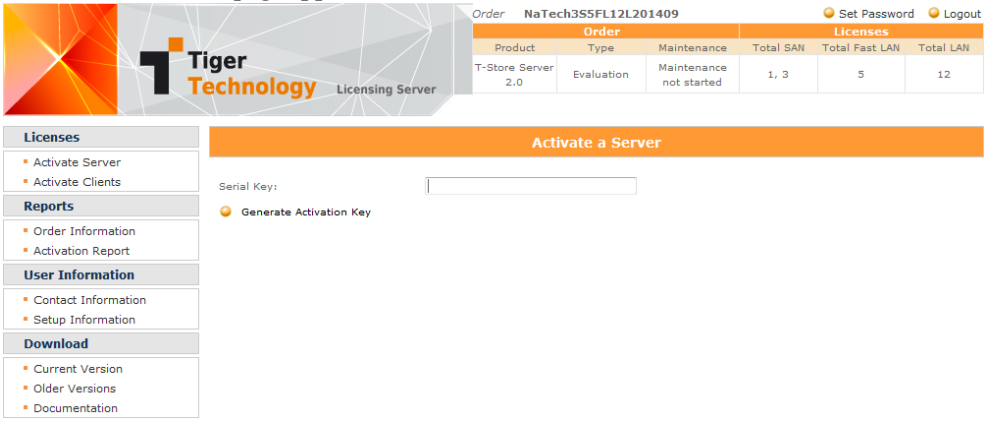
Important: *The order name and the password are case sensitive.*

The server displays information about your account.



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

   The Activate a Server page appears.



6. Paste the serial number for your copy of Tiger Store and click Generate Activation Key.

   The licensing server generates an activation key.

7. Copy the Activation key.

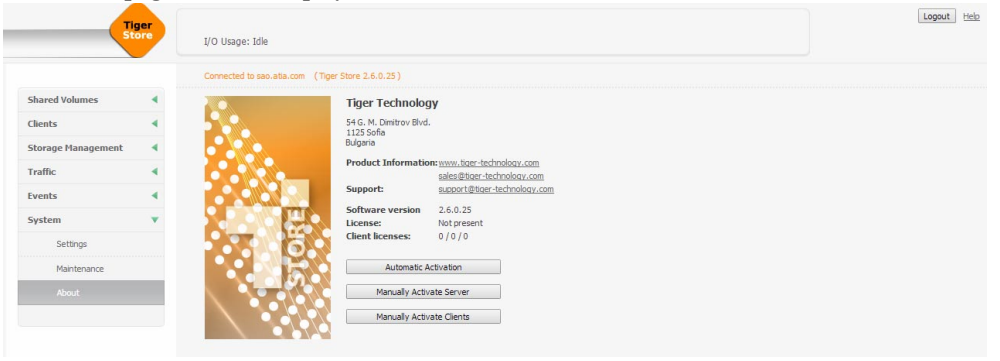
8. In the License Activation dialog in the Tiger Store web interface, paste the key generated for your copy of Tiger Store, and click OK.

   The About page displays the activation status of the metadata controller and the type of license used.

To activate the Tiger Clients license manually:

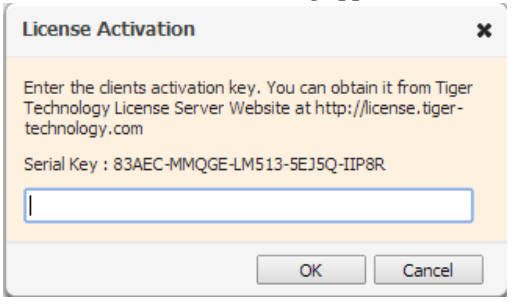
1. In the left menu of Tiger Store's web interface, click System and then About.

   The About page loads. It displays license information about the metadata controller.



2. Click Manually Activate Clients.

   The License Activation dialog appears.



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

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

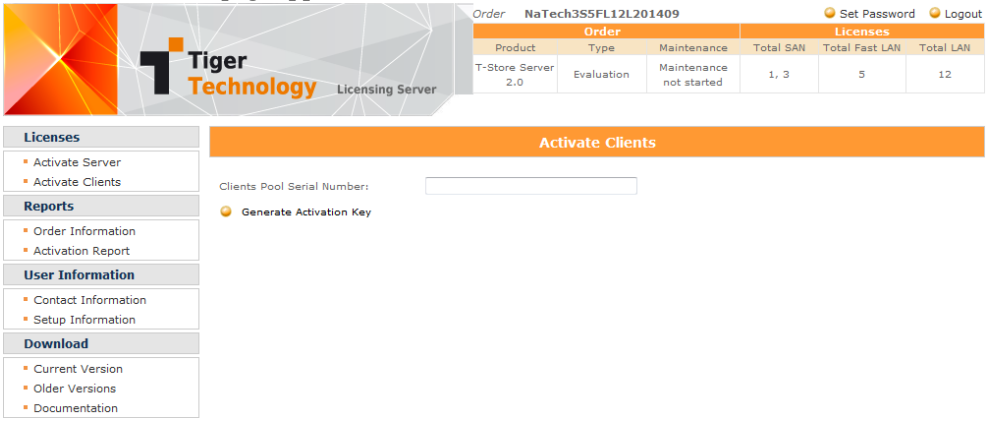
   Note: *If you enter the Tiger Technology licensing site for the first time, you should fill the registration form to continue.*

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

   The server displays information about your account.

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

   The Activate Clients page appears.



6. Paste the serial number for your Tiger Clients license and click Generate.

   The licensing server generates an activation key.

7. Copy the Activation key.

8. In the License Activation dialog in the Tiger Store web interface, paste the key generated for your Tiger Client license, and click OK.

   The Tiger Clients license is activated.

   Note: *To verify that you have successfully activated your Tiger Clients, check the "Client licenses" field in the About page - it lists the number of activated licenses as follows: SAN Clients/Fast LAN Clients/LAN Clients. For example, if you activate 3 SAN Clients and 8 LAN Clients, after successful activation the field should display "Client licenses: 3/0/8".*

Deactivating Tiger Store

When you need to assign another computer as a metadata controller, you need to uninstall and deactivate the Tiger Store and Tiger Client licenses from the current metadata controller in order to be able to use them on another computer.

When you want to transfer your licenses to another machine, you have to obtain new activation keys (as the activation key is granted per machine) and return the old one by deactivating your licenses for this computer. After deactivating Tiger Store on the current storage server, you will not be able to activate it again with the same key even if you reinstall Tiger Store. There is no need to deactivate the Tiger Client licenses as they can be activated only after activating Tiger Store on the metadata controller.

Important: *In case the current storage server has failed and you cannot start it in order to deactivate the licenses on it, contact Tiger Technology support for instructions.*

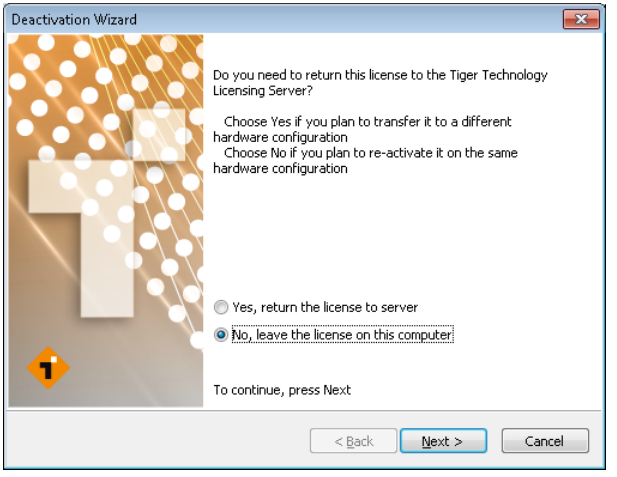
The deactivation procedure of the licenses consists of two parts - obtaining a deactivation key and deactivating the licenses on Tiger Technology's licensing server in order to obtain new activation keys. You can choose between two methods for deactivation - automatic and manual. The automatic method automatically deactivates the licenses on your computer and on the licensing server. In case your computer is not connected to the Internet, you can also use the manual deactivation and deactivate the licenses on the licensing server later or from another machine.

To uninstall and obtain deactivation key manually:

1. Display the Control Panel.
2. Double-click Programs and Features.
3. Right-click Tiger Store and select Uninstall.

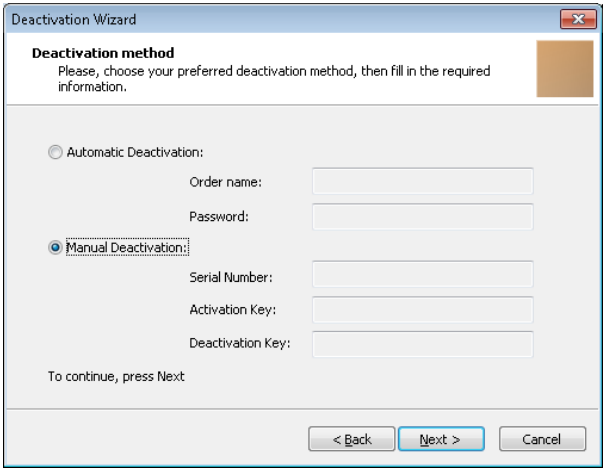
   You are prompted to confirm that you want to remove Tiger Store.
4. Click Yes, to confirm.
5. Click Yes to continue with the uninstallation.

   The deactivation wizard starts.



6. Select "Yes, return the license to server," and click Next.

7. Select Manual Deactivation, and click Next.



The deactivation wizard lists the serial number and activation key of your Tiger Store/Tiger Client licenses and generates a deactivation key.

8. Click Next.

A text file (Tiger Store_Keys.txt) containing the serial number, activation and deactivation keys, is automatically saved on the Desktop of the currently logged user.

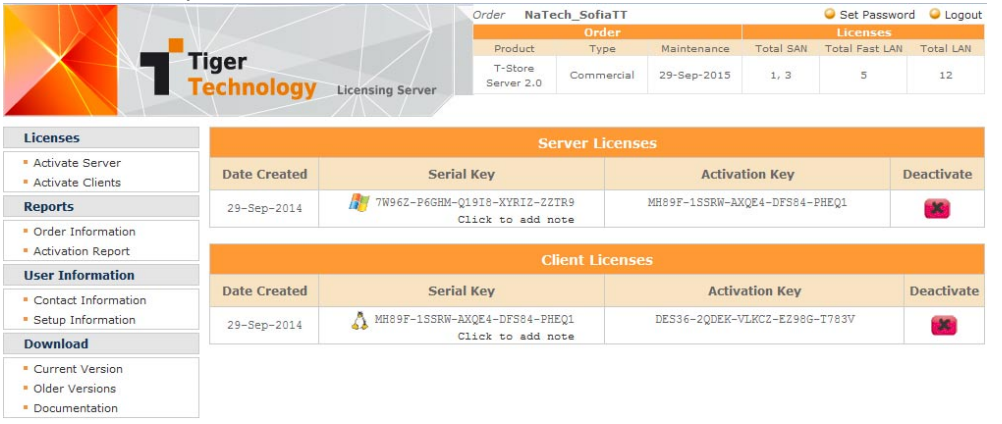
9. When prompted, restart the computer.

To deactivate Tiger Store on the licensing server:

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.

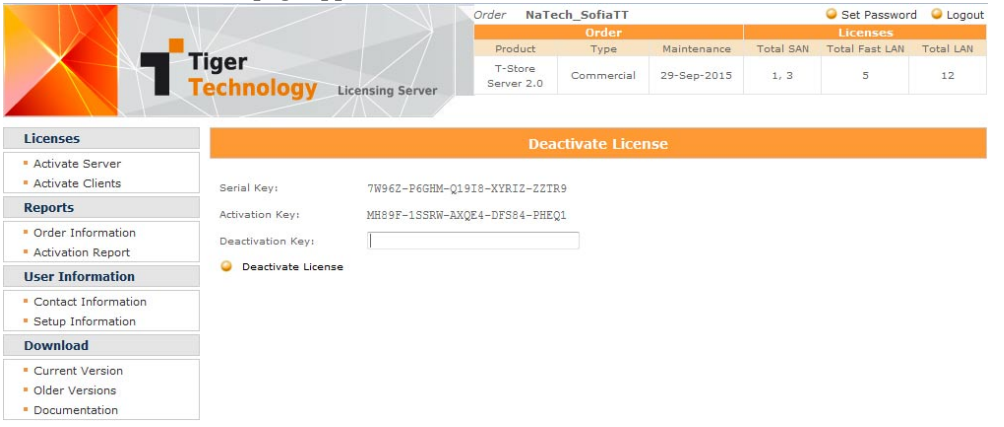
3. In the licensing server Menu, click Order Information.

   The licensing server lists all activated Tiger Store/Tiger Client licenses with their serial numbers and activation keys.



4. In Server Licenses, click the Deactivate icon.

   The Deactivate License page appears.



5. Paste the deactivation key in the corresponding field, and click Deactivate.

   The Tiger Store/Tiger Client licenses in your order are deactivated and can be activated on another metadata controller.

To deactivate Tiger Store automatically:

1. Display the Control Panel.
2. Double-click Programs and Features.

3. Right-click Tiger Store and select uninstall.

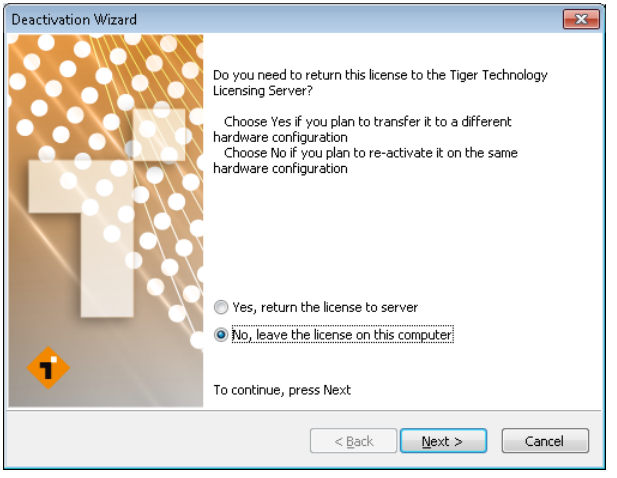
   You are prompted to confirm that you want to remove Tiger Store.

4. Click Yes, to confirm.

   Tiger Store warns you that the volumes will become inaccessible to Tiger Clients.

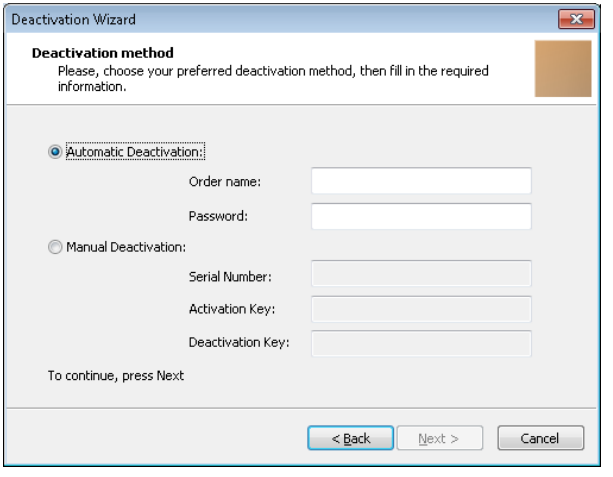
5. Click Yes to continue with the uninstallation.

   The deactivation wizard starts.



6. Select "Yes, return license to server," and click Next.

7. Select Automatic Deactivation.



8. Enter your order name and password, then click Next.

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

Important: *If you are not connected to the Internet or the licensing site is currently unavailable, the Setup will transfer you to manual deactivation.*

The deactivation wizard automatically generates a deactivation key and deactivates your Tiger Store and Tiger Client licenses on the licensing server.

9. When prompted, restart the computer.

2

Setting Up Tiger Clients

Besides being connected to the storage server and the Tiger Store metadata controller, to be able to mount and work with the shared volumes, client computers need to run the Tiger Client software. You can install the Tiger Client software on each computer that meets the minimum system requirements (see “Tiger Client System Requirements” on page 11). All other computers that are on the same LAN, can mount a shared volume as a regular CIFS/SMB share. Once you install the Tiger Client software, you can use the Tiger Client tray application (Windows), the menulet (Mac OS X) or command-line (Linux) to:

- Create a list of the storage servers on your network (see “Creating a List of Storage Servers” on page 37).
- Connect to and disconnect from Tiger Store server on your list and mount/dismount the volumes they share (see “Connecting and Disconnecting to a Storage Server” on page 39).
- Overwrite the volume mount location on Windows Tiger Client (see “Overwriting The Volume Mount Location (Windows)” on page 40)
- View connection status (see “View Connection Status” on page 43).
- Easily access Tiger Store’s web interface (see “Accessing Tiger Store’s Web Interface” on page 18).

In the Tiger Store web interface, you can also view traffic information for Tiger Clients (see “View Traffic Information” on page 44).

Installing and Uninstalling the Tiger Client Software

Important: *Uninstall any other SAN management software from the computers, before proceeding with Tiger Client software installation. All Tiger Client computers must run the same version of the software as the metadata controller computer.*

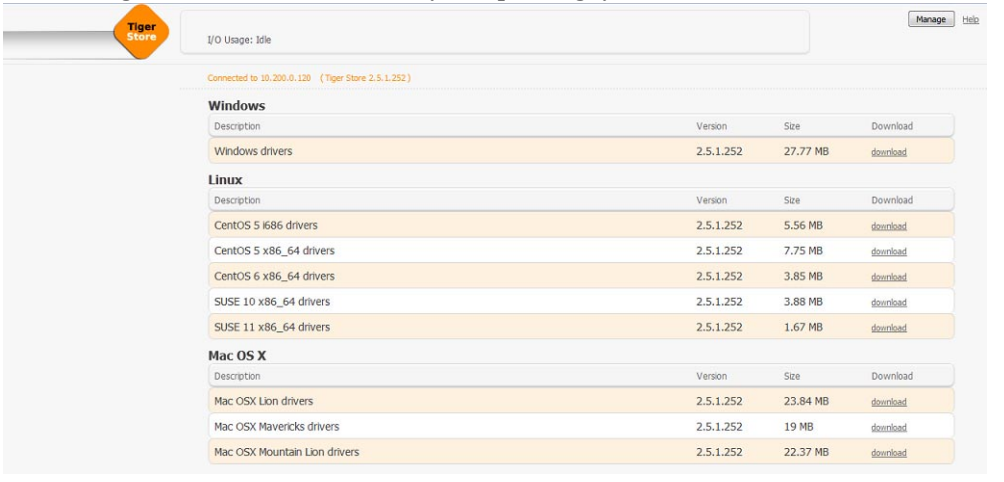
To download and install the Tiger Client software (Mac OS X and Windows):

1. Open the web interface of Tiger Store (see “Accessing Tiger Store’s Web Interface” on page 18).
2. Find the Tiger Client installation file for your operating system and click Download.

3. When the installation file downloads to your computer, double-click it to start the installation.
4. Follow the on-screen instructions and when prompted, restart your computer.
   The Tiger Client icon appears in the Menu Bar/System Tray of your computer.

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

1. Open the web interface of Tiger Store (see “Accessing Tiger Store’s Web Interface” on page 18).
2. Find the Tiger Client installation file for your operating system and click Download.



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

To uninstall the Tiger Client software (Windows):

1. Display the Control Panel.
2. Double-click Programs and Features.
3. Right-click Tiger Client and select Uninstall.

   You are prompted to confirm that you want to remove the Tiger Client software.
4. Click Yes, to confirm.

   Tiger Client uninstallation warns you that you will have to reboot the computer to complete the uninstallation.
5. Click OK.
6. When prompted, restart the computer.

To uninstall the Tiger Client software (Mac OS X):

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.

Managing Storage Server(s) on a Tiger Client

Managing the storage servers means creating a list of all available storage servers and connecting/disconnecting to any of them in order to mount and work with the volumes they share.

You can manage the storage server(s) on your computer using the tray application (Windows), the menulet (Mac OS X) and the command-line interface (Linux).

Creating a List of Storage Servers

Once you install the Tiger Client software on your computer, you can create a list of all Tiger Store servers that you see. Then, you can connect and disconnect to any of the servers on your list in order to mount/dismount the volumes they share.

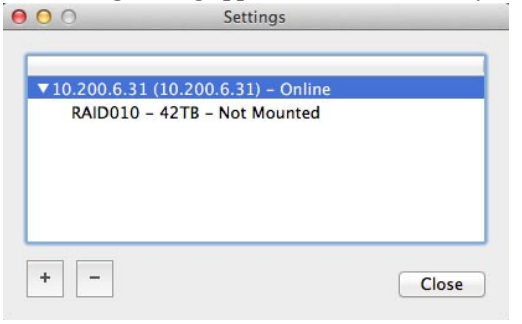
Important: *On Fast LAN clients to avoid being redirected through the 1GbE port, it is advisable to add the Tiger Store appliance to the storage servers list with the IP address set for the 10GbE port.*

Whenever you change the name or IP address of a storage server that is already added to a Tiger Client's list of storage servers, you may have to re-add it to the storage servers' list.

To add a storage server to the list (Mac OS X and Windows):

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

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



2. Do one of the following:

   - (Windows) Click Add.
   - (Mac OS X) Click the "+" button.

   The Add Storage Server dialog appears.

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

4. Click OK.

   The storage server appears in the list of storage servers in the Settings dialog. You can view its name and IP address, the preferred mount location of the volumes it shares for your computer and the server's status for your computer:

   • Online - the server is accessible and the volumes it shares are mounted in the preferred mount location.

   • Online (mounted as...) - the server is accessible, but at least one of the volumes it shares is not mounted in the preferred mount location.

   • Offline - the server is not accessible.

To add a 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 storage server.

2. Press Enter.

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

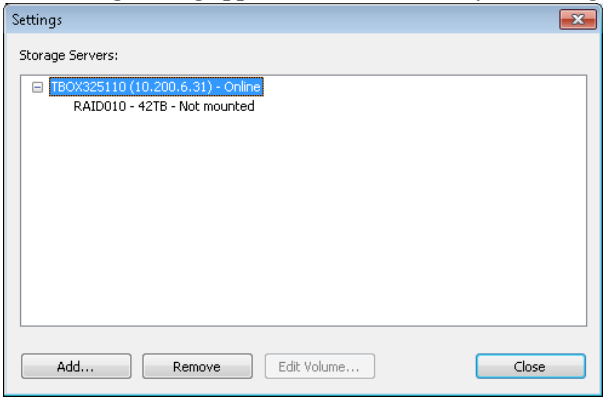
   Tip: *To view all servers added to the list on your computer, type* **`smct -l`** *and press Enter.*

To remove a storage server from the list (Mac OS X and Windows):

Important: *After you remove a storage server from the list of storage servers on your computer, volumes shared by this server are automatically dismounted from your computer.*

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

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



2. Select the server you want to remove from the list and do one of the following:

- (Windows) Click Remove.
- (Mac OS X) Click the "-" button.

3. Confirm that you want to remove the server from the list.

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

To remove a Tiger Store 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 server.

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

2. Press Enter.

Connecting and Disconnecting to a Storage Server

When you connect to a storage server on your list, you mount the volume 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 server (Mac OS X and Windows):

1. Click the Tiger Client tray application/the menulet and then click Connect/Disconnect.

   Your list of all storage servers is displayed.

2. Click a disconnected server (a server without a check mark in front of its name/IP address) to connect to it.

   The volumes this server shares are mounted on your computer.

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

To connect to a Tiger Store server (Linux):

1. In command-prompt, type:

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

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

2. Press Enter.

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

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

To disconnect from a Tiger Store server (Mac OS X and Windows):

1. Click the Tiger Client tray application/the menulet and then click Connect/Disconnect.

   Your list of all storage servers is displayed.

2. Click a connected server (a server with a check mark in front of its name/IP address) to disconnect from it and dismount the volumes it shares.

3. Confirm that you want to disconnect from the server.

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

   The volumes shared by this server are dismounted from your computer.

To disconnect from a Tiger Store server (Linux):

1. In command-prompt, type:
   `smct –d [number/host/IP address]`

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

2. Press Enter.

   Tip: *To disconnect from all servers on your list, type* **`smct –d all`** *and press Enter.*

Overwriting The Volume Mount Location (Windows)

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

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

In the web interface of Tiger Store, you can specify a preferred drive letter as mount location of a Tiger Store volume on all Windows Tiger Clients. This way, you can make a volume to be mounted in one and the same location on all Windows Tiger Clients that see it. For more information, see “Selecting Volume Mount Location” on page 57.

Using the Tiger Client tray application, you can overwrite this setting for a particular Windows Tiger Client, by specifying different drive letter as default mount point on this computer.

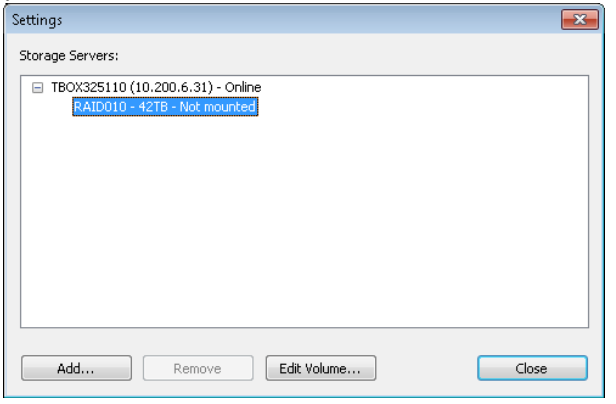
To overwrite the default mount location setting for a specific Tiger Client:

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.

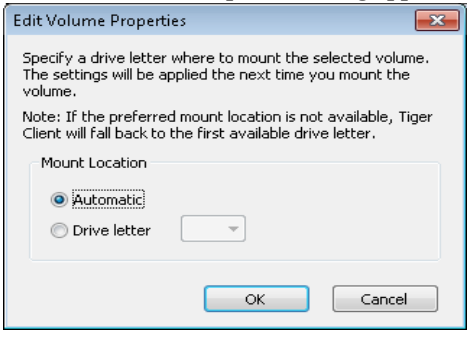
   The Settings dialog appears. It lists all already added Tiger Store servers.

2. Expand the node of a disconnected storage servers 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.

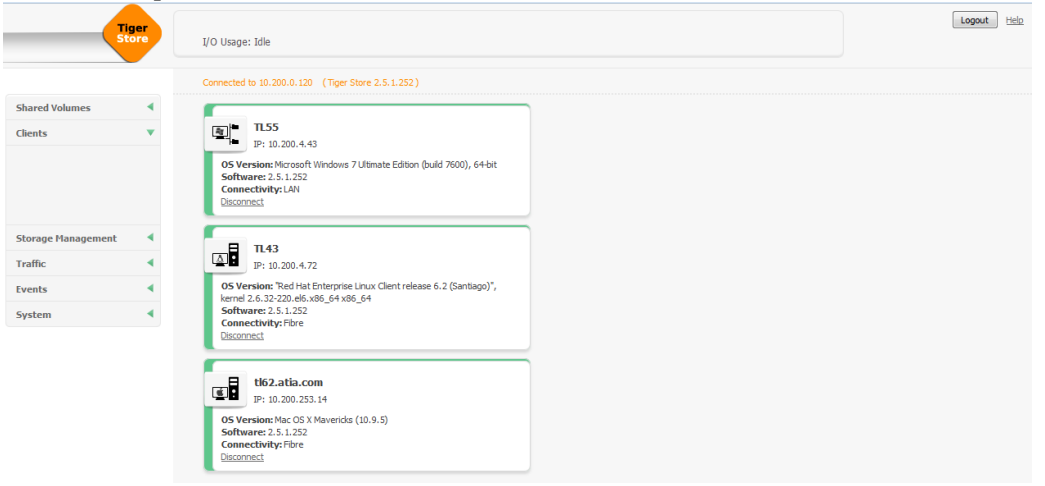
   Note: *Tiger Store doesn't allow you to select a drive letter that is already in use on your computer.*

5. Click OK.

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

Controlling Clients from The Web Interface

The Clients page of the web interface lists all Tiger Clients that are currently connected to the Tiger Store server. Each Tiger Client is represented by a tile that gives you the following information about the computer:



- Name;
- IP address;
- Operating system;
- Version of the Tiger Client software;
- Connectivity type - LAN or Fibre Channel;

In the tile of a Tiger Client in the Clients page, you can force disconnect just a selected Tiger Client from the shared volumes it sees. This way you can free its connection for another Tiger Client.

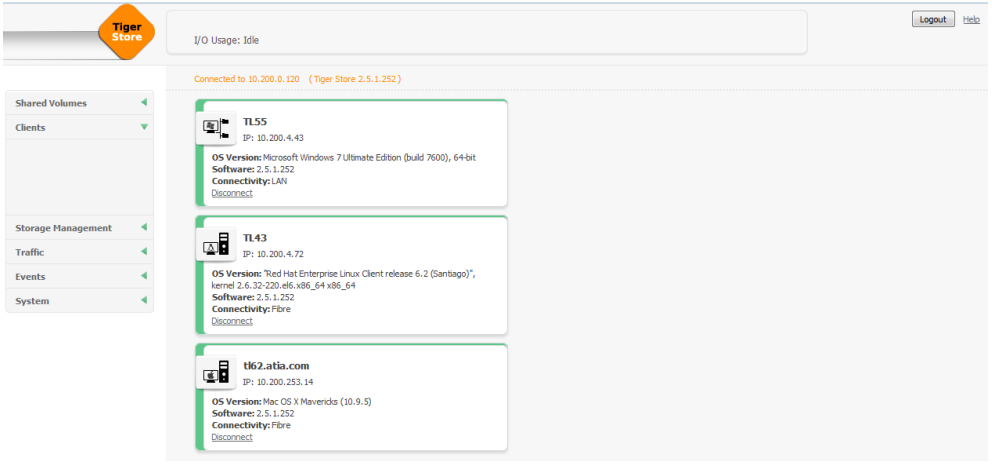
Important: *By disconnecting a Tiger Client from a shared volume, you cancel any file operation going on at the moment on that volume that this computer may be performing.*

Note: *To connect again to the Tiger Store volume(s), each client computer should manually connect to the server following the steps in "Connecting and Disconnecting to a Storage Server" on page 39.*

To force disconnect a selected client computer:

1. In the left pane of Tiger Store's web interface, click Clients.

   The Client page loads. It lists all currently connected Tiger Clients.



2. Find the tile of the computer that you want to disconnect and click Disconnect.

   Note: *The Disconnect button is not present, if the Tiger Client computer has not mounted any volume.*

   Tiger Store disconnects the selected Tiger Client from all shared volumes.

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

Note: *On Mac OS X, 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 server on the storage servers list, type this and press Enter:

```
smct -l
```

• Online - the server is online, but you are not connected to it;

• Mounted (LAN) - your computer is connected as a LAN client to all servers on the storage servers list;

• Mounted (Fibre) - your computer is connected as a SAN client to all servers on the storage servers list;

• Offline - there's problem with the connection between your computer and one or more servers in the servers list;

In the web interface of Tiger Store you can view the connection type of each client computer that is currently connected to the server:

	Windows	**Mac OS X**	**Linux**
SAN Member			
LAN Client			

View Traffic Information

To facilitate you in monitoring the workload of the server and the connectivity with currently connected Tiger Clients, Tiger Store's web interface offers you the Traffic monitoring tool. You can view data and metadata traffic statistics between the storage and one or all currently connected Tiger Clients for a selected period.

You can also use the Traffic monitoring tool to determine the activity of a Tiger Client you want to disconnect from the shared storage.

To view traffic information:

1. In the left pane of Tiger Store's web interface, click Traffic.

   The Traffic page appears.

2. In the drop-down box above the graph, select the type of metric (volume I/O in MB/s, volume I/O in requests/s, network I/O in MB/s, network packets/s, and number of open operations).

3. In the drop-down box below the graph, select the time interval for which you want statistics.

   The Traffic page displays a graph showing you the statistics for the parameters you've chosen in the respective drop-down boxes.

   Tip: *Instead of refreshing the web page to update the results displayed, select the "Update automatically" check box to allow the web interface to automatically update the information displayed.*

3 Managing Tiger Store Storage

You can use Tiger Store with pre-formatted storage (see “Storage Requirements” on page 14) or you can create new volumes on the disks seen by the server after you install Tiger Store.

You can manage the Tiger Store storage in the following ways:

- Share/unshare a volume (see “Sharing and Unsharing Volumes” on page 50).
- Enable/disable support for file security on the shared volumes (see “Enabling and Disabling Support for File Security on the Shared Volumes” on page 52).
- Make a volume offline (see “Making a Volume Offline” on page 53).
- Create a new volume (see “Creating New Volumes” on page 54).
- Rename a volume (see “Renaming a Shared Volume” on page 56).
- Set volume mount location on Windows Tiger Clients (see “Selecting Volume Mount Location” on page 57).
- Perform maintenance operations on a volume:
  - Enable/disable auto-defragmentation of the shared volume(s) (see “Controlling Defragmentation” on page 58).
  - Manually defragment a shared volume, when auto-defragmentation is disabled (see “Manually Defragmenting a Shared Volume” on page 59).
  - Check and repair the file system of a volume (see “Checking and Repairing The File System” on page 60).

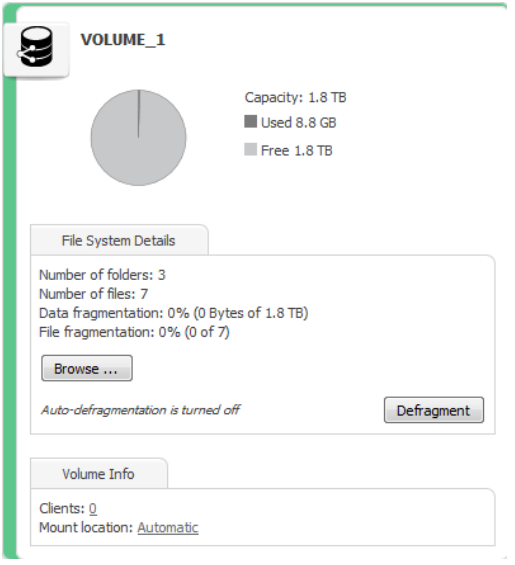
Some of the above operations on the shared storage require higher protection. That is why before you perform them, you should either unshare the volume for Tiger Clients or enter Maintenance mode. Entering Maintenance mode automatically disconnects all client computers from the shared volumes, that is why it is advisable to make sure that no file operation is being interrupted by entering Maintenance mode. After exiting Maintenance mode client computers are not automatically reconnected to the shared volume and have to manually connect to the server in order to mount the volume.

Important: *If the storage server is rebooted while in Maintenance mode, any maintenance operation going on at the moment is canceled and clients can re-connect to it.*

Viewing Storage Information

Viewing Shared Volumes Details

You can view details about volumes shared to Tiger Clients in the Shared Volumes page of the web interface. It displays all shared volumes as separate volume tiles and you can view the following details:

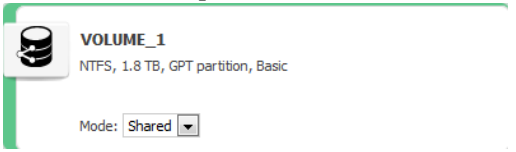


- Volume name.
- Pie chart of the volume capacity with free and used space statistics.
- File system details - number of files and folders on the volume, and fragmentation statistics.
- Number of connected clients.
- Default mount location of the volume on all Windows computers.

Viewing All Volumes Details

In the Volumes page (Storage Management | Volumes) each supported volume seen by the storage server is presented with a separate tile. The volume tile in the Volumes page gives you information

about the file system, size, partition and disk type, and the mode of the volume for Tiger Clients (shared, offline or private).



Sharing and Unsharing Volumes

Volumes in the Tiger Store network can have one of the following states:

Shared — the volume can be mounted only on Tiger Clients;

Private — the volume is accessible to the storage server only and neither Tiger Clients, nor computers without the Tiger Client software can mount it and work with it;

Offline — the volume is not managed by Tiger Store and can be mounted by any computer that sees it;

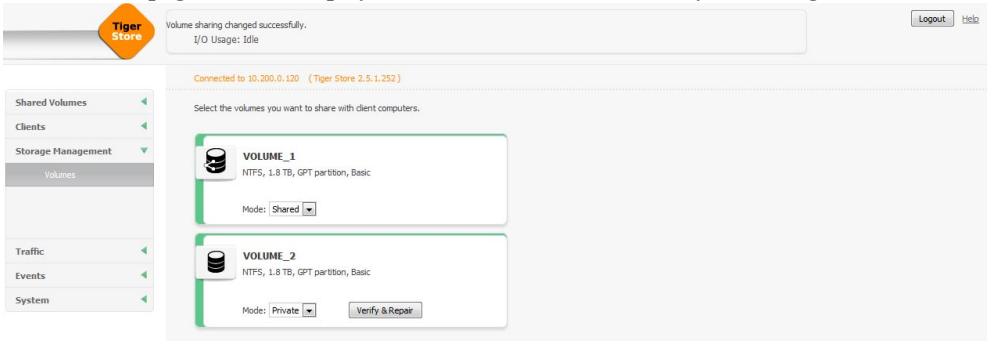
By default, when you install Tiger Store for the first time, all existing volumes manageable by the storage server are set to Offline mode. You can chose which ones of them to share to Tiger Clients (by making them shared) and which ones to computers without the Tiger Client software installed (by making them offline).

Whenever you perform a maintenance operation like checking and repairing the file system of a volume, instead of disconnecting Tiger Clients from all shared volumes by entering Maintenance mode, you can set the volume to Private while you perform the respective maintenance operation and after that share it again.

To share a volume to Tiger Clients:

Important: *If you share an Offline volume, all non-Tiger Client computers that access it will dismount it and will lose any unsaved data on that volume.*

1. In the left pane of Tiger Store's web interface, click Storage Management and then Volumes.
   The Volumes page loads. It displays the tiles of all volumes seen by the storage server.



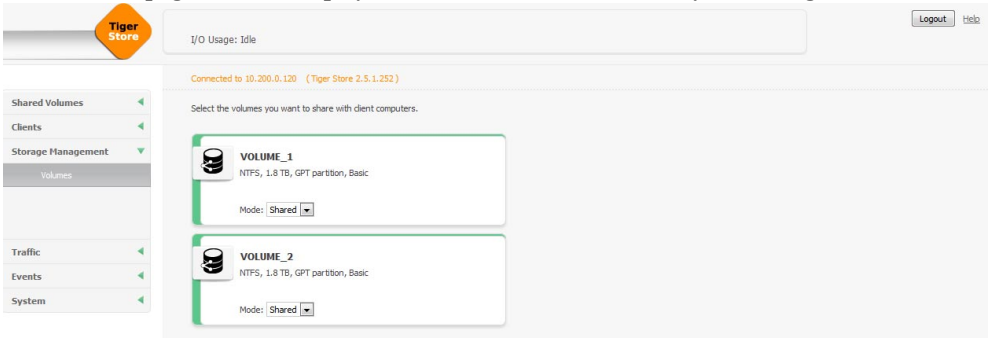
2. Find the tile of the volume, which you want to share and in the drop-down box select Shared.

3. Confirm that you want to share the volume to Tiger Clients.
   The volume is shared to all Tiger Clients that have access to it.

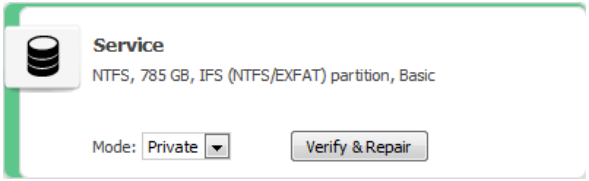
To make a volume Private for the storage server:

Important: *If you make Private an Offline volume, all non-Tiger Client computers that access it will dismount it and will lose any unsaved data on that volume.*

1. In the left pane of Tiger Store's web interface, click Storage and then Volumes.
   The Volumes page loads. It displays the tiles of all volumes seen by the storage server.



2. Find the tile of the volume, which you want to unshare and in the drop-down box select Private.



3. Confirm that you want to make the volume Private for the storage server.

   The volume is made Private for the storage server and all computers that had access to it (Tiger Clients or non-Tiger Clients) can no longer mount it.

Enabling and Disabling Support for File Security on the Shared Volumes

By default, data on the shared storage is accessible to anyone seeing the shared volumes. If your Tiger Store metadata controller is in an Active Directory domain, you can utilize access permissions for data on the shared volumes. To enable support for file security on the shared volumes, you should create a new string value in the Tiger Store registry on the metadata controller.

Important: *Note that when the metadata controller is no longer part of an Active Directory domain, you must disable the support for file security on the volumes it shares to Tiger Clients.*

To enable/disable support for file security on the shared volumes:

1. On the Tiger Store computer, 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\tbox\tboxmaster\settings\driver

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

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

5. Right-click **`enable_file_security`** value and select Modify.

6. Do one of the following:

   - To enable support for file security on the shared volumes, in Value Data enter **`1`** and click OK.
   - To disable support for file security on the shared volumes, in Value Data enter **`0`** and click OK.

7. Restart the Tiger Store computer.

Making a Volume Offline

By default, Tiger Store manages all volumes, meeting the storage requirements that the storage server is connected to. Whether or not the storage server shares them to Tiger Clients, these volumes are protected and cannot be mounted by computers that don't run the Tiger Client software, even though they may have access to these volumes. To let non-Tiger Client computers work and mount volumes that the storage server sees, you should remove Tiger Store's protection over them. You can do this by making them Offline. An Offline volume is accessible to any computer that sees that volume.

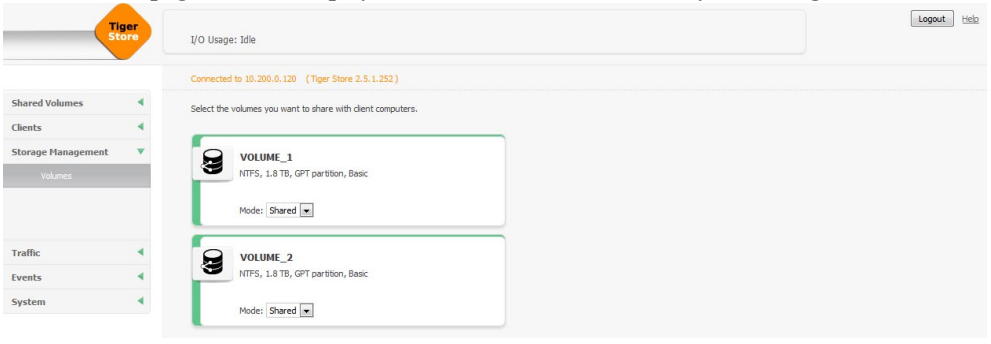
Important: *As offline volumes are not protected by Tiger Store, you should take care not to let more than one computer to mount them at a time in order to prevent data corruption on them.*

To make a volume offline (remove Tiger Store protection):

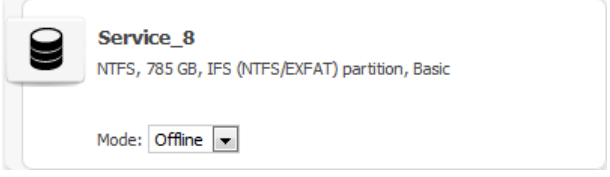
Important: *If you make a shared volume Offline, all Tiger Clients that access it will dismount it and will lose any unsaved data on that volume.*

1. In the left pane of Tiger Store's web interface, click Storage and then Volumes.

   The Volumes page loads. It displays the tiles of all volumes seen by the storage server.



2. Find the tile of the volume, which you want to share and in the drop-down box select Offline.



3. Confirm that you want to make the volume Offline.

   The volume is made Offline and all non-Tiger Client computers that see it can mount it.

Unmarking Volumes

To prevent corruption on the volumes it sees, Tiger Store marks them and doesn't allow computers connected to them to mount them unless they have the Tiger Client software installed or the volumes are set to Offline. When a volume is set to Offline, it is automatically unmarked, thus letting other computers mount it. Should you forget to set a volume to Offline before uninstalling Tiger Store, to be able to use the volumes that have been with Shared or Private status, you should unmark them, using the tboxtool.exe installed together with Tiger Store on the storage server and available even if you uninstall Tiger Store from the computer.

To unmark a volume:

1. On the storage server, run command prompt as administrator.
2. Go to:
   `C:\Program Files\Tiger Technology\Tbox`
3. Execute the following:
   `tboxtool.exe notinst`
4. Execute the following:
   `unmark \\.\[volume drive letter]`

   where `[volume drive letter]` is the drive letter of the volume on the storage server computer. For example, to unmark volume with drive letter `J`, execute the following:
   `unmark \\.\[J:]`
5. Repeat the above step for each volume that you need to unmark.
6. When finished, exit command prompt and restart the computer.

Creating New Volumes

You can create a new volume on the computer that is storage server after you enter Maintenance Mode.

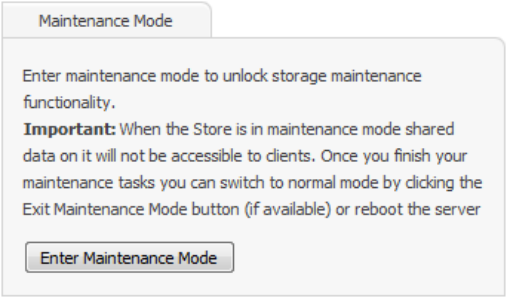
You can also create a new volume on the disks of a volume seen by the storage server from any non-Tiger Client computer that sees these disks, as long as the volume is made Offline in the Tiger Store interface (see "Making a Volume Offline" on page 53).

Important: *All volumes created on the storage server are automatically shared to Tiger Clients.*

To create a new volume:

Important: *Creating a new volume is an operation that requires entering Maintenance mode. Entering Maintenance mode automatically disconnects all Tiger Clients from the shared storage and stops any file operation going on at the moment.*

1. In the left pane of Tiger Store's web interface, click System and then Maintenance.
2. In the Maintenance page, click Enter Maintenance Mode.

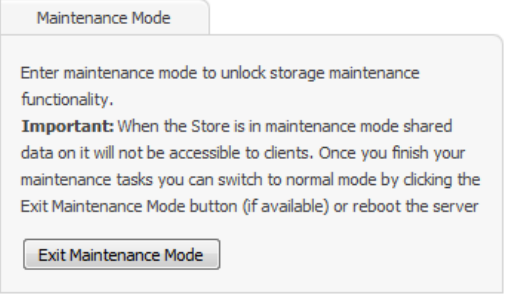


3. Confirm that you want to enter Maintenance mode, when prompted.

   The storage server automatically disconnects all Tiger Clients currently accessing the volumes and the button changes to Exit Maintenance mode.

   Important: *If you exit Maintenance mode or the storage server is rebooted while in Maintenance mode, any maintenance operation going on at the moment is canceled and clients can re-connect to Tiger Store.*

4. On the storage server, create the new volume, following the steps described in your OS documentation.
5. In the left pane of Tiger Store's web interface, click System and then Maintenance.
6. In the Maintenance page, click Exit Maintenance Mode.



7. In the left pane of Tiger Store's web interface, click Storage Management and then Volumes.
8. Do one of the following:

   • to share the volume to Tiger Clients, in the tile of the newly created volume, click Shared.

   • to let non-Tiger Client computers access the volume, in the tile of the newly created volume, click Offline.

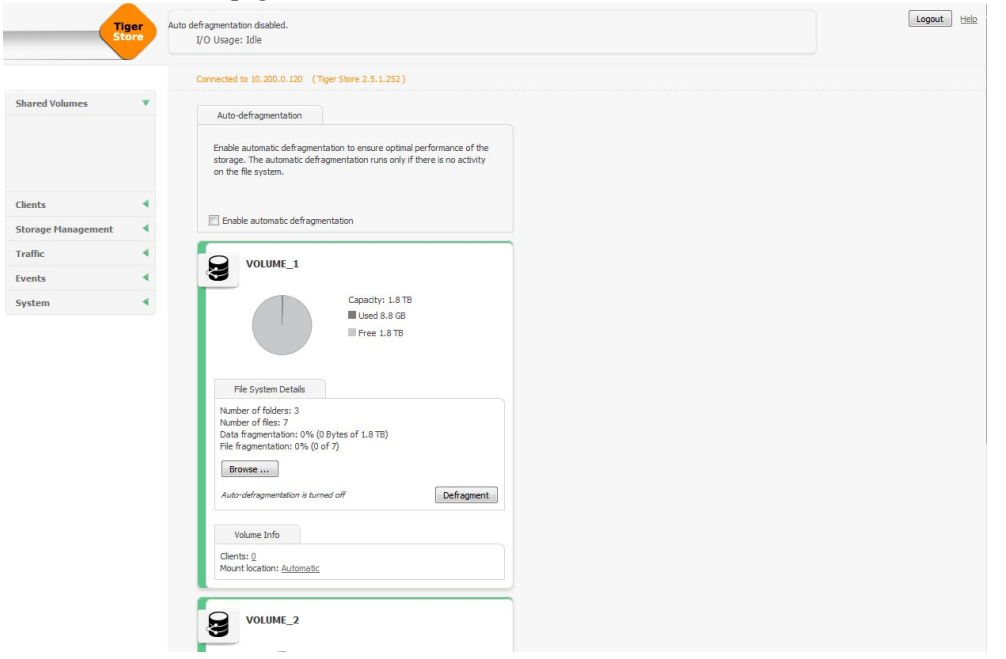
Renaming a Shared Volume

The name of each shared volume is used as its label on Tiger Clients. You can change the name of a shared volume at any time. Computers that have mounted a shared volume with its old name can see it with its new name only after reconnecting to the storage server.

To rename a shared volume:

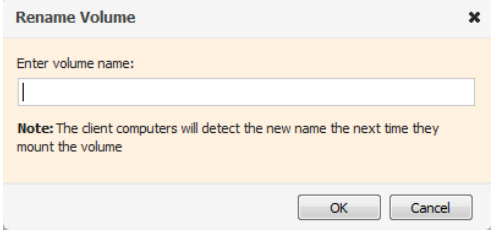
1. In the left pane of Tiger Store's web interface, click Shared Volumes.

   The Shared Volumes page loads.



2. Click the name of the volume in the tile.

   The Rename Volume dialog appears.



3. Enter a new name of the volume and click OK.

   The new volume name is displayed on client computers only after they remount the volume.

Selecting Volume Mount Location

By default, each shared volume uses Automatic mount location on all client computers:

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

In the web interface of Tiger Store, you can specify a preferred drive letter as mount location of a shared volume on all Windows Tiger Clients. This way, you can make a volume to be mounted in one and the same location on all Windows machines that see it.

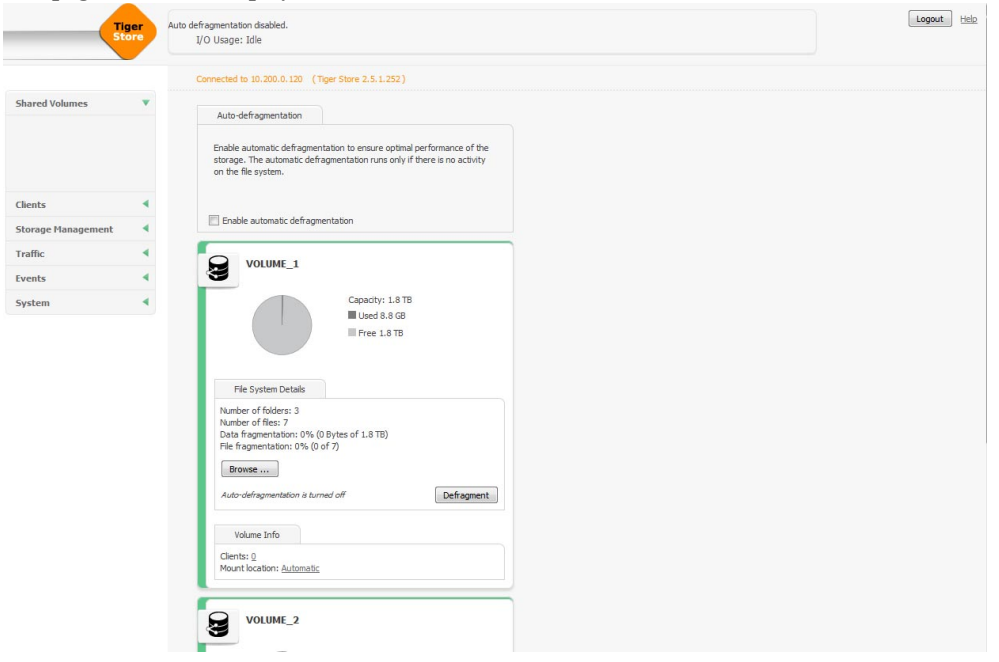
Note: *If you specify a drive letter as default mount location, but this drive letter is taken on a Windows client computer, it uses Automatic as mount location setting.*

You can also overwrite this setting for a particular Windows Tiger Client, by specifying different drive letter as default mount point on this computer. For more information, see “Overwriting The Volume Mount Location (Windows)” on page 40.

To set default mount location on Windows Tiger Clients:

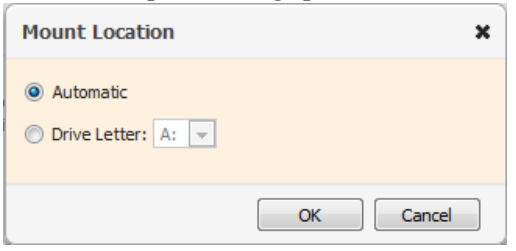
1. In the left pane of Tiger Store’s web interface, click Shared Volumes.

   The page that loads displays the volume tiles of all shared volumes.



2. In the tile of the selected volume, click Mount Options.

   The Mount Options dialog opens.



3. Do one of the following:

- Select Automatic to let the volume mount on Tiger Clients using the first available drive letter.
- Select Drive Letter and in the drop-down box select a drive letter.

4. Click OK.

   The volume is mounted in the new mount location on Tiger Clients only after they remount it.

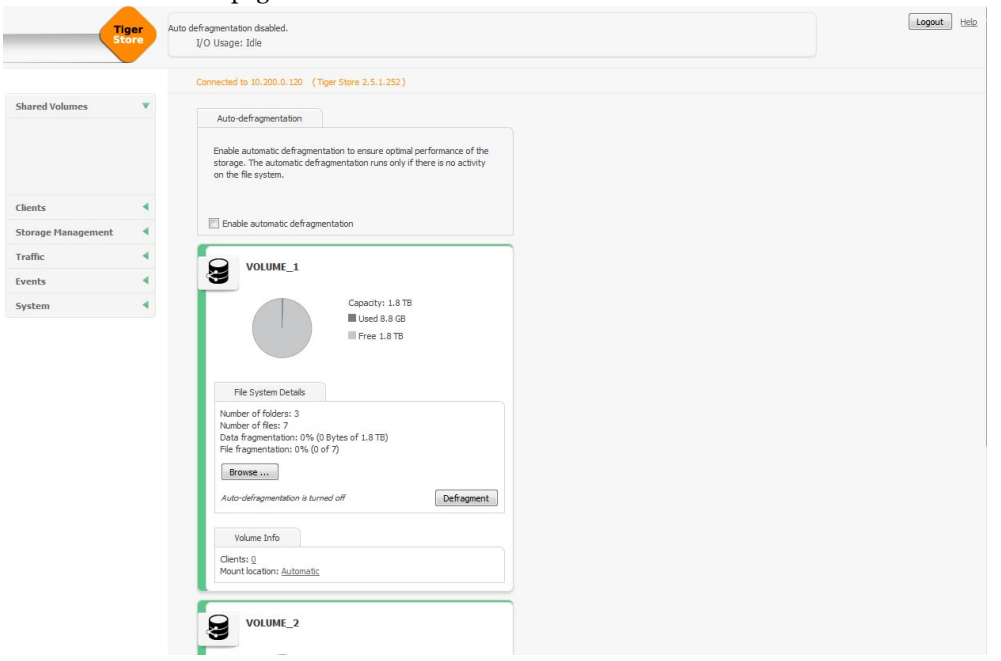
Controlling Defragmentation

Tiger Store's defragmentation engine is designed not only to reduce the fragmentation of the file system, but also to optimize the processing of file sequences on the shared volumes. By default, auto-defragmentation of volumes shared by Tiger Store is enabled. It defragments data on the shared volume(s) only when the system is in idle state (overall traffic to the shared storage doesn't exceed 10MB/s for at least 30 minutes) and automatically pauses, when traffic above this threshold is detected. You can disable auto-defragmentation and run defragmentation manually from the web interface instead.

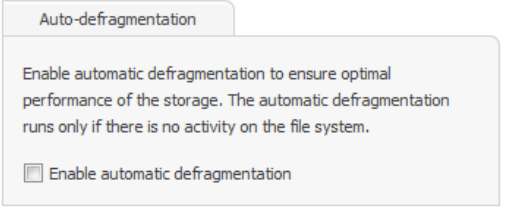
To enable/disable auto-defragmentation:

1. In the left pane of Tiger Store's web interface, click Shared Volumes.

The Shared Volumes page loads.



2. In the Auto-defragmentation field, do one of the following:



- Select the "Enable automatic defragmentation" check box, to enable auto-defragmentation of the volume.
- Clear the "Enable automatic defragmentation" check box, to disable auto-defragmentation of the volume.

Manually Defragmenting a Shared Volume

If you have disabled Tiger Store's auto-defragmentation (see "Controlling Defragmentation" on page 58), it is advisable that you perform manual defragmentation of the volume(s) when needed. You can keep track of the fragmentation of each shared volume in the Volume tile - it displays

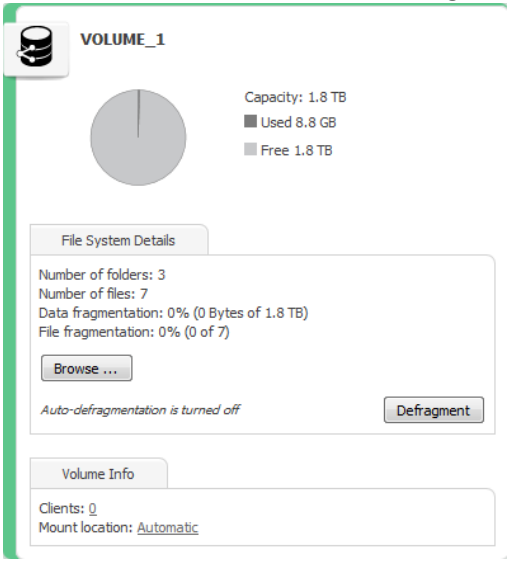
information about both data fragmentation and file fragmentation. Manual defragmentation can be stopped at any time.

To manually defragment a shared volume:

1. In the left pane of Tiger Store's web interface, click Shared Volumes.

   The page that loads displays the tiles of all available volumes.

2. In the tile of a selected volume, click Defragment.



   While the process is running, the Volume tile displays the defragmentation progress percentage and allows you to stop the defragmentation by clicking Stop Defrag.

Performing Maintenance Operations of The Storage

Checking and Repairing The File System

You can check and repair the file system on each volume managed by Tiger Store from the web interface. The operation goes through two stages - file system check and file system repair. While you perform the operation, Tiger Clients must not have access to the volume, that is why you should first make it private for the storage server and only after the operation finishes, share it to Tiger Clients again.

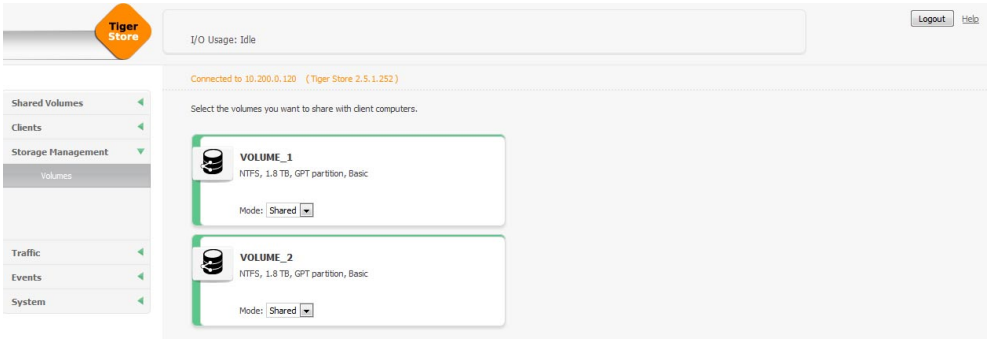
Requests for data on the volume whose file system you are checking and repairing will not be processed until the volume is again shared to Tiger Clients.

Warning: *While it is possible to run the chkdsk command in command-line for a shared volume, it is advisable to do it only when the Tiger Store network operates in Maintenance mode.*

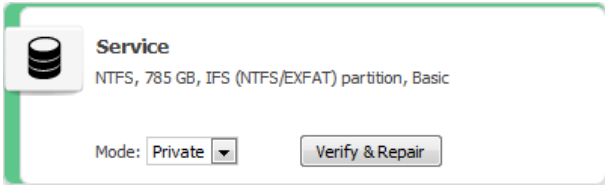
To check and repair the file system of a volume:

1. In the left pane of Tiger Store's web interface, click Storage Management and then Volumes.

   The Volumes page loads. It displays the tiles of all volumes seen by the storage server.



2. Find the tile of the volume, which you want to unshare and in the drop-down box select Private.



3. Confirm that you want to make the volume Private for the storage server.
4. Click Verify & Repair in the volume tile.
5. Click Continue to confirm that you want to check and repair the file system.

   When the file system check finishes, Tiger Store automatically attempts to repair the file system. While the operation is in progress, the volume disappears from the web UI. Once the operation finishes, the volume again appears in the web UI and you can share it to Tiger Clients (see "Sharing and Unsharing Volumes" on page 50).

4 System Maintenance

System maintenance operations include Tiger Store reboot options and advanced operations like upgrading the software version.

Tiger Store Server Reboot Options

To facilitate you in performing certain tasks and in order not to obstruct users work with the shared storage, Tiger Store offers you several reboot options:

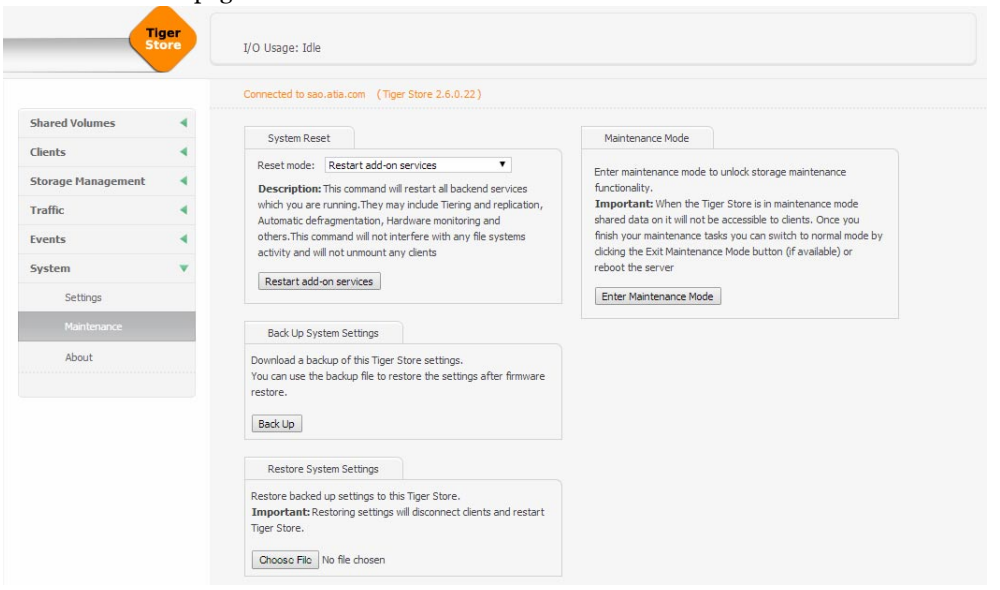
- Restart add-on services - restarts all add-on services, installed on Tiger Store Server (like auto defragmentation, etc.).
- Restart all services - restarts all our services and starts them in the correct order, Tiger Clients are not disconnected from the shared volumes.
- System reboot - Tiger Store Server automatically disconnects any connected Tiger Client and shuts down, then starts again. Once the system is up again, the web interface is automatically refreshed.
- Shutdown - Tiger Store Server automatically disconnects any connected Tiger Clients and shuts down.

Note: *After restarting the Tiger Store Server, Tiger Clients are not automatically reconnected to it.*

To issue a reboot option command:

1. In the left pane of Tiger Store's web interface, click System and then Maintenance.

   The Maintenance page loads.



2. Select the desired reboot option in the drop down box.

   The button below the drop down box changes according to the selected command.

3. Click the button below the drop down box to issue the selected command.

Viewing Event Reports

In the web interface allows you to view detailed reports about events regarding the shared volumes, a Tiger Client or all Tiger Clients within a selected time period. You can filter the events by three categories - informations, warning and errors.

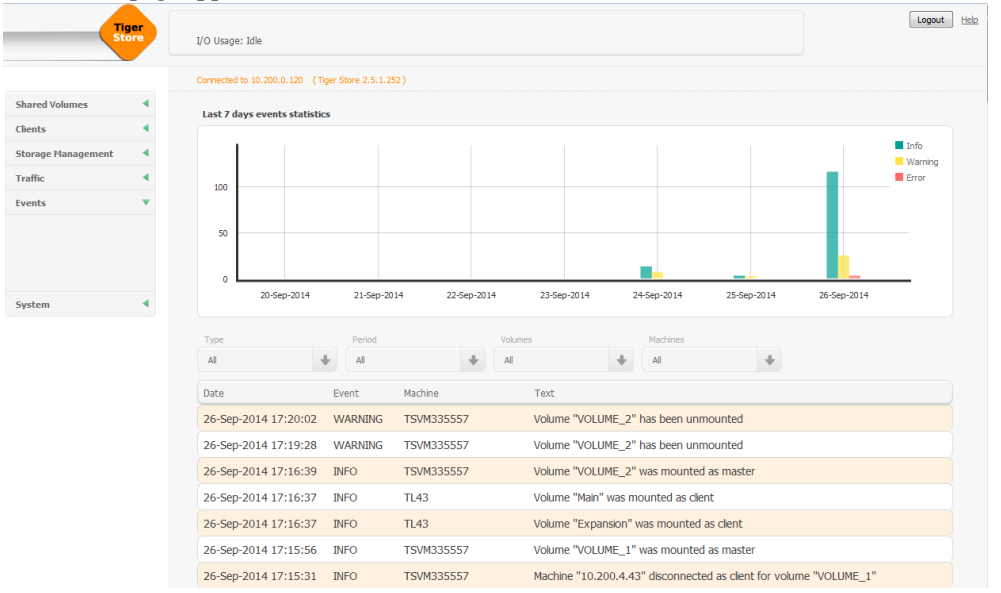
Note: *You can generate Event reports if you are currently connected to the Tiger Store server for which you generate the report.*

To generate an event report:

1. In the left pane of Tiger Store's web interface, click Events.

   Tip: *To view events report for a specific server node only, open its node view in the web UI.*

   The Events page appears.



2. In the Type drop-down box, select whether to generate a report about all events or filter it to specific type only.
3. In the Period drop-down box, select the time period for which to generate the report.
4. In the Machines drop-down box, select whether to generate a report about all machines or filter it to a specific computer only.

   The Events page displays graphs with the event types by date and below lists all events in descending order.

Index