Tiger Box/Tiger Box1 2.7 Release Notes

This document provides release information for Tiger Box firmware version 2.7. It discusses new features in this release as well as best practices, fixed and known issues.

What's New

Support for SSD Storage in Tiger Box1

Starting from version 2.7, Tiger Box1 is also distributed in a variation with 8x 2.5" SSD drives. This hardware model offers the same features as the model with 3.5" drives and is fully compatible with Tiger Box expansion chassis. For more information, refer to the Tiger Box1 Assembly Guide.

Using Private Volumes as Replication Target

With version 2.7 you can set any volume, which is set to Private mode for the appliance as a replication target to which Tiger Box's Replication & Tiering module to automatically replicate data from your shared volumes. You can use one and the same Private volume as a replication target of all shared volumes, or set a different Private volume for each shared volume, from which you want to replicate data. As long as the Private volume is used as a replication target, you cannot share it to Tiger Clients until you disable Replication & Tiering or set another replication target. For more information, refer to your Tiger Box Administration Guide.

Using Spectra Logic BlackPearl as Replication Target

Version 2.7 provides full integration of Spectra Logic BlackPearl appliances as replication target of Tiger Box's Replication and Tiering module. For more information, refer to your Tiger Box Administration Guide.

Partial Restore of Offline Files

If you use a Private volume or a SMB/CIFS network share as a replication target, when attempting to restore a stub file from the replication target, the Replication & Tiering mechanism of Tiger Box allows you to begin reading the file even before it is fully restored on your shared storage.

Certified Compatibility with Adobe Anywhere

All products of the Tiger Series product line are certified for compatibility with Adobe Anywhere.

Certified Compatibility with Crossroads Systems StrongBox

All appliances of the Tiger Series product line are certified for compatibility with Crossroads Systems StrongBox appliances.

Support for Microsoft Windows® 10 on Tiger Clients

Version 2.7 adds support for Tiger Clients running Microsoft Windows® 10.

Support for Mac OS X El Capitan on Tiger Clients

Version 2.7 adds support for Tiger Clients running Mac OS X El Capitan.

Fixed Known Issues in Version 2.7

Saving Final Cut Pro X Voiceover Directly on a Shared Volume

With version 2.7 you can save a Final Cut Pro X voiceover directly in the FCPX library on a shared volume.

Support for Hard Links on Shared Volumes

Version 2.7 provides support for hard links on shared volumes, managed by Tiger Box. This support is provided with some limitations - for more information refer to "Support for Hard Links Limitations" on page 9.

Upgrading to Version 2.7

Important: *All computers on your Tiger Box network must run the same version of the software.*

To upgrade your Tiger Box network to software version 2.7 you must first install the update on the appliance and after that download and install the updated Tiger Client software on each client computer.

The firmware update doesn't keep any settings except the IP addresses and name of the storage server. To preserve the settings configuration, you must back it up before uploading the firmware update on the appliance and then restore it after upgrading to this new version.

Once you upgrade the appliance, the web interface provides the updated list with Tiger Client software and you can upgrade all client computers. On Mac OS X and Linux, you should first uninstall the previous version of the Tiger Client software and after that perform a clean installation. On Windows, you can upgrade the Tiger Client software without uninstalling the previous version, following the steps below.

Note: *Software version 2.7 is compatible with projectStore 3.5.1 and later. If you want to benefit from the features available in projectStore 3.7, you need to upgrade it on your storage server, following the steps described in the projectStore 3.7 release notes: http://www.tiger-technology.com/projectstore-3-7-release-notes/*

To upgrade Tiger Box/Tiger Box1 to version 2.7:

1. In the left pane of the web interface, click System and then Maintenance.

2. In Back Up System Settings, click Back Up.

3. Provide the password for the web interface and click Continue.

A standard dialog opens that allows you to browse for a location where to save the settings backup file.

4. Select the location where to save the file and click Save.

5. In the Maintenance page, click Enter Maintenance mode and then confirm that you want to enter Maintenance mode.

Important: *All connected Tiger Clients will be automatically disconnected from the shared volumes and any file operation going on at the moment will be canceled.*

6. In Firmware Update, click Browse/Choose file and then browse for and select the file containing the 2.7 update to upload.

7. Click Continue to confirm that you want to perform firmware update.

Tiger Box uploads the firmware on the system hard drive of the appliance, unpacks it and applies the firmware update. When the firmware update finishes, the system automatically restarts.

8. In the left pane of the web interface, click System and then Maintenance.

9. In Restore System Settings, click Restore.

10. Provide the password for the web interface and click Continue.

11. In the dialog that opens, browse to and select the file containing the configuration backup, then click Open.

Tip: *By default, the file with the backed up configuration is saved with the following name: [storage server name]_[time]_[date]_backup.json*

12. Tiger Box imports the selected backup file and then automatically restarts.

Once the appliance restarts, all clients can connect to the web interface and download the updated version of the Tiger Client software for their operating system.

To upgrade Tiger Client to version 2.7:

1. Access the web interface of the storage server.

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

3. Once the installation downloads to your computer, run it, following the installation steps described in the Tiger Box Administration Guide.

Best Practices

Avoid to Back Up the Settings Configuration in Maintenance Mode

Tiger Box cannot ensure the consistency of the settings configuration backup, when you save it while in Maintenance mode. To avoid possible problems, it is advisable to always back up and restore the settings configuration when the appliance is not running in Maintenance mode.

Granting Full Control to the System Account

In Windows, the built-in System account, used by the operating system and by services, by default has Full Control to all files on an NTFS volume. To provide for the normal operation of Tiger Box, it is advisable not to change the Full Control permissions of this account.

For details about displaying the System account when setting permissions and granting Full Control to it, refer to your Windows documentation.

Setting Up the SAN Policy on Windows Tiger Clients

By default, on computers running Windows Vista and above all shared disks visible to the computer are delivered as offline and read-only. You can bring these disks to online mode in Disk Management, still, there's a possibility on the next boot of the system the disks to be offline again. To change this behaviour, you should make sure that the SAN policy of the operating system is set to "Online All". To view and set the SAN policy of your computer you can use diskpart.exe command-line utility that is stored in the system drive of your computer.

To view and change the SAN policy of your computer:

1. Run command prompt as administrator.

2. In command prompt, start diskpart utility by typing:
   `diskpart`

3. To view the current SAN policy, type this followed by return:
   `SAN`

   The utility displays one of the following:

   • Offline Shared - all newly discovered disks that do not reside on a shared bus are brought online and made read-write.

   • Offline - all newly discovered disks remain offline and read-only.

   • Online All - all newly discovered disks are brought online and made read-write.

4. Do one of the following:

> - If the SAN policy of your computer is "Online All", exit diskpart utility and command prompt.
>
> - If the SAN policy of your computer is not "Online All", proceed with the steps below.

5. Run command prompt as administrator.

6. In command prompt, start diskpart utility by typing:
```
diskpart
```

7. Execute the following:
```
san policy=OnlineAll
```

Using Identical Time and Date Settings

It is advisable to use identical settings for time and date on all computers on your Tiger Box network (the storage server and all client computers). Using different time and date settings may hamper communication with the storage server and the Traffic and Events reports may display incorrect information.

Migrating Replicated Files from One Replication Target to Another

While the Replication & Tiering mechanism of Tiger Box doesn't restrict you about changing the replication target, to avoid problems, you should set a new replication target with caution and after careful planning. If you need to set a new replication target to which files to be copied, you should keep in mind that all already replicated files will be inaccessible from the new replication target. Additionally, offline files (replicated files that have a copy only on the replication target) cannot be retrieved unless they have a counterpart on the new replication target.

When changing the replication target of your shared storage, it is recommended to migrate all already replicated data from the previous replication target to the new one. The safest workflow to do this is to let the Replication & Tiering mechanism replicate it again on the new replication target. For the purpose, you have to make sure that:

• all already replicated files are available on the shared storage (note that lack of free space on your shared storage may hamper the process).

• the status of all already replicated files is not "replicated" but "normal" as the Replication and Tiering mechanism will skip files on the shared storage that are with "replicated" status and will not copy them to the new replication target.

You can achieve this following these steps:

1. To ensure that each replicated file has an offline counterpart on the shared volume(s), in the drop-down box of the Tiger Browser, select a volume with enabled replication and then click Rescan Volume.

2. Repeat the above step for each volume on which replication is enabled.

3. In the left pane of the Tiger Browser, select the root of the volume and in the right pane select a folder and click Restore.

   Note: *You have to manually select all offline files in the root of the volume and click Restore.*

4. Repeat the above step for each folder on each volume with enabled replication in order to restore all replicated files to their original locations.

5. In the Replication & Tiering page of the web UI, specify a new replication target.

6. In the Replication Options dialog, select "Do not replicate" and leave the Exceptions list empty.

7. In the left pane of the Tiger Browser, select the root of the volume and in the right pane select a folder and click Make Offline, to revert all files from "Replicated" status to "Normal" status.

   Note: *You have to manually select all restored files in the root of the volume and click Make Offline to revert their status to "Normal".*

   Important: *Clicking Make Offline transfers the status of replicated files to "normal" only if the Replication & Tiering mechanism detects that the selected files don't have copies on the replication target. If you issue the command for a file with "replicated" status, which actually has a copy on the replication target, the command will replace the file on the shared storage with a stub file pointing to its copy on the replication target.*

8. Repeat the above step for each folder on each volume with enabled replication.

9. Set replication policy parameters for the new replication target to let the Replication & Tiering mechanism to copy all files.

Disabling Mac OS X Time Machine for Shared Volumes

It is highly advisable to exclude all volumes shared by Tiger Box from the list of locations Time Machine is set to back up on your Mac OS X T-Client. Keeping this feature turned on for shared volumes may hamper performance.

To exclude a shared volume from Time Machine's backup:

1. In Time Machine preferences, click the Options button.

2. In the sheet with locations, select a shared Tiger Box volume and click the "-" button.

3. Repeat the above step for each shared Tiger Box volume.

4. Click Save.

Calculating Folder Size (Mac OS X)

Use the Calculate Sizes option, available in List view of the Finder, to calculate sizes per folder and per window. Activate this option only for folders on your local disks. Do not enable it for folders on the shared storage volumes, as this will temporarily slow down performance. If you enable this option on a shared volume, network workstations that see the volume will be unable to work on it.

For details about managing the "Calculate Sizes" option, refer to your Mac OS X® documentation.

File Systems Behaviour and Files Compatibility

The three operating systems (Windows, Mac OS X and Linux) on which you can install the Tiger Client software differ in the way they manage files. On Windows, files can have many streams, in contrast to Mac OS X (only 2 streams - data fork and resource fork), and Linux (only data stream). In addition, files created by Mac OS X also have extended attributes (such as the Finder Info, for example) that are not available on the other two platforms.

These peculiarities of the file systems lead to partial loss of information when transferring a file created on one platform through a machine running on another platform.

For instance, when on Mac OS X you copy a file with 50 streams created by Windows, all file streams' information is lost, except the information of the data stream. The result will be the same when a Linux computer copies a 50-stream Windows file. A Mac OS X file copied by Linux will also lose its resource fork's info.

Streams' information is not lost when copying Mac OS X or Linux files by a Windows computer, but in this case a Mac OS X file will lose the extended attributes information.

There is another problem with files sharing common file format. For example, a movie file created with Final Cut Pro on Mac OS X is playable by QuickTime. If a Windows workstation copies this file, it will not recognize it as QuickTime-playable until adding the *.mov extension to it.

See also

Avoiding Long File Names

As a limitation of the file system, it is advisable to avoid long file names in order to ensure that file operations on the shared storage are normally processed.

Final Cut Pro Project Names on the Shared Volumes

It is advisable that the Final Cut Pro projects you create on the shared volumes have names that do not exceed 31 symbols.

New Known Issues

Replication & Tiering Module Cannot Start After Restarting Services

It is possible the Replication & Tiering module of Tiger Box to fail to start after you have restarted the add-on services or all service in the Maintenance page of your Tiger Box. A workaround to this is to perform full system reboot of the appliance in the Maintenance page.

Backup of System Settings Fails unless Auto Defragmentation Setting is Changed at Least Once

By default, automatic defragmentation is enabled on all shared volumes, although the check box on the Shared Volumes page is initially cleared. While you can work normally with your appliance without changing the option, attempting to back the system configuration up will fail. A workaround is to change the Auto defragmentation option at least once - by selecting the check box in order to keep defragmentation on, or to enable and then disable the check box, in order to turn off automatic defragmentation.

Support for Hard Links Limitations

The support for hard links on volumes shared by a Tiger Box storage server is provided with the following exceptions:

• due to incompatibility between NTFS and HFS+ hard link attributes, the Finder may not show hard links on shared volumes properly. For example, if a file has two hard links in the same directory, when you browse this directory in the Finder only one of the hard links will be shown;

• you cannot use hard links on pooled volumes (smart storage pooling);

Unresolved Known Issues

Renaming a Volume

You may have to rename a volume twice in the web interface of Tiger Box in order to permanently change its name.

Restoring Offline Files after Rename of Containing Folder

You may fail to restore from the replication tier an offline file (by double-clicking it), if you have renamed the folder that contains it with the name of a deleted folder that also contained an offline file. In this case, the replication and tiering module will attempt to restore the offline file from the

deleted folder instead of the current one. A workaround to the problem is to rescan the whole volume in the Volume Browser - this will restore both folders with their original names and each will contain its offline files, which you can restore by double-clicking them.

Restoring Deleted projectStore Project from the Replication Tier

Should you delete an already replicated project in the projectStore web interface, its contents is automatically moved to a Trash folder on your replication tier. To be able to restore the project on your main storage, you should:

• on a network share as a replication tier - manually move the project from the Trash folder to the Projects folder and then rescan the Volume in order to re-generate the deleted files as stub files, which you can then restore.

• on a Private volume as a replication tier - disable Replication & Tiering on the Private volume and share it to Tiger Clients, then unhide the .tt_rt folder in the root of the volume and manually move the deleted project from the Trash folder to the Projects folder. Make the volume Private again and enable Replication & Tiering on it, then rescan the shared volume in the Volume Browser in order to re-generate the deleted files as stub files, which you can then restore.

• on a DDN WOS replication tier, rescan the volume and regenerate the deleted data as stub files and then contact Tiger Technology support for assistance on moving the data from the hidden Trash folder to the Projects folder.

Regardless of the replication target you use, the final step to allow projectStore to detect and allow working with the project again is to restart the add-on services in the Maintenance page of Tiger Box.

Disabling Automatic Defragmentation of Volumes

By default, the automatic defragmentation is enabled on all shared volumes, although the check box on the Shared Volume page is initially cleared. To disable automatic defragmentation, you should first select the "Enable automatic defragmentation" check box and then clear it. From then on, the automatic defragmentation setting depends on whether the check box is selected or cleared.

Only Automatic Defragmentation of Volumes Available

Currently, you cannot perform manual defragmentation of your volumes. To keep your volumes defragmented it is advisable to enable the automatic defragmentation.

Volume Status not Preserved after Exiting Maintenance Mode

Volumes that have been shared before entering Maintenance mode may become Private after exiting Maintenance mode even though its tile shows Shared status. That is why after exiting Maintenance mode, it is advisable to check the status of all volumes seen by the appliance and manually change it. If the status of the volume is Shared, but it cannot be mounted on Tiger Clients, first set it to Private and then set it to Shared to let client computers mount it.

Label of SAN Disks Missing in Windows Explorer of Windows 7/Server 2008 R2 Tiger Clients

On some Windows 7/8/Server 2008 R2/Server 2012 Tiger Clients, the label of shared volumes mounted over the Fibre Channel may be missing in Windows Explorer.

To attempt to resolve the problem restart the Tiger Client computer or disconnect and then reconnect to Tiger Box:

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

2. In the list of all storage servers, click the Tiger Box appliance to disconnect from it.

3. Again click Connect/Disconnect and click the Tiger Box appliance in the list to connect to it.

Specifying Name and Preferred Mount Location of a Volume Pool

You cannot rename a smart storage pool or set preferred mount location on Windows Tiger Clients.

Volume Disappears from Web UI during Check and Repair Procedure

While you perform the check & repair procedure on a Tiger Box volume, it is not listed in the web UI. Once the procedure finishes, you can manage the volume in the web interface again.

Mounting a Storage Pool on Tiger Client in Domain Environment

In case you have deployed your Tiger Box in Active Directory domain and smart storage pooling is enabled, Windows Tiger Clients may fail to mount the storage pool unless the Everyone group has Read access to the virtual volume.

Incorrect Connection Status on Tiger Clients Running Mac OS X

The Tiger Client software on Mac OS X may sometimes fail to correctly display the connection status to the Tiger Box appliance. For example, the Settings dialog of the Tiger Client menulet may display that the Tiger Box is online, when it is actually offline. Another example is when the Tiger Client loses its Fibre Channel connection to the appliance and mounts the volume(s) over the LAN, while the volume icons in the Finder and on the desktop are not of volumes mounted over the Ethernet. Additionally, in this case Tiger Clients running Mac OS X may fail to disconnect from the volume(s).

Allowing smct.app and vpd During Tiger Client Installation on Mac OS X

During installation of Tiger Client on Mac OS X, even if you specify that smct.app and the vpd daemon must be added as firewall exceptions, you should manually allow them in the firewall database of your computer. Note that as long as the firewall of your computer is turned on, you will have to add them to the firewall database after each reboot of the computer.

Connect to Tiger Box from Mac OS X Without DNS Server

If there isn't a DNS server on the network through which a Mac OS X Tiger Client communicates with Tiger Box, the Tiger Client computer will fail to connect to the storage server and mount its volumes.

A workaround to the problem is to add an entry about each storage server you want to connect to in the hosts file on the Mac OS X Tiger Client:

1. In Terminal, type:
   ```
   sudo nano /etc/hosts
   ```

2. At the end of the hosts file, add a new line for each storage server you want to connect to, which contains the following:
   ```
   [IP address of the storage server] [name of the storage server]
   ```
   For example, if your Tiger Box has IP address 172.16.1.1 and the name in the web UI is Tbox1, in the hosts file enter the following line:
   ```
   172.16.1.1 Tbox1
   ```

3. Press CTRL+X, then Y and then Enter to exit the nano editor and save the changes.

4. Restart the Tiger Client.

Applying New Network Environment Settings

It is possible, when changing the settings for network environment (domain or workgroup) of your appliance, after clicking the Apply button in the Settings page an error to be displayed, when in fact the changes have been applied. It is advisable to refresh the web UI of Tiger Box in order to verify whether the new settings have been applied.

Renaming the Appliance

Should you rename your Tiger Box appliance after it has been added to an Active Directory domain, Tiger Clients may fail to browse the volumes it shares even if they re-add it to their storage servers list. It is advisable before renaming the appliance, to set the network environment to workgroup and manually delete the records about the appliance from the domain controller. It is advisable to do this each time you switch the network environment of your Tiger Box from domain to workgroup.

Moving Replicated or Offline Files/Folders

If you move a replicated or offline file/folder from its original location to a folder that is not subject to replication on the shared storage, this folder will also appear on the replication volume, but will contain just the files/folders that are subject to replication. For example, if you move an offline file "Report" from its original folder "April" to folder "Drafts" that is not subject to replication and contains other files as well, the replication and tiering mechanism of Tiger Box will create on the replication volume a folder "Drafts", but containing just the file "Report".

Errors When Entering/Exiting Maintenance Mode

When entering/exiting Maintenance mode, the web UI of Tiger Box may display errors, when in fact the operation has succeeded. To verify that you have entered/exited Maintenance mode, refresh the browser. If on exiting Maintenance mode the error persists, restart the storage server.

Emptying the Trash of a Mac OS X Client

When Tiger Box is deployed in an Active Directory domain and a Mac OS X domain user moves a file from the Tiger Box storage to the Trash of the client computer, that user may fail to permanently delete the file.

You can permanently delete this file either in Terminal on the Mac OS X computer, or from a Windows client.

To permanently delete the file from Terminal on Mac OS X:

1. On the Mac OS X client computer, log on as a user with Full Control on the Tiger Box volume.

2. Start Terminal and navigate to the Tiger Box volume.

Important: *In the volume, navigate to the* `.Trashes` *folder and in it find the folder that has the same name as the ID of the Mac OS X user whose Trash you want to empty.*

3. Important: It is important to double check that you are in the correct directory. You can use the `pwd` command to view the full path and verify the correct directory.

4. In Terminal type this followed by return:

Important: *This command deletes the whole content of the directory you have navigated to in Terminal.*

`rm –rf *`

The whole contents of the Trash of the user is permanently deleted.

To permanently delete the file from Windows:

1. On a Windows client computer, log on as a user with Full Control on the Tiger Box volume.

2. On the Tiger Box volume, browse to the `.Trashes` folder.

Note: *You may have to unhide the hidden folders on the Tiger Box volume to display the ".Trashes" folder.*

3. In the `.Trashes` folder, find the folder that has the same name as the ID of the Mac OS X user whose Trash you want to empty.

4. Delete the file from the folder.

Executing Operation on the Tiger Box Volume from Terminal

When Tiger Box is deployed in an Active Directory domain, you won't be able to execute certain operations on the Tiger Box volume(s) from the Terminal of a Mac OS X client computer even if you have logged on as a user that has Full Control. These security mapping issues are not valid for operations performed in the file browser.

Disconnecting from a Shared Volume While Browsing it in Terminal on Mac OS X/Linux

On Mac OS X and Linux, if you attempt to disconnect from a Tiger Box appliance while browsing its volume(s) in the Terminal, the volume(s) might remain mounted on the Desktop and in the Finder. To be able to disconnect the Tiger Client, in Terminal change the currently browsed directory to one that is not on the shared storage.

No Support for Spotlight Indexing

Currently, Spotlight Indexing is not supported on Mac OS X Tiger Clients. To index and search through shared volumes from Tiger Clients running Mac OS X, use Spotlight alternatives.

No Support for Indexing Service on Shared Volumes

Currently, Tiger Box does not support the Windows indexing service on shared volumes mounted on Tiger Clients.

No Support for Sparse Files

Tiger Box does not provide support for sparse files on SAN volumes.

No Authorization Required When Removing Tiger Box from the Domain

If you decide to switch your Tiger Box from domain to workgroup environment, the domain controller does not require that you authenticate yourself as a user authorized to remove computers from the domain.