Tiger SERVE

Tiger Serve Firmware Version 2.5 Release Notes

This document provides release information for Tiger Serve firmware version 2.5. It discusses best practices, fixed and known issues in this release.

Best Practices

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 Serve, 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.

Assigning IP Addresses to Network Ports

The appliance must have an IP address for each network port through which it is connected to Tiger Clients (directly or via an Ethernet switch) - the Public port and all available 10GbE ports. The IP address you assign to each network port must be on the same LAN as the Tiger Client that will communicate with the appliance through this port.

IP Addresses of 10GbE Ports

When a Fast LAN Tiger Client can reach the appliance both through the Public port and the 10GbE port, it is sometimes possible a request from this Tiger Client to be redirected through the 1GbE port instead of the fast 10GbE port. The problem can be observed with Tiger Serve appliances with two server nodes and is reproducible when the node you have added to your storage servers list tries to redirect you to the other server node, which is currently playing the role of a primary node. To avoid the problem, it is highly advisable to set the IP addresses of the 10GbE ports of both the appliance and the Tiger Clients to be on a separate LAN or on a subnet of the LAN used by the Public port.

For example, if the Public port uses IP address 172.16.1.1 (with subnet mask 255.255.255.0), set the IP address of the first 10GbE port to 172.16.2.1 (with subnet mask 255.255.255.0) and change the IP address of the Tiger Client 10GbE port to be on the same subnet. For the next 10GbE port of the appliance, set IP address 172.16.3.1 (with subnet mask 255.255.255.0) and respectively change the IP address of the 10GbE port of a Tiger Client to be on the same subnet.

Another important thing is to add Tiger Serve to the storage servers list on each Fast LAN Tiger Client using the IP address set for a 10GbE port and not the Public port.

Synchronization of IP Settings Between Server Nodes

To guarantee the failover between the two server nodes in the appliance, the network ports with identical names on both nodes (the Public ports, for example) must use consecutive IP addresses

and identical settings for subnet, router and DNS server. In case you cannot meet these requirements, the failover between server nodes cannot take place. When you configure the IP settings of one node, as long as the other node is also online, Tiger Serve attempts to automatically synchronize the IP settings and assigns the same settings for subnet, router and DNS server and a consecutive IP address of the port with the same name on the other server node. If the consecutive IP address on the network is already taken, Tiger Serve will assign a random IP address to the identical port of the other server node and failover between the two nodes will not be possible.

When one of the nodes is offline while you change the IP configuration settings of the other node, you must synchronize the IP settings of the two nodes manually, in order not to obstruct failover between server nodes. You can do this in the Node view of the respective server node.

Migrating Replicated Files from One Replication Target to Another

While the Replication & Tiering mechanism of Tiger Serve 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 file 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 .

Restarting A Server Node While in Maintenance Mode

When you enter Maintenance mode, Tiger Clients are automatically disconnected from both server nodes of your Tiger Serve appliance, until you exit Maintenance mode in the web UI or restart the appliance. It is advisable not to restart just one server node (in node view) as it will exit Maintenance mode and will attempt to supervise the volumes managed by Tiger Serve, while the other node is in Maintenance mode and performs a maintenance operation.

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 Serve 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.

Disabling Mac OS X Time Machine for Shared Volumes

It is highly advisable to exclude all volumes shared by Tiger Serve from the list of locations Time Machine is set to back up on your Mac OS X. 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 Serve volume and click the "-" button.

3. Repeat the above step for each shared Tiger Serve 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 "Final Cut Pro Project Names on the Shared Volumes" on page 6.

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

System Instability When Cleaning Dynamic Disks in DiskPart

When you need to clean dynamic disks of their partition formatting in the web UI of Tiger Serve, it is possible to experience system instability. To avoid the problem, it is advisable to perform the operation from a Windows computer that has access to the volume whose disks you will clean, but doesn't run Tiger Client software. This can be any Windows computer connected to the disks or a Tiger Client from which you must first uninstall the Tiger Client software.

To clean dynamic disks in DiskPart:

1. Shut down all computers on your Tiger Serve network (the storage server and all Tiger Clients except the one from which you will perform the operation, in case there isn't a suitable Windows computer that sees the disks).

2. If you will perform the operation from a Windows Tiger Client, uninstall the Tiger Client software from the computer.

3. Clean the dynamic disks in DiskPart and then create a new volume on them.

4. Shut down the Windows computer.

5. Start the Tiger Serve appliance and share the newly created volume.

6. Start all Tiger Client computers.

7. (optional) Install Tiger Client software on the computer, from which you have cleaned the dynamic disks, and connect to the storage server.

Delays When Copying/Moving Multitude of Files in the Finder

Attempting to simultaneously move/copy through the Finder of a Tiger Client running Mac OS X multitude of files (more than 1000) out of a folder with thousands of objects, may lead to a significant delay before the actual process starts.

A possible workaround to this problem is to perform the operation in Terminal or from a Tiger Client running other platform.

Exporting a SMB Share in Domain Environment

To ensure that Tiger Serve can export a SMB share to computers without the Tiger Client software, when your appliance is deployed in an Active Directory domain, the domain account "Everyone" must have at least Read Only access to the root of the volume from which the share is exported.

Mounting a Storage Pool on Tiger Client in Domain Environment

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

Downloading projectStore PRO on Mac OS X Mavericks Tiger Client from the Web UI

Mac OS X Mavericks Tiger Clients may fail to download and run the installation of projectStore PRO from the web UI of Tiger Serve. Contact Tiger Technology support for assistance.

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 Serve appliance. For example, the Settings dialog of the Tiger Client menulet may display that the Tiger Serve 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 tbox.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 tbox.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.

Newly Created Volumes Missing from Volumes Page

After creating a new volume in the web UI of Tiger Serve, it may not appear in the list of volumes that Tiger Serve manages. To display the newly created volume in the web UI and be able to share it or make it Private, and most of all to prevent data corruption on it, you should restart the appliance.

Viewing Connected Tiger Clients in the Web UI after Failover

When one server node of your Tiger Serve appliance fails over to the other server node, although the available Tiger Clients connect to the new metadata controller node, the web UI of Tiger Serve may fail to display that there are connected Tiger Clients. A workaround to the problem is to log out the web interface, close the web browser and the re-open the web UI again.

Connecting to a Newly Added Secondary Node from Tiger Clients

If you have added a Tiger Serve appliance on a Tiger Client's list of storage servers, while only one of its server nodes has been online, when you turn on the other server node, the Tiger Client computer will not be able to automatically connect to it (in case of failover, for example). To detect both server nodes, you will have to remove the appliance from the storage servers' list and then add it again.

Disconnected Tiger Clients After Changing the Time and Date Settings

Changing the time and date settings of either Tiger Serve or any of the Tiger Clients to a value that is different than the one used on other computers may hamper the communication on your Tiger Serve network and cause unexpected disconnection from the storage server. If you set a Tiger Client to use different time and date settings, it may unexpectedly disconnect from the storage server. If you set your Tiger Serve to use different time and date settings, all Tiger Clients may unexpectedly disconnect from the storage server.

Re-adding a Tiger Serve Appliance to the Storage Servers List

In case you have added a Tiger Serve appliance to your storage servers list when only one of its nodes has been online, when the other server node is also online and an IP address is assigned to it, you may have to remove the appliance from the list and add it anew, in order to ensure that in case of failover you can connect to it.

Connect to Tiger Serve 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 Serve, 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 node in the 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 Serve has two server nodes that use respectively 172.16.1.1 and 172.16.1.2 as IP addresses and the name of the appliance in the web UI is Tiger Serve, in the hosts file enter the following lines:
   `172.16.1.1 Tiger Serve1`
   `172.16.1.2 Tiger Serve2`

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 Serve in order to verify whether the new settings have been applied.

Renaming the Appliance

Should you rename your Tiger Serve 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 Serve 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 target, 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 Serve will create on the replication target a folder "Drafts", but containing just the file "Report".

Importing Offline Dynamic Disks in Maintenance Mode

Offline dynamic disks cannot be imported when your Tiger Serve appliance operates in Maintenance mode. To import offline disks, you have to exit Maintenance mode.

Incorrect LAN Traffic Statistics

If you monitor the LAN traffic statistics of Tiger Serve by accessing its web interface through the secondary node (the server node that is in standby mode), the graph will display no LAN traffic. To view the actual statistics, open the web interface using the IP address of the current primary node.

Errors When Entering/Exiting Maintenance Mode

When entering/exiting Maintenance mode, the web UI of Tiger Serve 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.

Unresolved Known Issues

Emptying the Trash of a Mac OS X Client

When Tiger Serve is deployed in an Active Directory domain and a Mac OS X domain user moves a file from the Tiger Serve 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 Serve volume.

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

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

> **Note:** *You may have to unhide the hidden folders on the Tiger Serve 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 Serve Volume from Terminal

When Tiger Serve is deployed in an Active Directory domain, you won't be able to execute certain operations on the Tiger Serve 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.

Restored Files Remain Gray on Mac OS X Mountain Lion

When on Mac OS X Mountain Lion you restore a file from the replication target on the Tiger Serve volume, this file remains gray in the Finder until you relaunch it.

Detecting Newly Created Files in the Root of the Volume from Mac OS X Mountain Lion

A Mac OS X Mountain Lion computer may fail to detect a file or folder created by another client computer in the root of a Tiger Serve volume. A workaround to this problem is to relaunch the Finder.

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 Tiger Serve 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 Authorization Required When Removing Tiger Serve from the Domain

If you decide to switch your Tiger Serve 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.

Viewing the Number of Connected Clients after Pooling the Main Storage and The Expansion Chassis

If you decide to pool together the main storage and the available expansion chassis, the Volume tile of the pool in the web UI of Tiger Serve will always display that there are no client computers connected to the storage. You can still use the Clients page for details about the number of connected clients and the type of connection.

Note that when the main storage and the chassis are not pooled together, this defect does not exist.