Tiger Technology

# metaSAN/metaSAN iSCSI/metaLAN/ metaLAN Server 4.5 Release Notes

*June 14, 2010*

This document provides release information for metaSAN/metaSAN iSCSI/metaLAN Server/ metaLAN 4.5. It discusses new features in this release as well as fixed and known issues in this version.

# What's New in metaSAN 4.5

## metaLAN Performance Improvement

Version 4.5 provides greatly improved performance of metaLAN on all supported platforms.

## Support for 64-bit Mac OS X Snow Leopard

Version 4.5 provides support for 64-bit Mac OS X Snow Leopard/Snow Leopard Server. Machines running 64-bit Mac OS X Snow Leopard can play the role of Metadata Masters, SAN or LAN Members.

## Support for CentOS 5 Linux

Version 4.5 adds support for CentOS 5 Linux. Machines running CentOS 5 Linux can play the role of SAN or LAN Members. Currently the supported kernels are:

- 2.6.18-164.2.1.el5 (32-bit)
- 2.6.18-164.10.1.el5 (32-bit)

## Support for Native Windows User Quotas

Version 4.5 provides support for the native Microsoft Windows user quotas on SAN volumes provided that file security is enabled in the SAN definition. User Quotas can be set on both the master and client computers.

## New TCP Port Used by metaSAN

To ensure metaSAN functions properly with version 4.5 you should also enable the following TCP ports in the firewall of your computer:

- 8500 (Windows, Mac OS X and Linux)
- 8501 (Windows, Mac OS X and Linux)
- 8502 (Windows)

## New FilmLightOS 1.3.3662 Kernel Supported

Version 4.5 adds support for kernel 2.6.9-3777.flosslargesmp (64-bit) on FilmLightOS 1.3.3662.

## Mac OS X Tiger No Longer Supported

metaSAN 4.5 drops the support for Mac OS X 10.4.x. You will not be able to upgrade to/install version 4.5 on machines running Mac OS X Tiger/ Tiger Server.

## Viewing Activation Status and Type of License on Linux

From version 4.5 when activating your license on a Linux computer you are informed about the activation status of your machine. This version also adds a new command for viewing the type of license activated on your computer:

```
metasan linfo
```

# Fixed Known Issues in metaSAN 4.5

## Cross-platform Fixes

### Correct Size of NTFS Volumes on Dynamic Disks on Mac OS X

Version 4.5 correctly displays the size of an NTFS volume on dynamic disks in the Disk Utility of a Mac OS X client. This helps prevent possible problems when deleting file objects from the volume.

### Mac OS X LAN Client Copying on GPT NTFS Volumes

Version 4.5 solves a problem with Mac OS X LAN clients that fail to copy/duplicate data on NTFS GPT volumes supervised by a Windows Vista Metadata Master.

### Mounting Other Than HFS+ non SAN Volumes on Mac OS X

With version 4.5 non-SAN volumes that are not HFS+ formatted mount normally on the computer (without having to manually mount them through Disk Utility) as long as these drives can mount on the machine when metaSAN is not installed.

### Modifying Files on NTFS Volumes with TextEdit

Version 4.5 provides a fix to a possible problem that prevented Mac OS X clients from modifying files on NTFS volumes using TextEdit application.

### Mac OS X Setting Extended Attributes to Files on NTFS Volumes

With this version Mac OS X clients can set extended attributes to files on NTFS volumes. This resolves cases in which copy initiated by Mac OS X client to NTFS volume could fail.

### Windows Client Importing Adobe After Effects Sequences from HFS+ Volumes

Version 4.5 provides a fix that allows Windows clients to normally detect and import in Adobe After Effects file sequences stored on public HFS+ volumes.

## Fixes on Mac OS X Platform

### Collecting Daily Logs on Mac OS X Snow Leopard

With version 4.5 on Mac OS X Snow Leopard the logs (metasan.log and metalan.log) in **`/var/log`** are now collected daily.

### Improved Stability When Enabling Bandwidth Quotas

Version 4.5 provides improved stability of Mac OS X machines when bandwidth control is enabled in the definition.

### Freeing Space on Volumes Supervised by Mac OS X Snow Leopard

Version 4.5 resolves a problem with space not being freed on HFS+ volume supervised by Mac OS X Snow Leopard after deleting files from it. Now there's no need to remount the volume on the Metadata Master to correctly display the free space on the volume.

### Shutting Down a Mac OS X Client

Version 4.5 allows you to normally shut down Mac OS X clients that have mounted 15 or more volumes.

# Fixes on Windows Platform

## Fixes in Windows Explorer of Windows 7

Version 4.5 solves the following Windows Explorer problems on Windows 7:

- freezing of Windows Explorer on client computers;
- slowed generating of image thumbnails;

## Stability Fixes on Windows

Version 4.5 implements fixes that provide stability in the following cases:

- when driver verifier is enabled;
- when rendering Adobe After Effects on NTFS volumes from a client computer;
- when a client copies files from SAN to local drives through cross cable;
- in case of SAN to LAN failover on Windows Vista and generally when connection to a Fibre Channel switch is lost;
- when LAN clients copy large files from a LAN share to a local drive;
- when importing media into an Adobe Premiere Pro project on an NTFS SAN volume;

## metaSAN No Longer Overrides Mount Point Set in Disk Management

Version 4.5 changes the default setting for volume mount location on Windows. Now, if metaSAN automatically sets the mount location it always respects the Disk Management setting for the respective volume (whether it be a drive letter or a mount point) and uses the first free drive letter only if there's no setting for the volume in Disk Management.

## Proper Detection of Visual C++ Redistributable on 64-bit Windows

Version 4.5 provides proper detection of Visual C++ redistributable during installation on 64-bit Windows computers.

## Correct Label of metaSAN Ports in the Firewall Database on Windows

With version 4.5 the TCP ports used by metaSAN are correctly labeled in the firewall database on Windows XP and Windows 7 computers.

## Enabling File Security on a Windows Vista Metadata Master

Version 4.5 allows you to enable File Security in a SAN definition from a Windows Vista Metadata Master.

## Improved Performance When Sharing NTFS SAN Volumes as CIFS Shares

Version 4.5 provides improved performance of NTFS SAN volumes shared as standard CIFS shares from a Windows client machine.

## Improved Collaboration with poolIt

Now user can normally create folders on volume pools that contain NTFS SAN volumes.

## Improved Installer Interface on Windows Vista and Above

With version 4.5 the main window of the metaSAN installer/uninstaller on Windows Vista and above no longer hides additional windows (like the deactivation wizard or the configuration wizard, for example) opened when installing/uninstalling metaSAN.

# Upgrading to version 4.5

On all platforms, you can update metaSAN/ metaSAN iSCSI/metaLAN Server/metaLAN 3.x and above to version 4.5 without having to uninstall the previous one from your workstation. The setup program will preserve all global settings - SAN definitions, definitions' settings, settings for non-SAN volumes, etc. except the settings you have specified for your machine in the Settings tab page. For detailed steps, see "Upgrading without Uninstalling the Previous Version" on page 5.

If you want to upgrade to version 4.5 from any 2.x version, you have to uninstall the older version and install this new one. To preserve the SAN definitions you have configured, follow the steps described in "Upgrading by Uninstalling the Previous Version" on page 5.

## Upgrading without Uninstalling the Previous Version

### To upgrade to version 4.5 without uninstalling (Windows):

Simply run the installation of the new metaSAN/ metaSAN iSCSI/metaLAN Server/metaLAN version, following the installation steps described in the metaSAN/metaLAN User's Guide.

### To upgrade to version 4.5 without uninstalling (Mac OS X):

1. Browse for and double-click the 4.5 installation file for the corresponding platform.

   The metaSAN Setup dialog appears.

2. Select "Update current installation", and click Next.

3. Press Authorize to authorize setup with administrative privileges.

   The Authenticate dialog appears.

4. Enter the user name and password, and click OK.

5. Before continuing, you must accept the terms of the Software licence agreement.

6. When prompted, restart the computer.

### To upgrade to version 4.5 without uninstalling (Linux):

1. Log on as root.

2. Type:

   ```
   rpm –Uvh <path to the 4.5 metaSAN/
   metaSAN iSCSI/metaLAN rpm file>
   ```

3. Restart the computer.

## Upgrading by Uninstalling the Previous Version

### To upgrade to version 4.5 by performing clean installation:

1. Export all SAN definitions you want to preserve, following the steps described in metaSAN User's Guide.

2. Uninstall metaSAN/metaSAN iSCSI/metaLAN Server/metaLAN 2.x from all systems, choosing to reboot each machine later and then shut them down.

3. On the last machine from which you uninstall metaSAN/metaSAN iSCSI 2.x, choose to reboot the computer immediately after deinstallation.

4. After rebooting the last computer, install metaSAN/metaSAN iSCSI 4.5 on it, following the steps described in metaSAN User's Guide.

5. Activate metaSAN on this machine, following the steps in metaSAN User's Guide.

6. Import all SAN definitions you have exported, following the steps in metaSAN User's Guide.

   **Tip:** *You can delete the default SAN definition created on this computer.*

7. One by one, install metaSAN/metaSAN iSCSI/ metaLAN Server/metaLAN 4.5 on each other computer, using the Join SAN option in the Setup Wizard to connect to the imported SAN definitions.
8. Activate metaSAN/metaLAN Server on each machine, on which you install metaSAN/ metaSAN iSCSI 4.5.

# Best Practices

## Avoiding Disk Corruption During Installation and Upgrade of metaSAN

Without the protection offered by metaSAN, SAN volumes get corrupted when more than one workstation mounts them. This is why you should make sure not to allow a machine with metaSAN and one without metaSAN (or two or more machines without metaSAN) to access the same volume at the same time. The easiest way to adhere to this rule is to strictly follow the procedures for installing and upgrading metaSAN that are described in the user's documentation.

## Setting Up the File Security Fallback Account in a Windows Domain

When metaSAN file security is enabled in a SAN definition and user authentication is done by a Windows domain controller, you should specify a fallback account which is used for authentication of all users that cannot authenticate themselves before the domain controller. To make sure all local users and users on other platforms can normally access the shared storage resources, this account should meet the following requirements:

- It must have the "Perform volume maintenance tasks" privilege. For details about setting the account used as fallback with "Perform volume maintenance tasks" privileges, see below.
- If the domain controller is Windows Vista or later, the fallback account should NOT be in the Administrators group.

### Setting up an account to perform volume maintenance tasks:

1. In Control panel, double-click Administrative tools.
2. Double-click Local Security Policy.
3. In the left pane tree, browse to Local Policies | User Rights Assignment.
4. Double-click "Perform volume maintenance tasks".
5. Click Add User or Group and add the account that will be used as fallback, then click OK.
6. In the Pefrom Volume Maintenance Tasks Properties, click OK.

## Setting Up the SAN Policy on Windows Vista and Above Using Diskpart Utility

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". Too 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 the current SAN policy of your computer:**

1. In command-line, start diskpart utility.
2. Execute the following:
   `DISKPART> 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 newly discovered disks are brought online and made read-write.

If the SAN policy of your computer is not Online, you should change it, following these steps:

1. In command-line, start diskpart utility.
2. Execute the following:
   `DISKPART> san policy=OnlineAll`

# New Known Issues

## metaSAN Firewall Ports on Windows 7

On Windows 7, you may have to manually allow the firewall ports metaSAN uses for the domain/public network if the machine has changed its status as domain/non-domain machine after metaSAN has been installed on it.

**To allow metaSAN firewall ports on Windows 7:**

1. In Control Panel, open Windows Firewall.
2. In "Allow a program or feature through Windows Firewall", click Change Settings.
3. Select each metaSAN port for the Domain or, respectively, the Public network.
4. Save the changes.

## Linux Client Failing to Open File on the SAN

If a Linux client fails to open a file on the SAN this can be because of inconsistency between the directory cache of the computer and the actual state of the file system. Such rare inconsistency can occur if another client creates a file that has the same name and is stored in the same location as a file that the current Linux member has already deleted. A workaround to this problem is to disable the directory cache on the Linux Member, following the steps below. Once the problem is resolved you can again enable the cache.

**To disable the directory cache on a Linux client:**

1. In a text editor open the following script as root (su or sudo):
   `/etc/init.d/metaSAN`
   or
   `/etc/init.d/metaLAN`
2. In the script, find the following line:
   `insmod sandsfs.o`
3. Modify it to the following:
   `insmod sandsfs.o disable_dcache=1`
4. Save the script.
5. Do one of the following:

   • in Terminal, execute the following command as root:
   `/etc/init.d/metaSAN restart`
   or
   `/etc/init.d/metaLAN restart`

   • restart the computer.

### No Support for Mac OS X Snow Leopard's HFS+ Compression

Currently metaSAN does not provide support for the HFS+ compression available in Mac OS X Snow Leopard.

### Deleting Folders and Listing Contents on Pool Containing metaSAN-managed HFS+ Volumes

Windows machines accessing a pool comprised of metaSAN-managed HFS+ volumes may fail to delete a folder and list its contents in Windows Explorer. A workaround to these problems is to perform the operations in Pool Explorer.

## Unresolved Known Issues

### General Known Issues

#### No Support for Sparse Files

metaSAN does not provide support for sparse files on SAN volumes.

#### Deviations in the Bandwidth Quotas/Reservations

You may notice certain deviation of the actual bandwidth usage of a machine from the quota/reservation it has. In fact, this deviation is just a bit over or below the value of the quota/reservation and does not indicate that bandwidth quotas/reservations are not adhered to.

#### Bandwidth Control in More than One SAN Definition

If you have more than one SAN definition, the bandwidth control of metaSAN may not work correctly and may lead to unpredictable results.

#### Support for Symbolic Links

Up to version 3.2, symbolic links cannot be properly processed in a metaSAN network, that is why you are advised not to use them on SAN volumes (respectively LAN shares).

Version 3.2 adds support for symbolic links on HFS+ volumes. That is why it is advisable to use them just in homogeneous SAN of Mac OS X computers only.

#### Fast User Switching Not Supported

The Fast User Switching option allows switching between users on a single machine without quitting applications and logging out. It lets users leave their applications running and their documents open when another user needs to log in.

Although the operating system ensures that all data and applications remain secure when this option is enabled, metaSAN security settings may not work properly if the two or more concurrently logged users have different access rights.

### Cross-Platform Collaboration Known Issues

#### NTFS Volumes on MBR Disks with Sector Size of 2k in SAN with Mac OS X Machines

An NTFS volume on MBR disks with sector size of 2k may be automatically removed from its SAN definition if the same definition contains Mac OS X

machines. You can use such volumes in homogenous Windows SAN without problems.

## Windows Vista Data Master and Mac OS X LAN Clients

Mac OS X LAN clients may experience problems when trying to write to LAN shares that are exported to them through a Windows Vista Data Master. Should you experience such a problem, the simplest workaround is to disable the Windows Vista machine as a Data Master. For details about enabling and disabling Data Masters, refer to metaSAN User's Guide.

## HFS+ Volumes on MBR Disks and Windows Members

Windows SAN Members can mount Public HFS+ volumes on MBR disks only over the Ethernet. All other types of HFS+ volumes can be normally mounted over the Fibre Channel.

## Accessing empty folder on HFS+ volume with Streaming Media Server

If a Windows 2003 Server set up to work as Streaming Media Server tries to use as a Publishing Point an empty folder on an HFS+ volume, trying to open that folder will result in error.

Until the problem is resolved a workaround for it would be to simply create a file (of any type) in the folder. This way no errors will happen.

## Mounting NTFS Striped Volumes on a metaSAN Machine running Apple Xsan

Mac OS X machines with metaSAN and Apple Xsan installed will not be able to mount NTFS striped volumes over the Fibre Channel but only over the Ethernet. This problem cannot be observed with basic NTFS volumes.

## Manually Refreshing the Contents of a Directory

In cross-platform SAN, on SAN Member or LAN client computers the contents of a directory may not be automatically refreshed and some file operations may fail. For instance if a Linux LAN client tries to copy a directory that is deleted by a Windows machine, the Linux computer may not be notified about this, and the copy operation will result in error.

To overcome such problems you may have to manually refresh the contents of the disks/ directories you are working with.

## Transparent Metadata Master Failover Limitations

The Metadata Master failover may not be transparent in some cases. For instance, in heterogeneous environment when Windows machines supervise the volumes, in case of a failover on all Members running other than Windows platform, the failover will not be transparent.

## Mounting Non-SAN NTFS Volumes on Mac OS X

Sometimes, it is possible for a Mac OS X system to mount a non-SAN NTFS volume (a volume that is not included in any SAN definition). This can happen even if the default treatment of non-SAN volumes is set to "Do not mount". Still, there is no risk of data corruption, as the volumes are mounted on the Mac OS X computer as Read Only.

## Relaunching the Finder to Display metaSAN Volumes

Sometimes you may have to relaunch the Finder in order to display the LAN shares and NTFS SAN volumes that are mounted on your computer.

### Adding Volumes to a Definition from Machine not Running Native Platform

If you add a volume to a SAN definition from a machine that doesn't run on a native platform, it is sometimes possible that this volume disappears from the definition. That is why, in heterogeneous environment, it is advisable to add volumes to a SAN definition, only from a computer that can supervise them i.e. running the same platform.

### Maintenance Mode Does Not Allow You to Manage HFS+ Volumes

Entering Maintenance Mode on a Windows machine (by clicking Maintenance Mode in the Utilities tab, or using MSANUtil) does not remove metaSAN protection over HFS + volumes seen by the computer and you cannot manage them in the Disk Management snap-in.

If you want to format a HFS+ volume to NTFS or otherwise manage it from a Windows computer, you should uninstall metaSAN from the Windows system, manage the HFS+ volume and reinstall metaSAN again.

### NTFS Striped Volumes and Mac OS X

Mac OS X Members cannot mount NTFS striped volumes that do not start from the beginning of the disk.

## Mac OS X Known Issues

### Adding Mac OS X Boot Disk(s) to the SAN

It is possible the boot disk(s) of a Mac OS X computer to be listed as available for adding to a SAN definition in the Add Members dialog until the first reboot of the machine after activating metaSAN on that computer.

That is why you should either make sure not to add them to a SAN definition or restart the machine immediately after activating metaSAN on it.

### Setting Drive Letter as Volume Mount Location for Mac OS X Computers

When applying volumes mount location in a cross-platform SAN with Mac OS X machines, you should make sure not to set the default mount location for all machines to be drive letter as this can prevent Mac OS X computers from mounting the volumes. If you want SAN volumes to be mounted as drive letter on Windows machines, set this option per each Windows computer.

### Using Spotlight Indexing from Mac OS X Leopard/Snow Leopard

Currently, Spotlight Indexing is not supported on SAN members running Mac OS X Leopard/Snow Leopard. To index and search through Public volumes from machines running Mac OS X Leopard/Snow Leopard, use Spotlight alternatives.

### metaSAN Overwrites /etc/fstab

metaSAN overwrites entries you introduce in /etc/fstab.

### Loading Domain Users from Mac OS X Server that is Open Directory Master

If your SAN operates with volume permissions with native security authority, you won't be able to load the domain users in the Volume Permissions dialog from a Mac OS X Server machine that is Open Directory master or replica. Still, you can load the users and configure their access rights to the SAN volumes from any other Mac OS X machine -

regardless if it is a SAN Member or a Metadata Master.

### Non-transparent Failover between Mac OS X Leopard/Snow Leopard Metadata Masters

The Metadata Master failover between Mac OS X Leopard/Snow Leopard computers may not be transparent. Any file operation going on at the moment of the failover may result in error.

### Disabling Time Machine Monitoring on Mac OS X Leopard/ Snow Leopard Members

It is highly advisable to disable Time Machine monitoring of SAN volumes seen by your Mac OS X Leopard/Snow Leopard machine, as keeping this feature turned on may hamper performance.

### Adding Mac OS X Boot Volumes to the SAN

Although metaSAN 3.0 introduces improved detection of additional boot disks on Mac OS X, for it to work your license should be activated. This means that until you activate the product on your computer, metaSAN lists all boot volumes (except the volume from which you have booted your computer) and allows you to add them to a SAN definition.

If accidentally you add a boot volume to a SAN definition i.e. make it Public, to make it again a boot volume you should follow these steps:

1. Remove the volume from the SAN definition.
2. Make sure the volume is mounted as Private on your computer.
3. In the Terminal execute the following:
   **`bless --folder <path to the mount point of the boot volume> --setBoot`**
4. Restart the computer.

   After restarting the computer the volume should not be listed in the metaSAN UI and you can use it again as a boot volume.

### Importing Users When Enabling Volume Permissions with metaSAN Security Authority

To be able to import user names to the database with user accounts when volume permissions with metaSAN security authority are enabled, you may have to re-open the Import Users dialog to be able to display the list with local or metaSAN users.

### Changing Volume's Icon

You can change the appearance of a SAN volume's icon on your workstation, but if the volume is Public, its original metaSAN icon will be restored immediately after restarting the master of the volume and your personal icon will be deleted.

### Archiving Files and Folders on SAN Volumes through the Finder

It is not advisable to archive files and folders on HFS+ SAN volumes, using the built-in archive utility in the Finder, as after unzipping them their resource fork will be lost.

You can archive files and folders on the SAN volumes without loosing their resource fork with the following utilities:

- gzip
- tar
- Stuffit Expander (with its own stuffit format or GZip format chosen as archive method)

### Saving FCP Projects on SAN Volumes

Sometimes Mac OS X Members may receive errors when trying to save projects on HFS+ or NTFS

volumes directly through Final Cut Pro. A workaround for this problem is to save the project on a local disk and then copy it to the SAN volume.

### Metadata Master Failover on Mac OS X

On Mac OS X machines, the Metadata Master failover may not always be transparent. It is possible that after a failover takes place, some applications using the volumes may not detect that they are supervised by a new Metadata Master. A workaround for this problem is to relaunch the application after disconnecting and then reconnecting your computer to the volumes in the Volumes Management dialog.

### No Support for Case Sensitive HFS+ Volumes

Currently, metaSAN does not support case sensitive HFS+ volumes.

## Windows Known Issues

### Rendering Adobe After Effects Projects While in Sleep Mode

Rendering Adobe After Effects projects on the SAN may fail if the machine on which you render goes into sleep mode.

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

The label of SAN volumes mounted over the Fibre Channel on a Windows 7/Server 2008 R2 machine may be missing in Windows Explorer. The label is visible through command prompt and when the volume is mounted over the Ethernet.

A workaround to this problem would be to get the correct label of the SAN volume through command prompt and manually rename the volume in Windows Explorer (using Rename command from the volume's context menu).

#### To get the volume label in command prompt:

1. On Start menu, click Run and in the dialog type **`cmd`**.
2. The Command Prompt starts.
3. Type this, followed by Return:
   **`dir <drive letter:>`**

   For example, to get the label of volume **`N:`**, type
   **`dir N:`**

   Command prompt displays the label of the drive.

### Testing Performance of Volumes on GPT Disks with Block Size 2K from 64-bit Windows

When testing the performance of an NTFS volume on GPT disks with block size 2K from a Windows 64-bit, the Test Performance dialog may show incorrect values.

### Mounting Volumes on Disk with Unallocated Space on Windows Server 2003 SP1

Machines running Windows Server 2003 with Service Pack 1 cannot mount as SAN Member or Metadata Master a volume on disk that contains unallocated space after the volume partition. These machines can mount such volumes as Private.

A workaround to this problem is to upgrade to Service Pack 2.

### metaSAN GUI and Windows Vista

On Windows Vista, to be able to fully benefit from the metaSAN graphic user interface (for example, to be able to list all services on your machine in order to configure dependencies) you should run the Control Panel as an administrator. This should be

done even if you have logged on to the computer as an administrator.

## No Support for Volumes on Dynamic Disks with Block Size Greater than 512 Bytes

Currently, metaSAN doesn't provide support for NTFS volumes on dynamic disks with block size greater than 512 bytes. Although you can create such volumes on Windows Vista/Server 2008, adding them to a SAN definition may cause the following:

- The volumes to be reported as unknown;
- Problems when backing up and restoring the LDM configuration of these volumes.
- Poor interoperability with Mac OS X Members.

## Migrating Data from One SAN Volume to Another with QStar MultiStor

When a SAN Member tries to migrate data from one NTFS SAN volume to another using QStar MultiStor this may result in errors. This problem has not been observed when migrating data with QStar MultiStor from the Metadata Master.

## Adding NTFS Volumes on GPT Disks to a Definition During metaSAN Installation

If you perform a clean installation of metaSAN 3.1 or later you will not be able to add NTFS volumes on GPT disks to a SAN definition, using the Configuration Wizard. However, after installing metaSAN on the computer and rebooting it you can add such volumes normally - either through the Add Volume to SAN dialog or using the Configuration Wizard from the Utilities tab.

## NTFS Volumes on GPT Disks Created on Windows Vista

With version 3.1 and later, to add to a SAN definition a new NTFS volume on GPT disk that is created on Windows Vista besides rebooting the computer after creating the volume, you should perform an additional restart of the machine to allow metaSAN to detect it.

## Adding Private NTFS Volumes to a SAN Definition

There are some limitations to adding a Private NTFS volume to a SAN definition. You can make such a volume Public either from the machine that has mounted it as Private, or from another computer, but if the machine that has mounted it as Private also participates in the SAN definition.

## Support for NTFS Volumes on GPT Disks Known Issues

### GPT Disks on Windows XP 32-bit

On machines running Windows XP 32-bit, although Windows GPT disks are mounted on the machine and Windows Explorer displays their labels and drive letters, in the Disk Management GPT disks are displayed as basic disks (even if they are dynamic striped or simple) and they are without label and drive letter.

### Unmarking NTFS Volumes on GPT Disks

If you have to unmark NTFS volumes on GPT disks using msanutil (after uninstall of metaSAN, for example), you should reboot your machine in order to access the volumes and work with them normally.

### Removing metaSAN's Partition from GPT Disks

After uninstall of metaSAN, even though you may have unmarked NTFS volumes on GPT disks (see Unmarking NTFS Volumes on GPT Disks on page

13), metaSAN's partition remains on the disks. This will in no case affect the disks. You can remove the partition, by deleting the 1MB metaSAN partition.

## Assigning Persistent Drive Letters to Private Volumes

When a Public SAN volume with drive letter assigned in the metaSAN window is removed from a SAN definition, its drive letter on the machine that mounts it as Private may not be the same. If you want to assign a persistent drive to a Private volume that has previously been mounted as Public, you should assign the drive letter in the Disk Management snap-in.

## Allowing metaSAN Firewall Ports

By default, the firewall ports used by metaSAN are automatically enabled in the Firewall database of your computer during metaSAN installation. However, there are cases when you have to manually enable these ports:

- on Windows XP, when Service Pack 2 is installed after metaSAN on the machine;
- on Windows XP without service pack;
- when by some reason the ports have been disabled;

### To manually allow the metaSAN ports in the Firewall database:

1. In the Control Panel of Windows, click Windows Firewall.

   Windows Firewall dialog appears.

2. In the Exceptions tab, click Add Port.

   The Add a Port dialog appears.

3. In the Name field, type “7000 (metaSAN)”.
4. In the Port Number field, type 7000.
5. Make sure TCP is selected, and click OK.
6. Following the same steps, one by one add the following ports:
   - 8100
   - 8101(6666 for versions earlier than 2.0.3)
   - 8200
   - 8300
   - 8399 (8400 for versions earlier than 2.1.2)
7. In the Windows Firewall dialog, click OK.

## Compressing or Encrypting Folders on Public Volumes

You will not be able to compress or encrypt any folder on a SAN volume that is Public for your computer. If you try to complete any of these operations, the system displays an error message. If the volume is set to Private mode for your computer, you will be able to compress and encrypt folders on it.

## FC To Ethernet Failover Limitations on Windows

On Windows SAN Members the FC to Ethernet failover may not be transparent in some cases.

If the FC adapter drivers your machine uses do not support dynamic plugging and unplugging, the system and metaSAN may not be able to detect that disks are unmounted and remounted again. This is why, you should rescan the disks in the Disk Management snap-in of your machine.

The other case when the FC to Ethernet failover may not be transparent is when dynamic disks are disconnected from your workstation. After FC failure the system and metaSAN may detect them as Offline or Foreign. You should reactivate/import them in the Disk Management snap-in.

### No Support for Indexing Service on SAN Volumes

Currently, metaSAN does not support the Windows indexing service on SAN volumes mounted on Member machines.

### Copying Files and Folders on Dynamic NTFS Drives from Windows Vista

Windows Vista Members may fail to copy files and folders which at some point have been stored on an HFS+ volume. This problem can only be observed when trying to perform the copy operation to a dynamic NTFS drive over the Fibre Channel. The copy operation goes well on HFS+ volumes and when a Windows Vista Metadata Master performs it regardless of the target volume.

### Volumes/Shares and Mapped Network Drives with One and the Same Drive Letter

A SAN volume/LAN share can be dismounted from a Member machine, if it is assigned the same drive letter as a mapped network drive. The problem can be observed when the user logs on to the computer locally. In this situation metaSAN is unable to verify whether volumes'/shares' drive letters are already taken. A workaround to this problem is to manually change the drive letter of either the mapped network drives or the volumes/shares.

## Linux Known Issues

### metaSAN Uses the First NIC It Detects

If your Linux computer has more than one Network Interface Card (NIC), metaSAN will use for communication with other machines on the network the first one it detects.