



Facilis Technology, Inc. Technical Note

TN-014

Facilis TerraBlock Operation in Mixed Operating System Environments.

The TerraBlock system is compatible with many Windows and Mac operating systems, and Facilis does not install any software to achieve higher levels of compatibility with any particular platform. An operating system that can take advantage of the method by which the TerraBlock shares virtual volumes will have a greater level of functionality than one that cannot.

The following technote describes the different ways the TerraBlock volumes are seen by each operating system, and how best to utilize the volumes in each platform. The technote is split into two sections; Write Volumes and ReadOnly Volumes. These are the two options for volume mounting on a TerraBlock client. Volumes may appear differently to some operating systems depending on their current access level. This enables TerraBlock to make use of certain features of newer operating systems on both Mac and Windows.

Write Volumes (W)

Mac OS 10.x – Write volumes appear to the Mac OS as removable disks, although there is little indication of this on the desktop or Disk Utility. Write volumes will be accessible to all applications, and their appearance will be as local SCSI drives. When ejecting the volume from the desktop, the volume will re-appear 10-15 seconds later.

Mac OS 9.x – Write volumes appear to the Mac OS as local disks. Write volumes will be accessible to all applications, and their appearance will be as local SCSI drives. When ejecting the volume from the desktop, the volume will not re-appear, and will require a mount command from ATTO Pro Tools utility. It is not advisable to use the Avid Drive Utility to setup, un-mount or mount volumes.

Windows XP - Write volumes appear to Windows XP as local disks. Write volumes will be accessible to all applications, and their appearance will be as local SCSI drives.

Windows 2000 - Write volumes appear to Windows 2000 as local disks. Write volumes will be accessible to all applications, and their appearance will be as local SCSI drives.

ReadOnly Volumes (R)

Mac OS 10.x – ReadOnly volumes appear to the Mac OS as removable disks, although there is little indication of this on the desktop or Disk Utility. ReadOnly volumes will be accessible to all applications, and their appearance will be as local SCSI drives. When ejecting the volume from the desktop, the volume will re-appear 10-15 seconds later.

The TerraBlock Manager sets an OS attribute for read-only in the volume information. This is done whenever the TerraBlock Manager is launched, or the "Refresh" button is selected in the

Manager. If this is not done, the OS will not have proper permissions to the volumes, and applications may be unaware of which volumes are accessible, and which are not. It is advisable to launch the TerraBlock manager after a boot or reboot, and select "Refresh" after performing an Update ReadOnly.

Mac OS 9.x – ReadOnly volumes appear to the Mac OS as local disks. ReadOnly volumes will be accessible to all applications, and their appearance will be as local SCSI drives. When ejecting the volume from the desktop, the volume will not re-appear, and will require a mount command from ATTO Pro Tools utility. It is not advisable to use the Avid Drive Utility to setup, un-mount or mount volumes.

The commands Update ReadOnly and Mount require a secondary step to bring the volumes onto the desktop. A second mount operation from the ATTO Pro Tools utility is required in order to access the volume. Updating volumes can also be achieved by un-mount/mount via the ATTO Pro Tools utility. This will provide the same functionality as Update ReadOnly when followed by a mount command in ATTO utility.

ReadOnly volumes will appear to accept a small amount of data, but the information is not actually written to the volume. Mac -36 errors will occur if large writes are attempted, such as capture of video. Applications may not recognize ReadOnly volumes, and as a result may attempt to write to the volume. The user should be aware of the ReadOnly volumes on the desktop, and target their captures, renders and imports accordingly to avoid mistakenly writing to those volumes.

With Avid editor stations, errors may appear if ReadOnly volumes are mounted while other stations are writing to those volumes. Mac OS9 has limited ability to cache directory contents in memory, thus at times directories may change on the ReadOnly client. The potential result of this is a rescan and attempted rebuild of the database on a ReadOnly volume. An Update ReadOnly from the Manager, or an Unmount/mount from ATTO Pro Tools will resolve the issue and allow the Avid application to launch. If this happens while the Avid application is launched, an Eject/Mount-All from the file menu of the application will resolve the issue.

Windows XP - ReadOnly volumes appear to Windows XP as removable disks, and this label will be applied to the volumes in My Computer. ReadOnly volumes will be accessible to all applications that can work with removable volumes. ReadOnly volumes when mounted on the Windows XP system will display characteristics of true read-only drives, such that writes attempted will cause the Windows OS to display an error stating the drive is write-protected.

The ReadOnly volumes will behave as OS-filtered write-protected removable drives to any application running on Windows XP. Because of this certain applications are not compatible with default ReadOnly volumes. Facilis includes compatibility keys in the Windows TerraBlock Manager folder. The "Full Compatibility" registry key should be launched on any XP system that does not support removable media for active storage. This procedure should be activated on any Avid DS or Nitris client running on the Windows XP platform. The "True ReadOnly" key should be launched to revert a client back to default state from full compatibility.

In the case of Avid XP-based clients, there is an Avid console command that can be employed as an alternative to the registry key. Typing "alldrives" in the Avid console will give the client the ability to see the Facilis removable ReadOnly volumes as valid media drives, and utilize the added features of true read-only volumes. This command persists over re-launch and reboot of the client system. The command must be entered again when new Avid software is installed.

Update ReadOnly on Windows XP is an instant operation. The directory should be closed when the Update is performed, and on the following open of the volume the contents will be updated. In some cases, if an application is using the volume at the time Update ReadOnly is selected, an

error message will appear explaining that the volume could not be updated. Close any applications that may be using the volume when this happens.

Windows XP is compatible with the *ROUpdater* application that can be launched on any XP client to update the contents of all ReadOnly volumes on a timed basis. The default is 15-minute intervals. The application can also be launched from the command console, by typing in its location/ROUpdater<space><min>, where <min> is the length of time in minutes you would like to wait between updates. Example if the utility is at the root of the system drive and the refresh time is 1 hour: C:\ROUpdater 60

Windows 2000 - ReadOnly volumes appear to Windows 2000 as local disks. ReadOnly volumes will be accessible to all applications, and their appearance will be as local SCSI drives.

ReadOnly volumes will appear to accept a small amount of data, but the information is not actually written to the volume. Delayed Write Failure errors may occur if writes are attempted. Applications may not recognize ReadOnly volumes, and as a result may attempt to write to the volume. Capture of video attempted from a software application onto a ReadOnly drive will stop with a write protection error. The user should be aware of the ReadOnly volumes on the desktop, and target their captures, renders and imports accordingly to avoid mistakenly writing to those volumes.

In some cases, Windows 2000 may allow a ReadOnly directory to become out of date with the writer of the volume. With Avid clients, the potential result of this is a rescan and attempted rebuild of the database on a ReadOnly volume. An Update ReadOnly from the Manager will resolve the issue and allow the Avid application to launch. If this happens while the Avid application is launched, an Eject from the file menu of the Avid application followed by an Update and Mount-All will resolve the issue.

Update ReadOnly on Windows 2000 is an instant operation. The directory should be closed when the Update is performed, and on the following open of the volume the contents will be updated. If an application is using the volume at the time Update ReadOnly is selected, an error message will appear explaining that the volume could not be updated. Close any applications that may be using the volume when this happens. Avid software should not cause the volume to fail an Update.