Installation Manual

Tektronix

Profile Family

Fibre Channel Multicast

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Tektronix Product Support

You can get technical assistance, check on the status of problems, or report new problems by contacting our Product Support Group.

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Introduction

Profile Fibre Channel Multicast allows you to create a list of up to eight named destinations for any Fibre Channel streaming transfer operation. The transfer is then accomplished in a single transmission to all Profile systems on the list. This reduces the bandwidth required for the transfer, and simplifies the programming of the transfer, since only one operation needs to be managed.

NOTE: All sources and destinations of Fibre Channel Multicasts must be Profile systems, and must have multicast installed and enabled. Other Fibre Channel devices, such as Fibre Channels servers, cannot participate in multicast transfers as either sources or destinations.

Figure 1 shows how multicast allows a single Profile system to send the same material to several, but not all, Profile systems in a fabric.

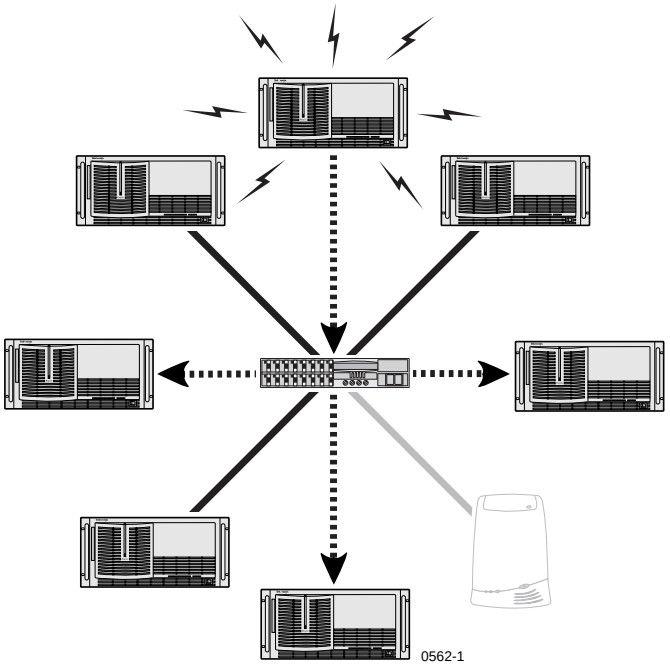


Figure 1. An example of Fibre Channel Multicast

Multicast transfers are slightly slower than other Fibre Channel operations. Profile System Software ensures that your transfers occur at the maximum possible rate by using multicast only when it's more efficient to do so. To make the most of this optimization, you must ensure that your list of destinations for a transfer includes Profile systems which are available to recieve the clips. Naming unavailable destinations may have an impact on the transfer speed.

In order to use Profile Fibre Channel Multicast, you must:

1. Install Profile System Software 2.5 or higher on all Profile systems in your video network.
2. Install a Profile Fibre Channel Switch in your video network. Profile Fibre Channel Multicast will not operate in a Fibre Channel Arbitrated Loop environment.
3. Enable Profile Fibre Channel Multicast on all Profile systems which will be the source or destination of multicast transmissions.

The following sections provide more details on each of these tasks.

Profile System Software Requirements

You must install Profile System Software version 2.5 or higher on all Profile systems connected to a Fibre Channel switch. You must install Profile System Software 2.5 or higher before loading the switch-compatible Fibre Channel board firmware.

Please refer to the Profile Release Notes for instructions on how to install your Profile System Software, as well as information on the new features that are included in the release.

Fibre Channel Switch Requirements

To use Profile Fibre Channel Multicast, all the systems involved in the transfer must be connected to a Profile Fibre Channel Switch. Refer to the following documents to install your switch:

- *Profile Fibre Channel Switch Installation Manual*
- *Brocade SilkWorm Switch User's Guide*
- *Brocade WEB TOOLS User's Guide*

Pay particular attention to the following points when you install your switch:

1. Load switch-compatible microcode on all Profile Fibre Channel boards connected to the switch.
2. Verify that switch mode is turned on for all Profile systems connected to the switch. You can do this with the *fcconfig -s on* command, or in Fibre Channel Configruation in Configuration Manager.

Installing and Enabling Fibre Channel Multicast

Once you've built your Fibre Channel fabric by installing your Fibre Channel switch and configuring all your Fibre Channel devices to operate with the switch, you must install and enable your Profile Multicast software.

NOTE: All sources and destinations of Fibre Channel Multicasts must be Profile systems, and must have multicast installed and enabled. Other Fibre Channel devices, such as Fibre Channels servers, cannot participate in multicast transfers as either sources or destinations.

To install the Profile Fibre Channel Multicast software on a Profile system:

1. Log on to the Profile system as administrator. To do this:
   a. Power On the Profile system and hold the **Shift** key down during start-up to prevent auto-logon as user *profile*. Be sure to hold down the shift key until the logon dialog box appears.
   b. Logon as *administrator*. The factory default *administrator* password on a Profile system is *triton*.
2. Insert the Profile Fibre Channel Multicast diskette into the floppy drive
3. Choose **Start | Run**, and type *a:\fcmcast* in the Run dialog box.
4. When the installation is complete, reboot the Profile system.
5. Log on as user *profile*. The default password is *profile*.
6. Start Configuration Manager.
7. In the Fibre Channel Configuration dialog box, verify that **Enable Multicast** is selected.

Repeat this procedure for each Profile system that will participate in multicast transfers.

Using Fibre Channel Multicast

Once your Profile Fibre Channel Multicast software has been installed and enabled, you can use any application which supports Fibre Channel multicast to perform one-to-many transfers between your Profile systems. Contact your software supplier to find out if your applications support Fibre Channel multicast.

If you are creating or adapting an application to use Fibre Channel multicast, you should use the following function to control your multicast operations.

XfrRequest

#include "tekxfr.h"

BOOL XfrRequest (ConnectHandle *connHandle***, CHAR*** *sourceUml***, UINT** *destCount***, CHAR**** *destUmlList***)**
This function initiates a transfer between a single data source described by the *sourceUml***,** and a list of one or more destinations described by the *destUmlList***.**

Parameters:

*connHandle**:* The value returned from RemOpenConnection, or LOCAL_CONNECTION.

destCount: The number of destinations.

destUmlList: UML list specifying the destinations for the transfer. See Comment.

Return Value: This function returns a token identifying the transfer that can be used in subsequent operations. It returns a NULL if not successful. To get extended error information, use the **GetLastError** function.

Comment: This call is asynchronous to the copy itself and returns immediately after initiation. All further operations are carried out using the **XfrToken.**

Uniform Media Locators (UMLs) are similar in concept to the Internet's URLs. They are meant to provide a complete description of the source or destination of a transfer. Please note that in the following description of the UML, the "[...]" indicates optional parameters. Optional parameters can be of two different forms, the individual value and the range. If a series of individual values is desired, values are separated using commas, while ranges are indicated by a dash between the lower and the upper value, inclusive. An example of individual values and ranges might look



something like optionName(1, 3, 5-8, 10). Spaces are ignored. Most of the specifications allow for the optional range parameter based on starting and ending field numbers for inclusion in a subset of the whole stream. All options are case insensitive. The generic form for any UML is specified as: [Host]/type/typeSpecificInformation[?options]

The host portion represents the source or destination computer, if present. This host must be on the Fibre channel network with the other associated machines. The host portion consists of the Windows NT computer name of the source or destination computer. If it is not specified, it will default to the “localhost”. The host portion can also reference the local machine by specifying the local machine’s actual Windows NT name, or the known keyword “localhost”. The type portion represents the type of transfer being performed at the source or destination. Transfers are limited to material between the MediaFile Mark. An example follows.

[Host]/explodedFile/[dataset:][/group/]name[?option] The following options are currently defined: (startField-endField), a segment of a simple movie may be transferred, the movie mark in and out of the result will be modified.

For example, to copy the five minute segment beginning one minute into a movie called foo, recorded in NTSC, you would specify the URL as: [Host]/explodedFile/[dataset:][/group/]foo[?(3600-21600)]