xTalk Management Console User's Guide For Linux

Introduction

xTalk Management Console is a tool that allows customers to evaluate tape device health and determine when a device needs to be sent for service or repair.

xTalk Management Console provides:

*   Media and device diagnostic tools
*   The ability to view analysis information
*   The ability to quickly update firmware

You can download the latest version of xTalk Management Console from the Quantum Web site at:

http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/Index.aspx

Supported Operating Systems and Devices

This section lists the operating systems, host bus adapters, and devices supported by xTalk Management Console.

Supported Operating Systems

The xTalk Management Console software runs on the following operating systems:

Operating System	Versions
Novell SUSE® Linux	9, 10 (32 and 64 bit)
Red Hat® Linux	AS 3.0, 4.0 (32 and 64 bit)
	ES 3.0, 4.0 (32 and 64 bit)

Supported Host Bus Adapters

xTalk Management Console is designed to support all standards-compliant host bus adapters.

Supported Devices   xTalk Management Console supports SCSI, SATA, and USB configurations of the following devices:

- DAT 40 (DDS-4)
- DAT 72
- DAT 160
- DLT1
- DLT 7000
- DLT 8000
- DLT-S4
- DLT-V4
- DLT VS80
- DLT VS160

- GoVault™
- LTO-1
- LTO-2
- LTO-2 HH
- LTO-3
- LTO-3 HH
- SDLT 220
- SDLT 320
- SDLT 600

> **Note:** Linux supports both SCSI and SATA devices; however, it only supports SATA devices using an Intel® PIIX controller and 2.6.12 kernel or higher.

> **Note:** On Linux systems, xTalk uses the **sg** kernel module to communicate with storage devices. If the **sg** module is not already loaded, xTalk will attempt to load it at startup. If this fails, an error message displays, instructing you to either load it manually as root, or to run xTalk as root.

Where Files Are Stored

xTalk Management Console creates default directories to store information. It normally stores the files in the same directory as the xTalk executable file, as follows:

Type of File	Default Location
Log Files	./xTalk/Logs/
Scripts	./xTalk/Scripts/
All other files	If you run a script that generates a file (for example, FA_DATA_COLLECTION), you are prompted to specify a name and location for your file. If you only specify a name, the file is saved to the same directory in which the xTalk Management Console executable file is located: ./xTalk/

Getting Started

1 Download the xTalk Management Console software from the following Web site:

http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/
Index.aspx

2 Unpack the g-zipped tarfile.

3 Set your current directory to the same directory as the one in which the xTalk Management Console files are located.

Displaying Version Information

To displays only the version and copyright information, at the command prompt, enter:

./xTalk -version

The version and copyright information displays, followed by the copyright warning statement, and the xTalk session ends. The version information looks similar to the following:

```
================================================================
xTalk Management Console version x.x.x
Copyright 2001 - 2007
================================================================
```

Displaying the Main Menu

xTalk Management Console's provides a main menu from which you can choose standard scripts to run and actions to perform.

To run view the main menu:

1 At the command prompt, enter the following and then press <Enter>:

./xTalk

The version and copyright information display, followed by a warning message. xTalk Management Console scans the bus and displays a numbered list of all attached devices, followed by a prompt to select a device. The information contained in each entry is (a) the device serial number, (b) device filename and path, and (c) product ID string. The output looks similar to the following:

```
============================================================
xTalk Management Console version x.x.x
Copyright 2001 - 2007
============================================================

============================================================
Warning: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it,
```

may result in severe civil and criminal penalties, and will be prosecuted to the maximum
extent possible under the law.
```
============================================================

============================================================
xTalk Management Console Wizard - Devices detected:
1) [PHD3E09470] [/dev/sg0] [BNCHMARKDLT1          ]
2) [RB0409AMC00316] [/dev/sg1] [QUANTUM SDLT600       ]
============================================================
Select device then press 'Enter':
```

2 Enter the number of the device on which you want to run a script or perform an action
and press <Enter>.

The following information displays: drive family of the device you selected;
information on the device you selected; a numbered list of scripts available for the
selected device displays; prompt to select a script or action. (For information about
how the list of scripts is compiled, see Standard Scripts on page 12.) The output looks
similar to the following:

```
============================================================
xTalk Management Console Wizard - Scripts found:


Tasks:


1) Display_All_Log_Pages.xcs

2) Display_Drive_Information.xcs

3) TraceBuffer.xcs


Tests:


4) DAT_Compression.xcs

5) DAT_Electronics.xcs

6) Device_Health_Check.xcs

7) Full_Tape_Write_Read.xcs

8) Medium_Write_Read.xcs

9) Pattern.xcs

10) Quick_Write_Read.xcs

11) SCSI_Interconnect.xcs

12) Short_Write_Read.xcs

13) Small_Buffer_Write_Read.xcs

14) System_Level.xcs

15) Timed_Performance.xcs


Other:


Select 'C' to enter command mode

Select 'U' to update firmware

Select 'T' to create a firmware update tape
```

Select 'D' to choose a different device

Select 'X' to exit

==

Select script or action, then press 'Enter':

3 Enter the number of a script or the letter of an action and press <Enter>. If you choose **X** to exit, you return to the command prompt.

The following sections explain how to run scripts and perform actions in more detail.

Displaying Help Information

The Help directory tells you how to enter commands to perform specific operations.

To display the Help directory, at the command prompt, enter the following and then press <Enter>:

./xTalk -help

The version and copyright information displays, followed by the help directory. The xTalk session ends. The output looks similar to the following:

```
============================================================
xTalk Management Console version x.x.x
Copyright 2001 - 2007
============================================================

============================================================
xTalk Management Console is a diagnostic utility that tests whether Quantum
drives are operating correctly.  The following command line options are supported:

xTalk       [ -help ] |

            [ -version ] |

            [ -f <device_file> ] [ -s <test_script> | -u <firmware_image> | -c |

            -t <firmware_image> ] [ -y ] [ -x ]


    -f -> The device to perform the test against.

    -s -> The scriptfile to execute. (Automatically exits when script is completed.)

    -y -> Answer "yes" to all prompts.

    -x -> Exit after running a single script (otherwise prompt for more).


    -u -> Firmware image file to use to upgrade the drive


    -t -> Firmware image file to use to create an upgrade tape


    -c -> Command mode.
```

If no options are specified on the command line, xTalk will prompt for a device to be selected from a list of known devices and then prompt for a script to be run on that device.

===

> **Note:** The -t function, to use a firmware image create an upgrade tape, does not currently work on DAT tape drives.

Running Scripts

You can run scripts by choosing them from the main menu, or you can use the command line and avoid using the main menu.

Running Scripts Using the Main Menu

xTalk Management Console's default setting is to run standard scripts that are located in the default Scripts directory (for location of the directory, see Where Files Are Stored on page 4).

To run a standard script:

1 At the command prompt, enter the following and then press <Enter>:

./xTalk

The version and copyright information display, followed by a warning message, followed by a list of attached devices (see Displaying the Main Menu on page 5).

2 Enter the number of the device on which you want to run a script and press <Enter>.

The main menu displays a list of standard scripts from which you can choose (see Displaying the Main Menu on page 5).

3 Enter the number of the script you want to run and press <Enter>.

xTalk Management Console confirms the device and the script, then prompts you to press <Enter> to continue or type <Ctrl+C> to cancel. The output looks similar to the following:

xTalk Management Console Wizard: User selections

===
Device entered->/dev/sg1<-
Script entered->DRIVE_INFORMATION.XCS<-
===

Press 'Enter' when ready to continue or Ctrl-C to cancel:

4 Press <Enter> to continue.

The script begins. xTalk Management Console validates the script and displays progress, check conditions, error messages (if any), and applicable instructions (if any).

5 If prompted, follow the instructions or answer questions.

The script completes, "complete" is displayed, and you are prompted to select another script or action.

All the information displayed on the screen, plus possible additional information, is saved to a log file that you can view. For location, see <u>Where Files Are Stored</u> on page 4.

Running Scripts Using the Command Line

You can run scripts using the command line if you know the device name, the script name, or both. This saves time because when you specify the device or script, xTalk Management Console does not have to scan the bus or directories and compile lists of devices and files for you to choose from. Using this method also allows you to specify non-standard scripts that are not located in the default Scripts directory.

This section provides instructions for the following command line prompts:

- <u>Specify Device and Script (-f and -s)</u>

- <u>Specify Device (-f)</u>

- <u>Specify Script (-s)</u>

Specify Device and Script (-f and -s)

If you know the name of the device and the name of the script you want to run, do the following:

1 At the command prompt, enter the following and then press <Enter>:

  ./xTalk -f <device path and filename> -s <script name>

For example:

  ./xTalk -f /dev/rmt/11n -s DEVICE_HEALTH_CHECK.XCS

> **Note:** If your script is not in the default Scripts directory, you must specify the path. For more information, see <u>Running Custom Scripts</u> on page 12.

The version and warning information display, followed by device and script confirmation.

> **Note:** If the device you specified is not found, an error message displays, along with troubleshooting options and a list of available devices.

2 Press <Enter> to continue.

The script begins. xTalk Management Console validates the script and displays progress, check conditions, error messages (if any), and applicable instructions (if any).

3 If prompted, follow the instructions or answer questions.

The script completes and you return to the command prompt.

All the information displayed on the screen, plus possible additional information, is saved to a log file that you can view. For location, see <u>Where Files Are Stored</u> on page 4.

Specify Device (-f)

If you know the name of the device but not the name of the script you want to run, do the following:

1 At the command prompt, enter the following and then press <Enter>:

./xTalk -f <device path and filename>

For example:

./xTalk -f /dev/rmt/11n

The version and warning information displays, followed by a list of scripts found in the default Scripts directory that are compatible with the specified device. (For information about how the list of scripts is compiled, see Standard Scripts on page 12.)

Note:	If the device you specified is not found, an error message displays, along with troubleshooting options and a list of available devices.

Note:	If the script you want to run is not in the default Scripts directory, you can specify an alternate directory on the command line using the '-s <directory>' option (see Running Custom Scripts on page 12).

2 Enter the number of the script you want to run and press <Enter>.

The script begins. xTalk Management Console validates the script and displays progress, check conditions, error messages (if any), and applicable instructions (if any).

3 If prompted, follow the instructions or answer questions.

The script completes, "complete" is displayed, and you are prompted to select another script or action.

All the information displayed on the screen, plus possible additional information, is saved to a log file that you can view. For location, see Where Files Are Stored on page 4.

Specify Script (-s)

If you know the name of the script you want to run but not the name of the device, do the following:

1 At the command prompt, enter the following and then press <Enter>:

./xTalk -s <script name>

For example:

./xTalk -s TAPE_EDGE_DAMAGE.XCS

Note:	If your script is not in the default Scripts directory, you must specify the path. For more information, see Running Custom Scripts on page 12.

The version and warning information displays, xTalk Management Console scans the bus, and displays the list of all attached devices.

2 Enter the number of the device you want and press <Enter>.

The device and script confirmation displays.

3 Press <Enter> to continue.

The script begins. xTalk Management Console validates the script and displays progress, check conditions, error messages (if any), and applicable instructions (if any).

4 If prompted, follow the instructions or answer questions.

The script completes and you return to the command prompt.

All the information displayed on the screen, plus possible additional information, is saved to a log file that you can view. For location, see <u>Where Files Are Stored</u> on page 4.

Other Useful Command Line Options

The following command line options help save you time by answering known prompts in advance.

Answer Yes to All Prompts (-y)

To avoid being prompted to continue with an activity, you can add the [-y] option after typing in your file and/or script choices. This assumes you answer "Yes" or press <Enter> to to signify approval of all prompts that the system would normally give you. The system continues processing without requiring operator input. This is helpful if you are running scripts remotely or don't want to wait for set up on a timed system.

For example:

./xTalk -s TAPE_EDGE_DAMAGE.XCS -y

Exit After Running a Single Script (-x)

Normally after completing a script, xTalk Management Console displays the scripts menu again and prompts you to select another one to run. If you only want to run one script and then return to the command prompt, use the [-x] option after entering your script choice.

For example:

./xTalk -s TAPE_EDGE_DAMAGE.XCS -x

Standard Scripts

xTalk Management Console provides a number of scripts you can use. These scripts are all stored in the default Scripts directory (for location of the directory, see Where Files Are Stored on page 4).

When you enter a command to run a script, xTalk Management Console scans all the scripts in the default Scripts directory and displays the ones that apply to the selected device. The scripts are organized into two groups (tasks and tests), alphabetized, and numberd. You choose the number of the script you want to run.

Custom Scripts

You can write your own custom scripts and then run them as described in Running Scripts or Running Scripts Using the Command Line.

Saving Custom Scripts

You can save custom scripts in the default Scripts directory (for location see Where Files Are Stored on page 4), or in another directory of your choice.

You should use the extension .scs when creating script files; otherwise, xTalk Management Console will not recognize them and add them to the list.

> **Note:** The extension .xcs is also recognized, but the .xcs files are binary files supplied with the xTalk program, so you should use the .scs extension when you write your own.

Running Custom Scripts

When you want to run a script using the standard method, xTalk Management Console displays a list of the the scripts in the default Scripts directory that apply to the selected device. If you store your custom scripts in the default Scripts directory, they are added to this alphabetized and numbered list.

If you store your scripts in a different directory, you must use one of the command line methods to run your script so that you can specify the path to the script (see Running Scripts Using the Command Line on page 9).

When specifying a custom script, you must specify the entire path along with the script filename.

For example:

    ./xTalk -f /dev/rmt/11n -s /home/myscripts/mytest.scs

If you know the directory path but not the script filename, you can just enter the path to the directory. xTalk Management Console will scan the specified directory and display a numbered, alphabetized list of files in that directory for you to choose from.

For example:

    ./xTalk -f /dev/rmt/11n -s /home/myscripts/

Updating Device Firmware

You can update firmware on a selected device using either the main menu or the command line.

Updating Device Firmware Using the Main Menu (U)

To update device firmware using the command line:

1 Download the latest firmware image files to your hard drive. These files can be found at http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/Index.aspx. Note the name and path where you saved them so you can enter the information on the command line.

2 At the command prompt, enter the following and then press <Enter>:

   ./xTalk

   The version and copyright information display, followed by a warning message, followed by a list of attached devices.

3 Enter the number of the device on which you want to run update firmware and press <Enter>.

   The main menu displays a list of actions from which you can choose.

4 Enter **U** and press <Enter>.

5 When prompted, enter the firmware image file path and press <Enter>.

   The firmware is copied from the specified directory to the specified device. During this time, "Performing FUP operation..." displays on the screen. When complete, "FUP operation complete" displays, and you are prompted to select another script or action. The output looks similar to the following:

   Performing FUP operation...

   Checking image file (../Firmware/DAT/DAT160/qtmDAT160_usb_WU74.E)

   Checking device readiness

   Sending image file to the device

   Redetecting device

   FUP operation complete.

Updating Device Firmware Using the Command Line (-u)

To update device firmware using the command line, you must specify the device filename and path, and the firmware image name and path.

1 Download the latest firmware image files to your hard drive. These files can be found at http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/Index.aspx. Note the name and path where you saved them so you can enter it on the command line.

2 At the command prompt, enter the following and then press <Enter>:

   ./xTalk -f <device path and filename> -u <firmware image path and filename>

   For example:

   /xTalk -f /dev/sg1 -u ~/sdlt2_v35_u.img

The version and copyright information display, followed by the warning. The firmware is copied from the specified directory to the specified device. During this time, "Performing FUP operation..." displays on the screen. When complete, "FUP operation complete" displays, and you return to the command prompt. The output looks similar to the following:

```
================================================================
xTalk Management Console version x.x.x
Copyright 2001 - 2007
================================================================

================================================================
Warning: This program is protected by copyright law and international treaties.  Unauthorized
reproduction or distribution of this program, or any portion of it,
may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent
possible under the law.
================================================================
```

Performing FUP operation...

Checking image file (../Firmware/DAT/DAT160/qtmDAT160_usb_WU74.E)

Checking device readiness

Sending image file to the device

Redetecting device

FUP operation complete.

Creating a Firmware Update Tape

You can create a tape which can then be used to update firmware on other drives. The firmware is copied from the specified directory to the tape in the specified drive. You can create the firmware update tape using either the main menu or the command line.

Creating a Firmware Update Tape Using the Main Menu (T)

To create a firmware update tape using the main menu:

1   Download the latest firmware image files to your hard drive. These files can be found at http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/Index.aspx. Note the name and path where you saved them so you can enter it on the command line.

2   At the command prompt, enter the following and then press <Enter>:

    ./xTalk

The version and copyright information display, followed by a warning message, followed by a list of attached devices.

3   Enter the number of the device on which you want to run update firmware and press <Enter>.

The main menu displays a list of actions from which you can choose.

4 Enter **T** and press <Enter>.

The firmware is copied from the specified directory to the tape in the specified device. During this time, "Creating FUP tape..." displays on the screen. When complete, "FUP tape creation complete" displays, and you are prompted to select another script or action. The output looks similar to the following:

Creating FUP tape...

FUP tape creation complete.

Creating a Firmware Update Tape Using the Command Line (-t)

To create a firmware update tape using the command line:

1 Download the latest firmware image files to your hard drive. These files can be found at http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/Index.aspx. Note the name and path where you saved them so you can enter it on the command line.

2 At the command prompt, enter the following and then press <Enter>:

./xTalk -f <device path and filename> -t <firmware image path and filename>

For example:

/xTalk -f /dev/sg1 -t ~/sdlt2_v35_u.img

The version and copyright information display, followed by the warning. The firmware is copied from the specified directory to the tape in the specified device. During this time, "Creating FUP tape..." displays on the screen. When complete, "FUP tape creation complete" displays, and the xTalk session ends. The output looks similar to the following:

```
=============================================================
xTalk Management Console version x.x.x
Copyright 2001 - 2007
=============================================================

=============================================================
Warning: This program is protected by copyright law and international treaties.  Unauthorized
reproduction or distribution of this program, or any portion of it,
may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent
possible under the law.
=============================================================
```

Creating FUP tape...

FUP tape creation complete.

Running Commands (C, -c)

xTalk Management Console provides a number of standard device commands that you can run. These commands are the following:

Command	Description
1) Test Unit Ready	Checks to see if the selected device is ready to run a script or command.
2) Inquiry	Retrieves information from the device firmware and displays it in hexadecimal and ASCII format. The information retrieved is: standard inquiry data, device serial number information, and device firmware information..
3) Load	Moves tape from "not ready" to "ready" position.
4) Rewind	Positions the tape to beginning of media (BOM)
5) Unload	Moves tape from "ready" to "not ready" position.
6) Get TapeAlerts	Lists all possible TapeAlerts and the status of each for the specified device.
7) Exit	Exits the Command menu.

You can access the command menu using either the main menu or the command line.

1 Do one of the following:

To use the main menu	**a)** At the command prompt, enter **./xTalk** and press <Enter>.
	b) Enter the number of the device on which you want to run a command and press <Enter>.
	c) Enter **C** and press <Enter>.
To use the command line	At the command prompt, enter the following and then press <Enter>:
	./xTalk -f <device path and filename> -c
	For example:
	./xTalk -f /dev/rmt/11n -c
	The xTalk version and warning message display, followed by the selected device path and filename and drive family.

The Commands menu displays as follows.

```
============================================================
Commands:
    1) Test Unit Ready
    2) Inquiry
```

```
                          3) Load
                          4) Rewind
                          5) Unload
                          6) Get Tape Alerts
                          7) Exit
                ===========================================================
                Select command then press 'Enter':
                ===========================================================
```

2 Enter the number of the command you want and press <Enter>.

The command executes. A "completed" message displays, followed by the Commands menu and a prompt to select a command. If there is a problem with executing a command, xTalk issues an error message.

3 Enter the number of another command and press <Enter>, or, to exit, enter **7** and press <Enter>. Exiting returns you either to the main menu or to the command line, depending on which method you used to access the Commands menu.

Log Files

xTalk Management Console creates a log file in ASCII text for every script that you run. Log files from the program are stored in the default Logs directory (for location see Where Files Are Stored on page 4).

The log file contains includes the description of the script and all test data. The log file contains all of the information displayed on the screen, and often includes more data and information.

The filename format is:

mm_dd_yy_hhmmss_sn_xTalk.txt

where:

- **mm** = month of year

- **dd** = day of month

- **yy** = last two digits of year

- **hh** = hour (24 hour format)

- **mm** = minute

- **ss** = second

- **sn** = device serial number

Troubleshooting

When running scripts, you may receive an error message. Troubleshoot as follows:

Error	Description	Action
Requested script file not found.	The file specified in the command line argument does not exist; or it does exist but you do not have permission to open it.	Ensure you entered the script filename or path correctly. If so, check your permissions.
No compatible script files found.	None of the scripts found in the default or specified directory are compatible with the chosen device.	Specify a different directory, script, or device.
Requested script file is not compatible with selected device.	The script specified on the command line is not compatible with the selected device.	Choose a different device or script.