XOS (eXperimental Operating System)
XFS (eXperimental File System) Interface
USAGE DOCUMENTATION
Version 1.0

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Contents

Chapter 1

Introduction

Chapter 2

XFS Interface

2.1 Introduction

XFS Interface (eXperimental File System) is an external interface to access
the filesystem of the XOS. The filesystem is simulated on a binary file called
"**disk.xfs**". The interface can format the disk, load/remove files, list files
and copy blocks to a UNIX file.

2.2 Installation

2.2.1 Prerequisites

- GCC (GNU project C and C++ compiler)

2.2.2 Download

The package for XFS Interface can be downloaded from the following link :
http://xosnitc.github.com/files/xfs-interface-master.zip

The package can also be cloned from the git repository :
https://github.com/xosnitc/xfs-interface

2.2.3 Compiling and Running

Run the following commands to compile and run the interface

1. `make`

2. `./fileSystem`

2.3   Commands

Type the command `help` in the interface to display the list of commands.

2.3.1   Format the disk

The command **fdisk** is used to create the disk ("disk.xfs") or to format the disk if already created.
Syntax : `fdisk`

2.3.2   Load Files

The command **load** is used to load files to the filesystem from a UNIX file. The types of file that is loaded is specified by the first argument. The second argument <pathname> is the path to the UNIX file which is to be loaded to the filesystem.

- *Syntax* : `load --exec` <pathname>
  Loads an executable file to XFS disk

- *Syntax* : `load --init` <pathname>
  Loads INIT code to XFS disk

- *Syntax* : `load --data` <pathname>
  Loads a data file to XFS disk

- *Syntax* : `load --os` <pathname>
  Loads OS startup code to XFS disk

- *Syntax* : `load --int=timer` <pathname>
  Loads Timer Interrupt routine to XFS disk

- *Syntax* : `load --int=[1-7]` <pathname>
  Loads the specified Interrupt routine to XFS disk

- *Syntax* : `load --exhandler` <pathname>
  Loads exception handler routine to XFS disk

2.3.3   Remove Files

The command **rm** is used to remove files from the filesystem. The first argument specifies the type of file to be removed. The argument <xfs_filename> specifies the file which is to be removed.

- *Syntax* : `rm --exec <xfs_filename>`
  Removes an executable file from XFS disk

- *Syntax* : `rm --init <xfs_filename>`
  Removes INIT code from XFS disk

- *Syntax* : `rm --data <xfs_filename>`
  Removes a data file from XFS disk

- *Syntax* : `rm --os`
  Removes OS startup code from XFS disk

- *Syntax* : `rm --int=timer`
  Removes the Timer Interrupt routine from XFS disk

- *Syntax* : `rm --int=[1-7]`
  Removes the specified Interrupt routine from XFS disk

- *Syntax* : `rm --exhandler`
  Removes the exception handler routine from XFS disk

2.3.4   List Files

The command **ls** lists all the files which are loaded into the filesystem. The size of the file is also displayed in number of words.
Syntax : `ls`

2.3.5   Display Disk Free List

The command **df** displays the disk free list. It also displays the total number of blocks and the number of free blocks.
Syntax : `df`

2.3.6   Display File contents

The command **cat** displays the contents of a file in the filesystem with the corresponding word number.
Syntax : `cat <xfs_filename>`

2.3.7   Copy contents of File

The command **copy** copies the contents of specified blocks from a file in the filesystem to an external UNIX file. The arguments <start_block> and

5

<end_block> denotes the range of blocks to be copied (including both). <unix_filename> specifes the destination UNIX file to which the contents are copied to.

Syntax : `copy <start_block> <end_block> <unix_filename>`

2.3.8   Display help

The command **help** displays the general syntax and function of all the commands.

Syntax : `help`

2.3.9   Exit Interface

The command **exit** quits the inteface.

Syntax : `exit`