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TO: Distribution

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SUBJECT: Conduant XF2 Controller Card SDK 9.2 Upgrade (Mark5A/B) with Debian Etch

The document describes how to upgrade your Mark5A/B XF2 Controller card with a FPDP2 daughter board to support large disk modules (greater than 16TB) on Mark5's with a Debian Etch OS distribution.

Conduants SDK 9.3 utilities are not supported by the GCC version on Debian Etch. Therefore the required firmware that allows support for greater than 2TB HDD and 16TB disk modules, to be fully utilized, is to be added to the SDK9.2 installed on your Mark5.

### Pre-install Steps

For Mark5A/B's with XF2 controller cards and Debian Etch Distribution download the following files from the Haystack Website Mark5 Downloads page <http://www.haystack.edu/tech/vlbi/mark5/downloads.html>.

1. Under Streamstor SDK, Version 9.2 firmware download the *XF2 Firmware*
  - a. `spxf_13005.bib`
2. Download the *Mark5 Application Package* and the *Release Notes*
  - a. `mark5_3.0.1-i386.deb`

### Firmware Upgrade

To upgrade the firmware for the XF2 controller card, as root, you will:

1. Copy the `spxf_13005.bib` file to the streamstor bib directory, or
  - `cp spxf_13005.bib /usr/local/src/streamstor/linux/bib`
2. Move the existing `spxf.bib` file to `spxf_orig.bib`
  - `mv spxf.bib spxf_orig.bib`
3. Copy `spxf_13005.bib` to `spxf.bib`
  - `cp spxf_13005.bib spxf.bib`

After updating the firmware reboot the system. Operations will not be any different on disk modules up to and including 16TB and containing 2TB or less HDDs.

If you would like to use disk modules > 16TB, e.g. a module created with 3 TB HDDs for a 24 TB modules, remember to reset=erase the module before using it.

## Verify Firmware upgrade

For verification of the firmware upgrade,

```
cd $SS/lib/gcc_v3/util
```

```
./ssprintVersions
```

The output should be similar to, please note the FirwareVersion. This will indicate whether you have successfully upgraded the firmware.

Device Information:

Board Type: PCI-816VXF2

Serial Number: 8341

Number of drives: 8

Number of Buses: 4

Version Information:

SDK Version: 9.02

ApiVersion: 11.25

ApiDateCode: Nov 11 2011

**FirmwareVersion: 13.05**

FirmwareDateCode: May 08 2013

MonitorVersion: 6.02

XbarVersion: 3.018

DriverVersion: 1031

XLRGetDBInfo did not detect a daughterboard.

## Mark5 Application Upgrade

To install the new Mark5 application, as root, execute from the directory you downloaded the Mark5 version 3.0.1 deb package:

```
dpkg -i mark5-3.0.1-i386.deb
```

The new Mark5 application has been installed. Please refer to the new command set (v1.13) for updates to support both > 1024 scans and new features.

To enable greater than 1024 scans on your system the reset=erase command can be used, or the standalone utility SSErase with the “-u l”, option to enable 64k scan support. For the new usage options for SSErase, please use SSErase -h.

**NOTE: While the correlators are going thru the upgrade process to support larger than 16TB disk modules it is initially recommended that the disk modules are erased with the old 1024 maximum number of scans. To erase the disk module that you are shipping to a correlator, until notified to revert to the standard reset=erase command, issue:**

```
reset=erase : s
```