



hp AlphaServer ES47, ES80, and GS1280 V7.3 Firmware Release Notes and Update Procedures



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1 Introduction

This guide is intended for users of the *hp* AlphaServer ES47, ES80, and GS1280 Systems. It provides release notes pertaining to the current firmware release and describes how to update the various pieces of firmware using the firmware update utility.

1.1 V7.1 Firmware CD - Do Not Use

Please refer to section 4.3

2 Changes this Release

2.1.1 SRM Update to V7.3-1

Keyboard driver - a USB keyboard, attached to a USB-to-PS/2 adapter, can sometimes hang when attempting to login to OpenVMS for the first time.

Solution: Read the keyboard data and status registers immediately after enabling keyboard interrupts, to drain any interrupts from the device.

Kgpsa driver - the console will fail to login into the fibre-channel fabric switch, if the connection is moved from one switch port to another, on certain new Brocade fibre-channel switches.

Solution: When attempting to login to a fibre-channel switch port, use an SDID of zero and the switch will provide the new SDID to the host adapter

Wwidmgr - the console supports a number of environmental variables to facilitate boot and crash dump to fibre-channel storage volumes. Presently there are four (4) WWIDx variables that define the world-wide-ID of a storage volume and eight (8) Nx variables that define the path to the storage volumes. The console uses these variables to define the volumes that may be used for boot or crash dump devices.

Solution: Increase the number of Nx (16) and WWIDx (8) console environmental variables.

I/O Option Firmware - no changes

Add a log message to indicate when throttling has started for PAL logout frames

2.1.2 MBM/PBM Updated to V2.7-6

- New power supply EEPROMs requires writing on 8- byte boundaries. Solution: Write on 8-byte boundaries.
- If an MBM CLI receives a zero ration when request CPU frequency, the task may crash and lock up the MBM. Solution: Check all ratios for a zero value for frequency changes.
- Firmware version checks and updates would sometime show an error on MBMs with failing flash parts. Solution: The flash driver now performs *erase suspends* when a sector erasure exceeds a specific time limit to allow reads to occur.

Symptom - MBM could not read cabinet OCP with the cable disconnected, which causes the mbm to default to cabinet 0. The Symptom is now logged and reported via alerts after two attempts are made to read cabinet OCP.

2.1.3 CMM Updated to V2.7-5

Add a log message when PAL logout frames are throttled.

2.1.4 XSROM V1.0-31 - No Changes

2.1.5 SR0M V1.0-8 - No Changes

2.1.6 CPLD V0.5 - No Changes

2.2 Firmware Revision Information

2.2.1 SRM, SROM, XSROM, and Server Management

The firmware update bootfile commonly referred as the Loadable Firmware Utility contains the most current revision of the firmware components.

Table 2 Firmware Components and Revisions

Firmware Component	Firmware Revision
SRM Console	V7.3-1 *
VMS PALcode	V2.11-25
UNIX PALcode	V2.08-19
CMM FW	V2.7-5 *
CMM FSL FW	V2.7-2
CMM FPGA FW	V114
MBM/PBM FW	V2.7-6 *
MBM/PBM FSL FW	V2.1-1
SROM FW	V1.0-9
XSROM FW	V1.0-31
12-Slot Hot Plug FPGA	V4.1-01
XShelf Hot Plug FPGA FW	V3.1-10
2P Hot Plug FPGA	V3.1-02
CPLD Lattice Part	V0.5

An asterisk * indicates firmware changed in this release.

2.2.2 Firmware and Operating System Revisions

The following table shows version compatibility between firmware and the operating systems.

Table 1 Firmware and Operating System Revisions

Release Type		Release Date	Firmware			Operating System	
Firmware CD	Interim		SRM	MBM/PBM	CMM	OpenVMS	Tru64 UNIX
V7.3	-----	April 2007	V7.3-1	V2.7-6	V2.7-5	V8.2	V5.1B
-----	V7.2A	October 2006	V7.2-11	V2.7-5	V2.7-4	V8.2	V5.1B
V7.2	-----	June 2006	V7.2-1	V2.7-3	V2.7-4	V8.2	V5.1B
V7.1	-----	January 2006	V7.1-1111	V2.7-1	V2.7-3	V8.2	V5.1B
V7.0	-----	June 2005	V7.0-5	V2.6-4	V2.7-1	V8.2	V5.1B
V6.9	-----	December 2004	V6.9-15	V2.5-4	V2.6-0	V7.3-1 with VMS731-EV7_V0100 Update Kit	V5.1B with T64V51 BB1A S0001 Update Kit
V6.8	-----	October 2004	V6.8-3	V2.4-2	V2.5-4		

2.2.3 PCI I/O Adapter Firmware

The firmware update CD contains the following firmware revisions for the various supported PCI I/O Adapters.

Table 2 PCI I/O Adapter Firmware Revisions

Adapter	Firmware Revision
CIPCA	4.20
DEFPA	3.20
FCA-2354	CS3.93A0
FCA-2384	HS1.91X6
FCA-2684/DC	TS1.91X6
KZPDC	3.56
KZPEC	2.58

There were no firmware changes in this release.

2.3 Important Notices

2.3.1 Procedure to Re-Program CPLD Lattice Part

2.3.1.1 Background

The V6.9 firmware CD release included a new MBM Flash File called **cpld** to allow the CPLD lattice part on the MBM to be re-programmed in the field. The V7.0 firmware CD release introduced an updated CPLD image with additional firmware update steps to program the CPLD.

- There are additional steps to re-program the CPLD depending on whether the system is running (V6.9-15 or later) or (V6.8 or earlier) firmware CD release images.
- There are no additional steps to re-program the CPLD, if your CPLD has already been updated to V0.5 from the (V7.0 or greater) firmware CD release image.

2.3.1.2 CPLD Update Firmware Steps - SRM V6.9-15 or Newer

Prerequisite: Systems running (SRM V6.9-15 or later) with MBM V2.5-5 and CPLD V0.2 The MBM image introduced in the V7.0 CD release requires power to be off **before** the CPLD device programming can complete. The steps to complete the reprogramming of the CPLD for a non-partition system are as follows. For partitioned systems, addition steps are required.

1. Boot the firmware CD to invoke the loadable firmware utility.
2. Update all firmware.
3. Exit the LFU to reset the system.
4. Wait for the reset to complete.
5. Power off the system from the MBM prompt
6. Reset micros to allow the CPLD device programming to complete
7. Power on the system After the micros have been reset, .

For Partitioned Systems

Repeat steps 6 and 7 for each partitioned system (power-off, reset micros and power-on) if the whole system cannot be powered off.

If you have a serial connection to the MBM, you should see the following messages displayed as the reset of the micros is completed: "*updating CPLD*" and "*Programming of lattice completed successfully*".

An example of the updates steps are illustrated as below.

Update Steps Example for Systems Running V6.9 (and greater) Firmware

Boot LFU and update all devices: at the lfu UPD> prompt perform:

```
UPD> update *
UPD> exit
```

Upon exit allow the reset to complete

Once back at the MBM prompt, for non-partitioned systems, power off the system, reset the micros, power on the system.

```
MBM> power off -all
MBM> reset -m -all
MBM> power on -all
```

If updating a partitioned system, you cannot power off the whole system (**power off -all** command), then each partition will require a power off, a reset of micros, and a power on command, before the CPLD is programmed in that partition.

For each partition insure the following commands are issued to complete the CPLD programming:

```
MBM> power off -hp <Name of Partition>
MBM> reset -m -all
MBM > power on -hp <Name of Partition>
```

2.3.1.3 CPLD Update Firmware Steps - SRM V6.8-3 or Earlier

Systems Running SRM V6.8-3 or earlier, MBM V2.4-2 or earlier

The MBM image introduced in the V7.0 CD release requires the power to be off before the CPLD device programming can complete. The steps to complete the CPLD update are show below. Note that only MBM firmware is update and nothing else.

1. Boot the firmware CD to invoke the loadable firmware utility [LFU] - 1st time
2. Update MBM only
3. Exit LFU
4. Allow the micros reset to complete
5. Boot the firmware CD to invoke the loadable firmware utility [LFU] - 2nd time
6. Update all devices
7. Exit LFU
8. Power off the system
9. Reset the micros
10. Power on the system

If you have a serial connection to the MBM you should see an *updating CPLD* message and a *Programming of lattice completed successfully* message displayed as the reset of the micros is completing.

The update steps are illustrated below.

Update Steps for Systems Running V6.8 (or earlier) Firmware

Boot LFU and update all MBMs only: at the lfu UPD> prompt perform:

```
UPD> update mbm.*
```

```
UPD> exit
```

Upon exit allow the micro reset to complete

Boot LFU and update all devices

```
UPD> update *
```

```
UPD> exit
```

Upon exit, allow the reset to complete. At the MBM prompt power off the system, reset the micros and power on the system

```
MBM> power off -all
```

```
MBM> reset -m -all
```

```
MBM> power on -all
```

If updating a partitioned system, you cannot power off the whole system (**power off -all** command), then each partition will require a power off, a reset of micros, and a power on command, before the CPLD is programmed in that partition.

For each partition insure the following commands are issued to complete the CPLD programming:

```
MBM> power off -hp <Name of Partition>
```

```
MBM> reset -m -all
```

```
MBM > power on -hp <Name of Partition>
```

2.3.2 Downgrade Firmware Procedure for 2P Drawers Only

For the ES47 and ES80 2P drawer system, additional steps are required to downgrade firmware from V7.0 to V6.9. These additional steps are required because of the changes made to MBM code and the CPLD device programming in the V7.0 CD release. There are no additional steps necessary to downgrade to the V6.8 CD release images or earlier as the CPLD device programming was not supported until the V6.9 CD release.

2.3.2.1 V6.9 Firmware CD Release Images

To downgrade to the V6.9 firmware CD release images:

1. Boot the LFU from CD (1st time).
2. Update only the CPLD.
3. Exit LFU and allow the reset to complete.
4. Power off the system from the MBM prompt.
5. Reset the micros to allow the CPLD device programming to complete and power on the system (for example, `reset -micro -all`).
6. Boot the LFU from CD (2nd time).
7. Update all devices.
8. Exit the LFU to complete the downgrade.

2.4 Getting Started with Partitions

Information on getting started with partitions is available from the following URL:

http://h18003.www1.hp.com/alphaserver/gsl280/gsl280_tech.html

2.5 Firmware Workarounds and Restrictions

This section lists any workarounds or restrictions in system firmware, which may differ from product documentation.

2.5.1 Booting Firmware CD Restriction - CPU0 Required

Booting the firmware CD can only be done from CPU0 (for example, `P00>>> boot dqa0`). Booting the firmware CD from other than CPU0 (for example, `P002>>> boot dqa0`) is not supported and may result in a *kernel stack not valid* response.

2.5.2 Booting Firmware from DVD is Not Supported

Booting firmware is only supported from a bootable CD-ROM. Booting firmware from a bootable DVD is not supported because of a memory limit restriction.

2.5.3 System Serial Number Mismatch Message

A *sys_serial_num mismatch* message is display from the MBM console when issuing a “**show error**” or “**show fru**” command if there is a serial number mismatch. The system serial number is displayed with the **show sys_serial_num** command. To clear the mismatch message, use the **set sys_serial_num** command as follows:

```
MBM> set sys_serial_num AY33801314
Updating SYS_SERIAL_NUM in FRU EEPROMs...
```

```
MBM> show sys_serial_num
SYS_SERIAL_NUM AY33801314
```

```
MBM>
```

2.5.4 KVM Console Switch Limitations

2.5.4.1 Run Bios Command Not Supported in Graphics Mode

Use of the SRM **run bios** command from the graphics console when connected through the KVM is not supported and will result in unexpected keyboard behavior. As a workaround, use the SRM “run bios” command from the serial console via serial port connection.

2.5.5 Updating Firmware on Partitioned Systems – Instructions

Please read the following rules before updating firmware on a Partitioned System via the Loadable Firmware Utility [LFU].

In the context of updating firmware, systems are viewed as broken up into Hard Partitions and/or Soft Partitions. Hard Partitioned systems [HPS] can consist in multiple hard partitions with only one sub partition within the hard partition. Soft Partitioned Systems [SPS] consist of at least one partition that has two or more sub partitions within a hard partition.

For HPS and SPS , the hard partition to run the LFU is shut down, the LFU is invoked and the firmware is updated. Subsequently, the other hard partition(s) must be shutdown and then reset to have firmware their updated. The RESET occurs by using the MBM - **reset -hp [hard_partition_name]** command.

Not all firmware is updated on each hard partition. The partition which invoked the LFU updates all firmware on its partition including I/O firmware. For the other hard partitions, all firmware except I/O firmware is updated after the partition is RESET.

2.5.6 SRM Console Firmware Workarounds and Restrictions

2.5.6.1 Cluster CI Connections

During system initialization, cluster CI connections may be temporarily closed resulting in an "SCS Disconnect Request received - break VC" message at console. The driver properly recovers and re-establishes the connection so there is no negative impact from this closure.

2.5.6.2 Multiple instances of the "initializing keyboard" message

Multiple instances of the "initializing keyboard" message can occur if there is more than one keyboard attached to the system (this is expected), or if the console's USB device driver is forced to reconfigure the bus. Each time the bus is reconfigured an "initializing keyboard" message can be displayed. The multiple messages can be ignored.

2.5.6.3 When configuring I/O Adapters using BIOS

When configuring I/O Adapters using BIOS, it is recommended that a serial mode console connection be used. If the console environmental variable is set to graphics there may be up to a 3 minute delay after entering <ESC> to exit the BIOS and the return of a graphics mode prompt.

2.5.6.4 When setting the bootbios EV

When setting the bootbios EV at the console on systems with more then 8 KZPDC adapters, please use the full device path name. (e.g. “set bootbios pya0.0.0.2.1” rather than “set bootbios pya0”).

2.5.6.5 If the “init_type” environment variable is set to “hard”,

If the “init_type” environment variable is set to “hard”, there will be a hard reset of the partition on the “init” command. (For example, any memory dumps living in RAM at the time will be overwritten by diagnostics) If it is set to “soft”, the console will merely be restarted at the beginning of the console code. The default setting for “init_type” is “soft”, to optimize boot time.

2.5.6.6 If the “boot_reset” environment variable is set to “on”

If the “boot_reset” environment variable is set to “on”, the system will be re-initialized (hard or soft, depending on init_type) prior to booting. If it is set to “off”, the system will NOT be re-initialized prior to booting. The default setting for “boot_reset” is “off”, to optimize boot time.

2.5.7 XSROM Workarounds and Restrictions

If any CPU module has version V1.0-11 or later of XSROM, you must upgrade all the other CPU modules as well or downgrade the modules with V1.0-11. You will not be able to boot to the console with mismatched XSROM versions (except as explained below).

You can use either the update command from the MBM prompt or LFU to upgrade the XSROM from a previous version. If you have mismatched XSROM versions you must use the MBM update command or follow the procedure below to update using LFU:

1. **mbm> set cpu_enabled 3**
(The value 3 is a mask field to enable cpu0 and cpu1.)
2. **mbm> power on**
(The system powers on with 2 cpus enabled.)
3. Run the current version of the LFU from the SRM prompt P00>>>>
4. **LFU> update xsrom***
5. **LFU> exit**
(The system powers up again, still with 2 cpus enabled.)
6. **mbm> power off**
7. **mbm> clear cpu_enabled**
8. **mbm> power on**
(The system powers up with all cpus in normal manner.)

To load the XSROM from the backup copy on the MBM use the following command, where x and y are the cabinet and drawer of the DUO to be updated, and z is the number of the DUO (0-3).

MBM> update xsromfw 10.253.0.1 –cabinet x –drawer y CMMz

2.5.8 Server Management Firmware Workarounds and Restrictions

The following is a list of workaround/restrictions for server management firmware (MBM,PBM,CMM).

- After a firmware update, partitions must be power cycled in order for an FPGA (with new firmware) can be used.
- While a firmware upgrade is in progress, it is *not recommended* to issue commands at the MBM prompt.
- Splitting a DUO into 2 hard partitions is not supported.
- The following messages can be ignored:
"~PGP-W-(partgroup) Can't assign local memory for IO7 on pid x"
"~SMG-W-(smprot) No outstanding command for response nnn "
"putchar_totelnet_task: printed -1 out of n chars." This can be displayed during some error situations.
- The following messages appear when an SBB or PCI drawer is added to the system without using the "**set membership -auto**" command.

```
~GRP-W-(grp_Probe) MBM/PBM cab:00 drw:2 is not in the member list.  
~GRP-W-(grp_Probe) Use Set Membership -add -ca 0 -dr 2 MBM
```

The **set membership** command is used to define the expected system configuration.

- When changing cabinet and drawer numbers, you must make sure the (cabinet + drawer) combination you set is unique across the system.
- Before booting the OS and setting the time, first set the time from the MBM> prompt to your desired reference date and time (e.g. local, UTC). This ensures that logs stored in the MBM have meaningful timestamps. This only needs to be done when you initially install the system and at DST transition.
- When using the MBM **connect** command, be aware that the buffered data that is printed out upon initial connection could be from a *previous* power-on or reset. Data is saved into a circular buffer until the user connects to the session, so it is possible to receive output from the system even though it was powered down some time ago.
- If cabinet and/or drawer thumbwheels are changed, you must turn the main power on and off at the system breaker or issue a "**reset -micro -all**" command in order to reset all of the micros. Make sure that the VAUX lights all go out if turning off from the system breaker.

2.6 Procedure to Service an I/O Riser in a VMS Galaxy partition

This procedure assumes that an AlphaServer ES80/GS1280 is configured as a VMS Galaxy system with multiple soft sub-partitions.

This procedure can be used to replace a bad I/O Riser (IOR) in a PCI drawer or even add/remove I/O options to/from a PCI drawer. In this environment it is possible to service an IOR in a partition by only quiescing that sub-partition. Other partitions can continue to run. Initially, all partitions in the system are assumed to be running VMS.

The following steps may be taken to shutdown the VMS instance on a soft sub-partition and power down the IOR for service.

1. Determine which soft partition the IOR belongs to and shutdown the operating system on that partition.

```
$ shutdown
```

```
...
```

```
P00>>>
```

2. Determine which local I/O risers are attached to the PCI drawer and then which PID numbers are assigned to them by the SRM console. Using the PCI drawer ID (from the thumbwheel switch), look for that PCI drawer number in the “show config” output and then for the corresponding PID numbers. Using “grep” simplifies this task.

```
P00>>> show config -c | grep -i drawer
```

```
PID 1      CPU 1      Cabinet 0 Drawer 0
```

```
I/O Drawer 4      Cabinet 0 Riser 0  Backplane rev 1
```

3. Power off the logical IO7 from the SRM console.

```
P00>>> power off -iop 1
```

4. Re-initialize the SRM console so it can map out the IOR that was just powered off.

```
P00>>> init
```

5. Service the IOR in the PCI drawer.

6. From the soft partition’s SRM console, power on the IO7.

```
P00>>> power on -iop 1
```

7. Re-initialize the SRM console so that it can rediscover the IOR in the PCI drawer.

```
P00>>> init
```

8. Boot the operating system.

```
P00>>> boot
```

```
...
```

End of Procedure

Notes:

Identifying the correct local IOR numbers and IO7 PID are crucial to safely powering down the PCI drawer without affecting the other soft partitions. Also, care should be taken to correctly determine these parameters.



3 Firmware Update Procedures

This chapter explains the firmware update procedure using the Loadable Firmware Update utility on the firmware update CD.

3.1 Checking Firmware Revisions

To display the current revisions for the various firmware components on the system, use the “show version” command at the MBM CLI Prompt. The following example is for a 8-Processor System. **NOTE:** The firmware revisions shown are not necessarily the latest revisions currently available. They are provided as examples only.

```
MBM> show version
Local MBM/PBM firmware version V2.0-12 built on Dec 19 2002 at 15:10:48
```

```
Cab Drw Micro  FW Module  Flash Firmware Revision
```

```
0 0 MBM  MBMFW  V2.0-12
    MBMFSL  V2.0-2
    SRMFW  v6.4-6
    PBMFPGA*  V4.1-01
    XSHFPGA*  V3.1-10
    CMMFW*  V2.1-23
    CMMFSL*  V2.1-22
    CMMFPGA*  V114
    SROMFW*  V1.0-7
    XSROMFW*  V1.0-2
0 0 CMM0  CMMFW  V2.1-23
    CMMFSL  V2.1-22
    CMMFPGA  V114
    SROMFW  V1.0-7
    XSROMFW  V1.0-2
    SRMFW  v6.4-6
0 0 CMM1  CMMFW  V2.1-23
    CMMFSL  V2.1-22
    CMMFPGA  V114
    SROMFW  V1.0-7
    XSROMFW  V1.0-2
    SRMFW  v6.4-6
0 0 CMM2  CMMFW  V2.1-23
    CMMFSL  V2.1-22
    CMMFPGA  V114
    SROMFW  V1.0-7
    XSROMFW  V1.0-2
    SRMFW  v6.4-6
0 0 CMM3  CMMFW  V2.1-23
    CMMFSL  V2.1-22
    CMMFPGA  V114
    SROMFW  V1.0-7
    XSROMFW  V1.0-2
    SRMFW  v6.4-6
0 4 PBM  PBMFW  V2.0-12
    PBMFSL  V2.0-2
    PBMFPGA  V4.1-01
    SRMFW*  v6.4-6
    CMMFW*  V2.1-23
    CMMFSL*  V2.1-22
    CMMFPGA*  V114
    SROMFW*  V1.0-7
    XSROMFW*  V1.0-2
```



MBM>

From the SRM Console Prompt, revision information for Console and PALcode are available, using the “show version” and the “show pal” commands :

```
P00>>> show version
version          V6.4-6 Dec 19 2002 14:28:56
P00>>> show pal
pal              OpenVMS PALcode V2.11-0, Tru64 UNIX PALcode V2.08-0
```

3.2 Updating Firmware Using the CD

3.2.1 Example to Update All Firmware

The firmware revisions shown are for example purposes and do not reflect the version of current shipping firmware. Commands in **bold** is what you type.

1. Load the “Alpha Systems Firmware Update CD Vxx” into the CD-ROM Drive. Then, from the SRM Console prompt, Initialize the System :

```
P00>>> init

starting console on CPU 0
initialized idle PCB
initializing semaphores
initializing heap
initial heap 700c0
memory low limit = 54a000 heap = 700c0, 1ffc0
initializing driver structures
initializing idle process PID
initializing file system
initializing timer data structures
lowering IPL
.
.
<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>
.
.
AlphaServer Console T6.4-4, built on Dec 10 2002 at 10:38:42
P00>>>
```

2. Enter <show device> to find name of CD-ROM Drive (dqa0 in this example) :

```
P00>>> show device

dka0.0.0.2002.0    DKA0    COMPAQ BD0366349C 3B06
dkc300.3.0.102.1  DKC300  COMPAQ BD0096398B BC1P
dqa0.0.0.2001.0    DQA0    UJDA310 3.52
eia0.0.0.2004.2    EIA0    00-02-A5-89-06-AE
eib0.0.0.2005.2    EIB0    00-02-A5-89-06-AF
pka0.7.0.2002.0    PKA0    SCSI Bus ID 7
pkb0.7.0.2.1      PKB0    SCSI Bus ID 7
pkc0.7.0.102.1    PKC0    SCSI Bus ID 7
pya0.0.0.1.2      PYA0
pyb0.0.0.2.2      PYB0
P00>>>
```



3. Enter <boot> command as shown, using the above CD Drive name :

```
P00>>> boot dqa0

(boot dqa0.0.0.2001.0 -flags 0)
block 0 of dqa0.0.0.2001.0 is a valid boot block
reading 1082 blocks from dqa0.0.0.2001.0
bootstrap code read in
base = b64000, image_start = 0, image_bytes = 87400(553984)
initializing HWRPB at 10000
GCT base = 54a000
initializing page table at b50000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code
```

4. The system will respond by displaying “READ ME FIRST” information on the screen (which you should read and scroll through by pressing the ENTER key), followed by display of the default firmware update utility bootfile name, and the prompt “Bootfile:” At this point, you may press the ENTER key to load the latest (current) update, or you may type a specific bootfile name to load a previous (older) version if one is available on the CD.

The default bootfile for this platform is

```
[GS1280]GS1280_V01.EXE
```

Hit <RETURN> at the prompt to use the default bootfile.

Bootfile: <USER HITS ENTER KEY>

```
.
.
<ONE OR TWO PAGES OF PRINTOUT WILL OCCUR HERE>
```

```
.
Checking dqa0.0.0.2001.0 for the option firmware files. . .
Copying DFXAA320 from dqa0.0.0.2001.0. . .
Copying CIPCA420 from dqa0.0.0.2001.0. . .
Copying FC2382A1 from dqa0.0.0.2001.0. . .
Copying FC8100X2 from dqa0.0.0.2001.0. . .
Copying KZPDC288 from dqa0.0.0.2001.0. . .
```

```
***** Loadable Firmware Update Utility *****
```

```
-----
Function  Description
-----
Display  Displays the system's configuration table.
Exit     Done exit LFU (reset).
List     Lists the device, revision, firmware name, and update revision.
Update   Replaces current firmware with loadable data image.
Verify   Compares loadable and hardware images.
? or Help  Scrolls this function table.
-----
```

```
UPD>
```

5. Enter <list> command as shown, to display the various firmware updates available :



UPD> list

Device	Current Revision	Filename	Update Revision
pya0	2.50	kzpdw_fw	2.88
pyb0	2.50	kzpdw_fw	2.88
cmm.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm.0.4	Z2.1-21	cmm_fw	T2.1-20
cmm0.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm1.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm2.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm3.0.0	Z2.1-21	cmm_fw	T2.1-20
cmmfpga.0.0	V114	cmmfpga	V114
cmmfpga.0.4	V114	cmmfpga	V114
cmmfpga0.0.0	V114	cmmfpga	V114
cmmfpga1.0.0	V114	cmmfpga	V114
cmmfpga2.0.0	V114	cmmfpga	V114
cmmfpga3.0.0	V114	cmmfpga	V114
srom.0.0	O1.0-7	srom_fw	T1.0-7
srom.0.4	O1.0-7	srom_fw	T1.0-7
srom0.0.0	T1.0-7	srom_fw	T1.0-7
srom1.0.0	O1.0-7	srom_fw	T1.0-7
srom2.0.0	T1.0-7	srom_fw	T1.0-7
srom3.0.0	T1.0-7	srom_fw	T1.0-7
xsrom.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom.0.4	T1.0-1	xsrom_fw	T1.0-1
xsrom0.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom1.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom2.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom3.0.0	T1.0-1	xsrom_fw	T1.0-1
srm.0.0	t6.4-3	srm_fw	t6.4-4
srm.0.4	t6.4-3	srm_fw	t6.4-4



srm0.0.0	t6.4-3	srm_fw	t6.4-4
srm1.0.0	t6.4-3	srm_fw	t6.4-4
srm2.0.0	t6.4-3	srm_fw	t6.4-4
srm3.0.0	t6.4-3	srm_fw	t6.4-4
mbm.0.0	T2.0-6	mbm_fw	T2.0-6
pbm.0.4	T2.0-6	mbm_fw	T2.0-6
cmmfsl.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl.0.4	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl0.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl1.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl2.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl3.0.0	T2.1-12	cmmfsl_fw	T2.1-12
mbmfsl.0.0	T2.0-0	mbmfsl_fw	T2.0-0
pbfmfsl.0.4	T2.0-0	mbmfsl_fw	T2.0-0
pbfmfga.0.0	T4.0-0806	pbfmfga	T4.0-0806
pbfmfga.0.4	T4.0-0806	pbfmfga	T4.0-0806
xshfpga.0.0	T3.0-0730	xboxfpga	T3.0-0730
		cipca_fw	A420
		dfxaa_fw	3.20
		fca_2354_fw	CS3.82A1
		fca_2384_fw	HS1.00X2
		kzpcdc_fw	2.88
		mbm2pfpga	T3.0-0402

UPD>

6. Enter <update> command as shown, and answer “yes” to the question (note - if the user enters <update> with no arguments, all possible firmware pieces are updated - SRM, Micros, and I/O adapters. Although FW components may be updated selectively by supplying an argument such as srm* or pyb0, <update> is the PREFERRED method, so that all firmware is updated at the same time to compatible revisions). The update may take several minutes - DO NOT ABORT THE PROGRAM :

UPD> update

Confirm update on:
pya0



pyb0
cmm.0.0
cmm.0.4
cmm0.0.0
cmm1.0.0
cmm2.0.0
cmm3.0.0
cmmfpga.0.0
cmmfpga.0.4
cmmfpga0.0.0
cmmfpga1.0.0
cmmfpga2.0.0
cmmfpga3.0.0
srom.0.0
srom.0.4
srom0.0.0
srom1.0.0
srom2.0.0
srom3.0.0
xsrom.0.0
xsrom.0.4
xsrom0.0.0
xsrom1.0.0
xsrom2.0.0
xsrom3.0.0
srm.0.0
srm.0.4
srm0.0.0
srm1.0.0
srm2.0.0
srm3.0.0
mbm.0.0
pbm.0.4
cmmfsl.0.0
cmmfsl.0.4
cmmfsl0.0.0
cmmfsl1.0.0
cmmfsl2.0.0
cmmfsl3.0.0
mbmfsl.0.0
pbmfsl.0.4
pbmfpga.0.0
pbmfpga.0.4
xshfpga.0.0 [Y/(N)] Y

WARNING: updates may take several minutes to complete for each device.

DO NOT ABORT!

pya0 Updating to 2.88... Verifying 2.88... PASSED.

pyb0 Updating to 2.88... Verifying 2.88... PASSED.

cmm.0.0 Updating to T2.1-20... Verifying T2.1-20... PASSED.

cmm.0.4 Updating to T2.1-20... Verifying T2.1-20... PASSED.

cmm0.0.0 Updating to T2.1-20... Verifying T2.1-20... PASSED.



cmm1.0.0 Updating to T2.1-20... Verifying T2.1-20... PASSED.
cmm2.0.0 Updating to T2.1-20... Verifying T2.1-20... PASSED.
cmm3.0.0 Updating to T2.1-20... Verifying T2.1-20... PASSED.
cmmfpga.0.0 Updating to V114... Verifying V114... PASSED.
cmmfpga.0.4 Updating to V114... Verifying V114... PASSED.
cmmfpga0.0.0 Updating to V114... Verifying V114... PASSED.
cmmfpga1.0.0 Updating to V114... Verifying V114... PASSED.
cmmfpga2.0.0 Updating to V114... Verifying V114... PASSED.
cmmfpga3.0.0 Updating to V114... Verifying V114... PASSED.
srom.0.0 Updating to T1.0-7... Verifying T1.0-7... PASSED.
srom.0.4 Updating to T1.0-7... Verifying T1.0-7... PASSED.
srom0.0.0 Updating to T1.0-7... Verifying T1.0-7... PASSED.
srom1.0.0 Updating to T1.0-7... Verifying T1.0-7... PASSED.
srom2.0.0 Updating to T1.0-7... Verifying T1.0-7... PASSED.
srom3.0.0 Updating to T1.0-7... Verifying T1.0-7... PASSED.
xsrom.0.0 Updating to T1.0-1... Verifying T1.0-1... PASSED.
xsrom.0.4 Updating to T1.0-1... Verifying T1.0-1... PASSED.
xsrom0.0.0 Updating to T1.0-1... Verifying T1.0-1... PASSED.
xsrom1.0.0 Updating to T1.0-1... Verifying T1.0-1... PASSED.
xsrom2.0.0 Updating to T1.0-1... Verifying T1.0-1... PASSED.
xsrom3.0.0 Updating to T1.0-1... Verifying T1.0-1... PASSED.
srm.0.0 Updating to t6.4-4... Verifying t6.4-4... PASSED.
srm.0.4 Updating to t6.4-4... Verifying t6.4-4... PASSED.
srm0.0.0 Updating to t6.4-4... Verifying t6.4-4... PASSED.
srm1.0.0 Updating to t6.4-4... Verifying t6.4-4... PASSED.
srm2.0.0 Updating to t6.4-4... Verifying t6.4-4... PASSED.
srm3.0.0 Updating to t6.4-4... Verifying t6.4-4... PASSED.
mbm.0.0 Updating to T2.0-6... Verifying T2.0-6... PASSED.
pbm.0.4 Updating to T2.0-6... Verifying T2.0-6... PASSED.
cmmfsl.0.0 Updating to T2.1-12... Verifying T2.1-12... PASSED.



```
cmmfsl.0.4   Updating to T2.1-12... Verifying T2.1-12... PASSED.
cmmfsl0.0.0  Updating to T2.1-12... Verifying T2.1-12... PASSED.
cmmfsl1.0.0  Updating to T2.1-12... Verifying T2.1-12... PASSED.
cmmfsl2.0.0  Updating to T2.1-12... Verifying T2.1-12... PASSED.
cmmfsl3.0.0  Updating to T2.1-12... Verifying T2.1-12... PASSED.
mbmfsl.0.0   Updating to T2.0-0... Verifying T2.0-0... PASSED.
pbmfsl.0.4   Updating to T2.0-0... Verifying T2.0-0... PASSED.
pbmfpga.0.0  Updating to T4.0-0806... Verifying T4.0-0806... PASSED.
pbmfpga.0.4  Updating to T4.0-0806... Verifying T4.0-0806... PASSED.
xshfpga.0.0  Updating to T3.0-0730... Verifying T3.0-0730... PASSED.
UPD>
```

7. Enter <exit> command as shown, to leave the LFU and start the new SRM console. You will need to reconnect to your console session if MBM firmware has been updated. :

```
UPD> exit

Initializing...
starting console on CPU 0
initialized idle PCB
initializing semaphores
initializing heap
initial heap 700c0
memory low limit = 54a000 heap = 700c0, 1ffc0
initializing driver structures
initializing idle process PID
initializing file system
initializing timer data structures
lowering IPL
.
.
<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>
.
.
Initializing dqa eia eib pka pkb pkc
AlphaServer Console T6.4-4, built on Dec 10 2002 at 10:38:42
P00>>>
```

3.2.2 Example to Update PCI I/O Adapter Firmware

NOTE: The firmware revisions shown are not necessarily the latest revisions currently available. They are provided as examples only.



1. Load the “Alpha Systems Firmware Update CD Vxx” into the CD-ROM Drive. Then, from the SRM Console prompt, Initialize the System :

```
P00>>> init

starting console on CPU 0
initialized idle PCB
initializing semaphores
initializing heap
initial heap 700c0
memory low limit = 54a000 heap = 700c0, 1ffc0
initializing driver structures
initializing idle process PID
initializing file system
initializing timer data structures
lowering IPL
.
.
<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>
.
.
AlphaServer Console T6.4-4, built on Dec 10 2002 at 10:38:42
P00>>>
```

2. Enter <show device> to find name of CD-ROM Drive (dqa0 in this example) :

```
P00>>> show device
dka0.0.0.2002.0      DKA0      COMPAQ BD0366349C 3B06
dkc300.3.0.102.1    DKC300    COMPAQ BD0096398B BC1P
dqa0.0.0.2001.0      DQA0      UJDA310 3.52
eia0.0.0.2004.2      EIA0      00-02-A5-89-06-AE
eib0.0.0.2005.2      EIB0      00-02-A5-89-06-AF
pka0.7.0.2002.0      PKA0      SCSI Bus ID 7
pkb0.7.0.2.1        PKB0      SCSI Bus ID 7
pkc0.7.0.102.1      PKC0      SCSI Bus ID 7
pya0.0.0.1.2        PYA0
pyb0.0.0.2.2        PYB0
P00>>>
```

3. Enter <boot> command as shown, using the above CD Drive name :

```
P00>>> boot dqa0
(boot dqa0.0.0.2001.0 -flags 0)
block 0 of dqa0.0.0.2001.0 is a valid boot block
reading 1082 blocks from dqa0.0.0.2001.0
bootstrap code read in
base = b64000, image_start = 0, image_bytes = 87400(553984)
initializing HWRPB at 10000
GCT base = 54a000
initializing page table at b50000
initializing machine state
setting affinity to the primary CPU
jumping to bootstrap code
```

4. The system will respond by displaying “READ ME FIRST” information on the screen (which you should read and scroll through by pressing the ENTER key), followed by display of the default firmware update utility bootfile name, and the prompt “Bootfile:” At this point, you may press the ENTER key to load the latest (current) update, or you may type a specific bootfile name to load a previous (older) version if one is available on the CD.



The default bootfile for this platform is

[GS1280]GS1280_V01.EXE

Hit <RETURN> at the prompt to use the default bootfile.

Bootfile: <USER HITS ENTER KEY>

.
.
<ONE OR TWO PAGES OF PRINTOUT WILL OCCUR HERE>

Checking dqa0.0.0.2001.0 for the option firmware files. . .

Copying DFXAA320 from dqa0.0.0.2001.0. . .

Copying CIPCA420 from dqa0.0.0.2001.0. . .

Copying FC2382A1 from dqa0.0.0.2001.0. . .

Copying FC8100X2 from dqa0.0.0.2001.0. . .

Copying KZPDC288 from dqa0.0.0.2001.0. . .

***** Loadable Firmware Update Utility *****

Function Description

Display Displays the system's configuration table.

Exit Done exit LFU (reset).

List Lists the device, revision, firmware name, and update revision.

Update Replaces current firmware with loadable data image.

Verify Compares loadable and hardware images.

? or Help Scrolls this function table.

UPD>

5. Enter <list> command as shown, to display the various firmware updates available :

UPD> **list**

Device	Current Revision	Filename	Update Revision
pya0	2.50	kzpd_c_fw	2.88
pyb0	2.50	kzpd_c_fw	2.88
cmm.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm.0.4	Z2.1-21	cmm_fw	T2.1-20
cmm0.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm1.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm2.0.0	Z2.1-21	cmm_fw	T2.1-20
cmm3.0.0	Z2.1-21	cmm_fw	T2.1-20
cmmfpga.0.0	V114	cmmfpga	V114



cmmfpga.0.4	V114	cmmfpga	V114
cmmfpga0.0.0	V114	cmmfpga	V114
cmmfpga1.0.0	V114	cmmfpga	V114
cmmfpga2.0.0	V114	cmmfpga	V114
cmmfpga3.0.0	V114	cmmfpga	V114
srom.0.0	O1.0-7	srom_fw	T1.0-7
srom.0.4	O1.0-7	srom_fw	T1.0-7
srom0.0.0	T1.0-7	srom_fw	T1.0-7
srom1.0.0	O1.0-7	srom_fw	T1.0-7
srom2.0.0	T1.0-7	srom_fw	T1.0-7
srom3.0.0	T1.0-7	srom_fw	T1.0-7
xsrom.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom.0.4	T1.0-1	xsrom_fw	T1.0-1
xsrom0.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom1.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom2.0.0	T1.0-1	xsrom_fw	T1.0-1
xsrom3.0.0	T1.0-1	xsrom_fw	T1.0-1
srm.0.0	t6.4-3	srm_fw	t6.4-4
srm.0.4	t6.4-3	srm_fw	t6.4-4
srm0.0.0	t6.4-3	srm_fw	t6.4-4
srm1.0.0	t6.4-3	srm_fw	t6.4-4
srm2.0.0	t6.4-3	srm_fw	t6.4-4
srm3.0.0	t6.4-3	srm_fw	t6.4-4
mbm.0.0	T2.0-6	mbm_fw	T2.0-6
pbm.0.4	T2.0-6	mbm_fw	T2.0-6
cmmfsl.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl.0.4	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl0.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl1.0.0	T2.1-12	cmmfsl_fw	T2.1-12
cmmfsl2.0.0	T2.1-12	cmmfsl_fw	T2.1-12



cmmfsl3.0.0	T2.1-12	cmmfsl_fw	T2.1-12
mbmfsl.0.0	T2.0-0	mbmfsl_fw	T2.0-0
pbfmfsl.0.4	T2.0-0	mbmfsl_fw	T2.0-0
pbfmfpga.0.0	T4.0-0806	pbfmfpga	T4.0-0806
pbfmfpga.0.4	T4.0-0806	pbfmfpga	T4.0-0806
xshfpga.0.0	T3.0-0730	xboxfpga	T3.0-0730
		cipca_fw	A420
		dfxaa_fw	3.20
		fca_2354_fw	CS3.82A1
		fca_2384_fw	HS1.00X2
		kzpd_c_fw	2.88
		mbm2pfpga	T3.0-0402

UPD>

6. In this example, assume you want to update ONLY “pyb0”. Enter <update pyb0> command as shown, and answer “yes” to the question. The update may take several minutes - DO NOT ABORT THE PROGRAM :

UPD> **update pyb0**

Confirm update on:
pyb0 [Y/(N)] Y

WARNING: updates may take several minutes to complete for each device.

DO NOT ABORT!

pyb0 Updating to 2.88... Verifying 2.88... PASSED.

UPD>

7. Enter <exit> command as shown, to leave the LFU and start the SRM console :

UPD> **exit**

Initializing....
starting console on CPU 0
initialized idle PCB
initializing semaphores
initializing heap
initial heap 700c0
memory low limit = 54a000 heap = 700c0, 1ffc0
initializing driver structures
initializing idle process PID
initializing file system
initializing timer data structures



lowering IPL

.

<SEVERAL PAGES OF PRINTOUT WILL OCCUR HERE>

.

Initializing dqa eia eib pka pkb pkc

AlphaServer Console T6.4-4, built on Dec 10 2002 at 10:38:42

P00>>>

3.3 Updating Firmware from the MBM

The primary mechanism for doing firmware updates is to boot the firmware CD and run the LFU program, as described in Section 3.2. However, in the highly unlikely event that the system cannot be brought to the point of being able to run the SRM Console and LFU, an alternative firmware update method is available.

Updating firmware from the MBM allows the operator to update individual firmware components via the “**update**” command provided by the MBM CLI. The **update** command uses TFTP communication between the MBM (which requests the image), and a connected PC (which serves the image). The individual update images are included on the AlphaServer ES47/ES80/GS1280 Firmware CD. The following sections describe how this method can be used.

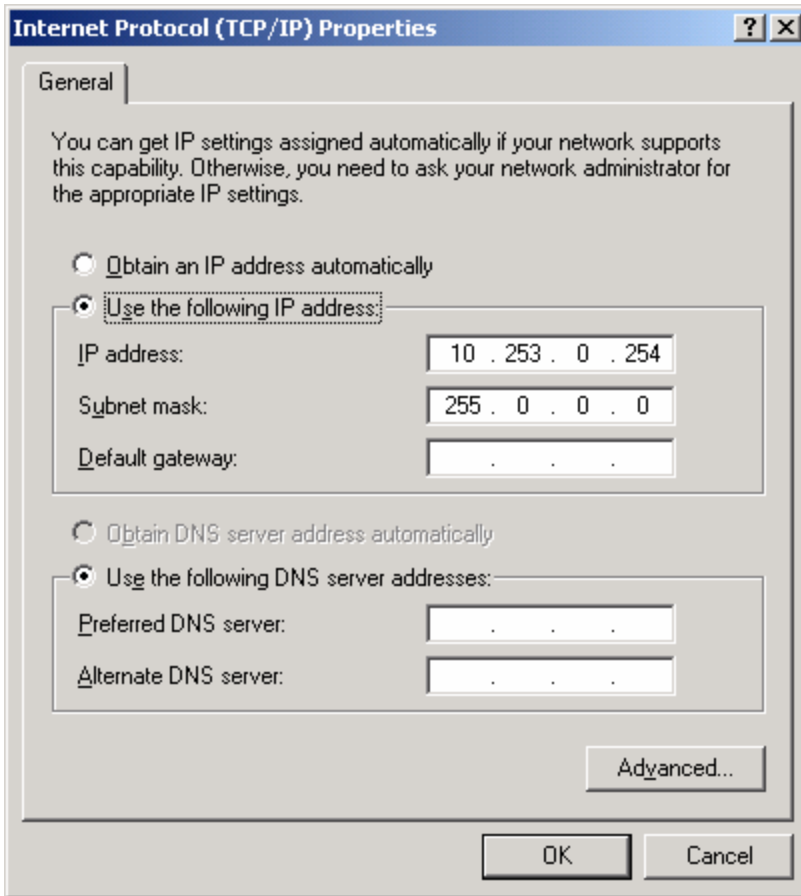
3.3.1 Setting Up a PC-Based TFTP Server

To setup a PC-based TFTP Server, the PC Ethernet network card must be connected to the Server Management hub. The network connection can be static (using the address “10.253.0.254”) or dynamic (using the dhcp protocol).

To set up the PC network connection do the following from your PC:

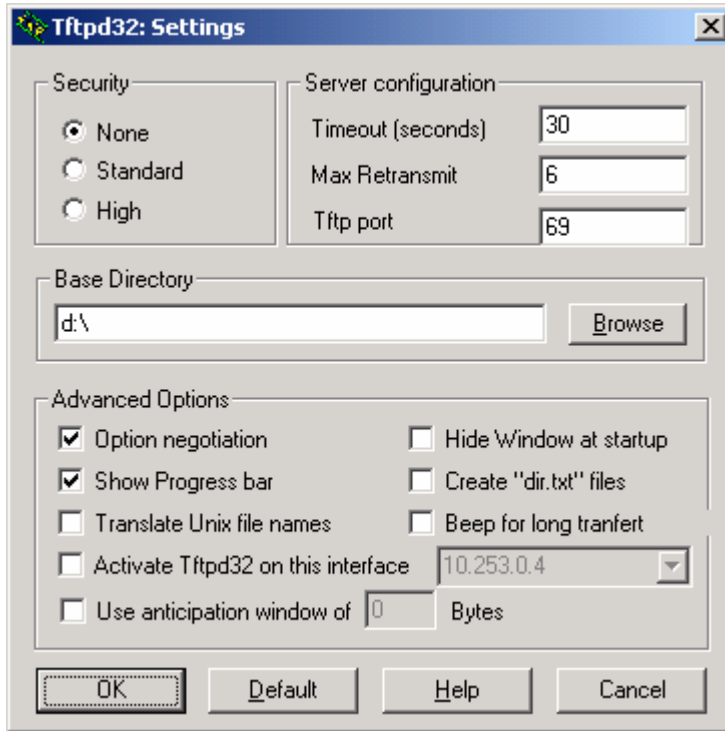
- Select *Start, Settings, Control Panel, Network and Dial Up Connections, Local Area Connection, Properties, Internet Protocol(TCP/IP), Properties.*

The remainder of this document has examples using the static address “10.253.0.254”.



If using DHCP, check *Obtain an IP Address automatically*.

Start the TFTP Server on the PC by invoking `tftpd32.exe`. A copy is found on the AlphaServer ES47/ES80/GS1280 Firmware CD, to be copied to a convenient directory on your local PC. Then change the settings to point the directory containing the files to be upgraded.



Click OK.

3.3.2 MBM Update Command

At the MBM prompt (MBM>), perform the following commands and insure the response is “Update Complete” on all. The firmware versions of the files used in the following examples are provided as examples only. The latest files are supplied on the firmware CD.

```

MBM> update cmmfpga 10.253.0.254 -file fpga_v114.bin
MBM> update cmmfw 10.253.0.254 -file cmm3_x2_0_262.bin
MBM> update mbmfs1 10.253.0.254 -file mbmfs1_t1_0_13130.bin
MBM> update mbmfw 10.253.0.254 -file mbm_t1_0_13146.bin
MBM> update xsromfw 10.253.0.254 -file mvxsrom_x0_0_110.exe
MBM> update sromfw 10.253.0.254 -file mvsrom_t1_0_7.exe
MBM> update cmmfs1 10.253.0.254 -file cmmfs13_x2_0_231.bin
MBM> update srmfw 10.253.0.254 -file srm_t4_0_15.exe
For systems with 12 slot PCI boxes (standard PCI box on 8P-SBB):
MBM> update pbmfpga 10.253.0.254 -file pf0806.bin
For systems with Xshelf PCI boxes:
MBM> update xshfpga 10.253.0.254 -file xpf0730.bin
For 2P Systems:
MBM> update mbmfpga 10.253.0.254 -file 2p_pf0402_newapu.bin

```

After updating the firmware you should cycle VAUX or issue the “**reset –micro –all**” command to force the MBMs and PBMs to run the new firmware. Also use the **show version** command to verify the new firmware revisions.



4 Firmware Change History

4.1 V7.2A Interim Release

4.1.1 MBM Firmware Change Only

Fix routing algorithm bug introduced in the V7.2 firmware release. As part of the V7.2 Firmware Release, a fix was made to prevent non routable partition configurations from powering on. However, it has been determined that the modification also prevents some valid configurations from powering on as well

4.2 V7.2

4.2.1 SRM Console

New module naming for the following I/O devices that are listed under the **show config** command:

- DE602-FA is displayed as DE602-F*.
- DEGXA-SB/TB is displayed as DEGXA-S*/T*

WWIDMGR code change - do not attempt to get a UDID on a Fibre Channel SAN for SCSI sequential access or SCSI media changer type devices (i.e. tape drives, robot arms)

4.2.1.1 I/O Option Firmware Revision Update

DS-KGPSA-CA (LP8000) - Firmware Revision 3.93A0
DS-KGPSA-DA (LP9002) - Firmware Revision 3.93A0
DS-KGPSA-EA (LP9802) - Firmware Revision 1.91X6
DS-A5132-AA (LP10000) - Firmware Revision 1.91X6

4.2.2 Server Management

XSROM remains at V1.0-31

SR0M remains at V1.0-8

CPLD remains at V0.5.

CMM

- Fix for whoami register value in 680 events; value was off by a nibble
 - Fix wrong platform in CMM shared memory on ES47/ES80 displaying GS1280 in “show config” command .
- MBM/PBM
- Code change to only allow modifying partition attributes when powered off. This is to prevent **invalid Test 17** failures seen on power on of the system.
 - The MBM “show duo” command now includes the J- number for slot identification as marked on the DUO for the RIMM debing displayed
 - Temperature and Voltage limits information included in the “show power –detail” command display output
 - Fixed a problem where an MBM watchdog reset on a 2P drawer or PBM PCI drawer caused the drware to lose power
 - Fixed a problem where a non-routable partition message appeared but the partition powers on anyway

4.3 V7.1 NOTICE - DO NOT USE

4.3.1 MBM Firmware Bug

NOTICE - If you have a V7.1 Firmware CD, please **do not use the V7.1 CD to upgrade GS1280 firmware**. If you have already upgraded to V7.1, please upgrade firmware to V7.2A (or greater) firmware as soon as possible.

Background - V7.1 contained a GS1280 firmware bug that may cause a machine check crash. No other AlphaServer models are susceptible except GS1280. The MBM firmware bug affects partitions that are not



rectangular (e.g. L-Shaped) and/or have CPU filler modules installed. V7.1A GS1280 firmware was an interim firmware release on March 2006. V7.2 firmware supersedes the V7.1A interim release.

4.4 V7.0 SRM Changes

4.4.1 Console Enhancements

New SRM Environment Variables

With the V7.0 firmware release, two nonvolatile EVs were added to the SRM console for custom use. EV **user_def1** can propagate across partitions, using specific rules described below, and EV **user_def2** is partition specific. The EVs will accept a character-string argument within double quotes.

If you are using these EVs, it is recommended EV user_def1 have its char-string defined **before** the system is divided into partitions. Doing so ensures user_def1 will automatically propagate to each partition. Otherwise you have to manually initialize each of the other partition as described in Propagation Rules below.

Format:

```
P00>>> set user_def<1 or 2> "<character-string>"
```

Example:

```
P00>>> set user_def1 "Asset Tag: 12369152439 , System Location: Zone-green"
```

```
P00>>> set user_def2 "Business: Managed Services"
```

Propagation Rules on Partitioned Systems for EV user_def1

To propagate user_def1, which has been changed with a new char-string on one of the partitions, each of the other partitions must perform an SRM console "init" **prior to performing any set command**. This will prevent the possibility of *stale user_def1 values* from getting redeployed as the current user_def1 value. **Therefore, it is strongly recommended to set user_def1 before a system is divided into partitions.**

Bug Fixes and Other

OpenVms Palcode change to add an interlock when reading the hardware clock to prevent other reads until the current read calls have been serviced.

A change to the number of Nx environment variables from 4 to 8 to support up to 8 boot paths for fibre channel storage.

A change to fix serial emulation for the Smart Array 5300.

Fix for a galaxy config tree bugcheck problem seen on a system with three soft partitions where a gct command issued on the primary partition would result in the other two partitions failing to boot.

Fix for a galaxy init problem where a shutdown and init of one soft partition in a three soft partition configuration would cause the other two partitions to crash.

Fix for fru discovery information when CPUs are not present.

4.4.2 Server Management

XSROM no change - remains at V1.0-31

SR0M no change - remains at V1.0-8

CMM Modification to the voltage threshold and sampling algorithm.



CPLD no change - CPLD remains at V0.5.

MBM/PBM Changes to prevent CPLD programming if the power is on. Please review the notes on update procedures required for the CPLD programming to occur.

A cable testing failure message has been changed to an informational message rather than an error message.