



AlphaServer DS10

V7.3 Console Firmware Release Notes



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1 Scope

The document lists significant changes in this firmware release, and describes methods to update console firmware and console-supported I/O options firmware. This document does not describe console firmware internals or console architecture.

1.1 Audience

The audience for this document is intended for individuals responsible for operating system installations and upgrades, for console firmware updates, and for (console-supported) I/O options firmware updates.

1.2 Golden Rules on Updating Firmware

Update console firmware before installing or updating an operating system. After an operating system shutdown, always re-initialize the system before running the update utility.

1.3 Internet Access to Firmware

Internet access to [SRM console firmware](#) and to [AlphaBIOS/HAL and NT Drivers](#)



2 Read Me First

2.1 Console Changes This Release

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 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

2.2 Operating System Console Firmware Revisions

The following table shows the minimum operating system version required with this console firmware release.

Operating System and Firmware Revision Table

Firmware CD V7.3	April 2007	
Operating System	OpenVMS	V7.1-2 + required patches
	Tru64 Unix	V4.0F
Console Firmware	SRM	V7.3-1 *
	AlphaBIOS	V5.71
An asterisk * indicates firmware changes since the last release.		

3 Firmware Update Procedure

This chapter explains how to invoke the loadable firmware utility [LFU] to update firmware from the SRM or from the AlphaBIOS console. Firmware update information is also described in the Owners Guide.

Note that AlphaServer systems recently shipped may have a higher firmware revision than the firmware revision listed in this release. *Do not load firmware that is older than what is presently installed.* A higher firmware revision usually indicates support for the currently shipping operating system.

A system reset or re-initialization is required after the operating system is shut down, and is recommended before invoking the LFU. This is to insure that the memory zone, used by the console, is free.

3.1 Update Firmware from SRM Console

The following procedure shows how to update console and I/O option firmware.

To update only I/O option firmware, select the option name after the update command (UPD> **update pka0**).

Type the **list** command to display available option names.

Bold text is what the user types:



1. Type >>> **show device** to find the CD-ROM drive (e.g. DKA500)
2. Insert firmware CD into CD-ROM drive
3. Type >>> **init** to initialize the console
4. Type >>> **boot** <cd-device-name> to boot the firmware CD
5. Type UPD> **update** to update firmware
6. Type UPD> **exit** to leave the LFU

3.2 Update Firmware from AlphaBIOS Console

The following procedures show how to update console and I/O option firmware. To get to the AlphaBIOS console menu from Windows NT, shutdown the operating system then reset the system. To get to the AlphaBIOS console from the SRM console prompt >>> , type "*set os_type NT*" then reset the system or type >>> *alp* from the SRM console.

1. Insert firmware CD into CD-ROM drive
2. Select **Supplementary Menu**
3. Select **Install New Firmware**
4. Type UPD> **update** to update firmware
5. Type **exit** to leave the LFU

3.3 Loadable Firmware Utility Commands

The Loadable Firmware Utility is the mechanism to update console and I/O option firmware. This section describes the most commonly used LFU commands. Type HELP at the LFU prompt (UPD>) to list all LFU commands.

3.3.1 Update Command

Use the update command to update both console and/or I/O option firmware, or to update one firmware device.

UPD> **update** *

UPD> **update** <option-name> For example, .>>> **update ccmab02**

3.3.2 List Command

Use the list command to show a list of memory-loaded images and currently supported flash ROMs. In the following example three devices are installed in a system that can be firmware-updated.

UPD> list

Device	Current Revision	Filename	Update Revision
Abios	5.68	abios_fw	5.70
Srm_fw	5.5	SRM	5.6

UPD>



4 Console Notes

4.1 Bios Commands

The console **show bios** and **run bios** commands can be run only from a serial console. Use the “run bios” command from a serial console only (not from a graphics console).

4.1.1 Serial Terminal Setup for Run Bios

The serial terminal, for the **run bios** command, should be setup as a VT220 or VT400 with the following parameters:

9600 bauds, 8-bits, No Parity and One Stop-bit

4.1.2 Show Bios

The **show bios** command lists the location of controllers that have a BIOS expansion ROM. The show bios command will reset the I/O buses. Note that not all controllers have a BIOS expansion ROM. The command format is as follows:

P00>>> **show bios** <hose>

The value for <hose> can be 0 or 1, and the default is 0.

Use the **show config** command to determine which hose the controller is located on.

4.1.3 Run Bios

The **run bios** command will invoke a BIOS expansion ROM on a supported PCI controller (for example, KZPCC-CE). This command is commonly used to invoke functions or utilities in the device expansion ROM. For example, the KZPCC-CE uses the expansion ROM for its configuration utility. The command format is as follows:

First use the **show config** command to determine which hose the controller is located on.

P00>>> **run bios** [controller name] for example, P00>>> **run bios** pka0

The **run bios** command will reset the PCI bus and then prompts the user to enter a control sequence (for example, Ctrl^D) in order to enter the BIOS utility of the PCI option. The control sequence may differ depending on the PCI option. Refer to the documentation supplied with the PCI option. See notes on KVM Console Switch Limitations.

4.2 Known Anomalies and Restrictions

4.2.1 Bootable DVD's are Not Supported

Bootable DVD's are not supported on all Alpha systems because of a limited memory size architectural restriction.

4.2.2 KVM Console Switch Limitations

4.2.2.1 Run Bios Command in Graphics Mode is Not Supported

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.



4.2.3 Halting VMS with 3D Labs Oxygen VX1 Graphics Card

With the console set to graphics mode, (with an Oxygen VX1 graphics card) when you halt your VMS system pressing the Halt Button, the graphic monitor will not reset. This will make the system appear as though it is hung, but it will still accept input from the keyboard. Typing the **crash** command and the Enter key should you back to the console prompt.

4.2.4 Reconfiguring Fibre Channel Switches

If a fibre cable is moved from one fibre channel port to another, the console will need to be initialized before devices can be accessed via the new switch.

4.2.5 Messages from KGPSA Devices

- Messages similar to “*retry ct pga0.0.0.2.6*” may occur on systems that have KGPSA devices, are informational messages and do not represent an error. The messages result from rejected accesses to a busy fibre channel switch, which are allowed and retried.
- When the console KGPSA driver starts, you may see the error message “*pga0.0.0.2.4 - Nvram read failed*”. See the WWIDMGR USERS MANUAL for information about formatting the NVRAM.

4.2.6 AlphaBIOS V5.70 Requires HAL Revision G

You must install HAL Revision G on your system before attempting to install AlphaBIOS 5.70. Otherwise, the system will hang at boot time. AlphaBIOS 5.70 supports changes introduced in HAL Revision G for systems based on the Alpha 21264 CPU. Hal Rev G is available from the following url: [AlphaBIOS/HAL and NT Drivers](#)

5 Firmware Change History

5.1 V7.2 - June 2006

Console Enhancements

- New module naming for the following I/O devices:
DE602-FA is now DE602-F*, DEGXA-SB/TB is now DEGXA-S*/T*
- WWIDMGR 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 arm)

I/O Option Firmware changes

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

5.2 V7.1 - January 2006

Console Enhancements

- Changes to the AIC-78xx SCSI port driver increase the number of support targets from 16 to 32
- KGPSA driver changed to do faster retry on PLOGI frames
- Changes to SCSI driver code enhance page and field length checks for SCSI inquiry responses

Bug Fixes and Other

- Fix for long EVs (>128 characters) being copied to another EV and causing a console crash



5.3 V7.0 - June 2005

Console Enhancements

- Two new SRM console environment variables for customer use. The environment variables “user_def1” and “user_def2” take a string argument and accept any characters within double quotes. These environment variables are nonvolatile and are accessible from the Tru64 UNIX operating system. They are not accessible from OpenVMS.
- DEFPA – an increase driver setup time in the data link layers before the station ID has been included in this release. This increased setup time occurs only when the driver is first initialized or turned on.
- KGPSA and WWIDMGR - increase the number of Nx environment variables from 4 to 8 to support up to 8 boot paths for fibre channel storage.
- Fix a serial emulation for the Smart Array 5300

5.4 V6.9 - November 2004

Console Enhancements - None

Bug Fixes and Other

- WWIDMGR HANG - A patch has been applied to the fibre-channel support to resolve a problem that causes the WWIDMGR utility to hang and never complete. The hang would occur with the first invocation of the WWIDMGR utility. Configurations where this problem has been seen are: EMC Symmetrix storage arrays utilizing Timefinder or SRDF business continuance volumes (BCV) that are in an “established” state, and possibly misconfigured or failing volumes. These volumes may respond to an inquiry from the host as being “not ready”. The “not ready” state is indicated by an invalid device id that was accepted as valid by the console. The console software has been modified to bypass volumes with invalid device ids and log the device id information to the console error log.