November 7, 2001 (updated December 20, 2001, February 18, 2002, and January 24, 2003)

This update dated January 20, 2003 is a significant update to the original document and the prior two updates. Changes are indicated in **bold** in the answers.

Highlights include:

- Additional systems and switches
- New/additional support for ESS and FAStT
- Ability to use EMC's PowerPath in conjunction with boot (originally communicated in Marketing bulletin dated August 28, 2002)
- Addition of HDS 9910/9960 based on communication of SIP agreement with HDS (see Marketing Bulletins dated January 10)

Fibre Channel Update: Fibre Channel Boot supported in many pSeries/RS/6000 environments.

We are pleased to communicate today that Fibre Channel boot capability is available for selected pSeries and RS/6000 systems. The following Q&A describes this capability in more detail.

Q: What are the prerequisites for this capability?

A: The following are the prerequisites for enabling Fibre Channel Boot:

- A supported pSeries or RS/6000 system with the correct firmware level
- FC 6227 or FC 6228 at the correct microcode level (note: FC 6227 was announced as withdrawn September 4, effective December 3)
- AIX 4.3.3 or AIX 5.1 at September 2001 maintenance level or above, or **AIX 5.2**
- For the SP, PSSP must be at 3.2 with APAR IY22732 (included in PSSP 3.2 PTF 14), or 3.4.
- A tested disk subsystem

There is no additional charge for this function.

Q: Which RS/6000 or pSeries systems are supported?

A: The following systems are supported for Fibre Channel boot with the appropriate firmware:

- RS/6000 models 170, 270, H70, F80, H80, M80, S80
- RS/6000 SP PCI nodes FC #2050, #2051, #2052, #2053, #2054 with #2055, #2056, #2057, #2058 with #2055
- pSeries 610 models 6C1, 6E1
- pSeries 620 models 6F1, 6F0

- **pSeries 630**
- pSeries 640
- **pSeries 650**
- **pSeries 655**
- pSeries 660 models 6H1, 6H0, 6M1
- **pSeries 670**
- pSeries 680
- pSeries 690

Q: What is the target date for availability?

A: Fibre Channel boot will be supported for a given customer installation at the time the prerequisites listed above are in place for that installation.

Q: When will the proper firmware levels for the supported systems be available?

A: New systems shipping after November 30, 2001 will ship with the required level of firmware installed.

Customers with systems that shipped prior to that date should download the required level of firmware from the following site:

http://www.rs6000.ibm.com/support/micro/download.html

After November 30, 2001, the latest level of firmware at this site should support boot for all systems that support boot.

Q: What are the required levels of adapter microcode to enable Fibre Channel boot?

A: For FC 6227, the required level is 3.22A1 or later.
For FC 6228, the required level is 3.82A1 or later.

Adapters shipping in new systems after November 30, 2001 will have these levels of firmware. MES orders should continue to be checked to verify that they have the right level of microcode.

Customers with existing adapters can download the required level of microcode from the following site.

http://www.rs6000.ibm.com/support/micro/download.html#adapter

The microcode is targeted to be available at this site by November 30, 2001. These levels of microcode should be installed by all customers, not just those requiring Fibre Channel boot.

Q: What are the installation mechanisms PSSP supports for Boot-install from Fibre Channel Storage Area Networks (SAN) DASD?

A: PSSP can be directed to Boot-install RS/6000 SP PCI nodes from:

- SAN_DISKID which is derived from the WWPN and LUN id (Preferred mechanism)
- PVID
- HDISK

Q: What are the disk configurations RS/6000 SP supports for Boot-install from Fibre Channel Storage Area Networks (SAN) DASD?

A: The SAN DASD LUN's can be configured for RS/6000 SP PCI nodes to be:

- Mirrored Volume
- Alternate Volume
- Individual Volume

Fibre Channel LUN's, SSA LUN's and SCSI LUN's can coexist.

Q: Which disk subsystems are tested?

A: Enterprise Storage Server (ESS) models 2105-E/F10/20 and **2105-800 and all subsequent model are/will be supported for Fibre Channel boot. This support requires ESS LIC Level 1.4.0 or above for 2105-EF10/20 models. The host requires ibm2105.rte, version 32.6.100.7 or above (refer to lslpp output). For additional information, and all subsequent updates to ESS support, consult the following ESS Supported servers document at the following url: http://www.storage.ibm.com/hardsoft/products/ess/supserver.htm**

All of the FAStT Models which are supported by AIX are supported for SAN Boot at firmware levels 4.01.02.30 and 5.21.05.00 or later. For additional information and all subsequent updates to FAStT support, refer to the text document "README for the IBM FAStT Storage Manager Version xx.x for AIX" . This document can be found in the technical support section for the specific FAStT model under downloads. Select the storage manager version, accept the license, and obtain the current version for the particular AIX level. The readme is available from the download section along with other files for that Storage Manager level. Here is the entry point to FAStT documentation on the web, http://www.storage.ibm.com/hardsoft/disk/fastt/index.html

The Customer Service Agreement (CSA) with EMC applies to Fibre Channel boot with all currently announced 3000, 5000, and 8000 model Symmetrix systems, when the CSA applies to the configuration in question, and when the system supports boot. **PowerPath must be at V3.0 to be used in conjunction with boot. Fibre Channel boot and Powerpath cannot be used in**

conjunction in PSSP environments nor in non-switched environments (customers seeking PowerPath in conjunction with Fibre Channel boot on non-switched environments should be advised to submit an RPQ to EMC). Customers should check with EMC for minimum Symmetrix firmware levels **and other configuration information and guidance**.

It should be noted that the CSA with EMC does NOT apply to boot via Fibre Channel Interface for AIX, EMC's adapter and driver (EMC withdrew this adapter kit from Marketing in October, 2001).

The recently communicated SIP (Service Implementation Plan) with HDS applies to Fibre Channel Boot with HDS models 9910 and 9960. See the Marketing Bulletins dated January 10 for additional information about the SIP and initial configurations to which it applies and other restrictions.

In particular, it should be noted that Fibre Channel boot can not be used in conjunction with the multi-path codes available from HDS.

As additional subsystems are tested, notification will be via subsequent bulletins.

Q: Can Fibre Channel Boot be implemented if the disk subsystem is Fibre Channel switch attached?

A: Yes. **See the above mentioned web sites for switch information for ESS and FAStT offerings**.

The CSA with EMC applies to Fibre Channel boot with all currently announced 3000, 5000, and 8000 Series Symmetrix models to which the CSA otherwise applies, when they are attached via the following switches (to a system which supports boot and to which the CSA with EMC otherwise applies to Symmetrix attachment):

2109-S08/16
2109-F16
2109-M12
2031-016/032
2031-216/224/232
2032-001
2032-064

In addition, the CSA with EMC applies to Fibre Channel boot with all 3000, 5000, and 8000 Series models when they are attached via the Connectrix models analogous to these switches.

The SIP with HDS applies to Fibre Channel boot with 9910 and 9960 models when they are attached via the following switches (to a system which supports boot and to which the SIP with HDS otherwise applies to 9910/9960 attachment):

2109-S08/16
2109-F16
2109-M12
2031-016/032
2031-216/224/232
2032-001
2032-064

Q: Is a longwave connection supported?

A: Yes. However, recall that only one longwave link is allowable in any path (independent of boot).

Q: Can the path to the boot device go through cascaded switches?

A: Yes. Previous communications about interswitch links also continue to obtain; namely, no more than three interswitch links per path.

Q: Can the path to the boot device contain links running at 2 Gbps?

A: Yes. Fibre Channel boot does not impose any 2 Gbps configuration restrictions.

Q: Can paging space be located in the above tested disk subsystems?

A: Yes.

Q: Can HACMP, RVSD, GPFS be implemented with Fibre Channel boot?

A: Yes. Fibre Channel boot is transparent to HACMP, RVSD, and GPFS. However, it should be noted that not all attachments above are allowed in HACMP, RVSD, and GPFS environments in the first place.

Q: Will additional RS/6000 and pSeries systems be enabled to support Fibre Channel boot?

A: Over time, it is the target to provide this capability on all new systems going forward where Fibre Channel is supported. It is possible that the capability may not be available at system GA.

There should not be an expectation that any withdrawn systems will be added to the list of systems that support Fibre Channel boot.

Third party configuration information can be found at
http://w3-1.ibm.com/sales/systems/ibmsm.nsf/mainframeset?readform&cdoc=rsfcsk

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