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## SB-AMC55, 4Gb FC Controller Solaris™ OS Installation Details

This document outlines the technical steps required to install the SANBlaze AMC55 Fibre channel controller on the Solaris OS as either the boot or data device. Instructions are supplied for both x86 and SPARC CPU environments.

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# I. Driver Installation, non-boot applications

Use the following driver install procedure when the AMC55 is used to access data disks and will not boot from these disks. These instructions apply to both x86 and SPARC™ host environments.

The **itmptfc** driver is used to operate the SANBlaze AMC55 in a Solaris environment. If your system uses the Solaris SPARC or Solaris x86 Operating System, you must download the installation kit containing the device driver for Solaris platforms.

**Step-1** On the client with the AMC55, login as root. Go to the SANBlaze website ([www.sanblaze.com](http://www.sanblaze.com)), navigate to the support page and download one the installation file appropriate for your system:

```
sparc: itmpt_itmptfc_5.07.04.06_sparc.tar.Z
x86:   itmpt_itmptfc_5.07.04.06_i386.tar.Z
```

Place this file in directory of your choosing and extract the contents as follows:  
(Output from sparc installation is shown below)

```
# unzip itmpt_itmptfc_5.07.04.06_sparc.tar.Z
# tar -xvf itmpt_itmptfc_5.07.04.06_sparc.tar
```

**Step-2** Begin the installation by invoking the pkgadd command as follows:

```
# pkgadd -d install
```

```
Follow the prompts to complete the driver installation.
```

```
The following packages are available:
```

```
 1 ITImpt      LSI FusionMPT(tm) drivers
                   (sparc) 5.07.04.06
 2 ITImptfc    LSI FusionMPT(tm) FCA drivers
                   (sparc) 5.07.04.06
```

```
Select package(s) you wish to process (or 'all' to process all packages).
(default: all) [?,??,q]:
```

**ITImpt** is the non-Leadville (SCSA) driver. This driver does not support multi-path IO, and should only be used for direct attach storage, when scsi device naming convention is required. Note also that **itmpt** will automatically attach only devices at LUN0. For non-zero LUNs, the `/kernel/drv/ssd.conf` file must be edited to include the LUNs to scan. See Solaris documentation for additional information. The **itmpt** driver uses scsi naming conventions, and will name drives in the following way:

```
/dev/dsk/c0t8c6s0
```

**ITImptfc** is the Leadville (FCA) driver. This driver supports fabric boot, and multi-path IO, and is recommended for all new installations. The **itmptfc** driver uses the "leadville" fibre-channel conventions, and will name drives in the following way:

```
/dev/dsk/c0t8c600110d0d0000d0s0
```

**Step-3** The ITMPT device driver is now installed. Reboot the host machine to reconfigure the system and to recognize the new devices.

```
# reboot -- -r
```

---

NOTE: If you add or remove FC disk drives on the your machine, it may be necessary to issue the command, followed by reboot in order for the system to detect and correctly install your new disks

---

```
# touch /reconfigure  
# reboot -- -r
```

---

## II. Driver Installation, boot applications

Use the following driver install procedure when the AMC55 will connect to the Solaris system boot disk. While the basic steps described above are similar for x86 and SPARC installs, they are slightly different, and are fully described below.

### X86 Solaris

- Step-1** Select a second host which will be designated as the network install server. This host **MUST** be x86 architecture.

Verify the server's architecture using the following command

```
# uname -a
SunOS solx86 5.10 Generic_127128-11 i86pc i386 i86pc
```

The output confirms this server is a x86 based platform.

- Step-2** On the network install server, login as root and insert the x86 Solaris distribution CD (CD number 1), and begin the configuration by typing the following :

```
# cd /cdrom/sol_10_508_x86/Solaris_10/Tools/
# ./setup_install_server /export/install/x86
```

- Step-3** On the network install server, add details for the client machine containing the AMC55.

```
# cd /export/install/x86/Solaris_10/Tools/
# ./add_install_client -d -e xxxxxxxxxxxxxx i86pc
```

Replace *xx.xx.xx.xx.xx.xx* with the MAC address of the client machine (the one with the AMC55).

- Step-4** Eject the CD from the system:

```
# eject cdrom
```

- Step-5** On the network install server, login as root. Go to the SANBlaze website ([www.sanblaze.com](http://www.sanblaze.com)), and navigate to the support page and download the installation file named

```
itmpt_itmptfc_5.07.04.06_i386.tar.Z
```

Place this file in directory of your choosing and extract the contents as follows:

```
# gunzip itmpt_itmptfc_5.07.04.06_i386.tar.Z
# untar xvf itmpt_itmptfc_5.07.04.06_i386.tar
```

- Step-6** On the network install server, move to the newly created install directory

```
# cd install/
```

- Step-7** Run the following install script, along with indicated prompted responses:

```
./install.sh -n /export/install/x86/Solaris_10/
```

```
IntraServer/LSI Logic MPT SCSI/FibreChannel Driver Installation
```

```
=====  
This script will patch the PXE boot image for an i386 solaris installation  
it will NOT function correctly on a sparc based network install server  
you must use an i386 solaris based network install server to run this install  
You have chosen to install the drivers to a Solaris boot  
server for network install.
```

```
Running on i386 server, continuing
```

```
Is this correct? (y/n) y
```

```
unpacking /export/install/x86/Solaris_10/Tools/Boot/x86.miniroot to  
/export/install/x86/Solaris_10/Tools/Boot/boot/unpacked. This will take a  
while, please wait...
```

```
Installing drivers to network install server...
```

```
Patching the patch_finish script so that itmptinst runs automatically after  
installation
```

```
Reboot client to install driver.
```

```
repacking /export/install/x86/Solaris_10/./boot/x86.miniroot from  
/export/install/x86/Solaris_10/Tools/Boot/boot/unpacked. This will take a  
while, please wait...
```

```
Installation of driver itmptfc complete.
```

**Step-8** Add the client credentials to your dhcp server. This is required to facilitate pxe boot to the install server. See the solaris installation guide for PXE boot installation

The following DHCP settings are needed to complete a successful DHCP PXE boot.

Note: The values are provided as examples only; your results will vary.

(The example is from a Windows DHCP server)

Option Name	Value
012 Host Name	clientname
017 Root Path	/export/install/x86/Solaris_10/Tools/Boot/
066 Boot Server Host Name	servername
067 Bootfile Name	nbp.0100304874E7E1 (The add_install_client will give this case sensitive name)
003 Router	192.168.1.1
006 DNS Servers	192.168.1.10
015 DNS Domain Name	sanblaze.com
040 NIS Domain Name	sanblaze.com

**Step-9** Boot the client machine containing the AMC55. The client machine must be running BIOS that supports the Preboot Execution Environment (PXE) specification.

Inspect the FC drives that are shown by the LSI BIOS during disk scan. It is not necessary to change boot order at this point, but if the BIOS does not show the target FC drives, they will not be available under Solaris for installation. If you do not see your target device listed, check all cabling and switch configuration between the Fibre Channel targets and the AMC55.

Configure the Client Machine to perform PXE boot from the boot install server (steps 1-5). Your machine should start the Solaris x86 Installation process.

Because the itmptfc driver has been installed to the PXE boot image, the drives on the AMC055 will be discovered on boot and will be available for install.

When the installation process begins, answer the "locale" questions, but before the installation process begins looking for a hard drive, open a CMD window and type:

```
# format
```

Your AMC55 disks should be listed by the format command. If the target disk for installation does not have a "label", select the disk and allow format to write a label to the disk.

Allow the installation process to continue. When you are presented with a list of devices to install to, select the AMC55 based disk you labeled with the format command above.

Record the entire name of the install target disk. This will be important later when you set the machine to boot the device. The full name should look like this:

**c0t12d000110d010000d5s7** Note that in this example, lun 5 was used for installation. It is recommended to use lun 0 if possible, for simplicity.

Continue normal installation to the target selected above. When the installation completes, the patch\_finish script will run the itmptinst script in the console window.

## SPARC Solaris

- Step-1** Select a second host which will be designated as the network install server. This host MUST be SPARC architecture.

Verify the server's architecture using the following command

```
# uname -a
SunOS Ultra5 5.9 Generic_112233-07 sun4u sparc SUNW,Ultra-5_10
```

The output confirms this server is a sparc based platform.

- Step-2** On the network install server, login as root and insert the sparc Solaris distribution CD (CD number 1), and begin the configuration by typing the following :

```
# cd /cdrom/cdrom0/s0/Solaris_10/Tools/
# ./setup_install_server /export/install/sparc
```

- Step-3** On the network install server, add details for the client machine containing the AMC55.

```
# cd /export/install/sparc/Solaris_10/Tools/
# ./add_install_client -e xx:xx:xx:xx:xx:xx -i ipaddr myname sun4v
```

Replace *xx.xx.xx.xx.xx.xx* with the MAC address of the client machine (the sparc client with the AMC55).

- Step-4** Eject the CD from the system:

```
# eject cdrom
```

- Step-5** On the network install server, login as root. Go to the SANBlaze website ([www.sanblaze.com](http://www.sanblaze.com)), navigate to the support page and download the installation file named

```
itmpt_itmptfc_5.07.04.06_sparc.tar.Z
```

Place this file in directory of your choosing and extract the contents as follows :

```
# gunzip /itmpt_itmptfc_5.07.04.06_sparc.tar.Z
# untar xvf itmpt_itmptfc_5.07.04.06_sparc.tar
```

- Step-6** On the network install server, move to the newly created install directory

```
# cd install/
```

- Step-7** Run the following install script, along with indicated prompted responses:

```
./install.sh -n /export/install/sparc/Solaris_10/

IntraServer/LSI Logic MPT SCSI/FibreChannel Driver Installation
=====
You have chosen to install the drivers to a Solaris boot
server for network install.
Is this correct? (y/n) y
Removing previous installation...
IntraServer/LSI Logic MPT SCSI/FibreChannel Driver Removal
=====
```

```

You have chosen to remove the itmpt and itmptfc drivers from a Solaris boot
server.
Is this correct? (y/n) y
Driver (itmpt) not installed.
NOTE: Removing all itmpt and itmptfc entries
      from /export/install/sparc/Solaris_10/Tools/Boot/kernel/drv/ssd.conf:
Driver removal complete.
Installing drivers to network install server...
Patching the patch_finish script so that itmptinst runs automatically after
installation
Reboot client to install driver.
Installation of driver itmptfc complete.

```

**Step-8** Add the client credentials to your dhcp server. This is required to facilitate WAN boot in a DHCP environment. See the solaris installation guide chapter titled “SPARC: Installing With WAN Boot (Tasks)”

The following DHCP settings are needed to complete a successful WAN boot of the client in a DHCP environment.

Note: The values are provided as examples only; your results will vary.  
(The example is from a Windows DHCP server)

Option Name	Value
012 Host Name	clientname
017 Root Path	/export/install/sparc/Solaris_10 /Boot/
066 Boot Server Host Name	servername
067 Bootfile Name	nbp.0100304874E7E1 (The add_install_client will give this case sensitive name)
003 Router	192.168.1.1
006 DNS Servers	192.168.1.10
015 DNS Domain Name	sanblaze.com
040 NIS Domain Name	sanblaze.com

**Step-9** Boot the client machine containing the AMC55 to the open boot ‘ok’ prompt (OBP). Enter the following command

```
ok setenv network-boot-arguments dhcp,hostname=client-name
```

*client-name* - Specifies the host name you want to assign to the client

**Step-10** Boot the client from the network.

```
ok boot net - install
```

This command instructs the client to use the network boot argument variables to boot from the WAN. The client installs over the WAN. If the WAN boot programs do not find all the necessary installation information, the wan boot program prompts to provide the missing information. Type the additional information at the prompt.