How to Boot Up IPSO Hard Disk after Replacing Chassis or HDD

Classification: [Protected]
Objective

This document explains the steps required to boot up a hard disk after a chassis was replaced for any reason, or a new hard disk is installed on an IPSO 6.2 Boot Manager. If a hard disk is not detected during boot up, this document will help resolve the issue.

Supported OS

IPSO 6.2 – All builds

Supported Appliances

IP Appliances – All

Assumed Knowledge

After replacing a chassis or a hard disk on IPSO 6.2 device, it will give an error, that there is no image on the hard disk. This is normal in IPSO 6.2. The IPSO boot flash drive has the MAC address of the previous drive attached.

We must attach the MAC address of the drive to the IPSO flash, to have IPSO recognize and boot from this hard disk.

A console connection to the appliance is required.

Related Documentation

sk43835 - RAID implementation on IP245x/IP128x

Impact on the Environment and Warnings

It is critical that you enter these command line arguments exactly as stated in this document. Most typographic errors will be accepted without error but will result in a failure to boot.
Mounting the Hard Drive

During boot up, the memory test is first. Then the Boot Manager loads and stops on an error, because there is no image on /dev/gmroots1.

Boot up fails, and you are in the BOOTMGR prompt.

1. Make sure that the boot-device is set to mirror/gmroots1. Enter: > printenv

   BOOTHGR[8]>
   BOOTHGR[9]>
   BOOTHGR[10]>
   printenv
   NOKIA IPSO BOOTMGR VERSION=6.2-GA055b06 07.06.2011-204947
   autoboot: YES
   testboot: NO
   bootwait: 0
   boot-file: bootflags:
   boot-device: mirror/gmroots1
   vendor: NOKIA
   model: IF
   bmalloc: 0
   BOOTHGR[11]>

   If the boot-device is not set, set it: > setenv boot-device mirror/gmroots1

   BOOTHGR[20]>
   BOOTHGR[21]>
   BOOTHGR[22]>

2. In the BOOTMGR prompt, enter: > sysinfo
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Sysinfo shows data about the hard drive, flash card, and network interfaces in the appliance. In this example, you can see that the hard disk is a Fujitsu 80GB hard disk, and that the name of the drive image is "0x5088 adc2: unit 0 (ad4)". The main name of the drive is "ad4".

**Important:** The most common problem with this procedure involves the incorrect name of the drive. Remember to always execute the `sysinfo` command in the BOOTMGR prompt, to see the drive name. This name varies with different appliances, but it is usually in the parentheses. In this example: (ad4).

3. Take note of the main name of the drive. You will need it later.
4. At the BOOTMGR prompt, enter: > sh
   
   You are in the maintenance shell now.
5. Run: # ipsctl –a hw:eeprom:mac_addr_base

   The output shows the current MAC address of a hard disk that is attached to IPSO flash drive.
6. Run: # gmirror dump <main name of drive>

   **Important:** This command sometimes does not succeed with a new hard disk. This is normal behavior. Continue with the steps.
7. Compare the MAC addresses of the two outputs. If they are different, this hard disk will not be mounted during boot up, and you can continue to use this document to solve the issue.

**Note:** Follow these steps carefully. It is important the commands are written correctly.

8. Run: `gmirror deactivate gmrootsl <drive_name>`

   This command does not return output. It is normal if it returns an error message. Continue with the steps when the prompt is available.

9. Run: `gmirror clear <drive_name>`

   This command does not return output. It is normal if it returns an error message. Continue with the steps when the prompt is available.

10. Run: `gmirror label -v -n -b round-robin gmrootsl <drive_name>`

    This command should execute successfully and now you will be able to boot from the hard disk. If the hard disk is new, you can install the operating system on the hard disk.

### Completing the Procedure

1. Return to the BOOTMGR prompt. In the maintenance shell, enter: `exit`

2. In BOOTMGR prompt, enter: `boot`

   The IPSO operating system boots normally.

   **If this is a new hard disk,** enter `install` and continue with the installation.
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BARTKIR[7]$ boot
Boot from /dev/mirror/gmroots1f:/image/IPSO-6.2-GA053b06-07.06.2011-
1 (Mirrorset: ad4)
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
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FreeBSD is a registered trademark of The FreeBSD Foundation.
releng 1 07.06.2011-2014917Timecounter "i8254" frequency 1193182 Hz
CPU: Intel(R) Celeron(R) M processor 1.50GHz (1496.26-MHz
\Origin = "GenuineIntel" Id = 0x6d8 Stepping = 3
Features=0xafff<FPF,VM,DS,SE,DE,PAE,MCE,CX8,APIC,SEP,
MOV,PAT,CFLUSH,DTS,ACPI,MMX,FXSR,SSE,SSE2,SS,TM,PBE>
real memory = 2145947648 (2046 MB)
avail memory = 2091819008 (1994 MB)
cpu0 on motherboard
pci0: <Host to PCI bridge> pcibus 0 on motherboard