


# HP Server

## HP 5th Generation Server Hardware Setup

**Document Number**
**709-00840AC**

**2008-04-21**

Kodak Graphic Communications Canada Company
3700 Gilmore Way
Burnaby, BC
Canada V5G 4M1
(604) 451-2700

Copyright 2008 Kodak. All rights reserved.

# Revision History

| Revision | Date | Author | Comments |
|---|---|---|---|
| A | April 9, 2005 | Gary Tanaka | Created Doc |
| B | Aug 14,2007 | Gary Tanaka | Added International Tripplite specifications |
| C | April 21, 2008 | Gary Tanaka | Updated Specs ML370/DL380 G5 added ML310G5 |

# CONTENTS

1 Scope....1

2 Overview of Procedure....2

3 Hardware Configurations (for reference)....2
3.1 UPS Requirements....2

4 ML370G5 Hardware Setup....3
4.1 Installing Hardware....3
4.2 Setting Up the SCSI Controller....5
4.2.1 Configuring the PCI Adaptec 39u160....5
4.3 Configuring Hardware System Settings....6
4.3.1 Configuring BIOS Settings....6
4.4 Setting up Disks....8

5 DL380G5 Hardware Setup....9
5.1 Installing Hardware....9
5.2 Setting Up the SCSI Controller....11
5.2.1 Configuring the PCI Adaptec 39u160....11
5.3 Configuring Hardware System Settings....12
5.4 Setting up Disks....13

6 ML310G5 Hardware Setup....15
6.1 Installing Hardware....15
6.2 Setting Up the SCSI Controller....17
6.2.1 Configuring the PCI Adaptec 39u160....17
6.2.2 Configuring the Differential Adaptec 2944UW....18
6.3 Configuring Hardware System Settings....18
6.3.1 Configuring BIOS Settings....18
6.4 Configuring the System and Mirror Drives (if optional hardware purchased)....19

# 1 SCOPE

This document outlines the procedures for setting up hardware to be ready to install Windows 2000, and one of the following applications:

Prinergy 2.x, 3.x, 4.x(Windows 2003) Connect, Access, Powerpack, Direct

InSite 3.x, 4.x, 5.x(Windows 2003)

BestRip Server for Proofing Connectivity to an IRIS 43Wide

HP ProLiant ML110, ML310, ML370G4, DL380G4 Servers, HP DC7100 Workstations are the current supported platforms(*please refer to Document 709-00285*). Dell and DG platforms can be referenced with doc 72-3572. If you see a section heading referring to a specific model, for example, (*For ML370G5 Server*), skip that section if you are not dealing with that specific model.

For driver updates:

Manufacturers Site: This should be your primary source for Firmware/Driver/Utility Images. Go to WWW.HP.COM and navigate. As an example, to search for the Proliant ML370G5:

1) Select **Support** and **Drivers**
2) Select **Download drivers and software**
3) Type **ML370 G5**
4) Select **Microsoft Windows 2000 or 2003 > Software Support Pack**.
5) Follow rest of the instructions to download.

- **Tech Planet** contains the latest supported versions for all platforms. http://techplanet.creo.com/software_solutions/workflow_hardware/hp_platforms/nav/index.htm

- Note that Tech Planet will not contain all the drivers/firmware that are available from HP's Software Support Pack.

**Resource CD** 651-00203A: contains a snapshot of the latest qualified versions at the time of release of the CD. Current shipping platforms are fully regression tested. Note that this file is contained on all Ghost DVDs. Older platforms are tested for basic functionality. Get from;
Agile: http://ccapdmv1/AgilePC/HcmServlet
P3 Server: \\p3\ResourceCDs
Ordering from Manufacturing 651-00203A

# 2 OVERVIEW OF PROCEDURE

| | |
|---|---|
| Assemble hardware | 1. Check delivered parts against sales order.<br>2. Add any optional cards, memory, or drives in the correct locations.<br>3. Connect external hardware (RAID, modem, UPS).<br>4. Connect Dongles to LPT1 or USB ports.<br>5. Power on server. |
| Configure bios. | 1. Setup SCSI controller(s).<br>2. Setup disks (write cache, containers).<br>3. Configure BIOS. |

# 3 HARDWARE CONFIGURATIONS (FOR REFERENCE)

The standard HP 5th Generation platforms supported under Windows 2000 are:

HP ProLiant ML370G5 Server (2 x Physical Xeon E5430, 8 x Logical CPU's) Renderstation, Evo, InSite, Prinergy.

HP ProLiant DL380G5 Server (2 x Physical Xeon E5430, 8 x Logical CPU's) Renderstation, Evo, InSite, Prinergy.

HP ProLiant ML310G5 Server (1 x Physical Xeon 3110, 2 x Logical CPU's) Renderstation, Evo, InSite, Prinergy.

For all other **HP servers please refer to Document 709-00285**.

## 3.1 UPS REQUIREMENTS

Each server type is configured with a different rating of UPS unit. Ensure that the site has the proper outlet for handling the UPS.

The following table lists the different APC and TrippLite UPS plug types:

**Table 2-8: UPS plug types**

| UPS Type | | | Plug Type | | | |
|---|---|---|---|---|---|---|
| **Vendor** | **Model** | **VA Rating** | **North American** | **Europe** | **Japan** | **Australia** |
| APC | SmartUPS | 1000VA | 125V 15A<br>nema 5-15 | 230V 10A<br>iec320 c14 | 100V<br>nema 5-15p | 240V 10A<br>iec320 c14 |
| APC | SmartUPS | 1400VA | 125V 15A<br>nema 5-15 | 230V 10A<br>iec320 c14 | 100V<br>nema 5-15p | 240V 10A<br>iec320 c14 |
| APC | SmartUPS | 2200VA | 125V 20A<br>nema 5-20 | 230V 10A<br>iec320 c14 | 100V<br>nema 5-20p | 240V 16A<br>iec320 c20 |
| APC | SmartUPS | 3000VA | 125V 30A<br>nema 5-30 | 230V 16A<br>iec320 c30<br>BS1363/A<br>CEE 7/7 | 100V<br>nema 5-30p | 240V 20A<br>iec320 c30<br>BS1363/A<br>CEE 7/7 |
| TrippLite | Smart | 1050VA | 125V 15A<br>nema 5-15 | not supported | not supported | not supported |
| TrippLite | Smart | 1500VA | 125V 15A<br>nema 5-15 | 230V 10A<br>iec320 c14<br>CEE 7/7 | not supported | not supported |

| | | | | | | |
|---|---|---|---|---|---|---|
| TrippLite | Smart | 2200VA | not supported | 240V 16A<br>iec320 c20<br>BS1363/A<br>CEE 7/7 | not supported | 240V 16A<br>iec320 c20<br>BS1363/A<br>CEE 7/7 |
| TrippLite | Smart | 3000VA | 125V 30A<br>nema 5-30 | 240V 16A<br>iec320 c20<br>BS1363/A<br>CEE 7/7 | not supported | 240V 16A<br>iec320 c20<br>BS1363/A<br>CEE 7/7 |

Refer to documents 72-2125A for details on how to appropriately size a UPS for various Kodak Workflow Server and Peripheral components.

# 4 ML370G5 HARDWARE SETUP

This section describes how to set up a ProLiant ML370G5 based server.
**Note:** As apposed to configuring Dell Servers you do not update the Servers BIOS here. Once the OS has been applied you will run the Software Support Pack update that will upgrade Drivers, BIOS and Firmware for all the HP components.

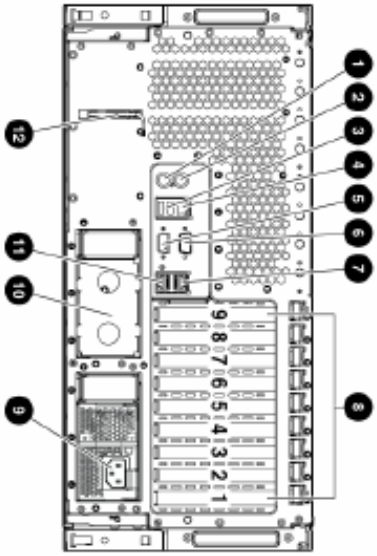
## 4.1 INSTALLING HARDWARE

1) Please verify the delivered hardware against the sales order and the specifications below.

| **Standard System Components for ML370G5 servers** | | | |
|---|---|---|---|
| **Item** | **Type** | **Man** | **Comments** |
| PC | **ML370G5**, 2 x 2.66 GHz Xeon E5430 CPU's | HP | |
| RAM | 4GB 667Mhz DDR2 FBD ECC PC2-5300 | HP | 4 Banks, 2 DIMMS/Bank |
| RAID | Smart Array P400 PCI-e RAID Controller | HP | |
| Hard disk | 2x 146 GB SAS disks, 10K RPM (RAID1 System)<br>1x 146 GB SAS disk, 10K RPM (RAID 0 Jobs) | HP<br>HP | Right Side/Bottom-slot #1<br>see below diagram |
| DVD ROM | EIDE | HP | |
| Video | On-board Integrated ATI ES1000 Graphics Controller (32MB) | ATI/HP | |
| Network | 1st 1x HP NC373i Gbit copper<br>2nd 1x HP NC373i Gbit copper<br>3rd 1 x 100BT ILO2 | HP<br>HP<br>HP | 1st General connection<br>Not used<br>RC troubleshooting |
| **Miscellaneous Components for ML370G5 servers** | | | |
| Keyboard | | HP | English or GB for International |
| Mouse | PS/2 | HP | |
| External modem | USR / MultiTech External 56K | USR/MultiTech | NA/ ROW, connected to COM1 |
| Monitor | 17", Flat panel LCD color monitor | HP | |
| Power cord + documents | 1x IEC320R to NEMA15P for North America or<br>1x IEC320R to IEC320P for ROW | HP | |
| Software + documents | Windows 2003 Server, 5 client licenses (Server may or may not be downgraded to Windows 2000 Server | Microsoft | English |
| Software + documents | GHOST11 | Symantec | English |

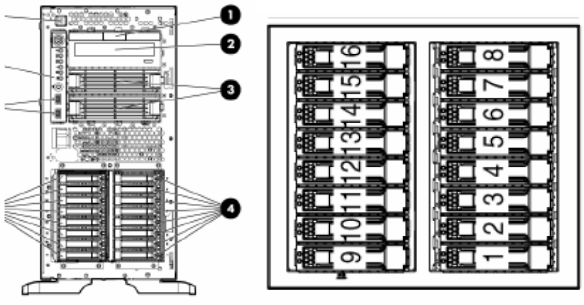
2) Install all of the optional hardware, as listed on the sales order.

| Item | Type | Source | Comments |
|---|---|---|---|
| RAID controller | HP Smart Array P400 PCIe | HP | Install in PCI 1 |
| RAID controller | **Optional** HP Smart Array P400 PCIe | HP | Install in PCI 4 |
| Network | Optional Intel PRO/1000 Gigabit Fiber or Copper PCI NIC Controller | Intel | Install in PCI 4 |
| Network | Optional Intel PRO/1000 Gigabit Fiber or Copper **PCIe** NIC Controller | Intel | Install in PCI 6, 5 |
| SCSI LVD controller | Optional Adaptec 39u160, **PCIe**, (for connecting external SE/ LVD SCSI Device **non MCE CTP**) | Adaptec | Install in PCI 5, 6 |
| SCSI LVD controller | Optional Adaptec 39u160, PCI, (for connecting external SE/ LVD SCSI Device non MCE CTP) | Adaptec | Install in PCI 3,2 |
| SCSI LVD controller | Optional Adaptec 39u160, PCI, (for connecting **MCE based CTP devices**) | Adaptec | Install in PCI 3 |
| Serial interface | Digi AccelePort 4P + adapter cable | Digi | Install in PCI 2 |
| RAM | N/A | HP | |
| Hard disk | 146 GB SAS disk, 10K RPM | HP | 2 slots default OS disks.<br>1 slot for default Jobs disk. 5 additional slots |
| USB Dongle | Sentinel USB Dongle | Sentinel | Any back USB port |



| Item | Description |
|---|---|
| 1 | Keyboard connector |
| 2 | Mouse connector |
| 3 | USB connectors |
| 4 | iLO 2 connector |
| 5 | Video connector |
| 6 | Serial connector |
| 7 | NIC 2 connector |
| 8 | PCI expansion slots |
| 9 | Hot-plug power supply (primary bay) |
| 10 | Hot-plug power supply (redundant bay) |
| 11 | NIC 1 connector |
| 12 | T-15 Torx screwdriver |

3) Install the Hard Drives as described in the picture below:




| Disk | Location |
|---|---|
| OS Mirror (2 identical disks) | 4 |
| Slots | 1 & 2 |
| Data Volume(s) | 3-8 |
| Data Volume(optional) | 9-16 |

4) Connect the server to the UPS and connect the external devices.

| Device | |
|---|---|
| Server power 1 and 2 | Both to the UPS |
| Server Network and ILO | Both to the LAN |
| Modem Signaling | COM1 |
| Modem Power | UPS |
| MCE CTP Recorder Interface | COM3 |
| MCE Diagnostics 1 | COM4 |
| MCE Diagnostics 2 | COM5 |
| UPS Signaling | COM2 or USB (any port) |
| External Device (ie. RAID) Serial | Any available COM port |
| External Device power 1 | UPS 1 |
| External Device power 2 (if applicable) | UPS 2 or another power circuit |

5) Power on the server. Go on to configure the SCSI controllers, setup the hard drives, and configure the BIOS as described in the next section.

## 4.2 SETTING UP THE SCSI CONTROLLER

### 4.2.1 Configuring the PCI Adaptec 39u160

#### PCI Adaptec 39u160 SCSI Controller

1) Ensure the 39u160 BIOS is at a rev listed Tech Planet > Server > Downloads page. At the time of this writing v3.10 is the current supported rev. Download the update from Tech Planet if requiring an update.
2) Press <**CTRL**> **+A** (if appears) during the **Adaptec 39160 SCSI BIOS** boot up prompt to run the Adaptec SCSI Select Utility.
3) For each 39160 found under Bus:Device:Channel select an adapter do the following.
   a) From the Main Menu screen, select **Configure/View Host Adapter Settings**.
   b) Select **<F6> / Yes** to Reset options to default.
   c) Select Advanced Configuration.

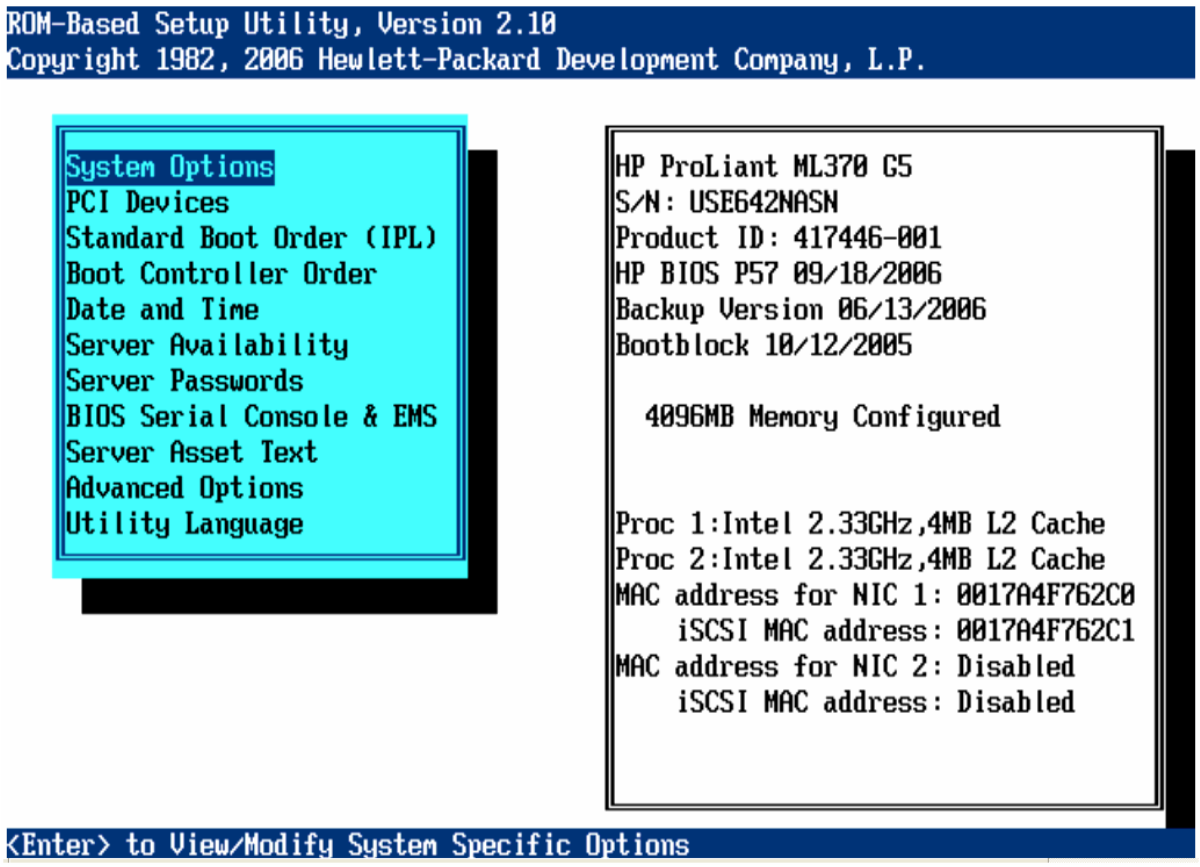
| | |
|---|---|
| Domain Validation | Disabled |
| BIOS support for bootable CD | Disabled |

      i) All other items left at default.
      ii) Press <**ESC**>**,** <**ESC**> and then select **Yes** to save the changes (if changes has been made).
   d) Press <**ESC**> to get back to the controller select screen and repeat for the next channel.
4) Press <**ESC**> and select **Yes** to exit the utility.

## 4.3 CONFIGURING HARDWARE SYSTEM SETTINGS

### 4.3.1 Configuring BIOS Settings

1) Reboot the server.
2) Press <**F9**> (normally after the SCSI BIOS checks) when prompted to get to the ROM BIOS Setup Utility (RBSU) screen as shown below:




3) Ensure the settings follow the below recommendations. **highlighted** items are changed from default:

System Options:

| | |
|---|---|
| Embedded COM Port A | Com=1, IRQ=4, IO=3H8h-3FFh |
| Embedded COM Port B | **Com=2, IRQ=3, IO=2F8h-2FFh** |
| Embedded LPT Port | LPT=1, IRQ=7 |
| Virtual Serial Port | **Disabled** |
| Optional LPT Port | Disabled |
| Embedded LPT Mode Support | SPP Extended |
| Integrated Diskette Controller | Auto(Enabled) |
| Numlock power-on state | Off |
| Embedded NICs->NIC1&2 Boot options | **Disabled** |
| Diskette Write Control | Read and Write |
| Diskette Boot Control | Enabled |
| Advanced Memory Protection | Advanced ECC Support |
| USB Control | USB Enabled |
| USB 2.0 Controller | Enabled |
| Power Regulator for ProLiant | HP Dynamic Power Savings Mode |

PCI Devices: Leave all settings as default.

Standard boot order

| | |
|---|---|
| IPL:1 | CDROM |
| IPL:2 | Floppy Drive A: |

| | |
|---|---|
| IPL:3 | USB: DriveKey (C:) |
| IPL:4 | Hard Drive C: |
| IPL:5 | PCI Embedded HP NC3731i |
| Boot Controller Order: | |
| Ctlr:1 | **PCI Slot 1 – HP Smart Array P400 Controller** |
| All others to be ignored. | |
| Date and Time: | **Set accordingly** |
| Server Availability | |
| ASR Status | **Disabled** |
| ASR Timeout | n/a |
| Thermal Shutdown | Enabled |
| Wake-On LAN | **Disabled** |
| POST F1 Prompt | Delayed |
| Power Button | Enabled |
| Automatic Power-On | **Disabled** |
| Power-On Delay | No Delay |
| Server Passwords | |
| Set Power-On Password | <blank> |
| Set Admin Password | <blank> |
| Network Server Mode | Disabled |
| QuickLock | Disabled |
| BIOS Serial Console & EMS | |
| BIOS Serial Console Port | **Disabled** |
| BIOS Serial Console Baud Rate | n/a |
| EMS Console | Disabled |
| BIOS Interface Mode | Auto |
| Server Asset Text | |
| Server info Text | |
| Server Name Line1 | To be changed by Kodak |
| Server Name Line2 | To be changed by Kodak |
| Server Primary OS Line1 | To be changed by Kodak |
| Service Contact Text | |
| Service Name Text Line1 | **Kodak** |
| Custom Post Message | **Kodak Premium Workflow Server** |
| Advanced Options | |
| MPS Table Mode | Full Table APIC |
| ROM Selection | Use Current ROM |
| Restore Default System Settings | |
| Resore Settings/Erase Boot Disk | |
| NMI Debug Button | Enabled |
| Virtual Install Disk | Enabled |
| Serial Number | n/a |
| Product ID | n/a... 417188-001 for ML370G5 |
| Processor Options | |
| HW Prefetcher | Enabled |
| Adjacent Sector Prefetch | Enabled |
| N-Execute Memory Protection | Disabled |
| Intel Virtualization Technology | Disabled |
| Expansion Card Caching Optimization | Disabled |
| Utility Language | English |

4) Press <**ESC**>, and <**F10**> to exit and reboot the system.

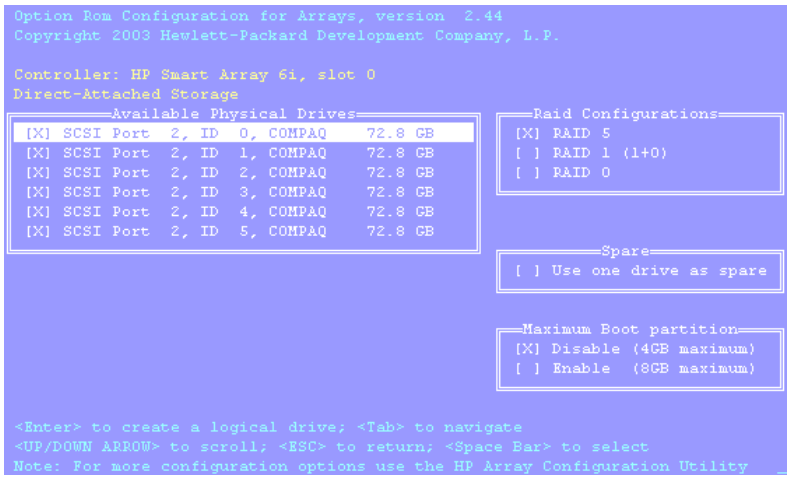
## 4.4 SETTING UP DISKS

### Summary of RAID settings

| Number of Disks | P400 Port | RAID settings |
|---|---|---|
| 2 System Disks | 1 | RAID = 1 |
| 1 internal data disk | 1 | RAID = 0 |
| 2 internal data disks | 1 | RAID = 1 |
| 3 to 6 internal data disks | 1 | RAID = 5 |

### Instructions

1) During bootup press **<F8>** at the **Smart Array P400 RAID Controller** prompt.
2) **Delete** the existing **Logical Volumes**. For each **Logical Volume**:
   a) Select **Delete Logical Volume**.
   b) Select the logical volume.
   c) Hit <**F8**>, <**F3**> then <Enter> to delete the volume.
   d) Repeat for any other logical volume.
3) **Delete** the existing **Logical Drive**. For each **Logical Drive** (if applicable):
   a) Select **Delete Logical Drive**
   b) Hit <**F8**> then <**F3**> to delete the volume.
4) Create the Logical Drives:
5) Creating the OS Mirror:
   a) Select **Create Logical Drive**, you should see the following.




   b) Ensure disks ID0 and ID1 are selected ('X' in front) by selecting the disk and hitting the space bar.
   c) Unselect all the disks by removing the 'X' in front.
   d) Configure the other settings as follows:

| | |
|---|---|
| Raid Configuration | RAID 1 (1+0) |
| Spare | Unchecked |
| Maximum Boot Partition | Disable (4GB Max) |

   e) Hit <**Enter**>, <**F8**> then **<Enter>** to accept the configuration.
   f) Hit **<Esc>** exit.
6) Creating the Data Drive:
   a) Select Create Logical Drive.
   b) If you have done the preceding step correctly you should see no disks on Port2. Ensure all the drives on Port-1 are selected (show 'X').

c) Set the other settings are as follows:

| | |
|---|---|
| Raid Configuration | RAID 5 |
| Spare | Unchecked |
| Maximum Boot Partition | Disable (4GB Max) |

d) Hit <**Enter**> and then <**F8**> to accept the configuration.

7) Server is now complete. Hit <Esc> to exit the RAID configuration utility.

# 5 DL380G5 HARDWARE SETUP

This section describes how to set up a ProLiant DL380G5 based server.
**Note:** As apposed to configuring Dell Servers you do not update the Servers BIOS here. Once the OS has been applied you will run the Software Support Pack update that will upgrade Drivers, BIOS and Firmware for all the HP components.

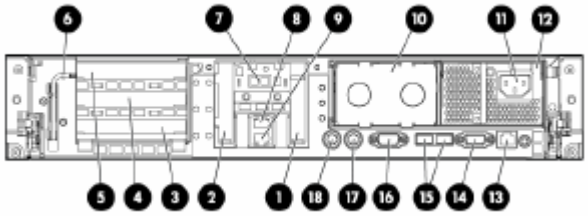
## 5.1 INSTALLING HARDWARE

6) Please verify the delivered hardware against the sales order and the specifications below.

| **Standard System Components for DL380G5 servers** | | | |
|---|---|---|---|
| **Item** | **Type** | **Man** | **Comments** |
| PC | **DL380G5**, 2 x 2.66 GHz Xeon E5430 CPU's | HP | |
| RAM | 4GB 667Mhz DDR2 FBD ECC PC2-5300 | HP | 4 Banks, 2 DIMMS/Bank |
| RAID | Smart Array P400 PCI-e RAID Controller | HP | |
| Hard disk | 2x 146 GB SAS disks, 10K RPM (RAID1 System)<br>1x 146 GB SAS disk, 10K RPM (RAID 0 Jobs) | HP<br>HP | see below diagram |
| DVD ROM | EIDE | HP | |
| Video | On-board Integrated ATI ES1000 Graphics Controller (32MB) | ATI/HP | |
| Network | 1st HP NC373i Gbit copper<br>2nd HP NC373i Gbit copper<br>3rd 100BT ILO2 | HP<br>HP<br>HP | 1st General connection<br>Not used<br>2nd RC troubleshooting |
| **Miscellaneous Components for DL380G5 servers** | | | |
| Keyboard | | HP | English or GB for International |
| Mouse | PS/2 | HP | |
| External modem | USR / MultiTech External 56K | USR/MultiTech | NA/ ROW, connected to COM1 |
| Monitor | N/A | HP | |
| Power cord + documents | 1x IEC320R to NEMA15P for North America or<br>1x IEC320R to IEC320P for ROW | HP | |
| Software + documents | Windows 2003 Server, 5 client licenses (Server may or may not be downgraded to Windows 2000 Server | Microsoft | English |
| Software + documents | GHOST11 | Symantec | English |

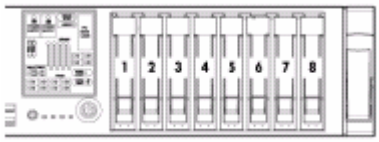
7) Install all of the optional hardware, as listed on the sales order.

| Item | Type | Source | Comments |
|---|---|---|---|
| RAID controller | HP Smart Array P400 PCIe | HP | Install in PCI 1 |
| SCSI LVD controller | Optional Adaptec 39u160, PCI, (for connecting external SE/ LVD SCSI Device non MCE CTP) | Adaptec | Install in PCI 5 |
| Serial interface | Digi AccelePort 4P + adapter cable | Digi | Install in PCI 4 |
| RAM | N/A | HP | |
| Hard disk | 146 GB SAS disk, 10K RPM | HP | 2 slots default OS disks.<br>1 slot for default Jobs disk. 5 additional slots |
| USB Dongle | Sentinel USB Dongle | Sentinel | Any back USB port |




Item Description
1 Expansion slot 1
2 Expansion slot 2
3 Expansion slot 3
4 Expansion slot 4
5 Expansion slot 5
6 T-10/T-15 Torx screwdriver
7 External option blank
8 NIC 2 connector
9 NIC 1 connector
10 Power supply bay 2
11 Power cord connector
12 Power supply bay 1 (populated)
13 iLO 2 connector
14 Video connector
15 USB connectors (2)
16 Serial connector
17 Mouse connector
18 Keyboard connector

8) Install the Hard Drives as described in the picture below:




| Disk | Location |
|---|---|
| OS Mirror (2 identical disks) | Slots 1 and 2 |
| Data Volume(s) | Slots 3 - 8 |

9) Connect the server to the UPS and connect the external devices.

| Device | |
|---|---|
| Server power 1 and 2 | Both to the UPS |
| Server Network and ILO | Both to the LAN |
| Modem Signaling | COM1 |
| Modem Power | UPS |
| MCE CTP Recorder Interface | COM3 |
| MCE Diagnostics 1 | COM4 |
| MCE Diagnostics 2 | COM5 |
| UPS Signaling | COM2 or USB (any port) |
| External Device (ie. RAID) Serial | Any available COM port |
| External Device power 1 | UPS 1 |
| External Device power 2 (if applicable) | UPS 2 or another power circuit |

10) Power on the server. Go on to configure the SCSI controllers, setup the hard drives, and configure the BIOS as described in the next section.

## 5.2 SETTING UP THE SCSI CONTROLLER

### 5.2.1 Configuring the PCI Adaptec 39u160

#### PCI Adaptec 39u160 SCSI Controller

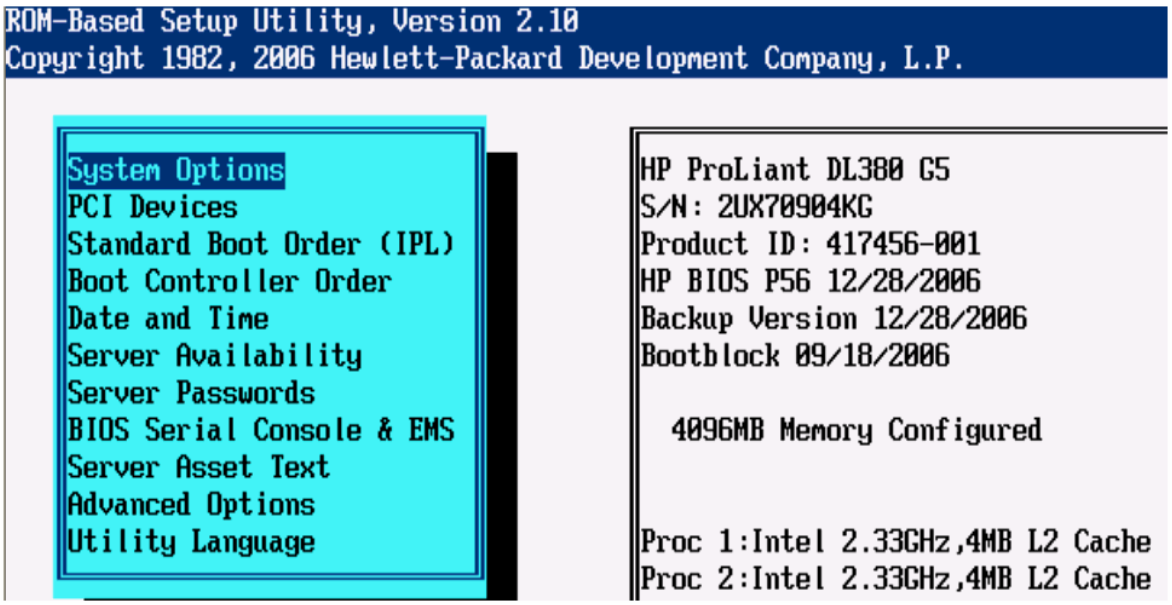
5) Ensure the 39u160 BIOS is at a rev listed Tech Planet > Server > Downloads page. At the time of this writing v3.10 is the current supported rev. Download the update from Tech Planet if requiring an update.
6) Press <**CTRL**> **+A** (if appears) during the **Adaptec 39160 SCSI BIOS** boot up prompt to run the Adaptec SCSI Select Utility.
7) For each 39160 found under Bus:Device:Channel select an adapter do the following.
   a) From the Main Menu screen, select **Configure/View Host Adapter Settings**.
   b) Select **<F6> / Yes** to Reset options to default.
   c) Select Advanced Configuration.

| | |
|---|---|
| Domain Validation | Disabled |
| BIOS support for bootable CD | Disabled |

      i) All other items left at default.
      ii) Press <**ESC**>**,** <**ESC**> and then select **Yes** to save the changes (if changes has been made).
   d) Press <**ESC**> to get back to the controller select screen and repeat for the next channel.
8) Press <**ESC**> and select **Yes** to exit the utility.

## 5.3 CONFIGURING HARDWARE SYSTEM SETTINGS

1) Reboot the server.
2) Press <**F9**> (normally after the SCSI BIOS checks) when prompted to get to the ROM BIOS Setup Utility (RBSU) screen as shown below:




3) Ensure the settings follow the below recommendations. **highlighted** items are changed from default:

System Options:

| | |
|---|---|
| Embedded COM Port A | Com=1, IRQ=4, IO=3H8h-3FFh |
| Virtual Serial Port | **Disabled** |
| Integrated Diskette Controller | Auto(Enabled) |
| Numlock power-on state | Off |
| Embedded NICs->NIC1&2 Boot options | **Disabled** |
| Diskette Write Control | Read and Write |
| Diskette Boot Control | Enabled |
| Advanced Memory Protection | Advanced ECC Support |
| USB Control | USB Enabled |
| USB 2.0 Controller | Enabled |
| Power Regulator for ProLiant | HP Dynamic Power Savings Mode |

PCI Devices: Leave all settings as default.

Standard boot order

| | |
|---|---|
| IPL:1 | CDROM |
| IPL:2 | Floppy Drive A: |
| IPL:3 | USB: DriveKey (C:) |
| IPL:4 | Hard Drive C: |
| IPL:5 | PCI Embedded HP NC3731i |

Boot Controller Order:

| | |
|---|---|
| Ctlr:1 | **PCI Slot 1 – HP Smart Array P400 Controller** |
| All others to be ignored. | |

Date and Time: **Set accordingly**

Server Availability

| | |
|---|---|
| ASR Status | **Disabled** |
| ASR Timeout | n/a |
| Thermal Shutdown | Enabled |
| Wake-On LAN | **Disabled** |

| | |
|---|---|
| POST F1 Prompt | Delayed |
| Power Button | Enabled |
| Automatic Power-On | **Disabled** |
| Power-On Delay | No Delay |
| Server Passwords | |
| Set Power-On Password | <blank> |
| Set Admin Password | <blank> |
| Network Server Mode | Disabled |
| QuickLock | Disabled |
| BIOS Serial Console & EMS | |
| BIOS Serial Console Port | **Disabled** |
| BIOS Serial Console Baud Rate | n/a |
| EMS Console | Disabled |
| BIOS Interface Mode | Auto |
| Server Asset Text | |
| Server info Text | |
| Server Name Line1 | To be changed by Kodak |
| Server Name Line2 | To be changed by Kodak |
| Server Primary OS Line1 | To be changed by Kodak |
| Service Contact Text | |
| Service Name Text Line1 | **Kodak** |
| Custom Post Message | **Kodak Premium Workflow Server** |
| Advanced Options | |
| MPS Table Mode | Full Table APIC |
| ROM Selection | Use Current ROM |
| Restore Default System Settings | |
| Resore Settings/Erase Boot Disk | |
| NMI Debug Button | Enabled |
| Virtual Install Disk | Enabled |
| Serial Number | n/a |
| Product ID | n/a... 417457-001 for DL380G5 |
| Processor Options | |
| HW Prefetcher | Enabled |
| Adjacent Sector Prefetch | Enabled |
| N-Execute Memory Protection | Disabled |
| Intel Virtualization Technology | Disabled |
| Expansion Card Caching Optimization | Disabled |
| Utility Language | English |

4) Press **<ESC>**, and **<F10>** to exit and reboot the system.

## 5.4 SETTING UP DISKS

### Summary of RAID settings

| Number of Disks | RAID settings |
|---|---|
| 2 System Disks | RAID = 1 |
| 1 internal data disk | RAID = 0 |
| 2 internal data disks | RAID = 1 |
| 3 or 4 internal data disks | RAID = 5 |

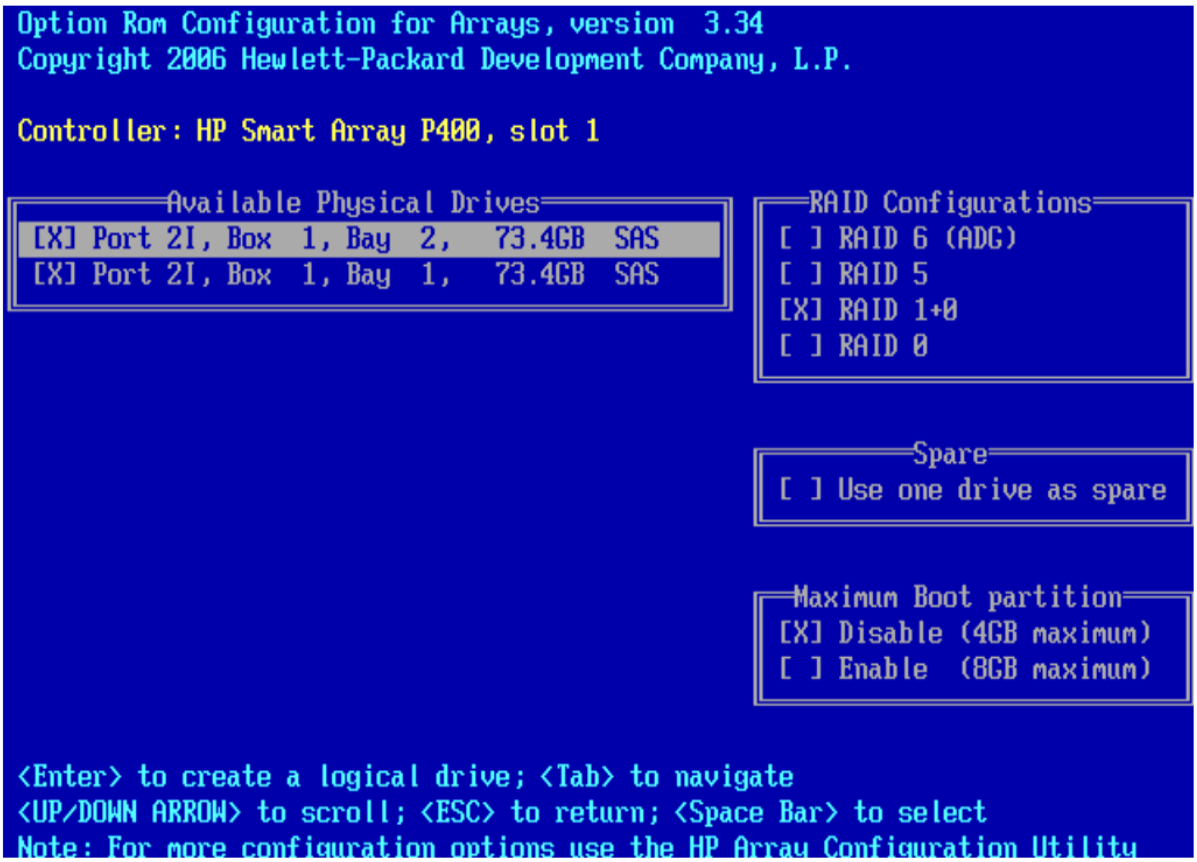
### Instructions

8) During bootup press **<F8>** at the **Smart Array P400 RAID Controller** prompt.

9) **Delete** the existing **Logical Volumes**. For each **Logical Volume**:

a) Select **Delete Logical Volume**.
b) Select the logical volume.
c) Hit <**F8**>, <**F3**> then <Enter> to delete the volume.
d) Repeat for any other logical volume.

10) **Delete** the existing **Logical Drive**. For each **Logical Drive** (if applicable):
a) Select **Delete Logical Drive**
b) Hit <**F8**> then <**F3**> to delete the volume.
11) Create the Logical Drives:
12) Creating the OS Mirror:
a) Select **Create Logical Drive**, you should see the following:




b) Ensure disks ID0 and ID1 are selected ('X' in front) by selecting the disk and hitting the space bar.
c) Unselect all the disks by removing the 'X' in front.
d) Configure the other settings as follows:

| | |
|---|---|
| Raid Configuration | RAID 1 (1+0) |
| Spare | Unchecked |
| Maximum Boot Partition | Disable (4GB Max) |

e) Hit <**Enter**>, <**F8**> then <**Enter**> to accept the configuration.
f) Hit <**Esc**> exit.

13) Server is now complete.

# 6 ML310G5 HARDWARE SETUP

This section describes how to set up a ProLiant ML310G5 based server.
**Note:** As apposed to configuring Dell Servers you do not update the Servers BIOS here. Once the OS has been applied you will run the Software Support Pack update that will upgrade Drivers, BIOS and Firmware for all the HP components.

## 6.1 INSTALLING HARDWARE

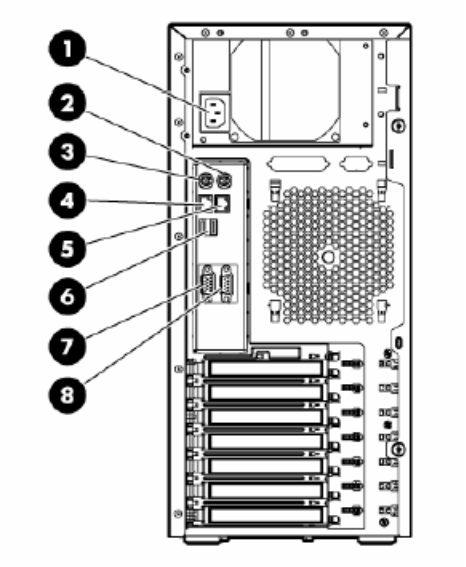
1) Please verify the delivered hardware against the sales order and the specifications below.

| **Standard System Components for ML310G5 servers** | | | |
|---|---|---|---|
| **Item** | **Type** | **Man** | **Comments** |
| PC | **ML310G5**, 1 x 3.00Ghz Dual Core CPU | HP | |
| RAM | 2 GB FBD DDR2 ECC PC2-6400 | HP | 4 Banks, 2 DIMMs/Bank |
| RAID | Embedded SATA Controller | HP | RAID0 |
| RAID | Smart Array P400 RAID Controller (optional) | HP | RAID1(2x160GB or 250GB) |
| Hard disk | 2 x 160 GB SATA, 7.2K RPM<br>Opt. 2x SATA (160GB or 250GB) | HP<br>HP | |
| DVD ROM | SATA | HP | |
| Video | On-board Integrated ATI ES1000 Graphics Controller (32MB) | ATI/HP | |
| Network | 1x Broadcom NC326i Gbit copper | Broadcom / HP | |
| **Miscellaneous Components for ML310G5 servers** | | | |
| Keyboard | PS/2 | HP | |
| Mouse | PS/2 | HP | |
| External modem | USR / MultiTech External 56K | USR/MultiTech | NA/ ROW, connected to COM1 |
| Monitor | 17", LCD color monitor | HP | |
| Power cord + documents | 1x IEC320R to NEMA15P for North America or<br>1x IEC320R to IEC320P for ROW | HP | |
| Software + documents | Windows 2003 Server, 5 client licenses (Server may or may not be downgraded to Windows 2000 Server | Microsoft | English |
| Software + documents | GHOST11 | Symantec | English |

2) Install all of the optional hardware, as listed on the sales order.

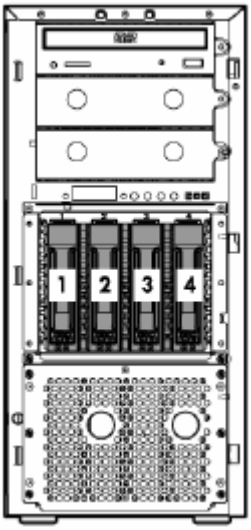
| Item | Type | Source | Comments |
|---|---|---|---|
| Network | Optional Intel PRO/1000 Gigabit Fiber or Copper PCI-X NIC Controller | Intel | Install in PCI 1 |
| Network | Optional Intel PRO/1000 Gigabit Fiber or Copper PCI-e NIC Controller | Intel | Install in PCI 7,5,3 |
| SCSI HVD controller | Optional LSI HVD(LSI8751D) | LSI | Install in PCI 1 |
| SCSI LVD controller | Optional Adaptec 39u160 | Adaptec | Install in PCI 1 |
| SCSI LVD controller | Optional Adaptec 39u320 | Adaptec | Install in PCI 1 |
| Serial interface | Digi AccelePort 2P or 4P + adapter cable | Digi | Install in PCI 1 |
| Serial interface | Moxa serial Card(PCIe) | Moxa | Install in PCI 3,5,7 |
| RAM | Optional 2x 1024MB DDR2 800Mhz SDRAM ECC DIMMs | HP | 1 additional banks, 2 DIMMs each (2 banks total) |
| Hard disk | 160 GB SATA1, 7.2Krpm<br>250 GB SATA1, 7.2Kprm | HP | 1 slot default OS disk.<br>3 additional slots |
| USB Dongle | Sentinel USB Dongle | Sentinel | Any back USB port |
| | | | |

**Back**




| Item | Description |
|---|---|
| 1 | Power supply connector |
| 2 | Mouse connector |
| 3 | Keyboard connector |
| 4 | 10/100/1000 NIC 1 connector |
| 5 | iLO 2 management port |
| 6 | USB connectors (2) |
| 7 | Video connector |
| 8 | Serial connector |

**Front**



3) Install the Hard Drives as the following:

| Disk | Location | Notes |
|---|---|---|
| OS Single (1 disk) | Slots 0 | Default |
| Data | Slots 1 - 3 | |
| System Mirror (optional) | Slots 0,1 | With purchase of P400 Controller |
| Data Mirror (optional) | Slots 2,3 | With purchase of P400 Controller |

Note:

a) RAID 1 available with purchase of Smart Array P400 256MB RAID Controller.

4) Connect the server to the UPS and connect the external devices.

| Device | |
|---|---|
| Server power | UPS |
| Server Network | LAN |
| Modem Signaling | COM1 |
| Modem Power | UPS |
| MCE CTP Recorder Interface | COM3 (Digi) |
| MCE Diagnostics 1 | COM4 (Digi) |
| MCE Diagnostics 2 | COM5 (Digi) |
| UPS Signaling | COM6 or USB (any port) |
| External Device (ie. RAID) Serial | Any available COM port if available. |
| External Device power 1 | UPS 1 |
| External Device power 2 (if applicable) | UPS 2 or another power circuit |

5) Power on the server. Go on to configure the SCSI controllers, setup the hard drives, and configure the BIOS as described in the next section.

## 6.2 SETTING UP THE SCSI CONTROLLER

### 6.2.1 Configuring the PCI Adaptec 39u160

1) PCI Adaptec 39u160 SCSI Controller
2) Ensure the 39u160 BIOS is at a rev listed Tech Planet > Server > Downloads page. At the time of this writing v3.10 is the current supported rev. Download the update from Tech Planet if requiring an update.
3) Press <**CTRL**> **+A** (if appears) during the **Adaptec 39160 SCSI BIOS** boot up prompt to run the Adaptec SCSI Select Utility.
4) For each 39160 found under Bus:Device:Channel select an adapter do the following.
   a) From the Main Menu screen, select Configure/View Host Adapter Settings.
   b) Select **<F6> / Yes** to Reset options to default.
   c) Select Advanced Configuration.

| | |
|---|---|
| Domain Validation | Disabled |
| BIOS support for bootable CD | Disabled |

   d) All other items left at default.
   e) Press <**ESC**>**,** <**ESC**> and then select **Yes** to save the changes (if changes has been made).
   f) Press <**ESC**> to get back to the controller select screen and repeat for the next channel.
5) Press <**ESC**> and select **Yes** to exit the utility.

### 6.2.2 Configuring the Differential Adaptec 2944UW

**WARNING: This controller requires 5V PCI slot, and it's not compatible with the 3.3V based PCI-X & PCI-Express slots available on the ML310G5 server. Hence, it's NOT supported on this platform.**

## 6.3 CONFIGURING HARDWARE SYSTEM SETTINGS

### 6.3.1 Configuring BIOS Settings

1) Reboot the server.
2) Press **<F9>** when prompted after the initial peripheral BIOS tests to get into the ROM BIOS config.
3) Ensure the settings follow the below recommendations. **Highlighted** items are changed from default:

| | |
|---|---|
| System Options: | |
| Embedded COM Port A | Com=1, IRQ=4, IO=3H8h-3FFh |
| Optional LPT Port | Disabled |
| Virtual Serial Port | **Disabled** |
| Optional LPT Port | Disabled |
| Optional LPT Mode Support | SPP Extended |
| Integrated Diskette Controller | Auto(Enabled) |
| Numlock power-on state | Off |
| Embedded NICs->NIC1 Boot options | **Disabled** |
| USB Control | USB Enabled |
| USB 2.0 Controller | Enabled |
| Power Regulator for ProLiant | HP Dynamic Power Savings Mode |
| PCI Devices: | Leave all settings as default. |
| Standard boot order | |
| IPL:1 | CDROM |
| IPL:2 | Floppy Drive A: |
| IPL:3 | USB: DriveKey (C:) |
| IPL:4 | Hard Drive C: |
| IPL:5 | PCI Embedded HP NC320i Integrated Gigabit Port 1 |
| Boot Controller Order: | |
| Ctlr:1 | **PCI Embedded – Intel 82801GR SATA Controller** |
| All others to be ignored. | *Unless optional P400 is purchased set as Ctrl 1* |
| Date and Time: | **Set accordingly** |
| Server Availability | |
| ASR Status | **Disabled** |
| ASR Timeout | n/a |
| Thermal Shutdown | Enabled |
| Wake-On LAN | **Disabled** |
| POST Speed Up | Enabled |
| POST F1 Prompt | Delayed |
| Power Button | Enabled |
| Automatic Power-On | **Disabled** |
| Server Passwords | |
| Set Power-On Password | <blank> |
| Set Admin Password | <blank> |
| BIOS Serial Console & EMS | |
| BIOS Serial Console Port | **Disabled** |
| BIOS Serial Console Baud Rate | n/a |
| EMS Console | Disabled |

| | |
|---|---|
| BIOS Interface Mode | Auto |
| Server Asset Text | |
| Server info Text | |
| Server Name Line1 | To be changed by Kodak |
| Server Name Line2 | To be changed by Kodak |
| Server Primary OS Line1 | To be changed by Kodak |
| Service Contact Text | |
| Service Name Text Line1 | **Kodak** |
| Custom Post Message | **Kodak Performance Workflow Server** |
| Advanced Options | |
| MPS Table Mode | Full Table APIC |
| Restore Default System Settings | |
| Resore Settings/Erase Boot Disk | |
| User Default Options | n/a |
| NMI Debug Button | Enabled |
| Virtual Install Disk | Enabled |
| Serial Number | n/a |
| Product ID | n/a... 418040-001 for ML310G5 |
| Drive Write Cache | Disabled |
| Embedded SATA RAID | Disabled |
| Processor Options | |
| HW Prefetcher | Enabled |
| Adjacent Sector Prefetch | Enabled |
| NoExecute Memory Protection | Disabled |
| Intel Virtualization Technology | Disabled |
| Expansion Card Caching | Disabled |
| Default Fan Speed | Normal Speed |
| Option ROM Loading Sequence | Load Embedded Devices first |
| iLO 2 Shared Network Port | Dedicated Port |
| Utility Language | English |

4) Hit **<ESC>** then **<F10>** to save settings and exit.

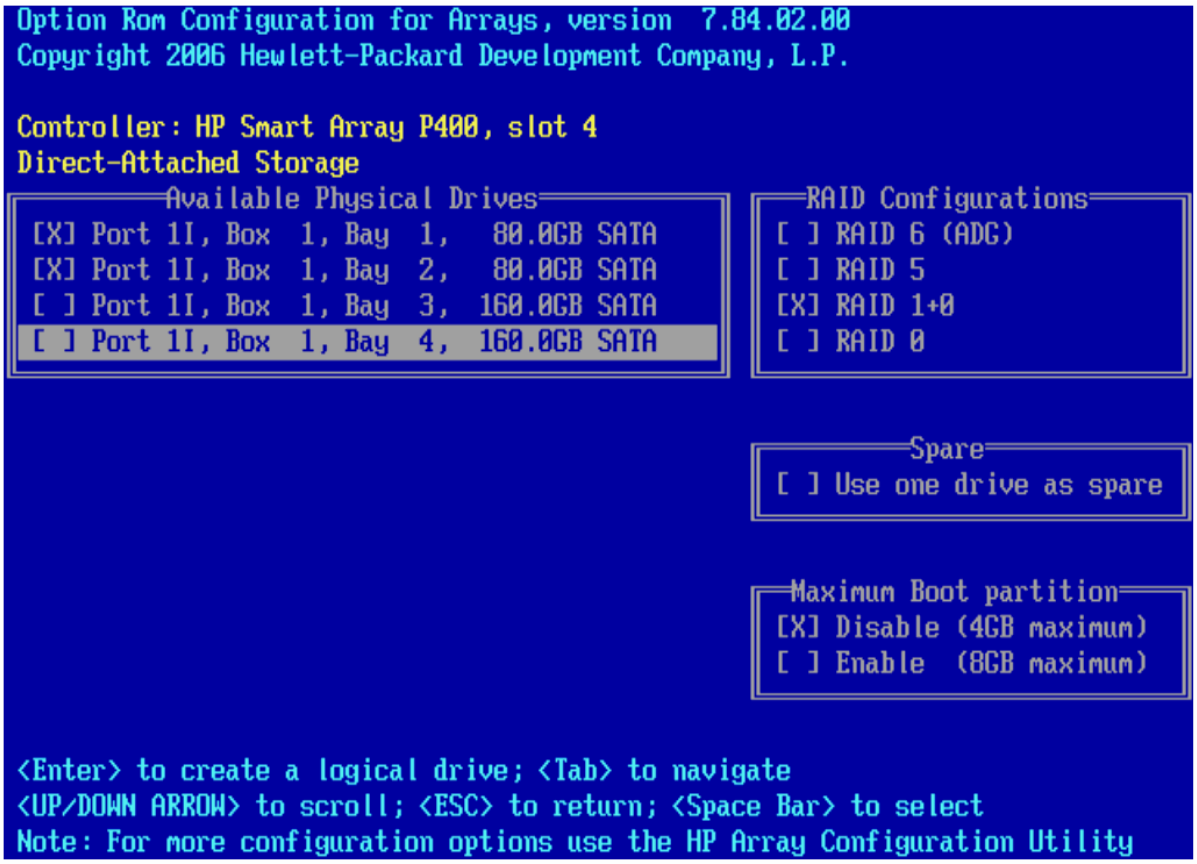
## 6.4 CONFIGURING THE SYSTEM AND MIRROR DRIVES (IF OPTIONAL HARDWARE PURCHASED)

### Summary of RAID settings

| Number of Disks | P400 Port | RAID settings |
|---|---|---|
| 2 System Disks | 1 | RAID = 1 |
| 2 Data Disks | 1 | RAID = 1 |

### Instructions

1) During bootup press **<F8>** at the **Smart Array P400 RAID Controller** prompt.
2) Create the Logical Drives:
**3)** Creating the **OS Mirror:**
   a) Select **Create Logical Drive**, you should see the following (all drives are => 160GB).




b) Ensure disks Port1I Bay 1 and 2 are selected ('X' in front) by selecting the disk and hitting the space bar.

c) Unselect all the disks by removing the 'X' in front. (using space bar to unselect/select)

d) Configure the other settings as follows:

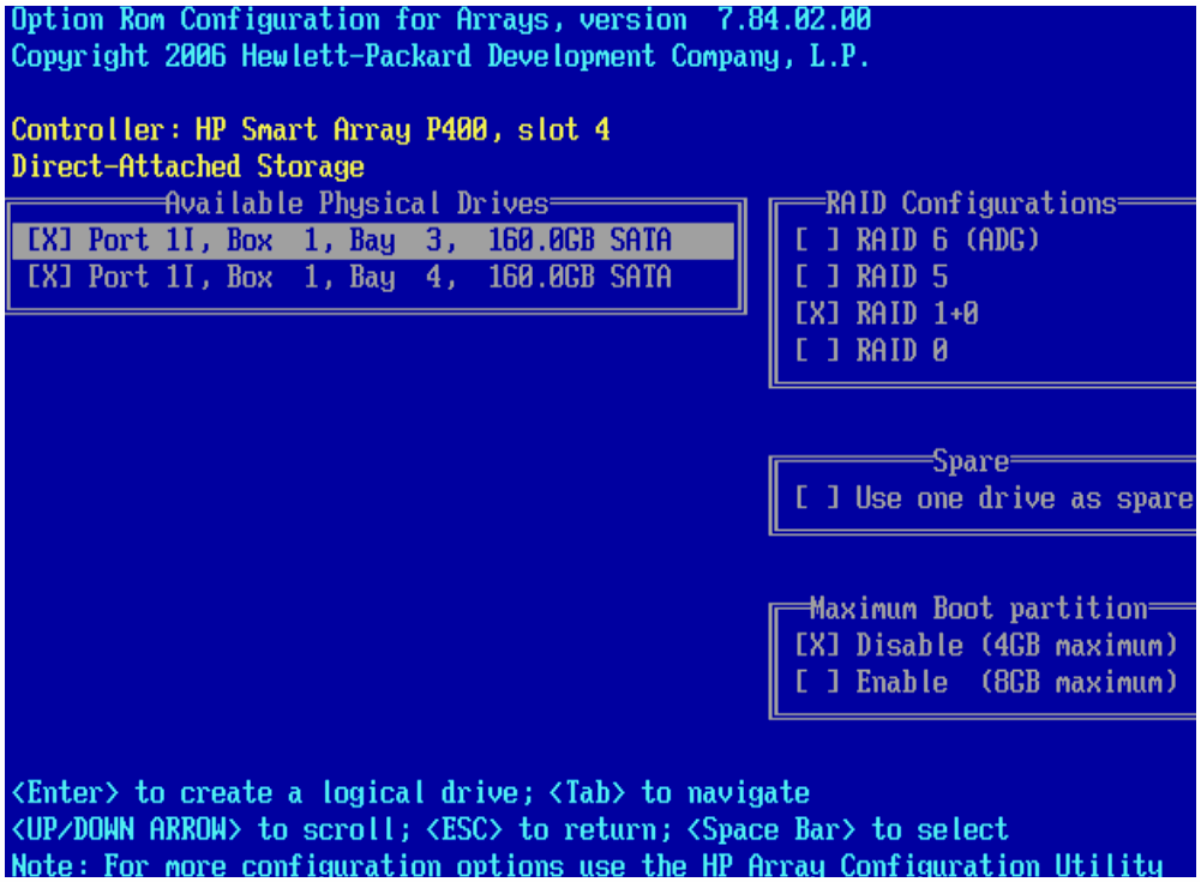
| | |
|---|---|
| Raid Configuration | RAID 1 (1+0) |
| Spare | Unchecked |
| Maximum Boot Partition | Disable (4GB Max) |

e) Hit <**Enter**>, <**F8**> then **<Enter>** to accept the configuration.

f) Hit **<Esc>** exit.

4) Creating the **DATA** Mirror:

a) Select **Create Logical Drive**, you should see the following.




b) Ensure disks Port1I Bay 3 and 4 are selected ('X' in front) by selecting the disk and hitting the space bar.

c) Unselect all the disks by removing the 'X' in front. (using space bar to unselect/select)

d) Configure the other settings as follows:

| | |
|---|---|
| Raid Configuration | RAID 1 (1+0) |
| Spare | Unchecked |
| Maximum Boot Partition | Disable (4GB Max) |

e) Hit <**Enter**>, <**F8**> then <**Enter**> to accept the configuration.

f) Press ESC to exit and restart the server

**About Kodak Graphic Communications Group (GCG)**

The leading provider of graphic communications solutions worldwide, Kodak's Graphic Communications Group (GCG) offers image capture systems; professional color, copydot, and high-speed document scanning systems; inkjet printing and proofing systems; workflow and color management software; thermal imaging devices for film, plates, and proofs; high-quality proofing media, printing plates, and recording film; on-demand color and black-and-white printing systems; data storage products; and professional services. With corporate headquarters located in Rochester, N.Y., Kodak (NYSE: EK) has the largest global sales force and is committed to a digitally oriented growth strategy.

© Kodak, 2008. All rights reserved. Kodak and Creo are trademarks of Kodak. Adobe, Acrobat, Adobe Illustrator, Distiller, Photoshop, PostScript, and PageMaker are trademarks of Adobe Systems Incorporated. Apple, AppleShare, AppleTalk, iMac, ImageWriter, LaserWriter, Mac OS, Power Macintosh, and TrueType are registered trademarks of Apple Computer, Inc. Macintosh is a trademark of Apple Computer, Inc., registered in the U.S.A. and other countries. Hexachrome, PANTONE, PANTONE Goe, PANTONE Hexachrome, and PANTONE MATCHING SYSTEM are the property of Pantone, Inc. PEARL, PEARLsetter, PEARLhdp, PEARLdry, and PEARLgold are registered trademarks of Presstek, Inc. XEROX is a trademark of XEROX CORPORATION.