

Creo Dell Workflows

Windows 2003 installation using Ghost Image

Document Number
709-00230A-A

2004-05-05

Creo Inc.
3700 Gilmore Way
Burnaby, BC
Canada V5G 4M1
(604) 451-2700

Copyright 2004 Creo Inc. All rights reserved.

Revision History

Revision	Date	Author	Comments
00	Apr 27, 2004	Derek Braendel	First draft

creo

Creo Dell Workflows
Windows 2003 installation using Ghost Image

CONTENTS

1. INTRODUCTION 1

1.1 PROCEDURE OVERVIEW 2

2. HARDWARE CONFIGURATION REFERENCE 2

2.1 DRIVE DESIGNATIONS 2

3. GHOSTING THE OS FROM THE SERVER GHOST IMAGE CD 3

3.1 GHOSTING W2K FROM AN OS IMAGE 3

4. SETTING UP SYSTEM PREPARATION TOOL MINI SETUP WIZARD 3

5. ADDING NEW HARDWARE 4

5.1 PERC 2/SI OR 3/DI INTEGRATED RAID CONTROLLER 4
5.1.1 Device Driver Digital Signature 4
5.2 MULTI PORT SERIAL ADAPTER (DELL RENDERSTATION ONLY) 5
5.2.1 Verifying the Digi ClassicBoard or AccelePort 4P 5
5.2.2 New COM Ports Assignment 8
5.3 ATTACH EXTERNAL RAID 9

6. SETTING UP DISKS 9

6.1 DISK CONFIGURATION REFERENCE 9
6.1.1 Dell Servers for Evo and Director 9
6.2 SETTING UP DISK CONFIGURATION 10
6.2.1 Configuring Disks on Dell Servers 10

7. CONFIGURING PERFORMANCE SETTINGS 11

7.1 VERIFYING VIRTUAL MEMORY 11
7.2 CONFIGURING NETWORKING 11
7.2.1 Verifying NIC Driver Settings (including AppleTalk binding) 11

8. TIGHTENING SECURITY 12

8.1.1 Installing IIS (If Revision G and later of OS Ghost Image is loaded) 12

9. INSTALLING AND CONFIGURING REMOTE ACCESS 13

9.1 INSTALLING AND CONFIGURING RAS 13
9.1.1 Set Up Accept Incoming Connection (Workgroup, non Domain Environment) 13

10. INSTALLING AIT-2/3 TAPE DEVICE DRIVER (IF A TAPE DEVICE IS INSTALLED) 14

11. INSTALLING UPS SOFTWARE (FOR APC UNINTERRUPTED POWER SUPPLY) 14

12. PERFORMING A WINDOWS 2000 SPOT CHECK 16

13. SYSTEM DISASTER RECOVERY 17

13.1 SETTING UP FOR SYSTEM DISASTER RECOVERY 17

14. RECOVERY FROM A SYSTEM FAULT-TOLERANT DRIVE 18

1. INTRODUCTION

This document provides procedures to install Windows 2003 (W2K3) for Evo, Director, Synapse InSite, or BestRIP running on Creo-approved Intel server platforms.

This document provides step-by-step procedures on Windows 2003 installation and configuration using a Ghost image prepared specifically for each platform. Contact Technology Infrastructure Systems Group for the Win2K3 Stand Installation Template if there is no suitable Ghost image or for other non-standard hardware.

Supported platforms include Xeon processor based Dell PowerEdge Servers of 400SC, 1600SC, 2600, 2650, and 4600, the legacy Pentium III CPU based servers of 1400, 2400, 2500, 4400, 6400. EMC DG Aviion Servers are **not** supported for Win2K3.

Make sure that you have the following software before beginning installation.

Table 1: Necessary Software

Disk	Type	Version	Comments	Systems
Windows 2003 Server and SP4	CD	2003	Operating system	All
W2K Resource CD	CD	Creo P/N: 651-00117A-03	Drivers and Firmware updates	All Dell

The most current listing of Ghosts can be found on the Resource CD under **\Recovery\Readme.rtf**. A listing of those Ghosts at the time of this writing is provided for convenience.

Table 2: List of Ghosts

Server	OS	SP	Class	Workflow	Partitions	Ghost
PE400	Win2K3	0	Server	All	1	651-00112A
PE2600	Win2K3	0	Server	All	1	651-00094A

Note: At this point, it is assumed that the server hardware is configured correctly, and the server is ready for Windows 2003 to be installed.

1.1 Procedure overview

New systems ship on Dell servers, therefore, the procedure outlined in this document is optimized for these systems.

Table 3: Setup Overview

Operating System Installation	Steps
Section 3: Ghost OS from Server ghost image CD (platform-specific)	1. Boot system into Windows XP DOS prompt off the Ghost CD. 2. Ghost (v8) OS server image onto server.
Remove the server from LAN (if connected)	This is a security measure to ensure that the server is not infected with any viruses over the network. We will place the server back on the LAN after its security is tightened.
Section 4: Sys Prep Tool Mini-setup wizard	1. License Win2K3, name server, set administrator password, do initial communications configuration, etc. 2. Reboot server.
Section 5 and 6: Add new hardware and set up disks (if necessary)	1. Verify Digi multi-serial-port PCI card. Reinstall driver if necessary. 2. Setting up disks (partitions, stripe sets if required)
Section 8: Configure performance settings	1. Verify virtual memory. 2. Verify and configure networking (including NIC settings and Appletalk binding)
Section 9: Tighten Security	1. Install IIS if configuring InSite web server. IIS is, by default, not installed. 2. Apply cumulative MS security patches/hotfixes from Creo SUS.
Place Server on LAN	
Section 11: Install AIT/DLT and UPS software	See *Configuring Tape devices on Windows 2003 server.*
Section 14: Win2K spot check	

2. HARDWARE CONFIGURATION REFERENCE

The hardware must be configured before installing Windows 2003, refer to the Server Hardware Setup documents for instructions.

Dell Server Specific Configurations

Please refer to the *Dell Hardware Setup procedure (document number 72-3572A)* for all relevant information regarding Dell PowerEdge Server platforms.

2.1 Drive Designations

Platforms have one of two types of disk drive configurations.

Table 4: Workflow Drive Letters

Drive	Type	Information
C:	NTFS	W2K3 operating system, NT Loader, boot files, paging, Application executables, temp files
D:	NTFS	Temp1 (for Evo)
E:	NTFS	Temp2 (for Evo)
H:	N/A	CDROM
G - Z	NTFS	Database and ITP data files (Not required by Renderstation or BestRIP), Ghost Backup directory

3. GHOSTING THE OS FROM THE SERVER GHOST IMAGE CD

3.1 Ghosting W2K From an OS Image

1) Disconnect any External RAIDs connected to your Server.

2) Ensure that you have the Prinergy W2K Dell Resource CD (651-00117A) and Server Ghost Image CD for the particular server platform.

3) Insert the appropriate Ghost CD as listed in Table 2: List of Ghosts and reboot your server. It will automatically start Ghost.

4) From the main menu, select **Local > Disk > From Image,** and then press Enter. Select the desired GHOST image file on the CD and then press **Enter**.

5) Highlight the first hard disk from the drive list and press **Enter**.

6) Ensure the New Size is equal to the Old Size. **Adjust as necessary** and hit **OK**.

7) Hit **Yes** to proceed with the restore.

8) Upon completion of the ghost restore, remove the CD and restart the server. Unlike older Ghosts you will not need to remove any drives before you restart the server.

4. SETTING UP SYSTEM PREPARATION TOOL MINI SETUP WIZARD

The system will boot up with a Microsoft mini setup wizard. Respond to the prompts below:

1) Click **Next** at the Welcome to Windows 2000 Setup Wizard prompt.

2) At the License Agreement dialog, select **I accept this agreement**, and then click **Next**.

3) Click **Next** at the Regional Settings prompt.

4) At the Personalize Your Software prompt:

   a) In the **Name** field, enter **Workflow Server**.

   b) In the **Organization** field, enter the appropriate customer company name, and then click **Next**.

5) Set the machine name, using the following convention:

   YCSxn for all Prinergy servers and for Synapse InSite for Prinergy servers:

x = **P** for Primary Server or **S** for Secondary Server (Note that the terms "primary" or "secondary" are not NT/W2K related.)

n = the number of the machine shipping (e.g. YCSP023, YCSS300)

BWSn for Synapse InSite for Brisque servers

n = the number of the machine shipping (e.g. BWSP023)

PW00n for Synapse InSite for Brisque servers

n = the number of the machine shipping (e.g. PW00023)

6) Enter/confirm the Administrator password (= creo), and then click **Next**.

7) Set the correct date and time, and time zone, and then click **Next**.

8) The server will now reboot.

9) After you log in for the first time the Server will re-synch the computer name from the Ghost.

5. ADDING NEW HARDWARE

Once the system is booted up, it may detect hardware changes in the target system (compared to that of the source system where the ghost image was created) and display the **Found New Hardware Wizard** dialog. **Respond to these dialogs accordingly ONLY if they appear**.

5.1 PERC 2/Si or 3/Di Integrated Raid Controller

5.1.1 Device Driver Digital Signature

If the target system's PERC controller has **BIOS Version 2.5-0 (Build 2991) or higher,** then the **Found New Hardware** dialog of the **Dell PERC 2/Si or 3 /Di RAID Controller** may not appear. Instead it will show the dialog of the **Digi ClassicBoard 4 PCI Controller.** Proceed to *Section 5.2 MultiPort Serial Adapter (DellRenderstation ONLY)* below.

If the target system's PERC controller has **BIOS Version 2.1-3 (Build 2939) or lower,** it is likely that the **Found New Hardware** dialog of the **Dell PERC 2/Si or 3 /Di RAID Controller** will appear. If so, do the following steps:

1) Click the **Yes** tab at the **Digital Signature Not Found** prompt, and then click **Finish.**

2) If the System Settings Change dialog appears and prompts you to restart the computer, click Yes.

3) Upgrade the Dell PERC 2/Si or 3 /Di RAID Controller to BIOS Version 2.7-1 Build 3170 (or higher).

- Double-click the **D:\BIOS_FW\4600\Perc-FW*.EXE** BIOS file to create two bootable BIOS Firmware diskettes. (Replace 4600 with the appropriate target platform model number, that is, 2400, 2500, etc.)
- Reboot the system with diskette #1 inserted in the floppy drive.

- Follow instructions on the screen to flash the new BIOS.

5.2 Multi Port Serial Adapter (Dell Renderstation only)

5.2.1 Verifying the Digi ClassicBoard or AccelePort 4P

If with the **Found New Hardware** prompt you see **PCI Simple Communications Controller** then this is the Digi controller. Do the following:

4) Install the driver:

Select **Search for a suitable driver** and hit **Next**.

Select **Specify a location** and hit **Next**.

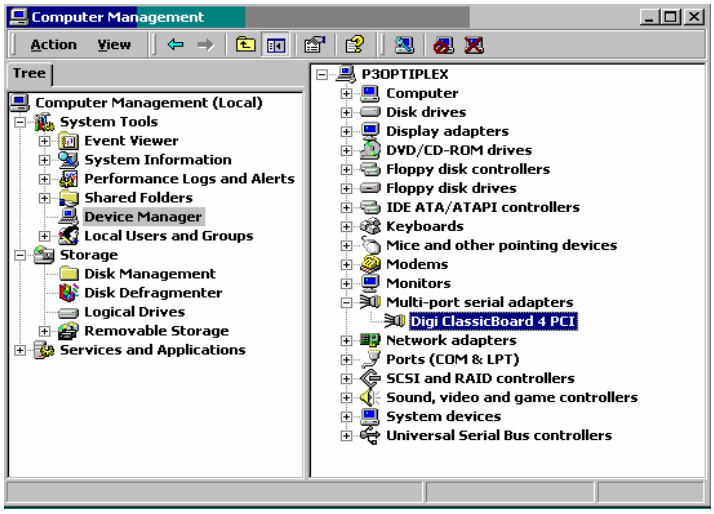
Select either from your **%SystemDrive%\Drivers\Digi** or from your **ResourceCD\W2Kdrives\Digi** the appropriate driver (Classic or Accelport) and hit **OK**.

Follow the prompts to complete the installation of the driver.

5) Verify that the driver is loaded properly, and check for the existence of COM3-COM6

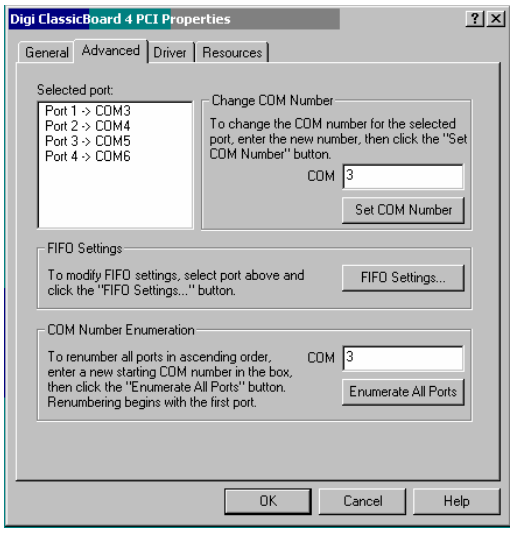
Note: If the ***Digi AccelePort 4P*** is installed make sure that you have version 4.0.229.2 of the device driver. See the Digi Driver Problem with Revision H Ghost Image CD troubleshooting item on TechPlanet.

Select **Device Manager** from the **Computer Management** MMC console, verify that the ***Multi-port serial adapters > Digi ClassicBoard 4 PCI*** (or ***Digi AccelePort 4P*** or ***Equinox SST 4P***) device appears in the Device Manager's device list as shown below:



Right-click on ***Digi ClassicBoard 4 PCI*** (or ***Digi AccelePort 4P*** or ***Equinox SST 4P***), and then select **Properties** to open the device properties window. Select the **Advanced** tab. It should show ports 1-4 mapped to COM3-6 (the

detail in the example will vary depending on the Adapter installed in the system):



Click **Cancel** to exit if the system device is shown as illustrated above. If the system device is not shown, then follow the procedure in the next section: *Correcting the Driver Settings*.

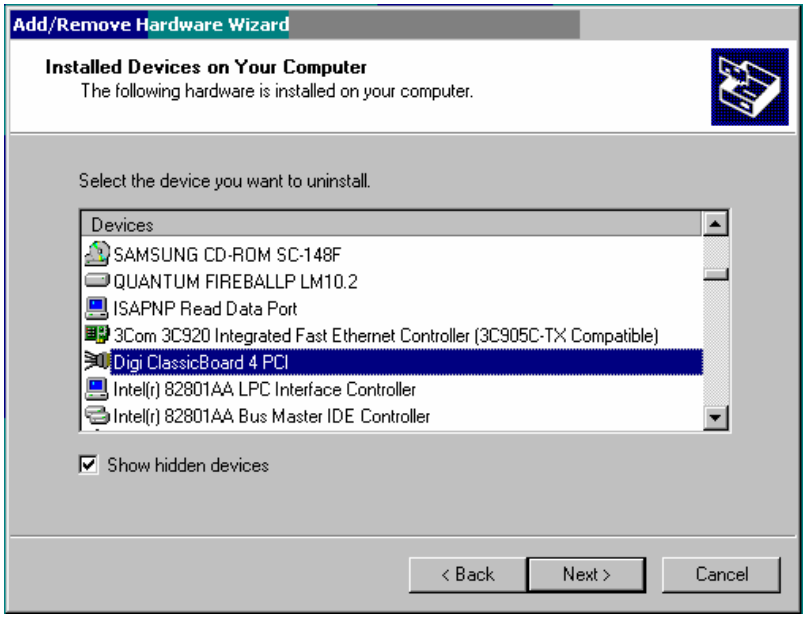
6) Correcting the Driver Settings if step 5) above fails.

a) Select **Start>Settings>Control Panel>Add/Remove Hardware**. The Add/Remove Hardware Wizard appears.

b) Click **Next.** The **Choose a Hardware Task** dialog appears.

c) Check the **Uninstall/Unplug a device** option, and then click **Next**. The Choose a Removal Task dialog appears.

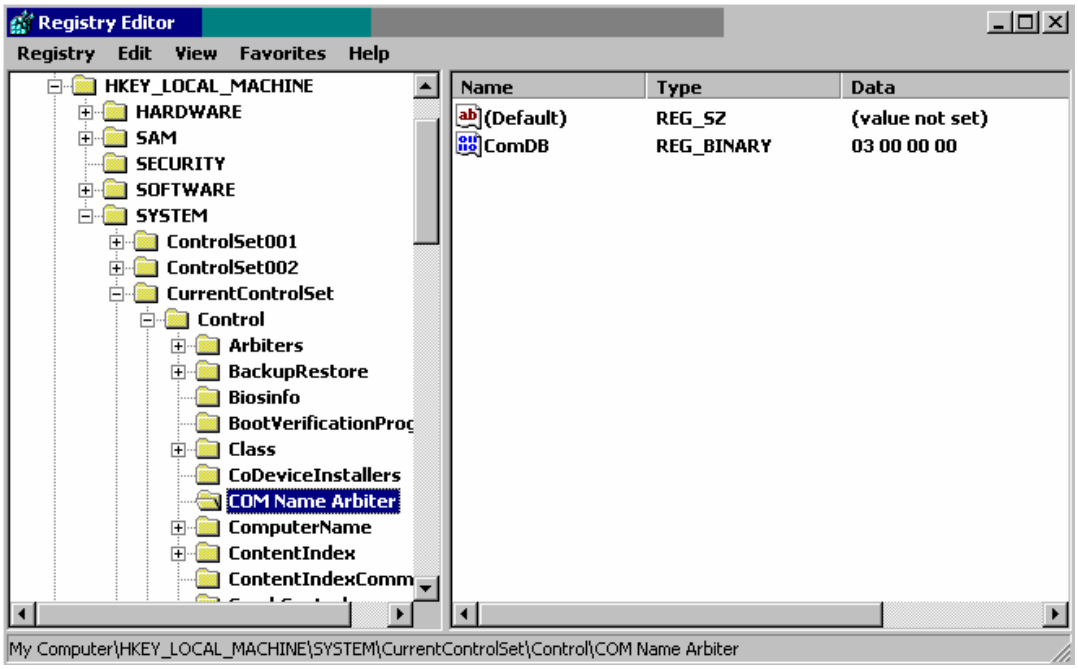
d) Check the **Uninstall a device** option, and then click **Next. The Installed Deices on Your Computer** window appears:



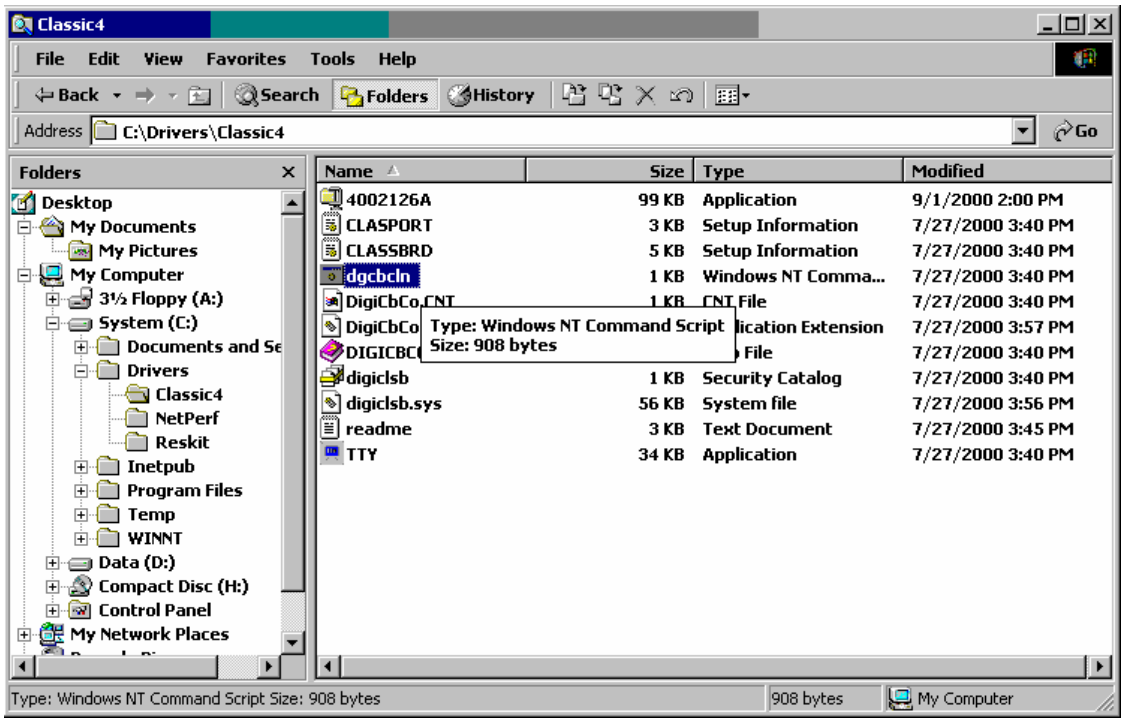
e) Check the **Show hidden devices** check box, then scroll down the list until the ***Digi ClassicBoard 4 PCI*** (or ***Digi AccelePort 4P*** or ***Equinox SST 4P***) device is found, click on the device (high-lighted as seen above), and then click **Next**. The Uninstall a Device window appears:

f) Select the **Yes, I want to uninstall this device** option, and click **Next**, wait for the dialog window disappears to complete uninstalling the device. (If two instances of this device are shown, you MUST repeat these steps again to remove the 2nd device on the list)

g) Start the **regedit** utility to verify/modify the key as shown in picture below:



h) Start the Digi driver cleanup steps by double-clicking on the file (**DGCBCLN.CMD**) shown in figure below off the Digi W2K driver file set available in the **H:\W2KDRVR\DIGI\CLASSIC4** directory of the W2K Resource CD. This step is not required for the Equinox SST adapter.



i) Reboot the server. Logon to the Administrator account, and then follow the setup procedure below to re-install a fresh version of this driver.

7) If the Digi ClassicBoard is not set up correctly, or the ghost image does not include it, use the following instructions to configure the board and update the driver.

5.2.2 New COM Ports Assignment

All Dell servers with the device connection kit are configured with a one of the multi port (4-ports) serial adapters mentioned above. Port assignments are as follows:

	COM1 (Embedded)	COM2 (Embedded)	COM3 (Digi P1)	COM4 (Digi P2)	COM5 (Digi P3)	COM6 (Digi P4)
MODEM	X					
UPS		X				
Workstation Serial Interface			X			
Recorder Diagnostic				X		
Head Diagnostic					X	
Harmony Densitometer I/F						X

Connections between the output device serial cables and the Renderstation are as follows:

Modem Serial cable – COM1 port (embedded on the motherboard)

UPS black cable – COM2 port (embedded on the motherboard, Not available on PE1600SC, use COM6 for this server's UPS connection)

Recorder COM1 – Digi Adapter cable's P1 connector

Recorder Diag – Digi Adapter cable's P2 connector

New Found Hardware: Multi Port Serial Adapter

If the **Found New Hardware** dialog of the **Digi ClassicBoard 4 PCI Controller** (or ***Digi AccelePort 4P*** or **Equinox SST-4P card**) appears, follow the steps below to load the **Multi Port Serial Adapter** device driver:

a) Click **Next,** Select **Search for a suitable driver for my device (recommended),** and then click **Next.**

b) Select **Specify a location,** and then click **Next.** Click **Browse,** select the **%SystemDrive%\Drivers\Digi\CLASSIC4\CLASPORT.INF** file, and then click **Open, OK.** (or the **D:\DRIVERS\DIGI\XL4P*.INF** file for the AccelePort 4P card or **D:\DRIVERS\SST*.INF** file for the **Equinox SST-4P** card)

c) At the **Driver Files Search Results** window showing **d:\winnt\oem1.inf** file, click **Next.**

d) Click the **Yes** tab at the **Digital Signature Not Found** prompt, and then click **Finish** to complete the driver loading process**.**

e) On 2500/2400/4400 Server with a **Dell PERC 2/Si or 3 /Di RAID Controller**, you may now see the system pops up another **Found New Hardware** dialog for the **PCI Standard PCI-to-PCI bridge** device. Follow the steps described in ***Error! Reference source not found.*** section above.

5.3 Attach External RAID

1) Upon adding the device drivers power down the Server and attach the External RAID.

2) Reboot the Server.

6. SETTING UP DISKS

6.1 Disk Configuration Reference

Configure the drive lettering as outlined below:

Note: H: is the CD-ROM

G:, I:, J: to Z: are the user data drives

6.1.1 Dell Servers for Evo and Director

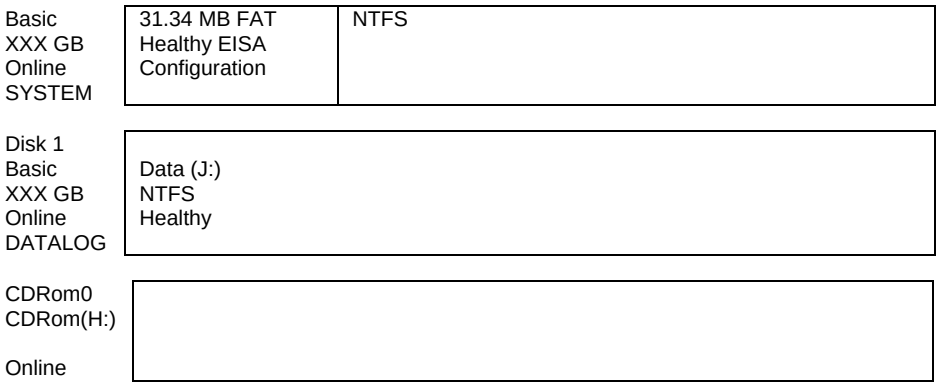
Disk0:

- 1st Partition "No drive letter" is the Dell proprietary Utility partition
- 2nd Partition "C" holds the W2K OS, Temp, and Application files. Is NTFS

Disk1:

- 1st and only partition <**G:**> "**Data1**" drive for System ITP test files, Prinergy Oracle database, customer data, and IIS root directories; file system is NTFS;

Disk 0	Dell Utility Partition	System (C:)



6.2 Setting up Disk Configuration

6.2.1 Configuring Disks on Dell Servers

Use this procedure for Dell PE 400SC/1600SC/2600/2650/4600/6600/6400/4400/2500V/H servers with 18GB or larger disks.

Note: This procedure is not necessary when setting up a 1400 BestRIP server.

1) Right-click **My Computer,** and then select **Manage**. The Computer Management Console appears.

2) Select **Computer Management (Local) > Storage > Disk Management** (**non** Dell Open Manage). The Disk Management view appears showing the disks.

3) In the Write Signature and Upgrade Disk Wizard dialog box, select **Cancel**.

WARNING: If you accept this prompt by selecting Next, W2K will convert all un-partitioned disk(s) to the new Dynamic disk type, which should be set for external Raid disk set(s) only. Note that DOS will not recognize the Dynamic disk type.

Note: The disk layout should appear with the correct configuration. If the configuration is not correct, create partitions as needed.

4) If a small red **STOP** sign appears on the new/blank disk(s), then right click on the sign and select the **Write Signature** option to put the W2K disk signature onto these disks before volume(s) can be created on them.

5) Close the Computer Management Console if no additional disks need to be configured, otherwise, continue with the procedures below as needed.

6.2.1.1 Configuring the Data Disk

1) The 1st data disk is configured as single volume (G: drive).

   a) Right-click the un-partitioned Disk1 and select New Partition…. The New Partition wizard appears. Click Next.

   b) Select Primary Partition, click Next (partition size = entire volume), and then click Next.

   c) Assign Drive Letter = G and hit Next

d) File System to use = NTFS, Allocation unit size = Default and Volume label = Data1, then check the Perform a Quick Format option, and then click Next, Finish to complete creating a partition.

e) Close the Computer Management Console if no additional disks need to be configured.

2) Repeat the above steps on any additional Disks using drive letters J to Z.

3) Close the Computer Management Console.

6.2.1.2 Configuring Multiple External RAID Volumes

In Prinergy systems, there is no restriction for job storage on a single logical volume. Therefore, we strongly advise that multiple large volumes are not configured into a single stripe set, because this has a higher risk of losing data. This configuration would also require extra administrative steps in recovering the stripe set and its data when moving the RAID unit between different servers.

Instead, we strongly recommend that multiple Raid5 volumes be configured as multiple NTFS volumes.

7. CONFIGURING PERFORMANCE SETTINGS

7.1 Verifying Virtual Memory

1) Right-click **My Computer** and select **Properties**.

2) Select the **Advanced** tab, and then select **Performance Options > Advanced.**

a. Set **Virtual Memory** by selecting **Change…**, then selecting D: drive and setting **Initial Size = Maximum Size** (= 1.5 x of physical RAM installed. For example, if the system has 1GB RAM installed, then enter 1536). Click **OK**, **OK**.

3) Select **Startup and Recovery…**

a. Set Display list of Operating Systems to **5** seconds.

b. Set Write Debugging Information to **None**.

c. Uncheck Automatically Restart, and then click OK, OK to confirm.

4) Click **No** to the restart the computer prompt.

7.2 Configuring networking

7.2.1 Verifying NIC Driver Settings (including AppleTalk binding)

Next, make sure that the Network Interface Card has the correct driver settings, and verify that AppleTalk is binding to the appropriate NIC.

1. From the desktop, right-click **My Network Places**. Select **Properties.**

2. A window will open. Right-click **Local Area Connection** icon and select **Properties**. The **Local Area Connection Properties** dialog box will open.

3. Enable the **Show icon in taskbar when connected** check box.

4. Click **Configure**, and then select the **Advanced** tab.

5. Set the **Adaptive Technology** (Not applicable for Gigabit NIC) setting to **Off**.

6. Set **Speed & Duplex** to **AUTO DETECT.**

   You may also choose to match the settings to the local network switch connection type. This will allow you to achieve maximum network throughput. Click **OK** and wait for the Adapter properties to complete making changes.

7. Select (highlight) **AppleTalk Protocol**.

   If the AppleTalk Properties Enable box **grey** then re-enable AppleTalk by doing the following:

   a. **Uncheck** the Apple Talk Protocol box and hit **OK** to close Local Area Connection Properties.

   b. Go back into Local Area Connection Properties again and **Enable** AppleTalk Protocol. Hit **OK** to close Local Area Connection Properties.

   c. Go back into Local Area Connection Properties again and select AppleTalk Protocol.

8. Click **Properties** to ensure a valid AppleTalk "Zone" appears in the Zone field. If the Accept inbound connections on this adapter option is available, check this check box and click **OK**.

9. Select (highlight) the **Internet Protocol (TCP/IP)** option and select **Properties >** General tab > **Advanced** > **WINS**. Uncheck **Enable LMHOSTS lookup.** Select **Enbale NetBIOS over TCP/IP** and click **OK**, **OK**.

10. Close the **Local Area Connections** window.

8. TIGHTENING SECURITY

8.1.1 Installing IIS (If Revision G and later of OS Ghost Image is loaded)

IIS is not installed by default on the ghost images. This procedure is included in case you need to install/reinstall for Insite Web server.

1) The Insite Web Server's default IIS Default Data Directory is **Data1:\InetPub\WWWRoot**.

2) There are three sample files available on the W2K Resource CD under **H:\W2K_UTIL\IIS** directory called **INSTALLIIS.BAT, IIS.TXT** and **SecureIIS.VBS**

   - Copy all three files into **C:\Temp**.

- Edit the **IIS.TXT** file to point the two IIS default data directory from **J:\inetpub** to <**Data1**>**:\inetpub** (substitute drive letter for Data1, normall G:\).

3) Start up a DOS command window, type in **INSTALLIIS** Enter to start installing IIS onto the target system

Note: You will see dialogs appear. Ignore them (it will go away automatically). You will be prompted to insert the W2K Server CD into drive.

4) Remove the following IIS components from the Administrator Tools / Internet Service Manager Console:

- **Directories**: IISSAMPLES, IISADMIN, IISHELP (In the Default Web Site and Administration Web Site windows)
- **Files**: IISSTART.ASP, LOCALSTART.ASP, DEFAULT.ASP (In the Default Web Site and Administration Web Site windows)

5) Run the **secureiis.vbs** script.

6) Restart the system, and connect it to the LAN.



Note: Connect the server to the LAN to complete the rest of the integration procedure.

9. INSTALLING AND CONFIGURING REMOTE ACCESS

9.1 Installing and Configuring RAS

In Windows 2000 you were forced to disable Incoming Connections and use RRAS if the Server was participating in a Domain. With Windows 2003 Incoming Connections and Domains can live together.

Note: Once the target System Modem Remote Access is configured and verified to be working properly, the System is ready for Prinergy Software Installation.

9.1.1 Set Up Accept Incoming Connection (Workgroup, non Domain Environment)

1) Ensure your modem is connected to COM1 and turned on.

2) Select Control Panel > Phone and Modem Options > Modem.

3) Remove all modems (leave the Communications cable between computers) and reboot the server. This will detect your attached modem.

4) After you log in wait for the Network Icon (bottom right beside the clock) to show up. Once it does you should see the prompt tht a new modem has been detected.

5) Select Control Panel > Phone and Modem Options > Modem. Your modem should now appear. Close Control Panel.

6) Select **My Network Places > Properties** and right click **Incoming Connections > Properties**. You should see both your **Modem** and **Communications Cable** as being **Enabled** devices. Close Network Connections.

7) Try dialing the number of the modem. It should answer and connect to the server.

10. INSTALLING AIT-2/3 TAPE DEVICE DRIVER (IF A TAPE DEVICE IS INSTALLED)

Windows 2003 will auto-detect the connected device and prompt the user to install a device driver for it. Ensure the driver (version 1.5) included in the Resource CD is used for the appropriate installed devices (e.g. Single DLT8000, FastStor 7/22, ATL P1000, etc.). AIT based Qualstar Tape libraries and AIT-2/3 single tape drive device driver is available from the W2K3 Resource CD. **Do not use the W2K3 default tape drive device driver**.

11. INSTALLING UPS SOFTWARE (FOR APC UNINTERRUPTED POWER SUPPLY)

1) If the UPS is connecting with a **Serial Port only** do the following. Edit the **Boot.ini** file for UPS use:

   Start Explorer by selecting **Start** and then **Run**. Enter `Explorer`.

   Right-click **C:\Boot.ini** and select **Properties**.

   Uncheck **Read Only** and click **OK**.

   Double-click on **Boot.ini** to open the file in Notepad.

   Edit the following two lines to add the text shown in **bold** below:

   multi(0)disk(0)rdisk(0)partition(X)\WINNT="Creo Windows 2003 Server " **/NoSerialMice:COM2**

   multi(0)disk(0)rdisk(0)partition(X)\WINNT="Creo Recovery Console"

   Where (X) could be 1, 2, or 3, depending of the position of the SCSI controller.

   Save and Close the file.

   Right-click the **C:\Boot.ini** file and select **Properties**.

   Select **Read Only,** and then click **OK**.

2) Install Powerchute

   Insert the Prinergy W2K Resources CD, and double-click **H:\W2K_Util\APC\Powerchute … \vx.x\pcbesetup.exe** to start the PowerChute Business Edition setup program.

   Click **Setup > Install Product > Install Basic Version**.

   From the Product Installation window, click **Install** for the Agent, and then click **Next**.

   Select **No** to the Would you like to install Messenger Service.

   Accept the license agreement.

Accept the default destination location for the PowerChute Agent files, and then click **Next**.

Click **No** when asked, "Would you like to automatically search all communications ports for an APC UPS". A dialog box will now appear which will prompt you to select the UPS type and Communication Port that the PowerChute Agent's host uses.

Select the following:

UPS Type:	**Smart UPS**
Communications Port	**COM2** or **USB**

Click **Next**. Enter the following (note case sensitivity)

Username (case sensitive)	**Administrator**
Password (case sensitive)	**creo**

Click **Finish**.

3) Install the Server:

From the Product Installation window, click **Windows Server**, and then click **Next**.

Accept the license agreement.

Enter **`Administrator`** for the username and **`creo`** for the password. The username and password must be the same as the Agent.

Clear the **Automatically check for product updates** check box, and then click **Next > Finish**.

Create your configuration profile (These are the global settings for all of your PowerChute Agents):

Click **Next** to the Create Configuration Profile window.

Select **Broadcast Messages** check box, and then click **Next**.

Select the **Entire Domain** check box, and then click **Next**.

From the Power-Protection Strategy window, select the **Keep Computer on as long as possible** check box, and then click **Next**.

Click **Next** to the prompts and **Finish** to the Changes Complete window.

From the Device List Configuration window, select the Agent (Should be the Server Name) under **Discovered Devices:** and click **Add**, and then click **Apply**. Click **Close**.

Click **Register Later**.

4) Install the Console:

From the Product Installation window, click **Install** for the Console, and then click **Next**.

Accept the license agreement.

Select **Launch PowerChute Business Edition**, and then click **Finish**.

Click **No** to the Most Used Features feedback window.

Enter the following at the Login window:

User Name	Administrator
Password	Creo
Server	127.0.0.1 (this is the local server in the routing table)

5) Select **Save user name and password** and click **Connect**.

6) Reboot the Server.

12. PERFORMING A WINDOWS 2000 SPOT CHECK

Once you have installed Windows 2003, perform a spot check on each machine to ensure that the operating system has been installed correctly.

To perform a spot check on the Windows installation:

1. Using Windows 2003 Event Viewer, check for any errors.
2. Check connectivity:
   a) Ensure that the network drop is live and connected to the appropriate hub/switch.
   b) Try browsing the network.
   c) Ping another server to ensure TCP/IP works.
   d) Map a drive to another system and copy a file.

   CAUTION: Do not use a Prinergy server as a primary domain controller (PDC) or backup domain controller (BDC). Prinergy servers should be dedicated to Prinergy. Like DNS, PDCs and other network services should have a dedicated server. These services don't require large resources and placing them on a Prinergy server (typically a powerful machine) is an unnecessary use of resources and negatively affects Prinergy's performance.
3. Defragment the system Disk before installing Creo Prinergy software.

13. SYSTEM DISASTER RECOVERY

Prinergy's backup solutions include a system disaster recovery strategy, which employs GHOST (General Hardware Operation System Transfer) as the server baseline W2K3 Operating System recovery tool. This utility allows users to recover their entire system (to the last known good system settings) within two hours (or less depending on the amount of data to be restored from the tape device) in case of a system disaster crash.

There is a two-step process taken when a disaster occurs:

1. The system is first booted from a XP/DOS floppy with appropriate CD-ROM device driver. Then execute the GHOST utility program included on a CD (or the RECOVERY partition) to download the appropriate baseline W2K3 OS image (i.e. Windows 2003 pre-configured to be Prinergy ready) to the first drive in the system. Reboot and the system should have the baseline Windows 2003 running.

2. Once Windows 2003 is booted up, configure the W2K3 backup utility to restore the entire Prinergy system off the backup tape(s) to its original configurations.

   See Prinergy 2.x Backup Guide (03-4171B) for Prinergy system recovery procedures.

13.1 Setting up for System Disaster Recovery

This section summarizes steps to prepare the system to be fully protected by the Prinergy backup strategy.

1. Configure the server hardware and Setup Windows 2003 according to the appropriate documents (Document numbers 72-3572A Dell server setup for W2K, 72-3573A EMC/DG Server setup for W2K and this document).

2. Boot the system into XP/DOS prompt from the bootable floppy with the appropriate device driver, and then create the System Baseline W2K OS image using the GHOST utility.

3. Install Prinergy software and verify that the system is functioning properly. (Refer to the Prinergy Installation document)

4. On the Prinergy Primary server, configure Prinergy OracleBackupManager to save database dump files to the local disk. (For details, refer to the Prinergy 2.x Backup Guide, P/N: 03-4171B).

5. Configure Windows 2000 Backup Utility to back up the database dump files, system drive with System State Data and Data drives if desired to tape(s).

6. Perform System Backup tests as outlined in the Prinergy 2.x Backup Guide (03-4171B).

14. RECOVERY FROM A SYSTEM FAULT-TOLERANT DRIVE

Please refer to *Dell Hardware Setup For Prinergy 2.x (72-3572A)* for information about how to break and recover the system mirror set. You will use the **Dell OpenManage Array Manager** Console that manages the Dell hardware based **PERC 2/Si, 3/Di, 2/DC, 3/DC and 4/Di Raid controller**. This section is for Non Dell (ie. EMC/DG Servers that are software RAID only)