

Windows Based Workflows

Applying Windows 2000 Ghost to Dell 9G Servers

Document Number
709-00729A-B

2006-12-21

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

Copyright 2006 Kodak. All rights reserved.

Revision History

Revision	Date	Author	Comments
A	Sept 6, 2006	Derek Braendel	First Release. PE2900, PE2950
B	Dec 21, 2006	Derek Braendel	Added PE840

CONTENTS

1. INTRODUCTION 1
1.1 Available Ghost Images 1
1.2 Other related documents 1

2. GHOSTING THE OS FROM THE SERVER GHOST IMAGE CD 2
2.1 Ghosting W2K From an OS Image 2
2.2 Setting Up System Preparation Tool Mini Setup Wizard 3

3. DETECT NEW HARDWARE 4
3.1 IntelPro Card Detection 4
3.2 Digi AccelePort 2P/4P 4

4. SETTING UP DISKS 4
4.1 Disk Configuration Reference 4
4.2 Setting up Disk Configuration 5
4.2.1 Re-Install Removed Disks 5
4.2.2 Initializing New Disks 6
4.2.3 Configuring One or more Data Disks 6
4.2.4 Change CDROM Driver Letter 6

5. CONFIGURING PERFORMANCE SETTINGS 7
5.1 Verifying Virtual Memory 7
5.2 Configuring networking 7
5.2.1 Verifying NIC Driver Settings (including AppleTalk binding) 7

6. MS HOT FIXES 8
6.1 From Microsoft 8
6.2 From Kodak's WSUS 8

7. INSTALLING IIS 8

8. UPDATING DRIVERS AND FIRMWARE 8

9. INSTALLING AIT/DLT 9

10. INSTALLING UPS SOFTWARE 9

11. PERFORMING A WINDOWS 2000 SPOT CHECK 9

1. INTRODUCTION

This document provides procedures to install Windows 2000 (W2K) baseline image for Prinergy, InSite, Print Console, or BestRIP running on Kodak-approved Dell Intel Server platforms.

Supported platforms include Dell PowerEdge Servers PE840, PE2900, PE2950.

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

Table 1: Necessary Software

Disk	Type	Version	Comments
Server Ghost	DVD	x.xx	Available from Production by EMailing CD.Requests@creo.com. Bootable DVD is also shipped with each Server.
Blank floppy	Floppy	N/A	For creating driver disk if needed.

1.1 Available Ghost Images

The following Ghost Baselines are available from Manufacturing by ordering through **CD.Requests@Creo.com**. A listing of Windows OS Baselines follows.

Table 2: List of Ghosts

Server	OS	Workflow	DVD
PE840	Win2K	Evo, Prinergy	651-00637A
PE840	Win2K	InSite	651-00638A
PE840	Win2K3	All	651-00639A
PE2900	Win2K	Prinergy, Evo, InSite	651-00630A
PE2900	Win2K3	All	651-00632A
PE2950	Win2K	Prinergy, Evo, InSite	651-00633A
PE2950	Win2K3	All	651-00635A

Note: At this point, it is assumed that the server hardware has been configured as per document:

709-00667A	Dell PE2900/2950 HW Setup Procedure
709-00701A	Dell PE840 HW Setup Procedure

1.2 Other related documents

Table 3: List of Docs

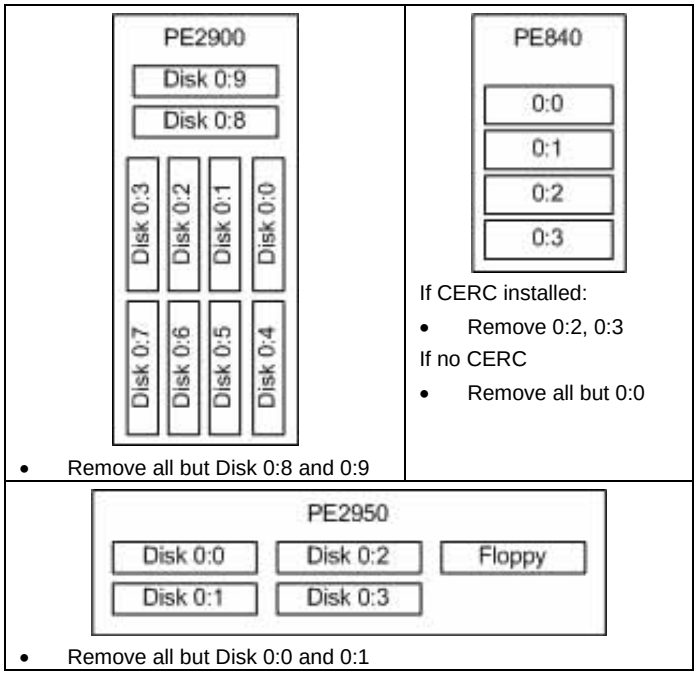
Kodak P#	Title	Overview
709-00667A	Dell PE2900/2950 HW Setup Procedure	Hardware and Peripheral setup
709-00701A	Dell PE840 HW Setup Procedure	Hardware and Peripheral setup
72-2125A	Workflow Hardware Site Prep	Power, Environmental, and Dimension specs for all DEC Alpha, DG Aviion, HP, Dell, Servers, Tap Libraries, and RAIDs.
XX0119A	Server Specs and Slot Location Matrix	Overview specification matrix for all DEC, DG, Dell, HP Servers along with recommended PCI slot locations
XX0396A	ResourceCD Matrix	Listing of all supported Firmware, Drivers, and Utilities for DG, Dell and HP Servers.

2. GHOSTING THE OS FROM THE SERVER GHOST IMAGE CD

2.1 Ghosting W2K From an OS Image

1) Ensure that you have the Server Ghost Image CD for your particular server platform.
2) Insert the appropriate Ghost CD as listed in Table 2: List of Ghosts and reboot your server. It will automatically start Ghost.
3) 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**.
4) Highlight the first hard disk from the Disk list and press **Enter**.
5) Ensure the New Size is equal to or greater then the Old Size. **Adjust as necessary** and hit **OK**.
6) Hit **Yes** to proceed with the restore.
7) Upon completion of the restore power down the server.
8) **For Prinergy Ghost Images (Ghosts where the OS drive is on D:\) only.** Skip this section if you are using the Evo or InSite (OS is on C:\) image. For all Servers using a Prinergy Image you MUST remove any Disks other then the OS Disk. The reason is that Ghost applies a new disk signature onto the Disk. Windows upon seeing a new disk signature will apply NT drive letter conventions where drive letters are assigned per disk 1st, per partition second. This will offset your OS on D:\ to some other drive letter if any other disks are seen before you log into Windows.
   a) Power down the server.
   b) Remove all externally connected RAIDs and physically installed disks in the drive cage except for the SYSTEM disks.

Table 8: Disk Layout for Removal



9) Remove the Ghost CD from the drive.
10) For the PE2900 and PE2950:
   A) Press **<Enter>** at the "Configured disks have been removed" if prompted.
   B) Press **<Enter>** at the "VD's are missing" prompt.

11) Upon booting up, W2K may warn you that you should run AUTOCHK to repair possible partition corruption. You can safely ignore this warning message.

WARNING: Make sure that you NEVER interrupt the Autocheck process while it is running.

2.2 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 **Prinergy, Evo, Director, InSite or BestRIP Server**.
   b) In the **Organization** field, enter the appropriate customer company name, and then click **Next**.
5) Enter the W2K Product Key and then click **Next**.

Note: If you have a Windows 2003 Product Key label you are allowed downgrade rights through the EULA and you can use the following key:
CXJD4 – DWWM9 – 887XH – K7JQ7 – BQG4Y

6) Set **Licensing Mode** to **Per Server** and set the number of connections to 10 for Primary servers (including Prinergy Access), and 5 for other servers (including Prinergy Secondary servers/Renderstations, Evo, Director, InSite servers, Prinergy Satellite servers, and BestRIP servers), and then click **Next**.
7) Set the machine name, using the following convention:

YCSxn for all Prinergy servers and for 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 InSite for Brisque servers

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

PW00n for InSite for Brisque servers

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

8) Enter/confirm the Administrator password= **creo**, and then click **Next**.
9) Enter the area code (such as 604) in the Modem Dialing Information dialog, and then click **Next**.
10) Set the correct date and time, and time zone, and then click **Next**.
11) At the **Workgroup or Computer Domain Setup** screen select “No this computer is not on a network”. In the “Workgroup or Computer Domain” box enter **Workgroup** and click **Next**.
12) Click **Finish** to reboot server when prompted.

!!!! Do not re-install the removed disks yet !!!!

3. DETECT 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**.

1) For each new device detected hit **Next** to the **Found New Hardware** prompt. You will see either:

Found new hardware prompt	Follow Section
PCI Simple Communications Controller	Digi Acceleport controller
Ethernet Controller	IntelPro (the Broadcom driver is already installed adn should automatically pickup).

2) Remove unused modems. The baseline Ghost Image has included both the US Robotics and MultiTech Modems. You will get an Error when starting Windows Event ID 20013 “The communication device attached to port COM1 is not functioning.”. Remove the modems that you are not using.
   a) Start **Control Panel > Phone and Modem Options** and select the **Modems** tab.
   b) Select either the USRobotics or MultiTech Modems that are **not** connected to your Server and hit **Remove > Yes**.
   c) Close Control Panel.

3.1 IntelPro Card Detection

After applying a Ghost Image the NIC driver will need to be re-applied.

1) Hit **Cancel** to the “detect new drivers” prompt.
2) Browse to **%SystemDrive%\Drivers\IntelPro\vx.x** and run **Autorun.exe**.
3) Select **Install Drivers**. This will take a couple minutes to complete. Hit **OK** when done and **Exit**.

3.2 Digi AccelePort 2P/4P

This will be prompted as “PCI Simple Communications Cotnroller”.

1) Select “Search for a suitable driver” and hit **Next**.
2) Clear all options and enable “Specify a location” and hit **Next**.
3) Browse to **%SystemDrive%\Drivers\Digi\AccelePort\vx.x**, select **DGAPORT.INF** and hit **Open**.
4) Hit **OK / Next** / **Finish** to complete the installation.

4. SETTING UP DISKS

4.1 Disk Configuration Reference

Configure the drive lettering as outlined below:

Note: H: is the CD-ROM
G:, J:, K: to Z: are the user data drives

Evo

Basic XXX GB Online SYSTEM	Dell Utility Partition 31.34 MB FAT Healthy	System (C:) NTFS (100% of disk – Utility Partition

Disk0:

- 1st Partition “No drive letter” is the Dell proprietary Utility partition
- 2nd Partition “C” holds the W2K loader, boot files, Operating System, applications, Temp files

Prinergy, InSite (2+ Disks)

Basic XXX GB Online SYSTEM	Dell Utility Partition 31.34 MB FAT Healthy	BOOT (C:) 200MB NTFS	System (D:) Appx 0.5x DiskGB NTFS	DataLog (E:) Appx 0.5x DiskGB NTFS

Disk0:

- 1st Partition “No drive letter” is the Dell proprietary Utility partition
- 2nd Partition “C” holds the W2K loader and boot files; file system is NTFS
- 3rd Partition “D” holds the W2K Operating System, other applications; file system is NTFS
- 4th Partition “E” is the DataLog drive for Prinergy applications; file system is NTFS

InSite (1 logical disk only)

Basic XXX GB Online SYSTEM	Dell 31MB	C: NTFS 20GB System	Extended Partition E: NTFS 16GB Temp	Extended Partition J: NTFS /end Data1

Disk0:

- 1st Partition “No drive letter” is the Dell proprietary Utility partition
- 3rd Partition “C” holds the W2K Operating System, other applications; file system is NTFS
- 4th Partition “E” is the DataLog drive for InSite applications; file system is NTFS
- 5th Partition “J” is the Jobs drive for InSite Database, file system is NTFS

Data Drives for All Workflows

Basic XXX GB Online DATALOG	Data1 (J:) All Free Space NTFS Healthy

Disk1, 2:

- All available space is used for the NTFS Data1 partition.

Note: The Data drive had once contained a FAT32 Recovery partition for Ghosts. This is no longer required since Ghost8 supports writing/reading to NTFS partitions when booted into DOS. The directory **\Backup** in the Data1 drive will hold the Ghost images now.

4.2 Setting up Disk Configuration

4.2.1 Re-Install Removed Disks

If you are using a **Prinergy Image** (OS is on drive D:) and you had previously removed the Data Drives prior to first boot from section 2.1 step 8), you can re-install the disks now.

1) Power down the Server.
2) Attach any external RAIDs and re-insert the removed data drives.
3) Reboot the Server and log into Windows.
4) Bring the removed Disk back online through Server Administrator.
   a) Start **Server Administrator** from the Desktop and hit **Yes** to the Security alert.

b) Select **System > Storage > PERC 5/i** and select the **Information/Configuration** tab.

c) Go down to Controller Tasks. Select under available tasks **Import Foreign Configuration** and hit **Execute**. Select **Import Foreign Configuration** at the confirmation window.

d) You should now see the removed disks again under Virtual Disks.

4.2.2 Initializing New Disks

1) From **Computer Management** select **Disk Management**.

2) If prompted with the Upgrade Disk Wizard dialog box, select **Cancel**.

3) 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 on. This needs to be done before volume(s) can be created.

4.2.3 Configuring One or more Data Disks

System drives are often configured as RAID1 mirrors by a RAID controller. These RAID controllers can also configure 2 or more drives as a RAID1 or RAID5 which also present themselves to Disk Management as a single Disk. In addition you may also have external RAIDs connected to the Server which may be configured as 1 or more additional Disks to Disk Management. Although it is possible to have Disk Management bind all these disk together as one single large volume it is not recommended since the disks will be forced into Dynamc Disk mode. Dynamic Disk mode will prevent Ghost from using your RAID as a Destination, and also puts all your eggs in one basket. If 1 disk fails, you will lose access to everything.

We recommend that each Disk being presented to Disk Management be configured as a single Volume, Basic Disk.

1) Right-click any un-partitioned Disk and select **Create Partition…**. The Create Partition wizard appears. Click **Next**.

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

3) Select the following for each Disk other then the System Disk:

Drive Letter	1st data disk: J: 2nd data disk: G: 3rd data disk: K: ...
File System	NTFS
Allocation Unit Size	default
Volume Label	1st data disk (J:): Data1 2nd data disk (G:): Data2 3rd data disk (K:): Data3 ....
Format Type	Quick Format

4) Click **Next**, **Finish** to complete creating a partition.

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

6) Create a folder **\Backup** on **J:**. This is for Ghost Backups.

4.2.4 Change CDROM Driver Letter

1) From **Computer Management > Disk Management** right click **CD-ROM 0** and choose **Change Driver Letter**.

2) Select **Change** and choose **H:**.

3) Hit OK and accept all the prompts.

5. CONFIGURING PERFORMANCE SETTINGS

5.1 Verifying Virtual Memory

1) Right-click **My Computer** and select **Properties**.
2) Select the Advanced tab, and then select Performance Options.
   a) Set Application Responses to Optimize Performance for Background Services.
   b) Set **Virtual Memory** by selecting **Change…**, then selecting you OS 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**.
   c) If a second physical disk is used, create **an additional** paging file on this drive where Maximum Size = Initial Size = 1.5x Physical RAM.
3) Select **Startup and Recovery**.
   - Set "Display list of Operating Systems" to **5** seconds. Uncheck "Automatically Reboot", and then select OK, OK to confirm.
4) Click **No** to the restart the computer prompt.

5.2 Configuring networking

5.2.1 Verifying NIC Driver Settings (including AppleTalk binding)

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 **Power Management** tab and **uncheck** all options then select **OK**.
5) Right click **AppleTalk Protocol** > **Properties** and ensure a valid AppleTalk "Zone" appears in the Zone field. If not do the following:
   a) Cancel out of the AppleTalk Protocol Properties window.
   b) **Uncheck** AppleTalk Protocol and hit **OK**.
   c) Go back into Local Area Connection > Properties.
   d) **Enable** AppleTalk Protocol and hit OK.
   e) Go back into Local Area Connection > Properties.
   f) Select **AppleTalk Protocol** and hit **Properties**. You should now see a valid Zone though it may be grayed out.
   g) **Enable** the "Accept inbound Connections on this Adapter" and select **OK**. Hit OK to the change confirmation prompt.
6) Select **Internet Protocol (TCP/IP)** and select **Properties > Advanced > WINS** and chose the following then hit **OK** back to the General tab:

Enable LMHOSTS lookup	**Unchecked**
Enable NetBIOS over TCP/IP	**Selected**

7) Close the Network and Dial-up Connections window.

6. MS HOT FIXES

Windows baselines have the most recent security updates at the time they are created. Images may be months or years behind the most recent Microsoft Critical updates though. We highly recommend you obtain the latest Critical Updates directly from Microsoft. Some customers insist on having Kodak "qualify" critical updates before they are applied to their workflow systems. In this case we have all images point directly to Kodak's WSUS Server. You have the choice of either applying the patch from Microsoft (recommended) or from the Kodak WSUS Server.

6.1 From Microsoft

1) Select **Start > Run** and type: **WUPDMGR.EXE**
2) Select **Custom** (not express) and wait for the update check.
3) Select **Review and Install Updates**.
4) Select all critical updates except for Service Packs. Some Workflows are Service Pack sensitive.
5) Follow the rest of the prompts to apply the updates.

6.2 From Kodak's WSUS

Kodak servers running Windows 2000 and Windows 2003 are factory-configured with Automatic Updates, which monitors and downloads critical security updates from http://wpesus.graphics.kodak.com. When a new update is available, a small icon appears in the System Tray, as shown:



1) When you click the icon, a dialog box appears and gives you the following options:
   - Install the updates now
   - Remind you to install the updates in a specified period of time
   - Close the dialog box, leaving the System Tray icon in place
2) Select **Install the Updates Now** and follow the on-screen prompts.

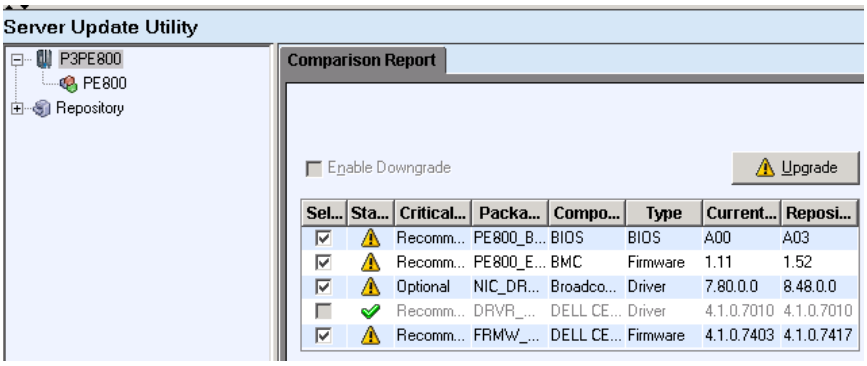
7. INSTALLING IIS

IIS and SecureIIS is now installed by the InSite4 DVD install script. No action required here.

8. UPDATING DRIVERS AND FIRMWARE

To update the Server's Dell Drivers and Firmware download and run the Dell Server Update Utilities (SUU). This can be downloaded from TechPlanet or from support.dell.com directly. This ISO image you download must be burned on a CD. Kodak is not authorized to distribute Dell SUU CD's so the field must download and create the CD as requried.

1) Insert the Dell SUU (v5.0 minimum at the time of this writing). It should autostart, detect the Server type, detect the current versions of Driver / Firmware and prompt you to update.



2) Hit **Upgrade** and **Yes** to the confirmation. The upgrade will take several minutes.

3) At various points you may be prompted to reboot for the updates to continue. Do so and restart the update once you log back into Windows by re-inserting the CD. The shouldn't require any more then a couple reboots.

9. INSTALLING AIT/DLT

Windows 2000 will auto-detect the connected device and prompt the user to install a device driver for it. Ensure the driver 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 W2K Resource CD. **Do not use the W2K default tape drive device driver**.

10. INSTALLING UPS SOFTWARE

There are 2 manufacturers of UPS's that Kodak sells and supports. You can determine the UPS model you have by looking at the manufacturer's name on the faceplate, it will either be TrippLite or APC. Depending on which UPS you have refer to the following documents:

Both documents are available on TechPlanet under **Software Solutions > APC or TrippLite > Reference**.

APC	719-00223A – Installing APC PowerCute Management software (v7.0.4 minimum)
TrippLite	719-00607A – Installing TrippLite PowerAlert Management software.

11. PERFORMING A WINDOWS 2000 SPOT CHECK

Once you have installed Windows 2000, 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 2000 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.

3) Defragment the system Disk before installing Kodak Prinergy software from Disk Management.