COMPAQ
White Paper

Contents

Compaq Guide to PC Deployment

Network Installation of Microsoft Windows 95 on Compaq Armada Series of Personal Computers Using Microsoft Tools

Abstract: This Guide provides information useful to departments charged with initial deployment of Microsoft Windows 95 over a network connection to Compaq Armada Series of Personal Computers. Many of the deployment strategies explained in this Guide are also useful in a more general sense

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Assumptions

The following assumptions are made in this paper:

- You understand how to create a network boot diskette used to access the Microsoft Windows 95 installation share.

- You understand or can locate information on how to configure the non-hardware specific portions of Microsoft Windows 95 for your specific installation (i.e. networking configuration, optional components, etc.)

- You know what hardware must be supported.

- You can access the Web and download the appropriate SoftPAQs containing the device driver software from http://www.compaq.com/support.

- The deployment team has access to the Microsoft Windows 95 Resource Kit.

- Each client computer has a licensed copy of Windows 95.

High level overview of the process

The following steps outline the network installation process:

1. Copy the operating system software to the server.

2. Download all of the necessary device drivers (SoftPAQs) from the Compaq Web site at http://www.compaq.com/support.

3. Install device drivers in MSBATCH.INF and CUSTOM.INF scripts. (This paper provides more detailed information on this step in the process.)

4. Set up a network share for the installation files. (Referred to throughout this paper as the installation share.)

5. Boot the client computer.

6. Copy the operating system and device drivers from the installation share to the client computer.

7. Run Setup on the client computer.

Conventions

In this paper, generic drive letters are used to represent actual drive letters. The following conventions are used where drive letters are specified:

A:\ = Bootable diskette drive
C:\ = Local hard drive where Windows 95 will be installed
D:\ = CD-ROM drive
N:\ = Drive letter mapped to a network share

Installation Share refers to the location on a network drive where the Windows 95 operating system files that will be deployed exist.

References to Microsoft Documentation

Use the following resources to help you deploy Microsoft Windows 95 on Compaq Armada Series client systems:

- The Microsoft Windows 95 Resource Kit. This is very useful for understanding the deployment strategies described in this paper. It gives specific information on the options used to automate the installation of Windows 95. Sections of particular interest include: Chapters 1-6 (Deployment Planning Guide and Installation), along with Appendices C & D (INF files and MSBATCH.INF)

- Microsoft's Knowledge Base, located on the Web at http://support.microsoft.com/support, contains articles describing known installation issues and solutions.

- SETUP.TXT from the Windows 95 CD provides useful information about setting up Windows 95 and describes some known issues.

Hard Drive and Hardware Preparation

You should make file system decisions **before** installing the operating system. Microsoft Windows 95 OSR2 supports both FAT16 and FAT32, however OSR1 and retail (OSR0) only support FAT16.

Ensure that all factory-installed Compaq hardware is properly connected in each target computer. Refer to the *Guide to Features & Upgrades* included with the Compaq Armada Series computers if you have any questions regarding how the hardware is installed in the system.

Base OS Layout

Operating System File Layout

The Microsoft Windows 95 setup files should be placed on a network share. The Compaq drivers and software should be integrated into this installation share. This will allow end users to boot their system from a network boot diskette and start the Windows 95 Setup program from the installation share. The installation will proceed as described in the MSBATCH.INF file that must be provided for automated installations.

Complete the following steps to configure the installation files:

1. Obtain the required device drivers for the systems you will be supporting. This can be done by downloading the appropriate SoftPAQs, located on the Web at http://www.compaq.com/support/. Each SoftPAQ should be stored and executed in its own directory. Refer to the following sections for specific information regarding individual device driver sets.

2. Copy the \Win95 directory from the Microsoft Windows 95 CD to the network share. Alternatively, if you are using OSR1 or the retail version (OSR0), you can use NETSETUP.EXE from the \ADMIN\NETTOOLS\NETSETUP directory to copy the files.

3. Use the "Batch INF Script Editor" from the Microsoft Windows 95 Resource Kit (also found on the Windows 95 CD in the \ADMIN\NETTOOLS\NETSETUP directory) to configure an MSBatch file to automate the installation. This file can be created manually. This paper will show you how to edit this file to add support for Compaq software.

4. Add any other software to the installation share. Additional software can be installed using the MSBATCH.INF file. Please see the Microsoft Windows 95 Resource Kit for more information on adding additional software to be installed via this process.

The installation share is now ready. To perform installation, complete the following steps:

NOTE: These steps may be automated using batch files.

1. Boot the target system from a bootable MS-DOS diskette containing network drivers configured for the NIC in the system.

2. Log on to the network (as required) and map a drive to the network share where the Windows 95 installation files reside.

3. Partition and format the hard drive (if necessary). If you want to use the FAT32 file system (OSR2 or later only), you should enable large hard drive support in FDISK and create the desired partitioning size.

4. Copy files from the installation share to the local hard drive.

5. Execute the Windows 95 SETUP.EXE program and specify the MSBATCH.INF file as a command line parameter (i.e. SETUP.EXE /is /iw MSBATCH.INF).

Machine Specific Information

Compaq recommends obtaining and installing the following Microsoft updates to Windows 95. For general information, refer to the Microsoft documentation at http://support.microsoft.com/support/kb/articles/q161/0/20.asp. For more detailed instructions on locating, downloading, and installing Microsoft updates, refer to http://support.microsoft.com/support/kb/articles/Q119/5/91.asp.

LPT.VXD – Retail (OSR0) only – information and instructions can be found at http://support.microsoft.com/support/kb/articles/q157/9/49.asp.

ESDI506.PDR and **VOLTRACK.VX**D – information can be found at http://support.microsoft.com/support/kb/articles/q171/3/53.asp.

VMM.VXD and **VMM32.VXD** – information can be found at http://support.microsoft.com/support/kb/articles/q179/8/97.asp.

Integrating Video Drivers

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) named for the contents (ex: N:\WIN95\ATI\ for the ATI Technologies video drivers) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. If there are DISKx subdirectories move the contents down one level. For Example ATI\DISK1 would move to ATI\.

3. Edit the [SourceDisksFiles] section in the driver's installation INF (named in the Errata) to add the subdirectory name to all of the files listed

For example, change:

[SourceDiskNames]
1 = %LT.disk%, , 0001

to

[SourceDiskNames]
1 = %LT.disk%,,,c:\windows\system\precopy

4. Copy the driver's installation INF (named in the Errata) from the driver's directory to N:\WIN9

5. The video driver is now integrated into the Windows 95 installation share.

Specific Errata

C & T Video

•   Currently C&T Video isn't supported for MSBatch Installation.

ATI

•   Use MACXW4.INF as the installation INF.

S3 Video

•   Use S3VMX.INF as the installation INF.

Integrating NIC Drivers

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) named for the contents (ex: N:\WIN95\ATI\ for the ATI Technologies video drivers) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. If there are DISKx subdirectories move the contents down one level. For Example ATI\DISK1 would move to ATI\.

3. Edit the [SourceDisksFiles] section in the driver's installation INF (named in the Errata) to add the subdirectory name to all of the files listed. For example, for DIAMOND change:

For example, change:

[SourceDiskNames]
1 = %LT.disk%, , 0001

to

[SourceDiskNames]

1 = %LT.disk%,,,c:\windows\system\precopy

4. Copy the driver's installation INF (named in the Errata) from the driver's directory to N:\WIN95.

5. The NIC driver is now integrated into the Windows 95 installation files.

NetFlex3 (TLAN)

▪ After extracting the SoftPAQ, there are 2 directories to choose the driver set from: NDIS3 and NDIS4. Select NDIS4 for OSR2 and NDIS3 for earlier versions.

For Example:

```
[SourceDiskNames]
1 = %LT.disk%, , 0001
```

to

```
[SourceDiskNames]
```

```
1 = %LT.disk%,,,c:\windows\system\precopy
```

▪ Copy netflx3.inf from the appropriate directory to the N:\Win95 directory.

▪ Use NETFLX3.INF as the installation INF.

Integrating Audio Drivers

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) named for the contents (ex: N:\WIN95\ATI\ for the ATI Technologies video drivers) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. If there are DISKx subdirectories move the contents down one level. For Example ATI\DISK1 would move to ATI\.

3. Edit the [SourceDisksFiles] section in the driver's installation INF (named in the Errata) to add the subdirectory name to all of the files listed. For example change:

```
[SourceDiskNames]
1 = %LT.disk%, , 0001
```

to

```
[SourceDiskNames]
```

```
1 = %LT.disk%,,,c:\windows\system\precopy
```

4. Copy the driver's installation INF (named in the Errata) from the driver's directory to N:\WIN95.

5. The audio driver is now integrated into the Windows 95 installation files.

Specific Errata

ESS

▪ Rename OEMSETUP.INF to ESS1879.INF.

▪ Use ESS1879.INF as the installation INF.

Integrating Modem Drivers (US Only)

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) named for the contents (ex: N:\WIN95\ATI\ for the ATI Technologies video drivers) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. If there are DISKx subdirectories move the contents down one level. For Example ATI\DISK1 would move to ATI\.

3. Edit the [SourceDisksFiles] section in the driver's installation INF (named in the Errata) to add the subdirectory name to all of the files listed. For example change:

   [SourceDiskNames]
   1 = %LT.disk%, , 0001

   to

   [SourceDiskNames]

   1 = %LT.disk%,,,c:\windows\system\precopy

4. Copy the driver's installation INF (named in the Errata) from the driver's directory to N:\WIN95

5. The modem driver is now integrated into the Windows 95 installation files.

Specific Errata

Please integrate the following into the installation share for Modem setup:

CPQMDM16.INF
CPQMDM19.INF
CPQMDM20.INF
CPQMDM21.INF
CPQMDM25.INF
CPQPORT2.INF
CPQPORT3.INF
CPQPORT4.INF
CPQWAV16.INF
SPQMDMUI.INF

Integrating Agents (Intelligent Manageability and Remote Services)

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. Add the SETUP.EXE program for each agent to the RunOnce\Setup registry entry using the MSBATCH.INF file. For example:

    [Install]
    AddReg=CPQ.App.Setup

    [CPQ.App.Setup]
    HKLM,%KEY_RUNONCE_SETUP%,"IM Agents",," c:\win95\IM\setup -s -SMS"
    HKLM,%KEY_RUNONCE_SETUP%,"Remote Services",," c:\win95\Remote\Setup.exe -s - SMS"

    [Strings]
    KEY_RUNONCE_SETUP="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce\Setup"

Specific Errata

Intelligent Manageability

- The SNMP network service should be added to the installation to support the Intelligent Manageability software. This can be done by copying SNMP from the \ADMIN\NETTOOLS\SNMP directory on the Windows 95 CD to the N:\Win95\SNMP directory and adding the following to the CUSTOM.INF:

    [load_inf]
    snmp.inf

Other Compaq Software (WinDiags, Safety & Comfort Guide, etc)

General Process

1. Download each required SoftPAQ to its own directory (under the N:\WIN95 directory) named for the contents (ex: N:\WIN95\ATI\ for the ATI Technologies video drivers) and execute the SoftPAQ. This will lay out the files in a directory structure specified by the SoftPAQ.

2. Add the SETUP.EXE program for each agent to the RunOnce\Setup registry entry using the MSBATCH.INF file. For example:

    [Install]
    AddReg=CPQ.App.Setup

    [CPQ.App.Setup]
    HKLM,%KEY_RUNONCE_SETUP%,"WinDiags",," c:\win95 \WinDiags\Setup.exe -s -SMS"
    HKLM,%KEY_RUNONCE_SETUP%,"Safety Guide",," c:\win95\SCG\Setup.exe -s -SMS"

    [Strings]
    KEY_RUNONCE_SETUP="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce\Setup"

Appendix A

Sample MSBATCH.INF File

```
;
; MSBATCH.INF
;
[SETUP]
Express=1
InstallDir="c:\WINDOWS"
ProductID=xxx-xxxxxxx
EBD=0
ChangeDir=0
OptionalComponents=1
Network=1
System=0
CCP=0
CleanBoot=0
Display=0
PenWinWarning=0
InstallType=1
DevicePath=1
TimeZone="Central"
Uninstall=0
VRC=0
NoPrompt2Boot=0
Verify=0
ProductType=1

[NameAndOrg]
Name="compaq user"
Org="Compaq"
Display=0

[Printers]

[Install]
AddReg=CPQ.App.Setup
```

[Strings]
KEY_RUNONCE="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce"
KEY_RUNONCE_SETUP="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce\Setup"
KEY_RUNONCE_EX="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnceEx"

[CPQ.App.Setup]
HKLM,%KEY_RUNONCE_SETUP%,"A Win
Diags",,"\\ServerName\ShareName\Deliverables\WDiags\setup.exe -s -SMS"
HKLM,%KEY_RUNONCE_SETUP%,"Compaq Value add
#1",,"\\ServerName\ShareName\Deliverables\CPQ95\DISK1\setup.exe -s -SMS"
HKLM,%KEY_RUNONCE_SETUP%,"Compaq Value add
#2",,"\\ServerName\ShareName\Deliverables\work\CPQ95\DISK2\setup.exe -s -SMS"
HKLM,%KEY_RUNONCE_SETUP%,"Compaq Value add
#3",,"\\ServerName\ShareName\Deliverables\CPQ95\DISK3\setup.exe -s SMS"
HKLM,%KEY_RUNONCE_SETUP%,"Desktop
Management",,"\\ServerName\ShareName\Deliverables\SNMPAGNT\DM351\setup.exe -s -SMS"
HKLM,%KEY_RUNONCE_SETUP%,"Remote
Services",,"\\ServerName\ShareName\Deliverables\REMOTE\setup.exe -s -SMS"
HKLM,%KEY_RUNONCE_SETUP%,"S&CG",,"\\ServerName\ShareName\Deliverables\SCG\setup.exe -
s -SMS"