Table of Contents

Microsoft Windows NT 4.0 System Preparation Tool

Introduction

The Microsoft® Windows NT® 4.0 System Preparation tool prepares the pre-installed hard-disk contents of a PC with Windows NT 4.0 (the "source PC") for imaging and subsequent transfer to other PCs ("target PCs"). The System Preparation tool prepares the source Windows NT 4.0 PC image to run a mini-setup wizard and regenerate the system security identifier (SID). The mini-setup wizard configures some of the PC or user-specific settings, including user name, organization, product key, computer name, and administrator password. The result is a source PC system configuration that can be imaged for transfer to another PC using Drive Image Pro.

The target PCs that receive the image must have the same hardware configuration as the source PC. When the target PC is started, the SID is regenerated to ensure that each system SID is unique, and the mini-setup wizard runs. Most of the mini-setup wizard can be scripted to minimize the time a technician must spend configuring systems.

Supported Platforms
The System Preparation tool is supported on:

*   Windows NT Workstation 4.0

*   Windows NT Server 4.0 (acting as a standalone server)

Unsupported Platforms

The System Preparation tool is NOT supported on:

- Windows NT versions: 3.1, 3.5 and 3.51

- Windows NT Server 4.0 (acting as a primary or backup domain controller)

- BackOffice Small Business Server

- Windows NT 4.0 Enterprise Edition

Important Notes

- The source PC and the target PC must have the same hardware configuration. Copying a mismatched image to a target PC may result in an unstable system or a system that will not start. In some cases, the source PC and the target PC may be from the same manufacturer and have identical model numbers yet have system configurations that do not match. For example, the PC manufacturer may discontinue one video card in a particular PC model and begin using an updated video card.

- The System Preparation tool is not designed to reset the SID on systems that have been modified using third party SID modification tools. Running the System Preparation tool on systems that have been modified with third party SID modification tools may render the system inoperable, requiring a complete reinstall of the system.

- The System Preparation tool does not modify the SIDs in the registry hives located in the \REPAIR directory.

  If you are going to use the repair process on systems that have been deployed using the System Preparation tool and Drive Image, you should run the RDISK.EXE program as one of your post-configuration steps after the system image has been copied to the target PC. This will update the registry hives in the \REPAIR directory with the correct information.

- To use the system preparation tool with retail versions (other than the Select or OEM versions) of Microsoft Windows NT Workstation 4.0, Microsoft Office 95, or Microsoft Office 97, you must use the **-defeat** command line switch (for example, SYSPREP -defeat). The System Preparation tool will not prepare a source PC installed from retail versions if you do not use the -defeat switch. You must also use the -defeat switch if you install Microsoft Office on your source PC from a non-Select or non-OEM CD.

- The System Preparation tool does not preserve individual user account preferences and desktop settings (such as the color scheme, Start Menu, and desktop shortcuts) after the image is duplicated. You can, however, copy the administrator's profile for use on individual desktops. For more information, see "Desktop Settings and Preferences" on page 10.

- The System Preparation tool does not update the SID local groups. For this reason, you should not create local groups on your source PC.

- The System Preparation tool does not change the ACLs embedded in NTFS permissions. To assign local file system permissions, you must use Domain accounts or built-in local groups.

- If you use local groups to assign rights to users, you must use the built-in local groups. The System Preparation tool does not change the SIDS of newly created local groups.

- The System Preparation tool is designed to preserve most software application settings. However, some applications may not function correctly after imaging. Microsoft recommends that you test each application after the image has been installed on a target PC to verify which applications can be installed effectively by imaging.

Process Overview

Complete the following steps to use the System Preparation tool with Drive Image Pro to install Windows NT 4.0 on other PCs.

1. Run Windows NT 4.0 Setup on the source PC to create a complete Windows NT 4.0 configuration. Then configure Windows NT and the desktop as you want it to appear on the target PCs.

   Make sure the Administrator password on the source PC is set to blank or NULL.

   You can create a setup script to automate the mini-setup wizard. See "Automating the Setup Mini-Wizard" on page 8 for more information.

   For details about copying the administrator's profile for use on individual desktops, see "Desktop Settings and Preferences" on page 10.

2. Install and configure applications.

   While logged in as the local administrator with a blank or NULL password, install, configure, and test all applications on the source PC.

3. Run the Windows NT 4.0 System Preparation tool to prepare the source PC for imaging.

   For additional details, see "Running the System Preparation Tool" on page 7.

4. Your source PC disk image is now ready to be distributed. Create a system image using Drive Image Pro, then copy it to a target PC.

5. Test the target system and applications to verify everything is working correctly.

   Once this is complete, the system image is ready to be transferred to the remaining target PC systems.

6. Add machine and user-specific settings to the target PCs.

Running the System Preparation Tool

To launch the System Preparation tool, double-click SYSPREP.EXE or type SYSPREP.EXE at the command prompt in the directory where the System Preparation tool is located.

If you create a directory called \SYSPREP on the drive where %WINDIR% is located, and copy the sysprep files to it, this directory will be deleted after the System Preparation tool runs. For example, if %WINDIR% is C:\WINNT, then create a directory called C:\SYSPREP.

IMPORTANT! Unless you use the -defeat command line switch, you must use a version of Windows NT 4.0 that was installed from a Microsoft Select Volume License Windows NT 4.0 CD or an OEM (Original Equipment Manufacturer) Windows NT 4.0 CD. If Microsoft Office is installed, it must also be an OEM or Select version. If the System Preparation tool detects that Windows NT 4.0 or Microsoft Office was installed from a retail package CD, the following message appears.
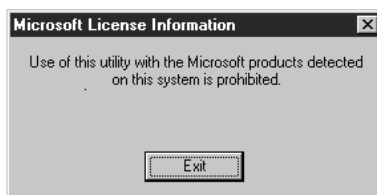
When you click Exit, the Microsoft License Information dialog prompts you to enter your organization name and license information. After you click OK, the system shuts down.

Command Line Switches

The Windows NT 4.0 System Preparation tool supports the following command line switches:

* <SETUPSCRIPT.INF>

    This flag lets you specify the script file to use (for example, SYSPREP nt4setup.inf). Note that there is no dash preceding the script filename.

* -defeat

    Instructs the System Preparation tool to skip the check for OEM or Select versions of Microsoft Windows NT Workstation 4.0, Microsoft Office 95, or Microsoft Office 97.

- -QUIET

  Instructs the System Preparation tool to run without displaying the dialog box that warns you your system is being prepared for disk imaging and will automatically shut down.

- -REBOOT

  Reboot automatically after the System Preparation tool runs.

Automating the Mini-Setup Wizard

To automate the Windows NT 4.0 Mini-Setup Wizard, you can use the answer file NT4PREINST.INF, which is similar to Windows NT 4.0 UNATTEND.TXT. The answer file supports the following parameters:

OemSkipEula
Value: YES | NO

This key disables the display of the end user license agreement (EULA).

ProductID
Value: xxx-xxxxxxx

This is a key that specifies whether the Product ID screen should display. By default, the Product ID key displays and is only valid if the original installation was performed using a retail product.

FullName
Value: <string>

This key specifies the name of the user. If the string is empty (that is, not valid), the User name and Organization page will be displayed.

OrgName
Value: <string>

This key specifies the user's organization or company name. If this key is not specified or the string is empty, the User name and Organization page will be displayed unless the FullName key has been specified with a valid string.

ComputerName

Value: <string>

This key specifies the computer name. If it is not specified or is an empty string, the Computer Name page is displayed. The string must be a minimum of 1 non-white character and a maximum of 15 non-white space characters.

If this value is set to Auto, setup will generate a computer name based on the computer's SID. This key provides a mechanism to install multiple machines with unique computer names.

AdminPassword

Value: <string>

This key specifies the password for the Administrator account. If the key is not specified or is empty, the Administrator Password page is displayed. The string must be a minimum of 1 non-white space character and a maximum of 15 non-white space characters.

OEMBannerText

Values: <text string>

This key specifies a string to be displayed in the upper left corner of the computer screen. The text must contain the "Windows NT" substring, or it will be ignored. You can specify multiple lines by using the * character as a separator.

OEMLogoBitmapFile

Values: <filename> [,<resource id>]

This key specifies a bitmap graphic to be displayed in the upper right corner of the screen. If this line has only one field, it is assumed to be a .BMP file located in the directory where the System Preparation tool (SYSPREP.EXE) resides. However, if two fields are specified, then the first field is the name of a DLL and the second is a base-10 number that represents the resource ID of the bitmap in the DLL. The DLL specified should be located in the directory that contains SYSPREP.EXE.

OEMBackgroundBitmapFile

Values: <filename> [,<resource id>]

This key specifies a background bitmap graphic to be displayed. If this line has only one field, it is assumed to be a .BMP file located in the directory where SYSPREP.EXE resides. However, if two fields are specified, then the first field is the name of a DLL and the second is a base-10 number that represents the resource ID of the bitmap in the DLL. The DLL specified should be located in the directory that contains SYSPREP.EXE.

Sample Mini-Setup Wizard Script

```
[NT4PREINSTALL]

OEMSKIPEULA = YES
PRODUCTID = 123-4567890
FULLNAME = "ARCADIA BAY USER"
ORGNAME = "ARCADIA BAY INC."
COMPUTERNAME = "AUTO"
ADMINPASSWORD = "PASSWORD"
```

Desktop Settings and Preferences

Only the administrator's desktop settings and preferences are preserved after imaging. As the administrator, you can establish standard desktop settings, then complete the following steps so all users will inherit those settings when they log in for the first time.

1. Log on as Local Administrator.

2. Set desktop preferences, background, screensaver options, customize start menu, shortcuts to installed software, etc.

3. Right-click My Computer, then click Properties.

4. On the System Properties page, click the User Profiles tab.

5. Under Profiles stored on this computer, select Administrator, then click Copy To.

6. On the Copy To page, copy the profile to %SYSTEMROOT%\PROFILES\DEFAULT users.

7. Under Permitted to Use, click Everyone so that all users can access this profile.

8. Click OK, and close all the boxes, then run the System Preparation tool on the system.

2

Microsoft Windows 98 Image Preparation Tool

Microsoft Disclaimer

The Microsoft® Image Preparation tool, which can be used under the terms of
your Microsoft Windows® 98 license agreement, can help you custom install
the Windows 98 operating system on target PCs.

This documentation, supplied by Microsoft, is for informational purposes only.
MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS
DOCUMENT.

Microsoft Corporation may have patents or pending patent applications,
trademarks, copyrights, or other intellectual property rights covering subject
matter in this document. The furnishing of this document does not give you any
license to the patents, trademarks, copyrights, or other intellectual property
rights except as expressly provided in any written license agreement from
Microsoft Corporation.

Microsoft does not make any representation or warranty regarding
specifications in this document or any product or item developed based on
these specifications. Microsoft disclaims all express and implied warranties,
including but not limited to the implied warranties or merchantability, fitness for
a particular purpose and freedom from infringement. Without limiting the
generality of the foregoing, Microsoft does not make any warranty of any kind
that any item developed based on these specifications, or any portion of a

specification, will not infringe any copyright, patent, trade secret, or other intellectual property right of any person or entity in any country. It is your responsibility to seek licenses for such intellectual property rights where appropriate. Microsoft shall not be liable for any damages arising out of or in connection with the use of these specifications, including liability for lost profit, business interruption, or any other damages whatsoever. Some states do not allow the exclusion or limitation of liability or consequential or incidental damages; the above limitation may not apply to you.

Microsoft, Win32, Windows, and Windows NT are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Other product and company names mentioned herein may be the trademarks of their respective owners.

Introduction

The Microsoft Windows 98 Image Preparation tool prepares the preinstalled hard-disk contents of a PC with Windows 98 installed (referred to here as the source PC) for imaging and subsequent transfer to other PCs (referred to here as target PCs). The Image Preparation tool removes the hardware registry settings, resulting in a source PC system configuration that can be imaged for transfer to other PCs using PowerQuest's Drive Image Pro.

The target PCs that receive an image do not have to be the same hardware configuration as the source PC. The Image Preparation tool transforms the Windows 98 image into a hardware independent image. The only requirement is that Windows 98 Setup must be able to detect the devices on the target PC. When the target PC is started, the final stage of Windows 98 Setup is run again, thus detecting, enumerating, and configuring hardware. This is called Windows 98 Image Preparation Setup.

One of the first things you will do is to install Windows 98 on a source desktop PC, and then install any applications, configuring them as you want. The configuration changes you make manually to the desktop, Start menu, applications and other configuration changes that are not hardware dependent will be preserved.

When you run the Image Preparation tool, it removes all hardware information from the registry and deletes user-specific and machine-specific files such as System.1st. The Image Preparation tool is designed to preserve most software applications' settings correctly, with the exception of hardware-specific applications, such that they will function after imaging; however, some applications may not function correctly. To determine whether an application can be installed in this way, Microsoft recommends testing each application after being installed on target PCs.

Using the Image Preparation Tool

The following summarizes the basic steps for using the Image Preparation tool with Drive Image Pro to install Windows 98 on other PCs:

1. Prepare your Windows 98 network distribution share. First copy the Windows 98 source files to a network share. Then add new drivers to the Windows 98 Setup using INFINST.EXE (available on the Windows 98 Resource Kit compact disc) before running Setup on your source PC. For more information about using INFINST.EXE, see Chapter 3 of the Microsoft Windows 98 Resource Kit manual.

2. Run Windows 98 Setup on the source PC to create a new Windows 98 configuration.

   NOTE: You must create a completely new, clean installation on the source PC, rather than installing Windows 98 as an upgrade over an existing Windows installation. Microsoft recommends using the most standard, simply configured desktop computer that is available for your source PC.

3. Install and configure applications as you want them to appear on the target PCs. (Do not install applications that require specific hardware because problems may occur.)

   Also check the license agreement for each application you install to ensure that your license covers the support and technical issues related to using disk imaging as a method for installation.

   NOTE: Items such as the desktop and Start menu can have any configuration. However, hardware-dependent settings will not be preserved through the imaging process. For example, all the custom desktop icons you add (and their placement on the desktop) will be preserved, but the display color-depth and resolution settings will be removed.

   NOTE: Network settings such as client, protocol, protocol settings, and services are not preserved. To configure network settings you must create a setup script (MSBATCH.INF) and copy it to the Windows directory. An easy way to create the MSBATCH.INF is to configure your source PC network settings, then run Microsoft Batch 98 and click the Gather now button. Then save the MSBATCH.INF to the Windows directory on your source PC. See "Using MSBATCH.INF to Modify the Target PC" on page 16 for more information.

4. Next run the Image Preparation tool to prepare the source PC for imaging. Image Preparation cannot be run from the drive where Windows 98 is installed.

   a. For example, to run Image Preparation from a DOS drive, type preptool at the command prompt in the directory where PREPTOOL.EXE is located.

   b. To run the BETA version, type preptool /beta at the DOS prompt. For more about the BETA version, see "Image Preparation Tool BETA" on page 14.

5. To run the BETA version of the Image Preparation tool, see Create an image file of the source PC using Drive Image Pro (see Chapter 2 of the Drive Image Pro User Guide). Then restore the image to target PCs (see Chapter 3 of the Drive Image Pro User Guide).

6. Add machine and user specific settings to the target PCs. (Optionally, this step may be performed manually after rebooting the target PCs.) See "Adding Specific Settings on Target PCs" on page 15.

7. Reboot the target PCs to run Windows 98 Image Preparation Setup.

   When you start a target PC after copying the hard drive image, Windows 98 Image Preparation Setup runs without user intervention until the target PC is ready for the end user to log on.

Image Preparation Tool BETA

The Image Preparation tool includes a command line argument, /BETA, that must be used to successfully run the tool.

If the above command line argument is not used you may receive the following message:

   "You must specify the location of the Windows 98 setup.exe file, which must reside in the same location as the associated setup cabinet (.CAB) files."

When you click OK, the Microsoft License Information dialog appears, and you are prompted to enter your organization name and license information.

The license information required is:

- Your Organization Name

- Contract Number

- Type of Contract (choose the type from drop-down box, including the options)

- Open License (MOLP and Select)

- License Count

After you enter the licensing data and click OK, the Image Preparation tool removes all hardware information from the registry, deletes user-specific and machine-specific files such as System.1st, and copies the necessary setup files locally. If the .CAB files are stored on the same drive where Windows 98 is installed, there is no subsequent file-copy procedure.

The Image Preparation tool renames the AUTOEXEC.BAT and CONFIG.SYS files to AUTOEXEC.DLY and CONFIG.DLY because these files often contain hardware information.

NOTE: The next time the source PC boots, blank AUTOEXEC.BAT and CONFIG.SYS files are created. The AUTOEXEC.DLY and CONFIG.DLY files will remain in the root directory, providing the users with a record of system configuration commands. These files can be recovered by renaming them AUTOEXEC.BAT and CONFIG.SYS. When the Image Preparation tool is run on the same system repeatedly, the AUTOEXEC.DLY and CONFIG.DLY files will be deleted automatically, and the new AUTOEXEC.BAT and CONFIG.SYS will be renamed to AUTOEXEC.DLY and CONFIG.DLY. Running the Image Preparation tool twice on the same system will result in the loss of the original AUTOEXEC.BAT and CONFIG.SYS.

When the source PC reboots after the Image Preparation tool has been run, Windows 98 setup will detect and install drivers for the devices installed on the target PC.

The beta version of the Image Preparation Tool will expire within 120 days. The tool will display a beta expiration message after that time.

Adding Specific Settings on Target PCs

After creating a drive image and restoring it to target PCs, each target PC's disk image is now identical. The next step is to change the settings that must be unique on each system, such as changing the computer name. You can do this in many ways. For example, you can make the changes manually after booting up the target computer, or you can create a setup script file, MSBATCH.INF, for each target PC, then copy the MSBATCH.INF to the Windows directory before booting the target computer for the first time.

To add machine-specific and user-specific information to each target,

• Copy a unique MSBATCH.INF file to the Windows directory to add all network information. Only the [Network] section and optional [Preptool] section will be processed when hardware setup runs. Settings that appear in other sections such as User name and Optional Components are not read from the MSBATCH.INF file during hardware setup.

- The network sections of the MSBATCH.INF are processed the same way they are during a standard setup. Use an MSBATCH.INF to configure the network settings on your target computers.

- The [Preptool] section must be added to the MSBATCH.INF manually using a text editor such as Notepad. See "Using MSBATCH.INF to Modify the Target PC" on page 16 for more information on the [Preptool] section. The [Preptool] section of MSBATCH.INF is processed after hardware detection and configuration and before the user logs on. This section must be in standard Windows 98 INF format. The [Preptool] section is not read during a normal Windows 98 Setup.

   IMPORTANT! If the target PC contains a network adapter of any kind, but MSBATCH.INF cannot be found in the Windows directory during hardware setup, the network configuration will not be complete and hardware setup will not finish without user intervention. A MSBATCH.INF file with no network information will result in the target PC receiving the Windows 98 default network settings.

- For information about MSBATCH.INF parameters, see Chapter 3 and Appendix D of Microsoft Windows 98 Resource Kit.

- Use the MS-DOS-based real-mode version of Regedit to import registry files used during the imaging process. For details about importing and exporting registry data using the MS-DOS-based version of the registry editor, see Chapter 33 in Microsoft Windows 98 Resource Kit.

- Use DBSET.EXE (a utility provided with Microsoft Windows 98 Resource Kit) to customize text files that contain user-specific and machine-specific information.

Using MSBATCH.INF to Modify the Target PC

If the target PCs will be connected to a network you will have to modify the configuration of each target PC so that certain settings are unique. At a minimum, this means changing the computer name so that each computer name on the network is unique. Other changes that you may have to make include changing TCP/IP settings, if you use static IP addresses, domain, or user name. This section outlines how you can make these changes automatically, as part of the final setup of the system.

After you have copied the hard drive image to the target PC, during the first boot of Windows 98, the system will:

- Run the hardware detection portion of Windows 98 Setup

- Load the MSBATCH.INF file in the Windows directory, if one exists, and process the [Network] and [Preptool] sections of the MSBATCH.INF. All other sections of the MSBATCH.INF are ignored.

[Network] section of the MSBATCH.INF

In most cases you will need an MSBATCH.INF with a [Network] section. All network settings such as client, protocol, protocol settings, and services are lost when the Image Preparation tool is run. To configure network settings you must create a setup script (MSBATCH.INF) and copy it to the Windows directory. An easy way to create the MSBATCH.INF is to configure your source PC network settings, then run Microsoft Batch 98 and click the Gather now button. Then save the MSBATCH.INF to the Windows directory on your source PC.

In the MSBATCH.INF file example below, the [Network] section specifies File and Printer Sharing for NetWare Networks service and Microsoft TCP/IP protocol to be installed. The [NWSERVER] and [MSTCP] sections that follow the [Network] section include additional parameters to configure the Service and Protocol settings. The MSBATCH.INF is also the mechanism used for automatically configuring third-party networks. For more information about configuring network settings in an MSBATCH.INF file, see Appendix D of Microsoft Windows 98 Resource Kit.

```
; MSBATCH.INF
;
; Copyright (c) 1995-1998 Microsoft Corporation.
; All rights reserved.
;


[BatchSetup]
Version=3.0 (32-bit)
SaveDate=01/09/98


[Version]
Signature = "$CHICAGO$"
LayoutFile=layout.inf


[Network]
Display=0
PrimaryLogon=VREDIR
Clients=VREDIR
```

```
Protocols=MSTCP
Services=VWSERVER
Security=SHARE


[MSTCP]
LMHOSTS=1
LMHOSTPath="C:\WINDOWS\lmhosts"
DHCP=1
DNS=0
WINS=D


[VREDIR]
LogonDomain="MyDomain"
ValidatedLogon=1


[VWSERVER]
BrowseMaster=1
Use_SAP=0
```

[Preptool] section of the MSBATCH.INF

The [Preptool] section of the MSBATCH.INF provides you with the flexibility to change
most operating system and application settings automatically during setup. You can
make changes to the Windows 98 registry, INI files, AUTOEXEC.BAT, and CONFIG.SYS.
To customize user-specific or machine-specific settings (other than network settings), add
a [Preptool] section to the MSBATCH.INF file and include the necessary parameters. The
[Preptool] section is equivalent to the [Install] section of a Windows 98 INF file. For a
complete description of the format of the [Install] section see Appendix C: Windows 98
INF Files in the Microsoft Windows 98 Resource Kit.

In the MSBATCH.INF example provided below, the [Preptool] section includes an
Addreg entry with three add-registry-sections. The first section,
OfficeUsernameCompanyname, edits the registry keys that determine what user name
and company name will be used by Microsoft Office 97. The second add-registry-entry,
LogonUsernameDomainname, edits the changes of the user name and domain that will
appear at login to JohnSmith and NorthAmerica respectively. The final
add-registry-section in the example below, ComputerName, changes the computer name
to JSMITH1. Note that two registry keys must be edited to change the computer name.

```
; MSBATCH.INF
;
; Copyright (c) 1995-1998 Microsoft Corporation.
; All rights reserved.
;


[BatchSetup]
Version=3.0 (32-bit)
SaveDate=01/01/98


[Version]
Signature = "$CHICAGO$"
LayoutFile=layout.inf


[Preptool]
Addreg= OfficeUsernameCompanyname, LogonUsernameDomainname,
ComputerName


[OfficeUsernameCompanyname]
HKCU,Software\Microsoft\MS Setup (ACME)\User Info,DefName,,
"John Smith"
HKCU,Software\Microsoft\MS Setup (ACME)\User
Info,DefCompany,,"Arcadia Bay Inc"


[LogonUsernameDomainname]
HKLM,Network\Logon,username,,"JohnSmith"
HKLM,System\CurrentControlSet\Services\MSNP32\NetworkProvider,
AuthenticatingAgent,,"NorthAmerica"


[ComputerName]
HKLM,System\CurrentControlSet\Control\ComputerName\
ComputerName,ComputerName,,"JSMITH1"
HKLM,System\CurrentControlSet\Services\VxD\VNETSUP,
ComputerName,,"JSMITH1"
```

Creating Machine–Specific MSBATCH.INF Files

If you choose to use a MSBATCH.INF file to modify the configuration of each target PC so that the appropriate settings are unique, there is one hurdle that you must overcome to effectively automate the process. You must find a method to distribute a unique MSBATCH.INF file to the Windows directory on each target PC after the image has been copied and before Windows 98 starts up for the first time. In this section you will find an example of one method to automate this process.

In this example, a MSBATCH.INF file that includes a [Network] and a [Preptool] section is modified so that the values of the machine-specific parameters are special fields that will be replaced using DBSET.EXE, a field replacement tool included with the Microsoft Windows 98 Resource Kit. This MSBATCH.INF file becomes the template for each machine-specific MSBATCH.INF file. The special fields in the template file are replaced with machine specific values then the MSBATCH.INF file is copied to the Windows directory on the target PC.

DBSET.EXE is an MS-DOS 16-bit utility that searches for and replaces fields in a template file. Dbset can be used in an interactive mode so that a deployment technician is prompted for the machine specific values. For information about using dbset.exe, see Chapter 3 of the Microsoft Windows 98 Resource Kit.

In the example below, the MSBATCH.INF has been converted into a template for use with DBSET.EXE by replacing user-specific and machine-specific values with special-fields that will be read and replaced by DBSET.EXE. These special-fields are denoted in %field_name% format.

```
; MSBATCH.INF
;
; Copyright (c) 1995-1998 Microsoft Corporation.
; All rights reserved.
;

[BatchSetup]
Version=3.0 (32-bit)
SaveDate=01/01/98

[Version]
Signature = "$CHICAGO$"
LayoutFile=layout.inf

[Network]
Display=0
PrimaryLogon=VREDIR
Clients=VREDIR
Protocols=MSTCP
Services=VWSERVER
Security=SHARE
```

```
[MSTCP]
LMHOSTS=1
LMHOSTPath="C:\WINDOWS\lmhosts"
DHCP=1
DNS=0
WINS=D

[VREDIR]
LogonDomain="%Domain%"
ValidatedLogon=1

[VWSERVER]
BrowseMaster=1
Use_SAP=0

[Preptool]
Addreg=LogonUsernameDomainname, ComputerName

[LogonUsernameDomainname]
HKLM,Network\Logon,username,,"%Username%"
HKLM,System\CurrentControlSet\Services\MSNP32\NetworkProvider,
AuthenticatingAgent,,"%DomainName%"

[ComputerName]
HKLM,System\CurrentControlSet\Control\ComputerName\
ComputerName,ComputerName,,"%ComputerName%"
HKLM,System\CurrentControlSet\Services\VxD\VNETSUP,
ComputerName,,"%ComputerName%"
```

Automating Image Transfer

If you are using a software imaging system that can be automated (such as Drive Image Pro), many steps can be managed automatically by creating a script in an MS-DOS-based batch (.BAT) file. If you are automating the image copying process, but intend to use manual data entry for machine-specific and user-specific information, you might find it convenient to write the data to a RAM drive or the floppy drive at the beginning of the automating process. Batch scripts can copy or import the data to the image after it has been placed on the target PC.

The following example demonstrates how the image download can be automated by editing the AUTOEXEC.BAT file on the Windows 98 Startup disk and creating a batch file. In this example, the image is stored on a CD-ROM, and the user-specific and machine-specific data are temporarily stored on the RAM drive created by the Startup disk.

AUTOEXEC.BAT

The AUTOEXEC.BAT file on the Windows 98 Startup disk must be edited to prevent the CDROM environment variable from being erased. This is done by deleting the set CDROM= entry, which is the second-to-last line of the file.

Setup Batch Script

In the following example, %RAMD% is an environment variable that contains the drive letter for the RAM drive created by a boot disk (such as a Windows 98 emergency boot disk), for example, drive D:.

Also, %CDROM% is an environment variable that contains the drive letter for the CD-ROM drive where the image (Win98.img) is located, for example, drive E.

```
REM Use Dbset to prompt for user-specific information and create
a user/machine specific*
REM Msbatch.inf. Dbset is available on the Windows 98 Resource
Kit.
dbset /d userinfo.db /i Template.inf /r %RAMD%:\msbatch.inf /y
/m
REM Change the path to not include the Windows 98 Startup disk.

path=%CDROM%:\;%RAMD%:\
REM Pause to allow removal of boot floppy. Provided you can
automate your image download
REM process, after this pause, the imaging download and
Windows 98 System Imaging Setup
REM should complete unattended.
Pause


REM Insert the appropriate line(s) to automate formatting your
hard drive and downloading REM your image. (The following is
just an example. MSImage1.exe is not a program.)
@echo Y|Format.com c: /q /v:Windows_C>nul
MSImage1.exe %CDROM%:\win98.img c:
REM copy the inf file to the Windows directory.
@echo Y|copy %RAMD%:\msbatch.inf c:\windows\msbatch.inf2
REM restart the computer to PnP the hardware.
REM Restart is available on the Windows 98 boot diskette.
Restart


*In the actual DOS batch file, this will be a single line entry.
```