Building a Common Image with Microsoft Windows 7 on HP Pro and Elite Desktop PCs

2012 Commercial Managed IT Models

Technical white paper

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Executive summary

This white paper provides instructions for creating the Microsoft® Windows® 7 Professional with applicable HP drivers and applications for select HP Elite and HP Pro Business Desktop PC models. Instructions are provided for creating a common image across HP Compaq Elite 8300 and HP Compaq Pro 6300 business desktop models.

HP recommends using the HP Elite 8300 preinstalled image as the basis for development of a customized common image. HP business desktop models have been through the HP Total Test Process, which involves over 115,000 hours of testing in order to provide you with a more reliable and stable PC computing experience.

Target audience: This white paper is intended for IT staff.

System requirements and prerequisites

Information regarding minimum hardware requirements for the installation of Windows is available at http://www.microsoft.com.

Supported models

- HP Compaq Elite 8300 Convertible Minitower PC
- HP Compaq Elite 8300 Microtower PC
- HP Compaq Elite 8300 Small Form Factor PC
- HP Compaq Elite 8300 Ultra-slim PC
- HP Compaq Pro 6300 Microtower PC
- HP Compaq Pro 6300 Small Form Factor PC

WARNING
Before proceeding with the installation or configuration of Windows, you should back up all personal data, such as files and images. If it is not backed up, your personal data could be lost.

The following items are needed to install Windows:

- A supported HP business desktop PC model
- Windows OS recovery media provided by HP
  - Media from an alternate source may require a product ID (PID)[1]
- Access to Drivers/OS enhancements provided by HP
  - HP SoftPaq Download Manager (www.hp.com/go/sdm)
  - High speed Internet access (www.hp.com)
  - HP System Recovery Supplemental Disk

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[1] Typically provided on the product's Certificate of Authenticity

Common Image

Advantages of a Common Image

Creating a common image has several advantages.

- Image reduction—by creating a product family-based common image, image management becomes easier because the number of images that require management is reduced.
- Operating System-controlled driver installation—by implementing the .inf file-based driver installation method outlined in this white paper, it is assured that hardware will be installed in the most optimal manner possible.
- Image validation—by using the image preinstalled by HP, you will start with an image that has already undergone extensive testing and validation with the hardware on which it will be deployed. This will save considerable testing resources in your environment. In addition, using the HP image as a base will bypass the Microsoft Windows Activation process that requires each user to activate their copy of Windows 7.

Limitations of a Common Image

While the use of a common image can be extremely advantageous, it is not without caveats. Creating a common image causes a shift in the support liability from the PC OEM back to the organization creating the common image.

It is also very important to be aware of the operating system license as well as licensed applications that are part of the common image. Royalty-based applications typically have strict guidelines surrounding deployment and usage. For example, devices such as DVD's have strict distribution restrictions regarding how DVD software is distributed.

Contact your Microsoft licensing representative for the proper operating system license.

Customizing the Preinstalled Image

This section provides guidelines when using the HP Elite 8300 preinstalled image as a base upon which to build a common image.

Choosing a Base Image

As mentioned previously, HP recommends beginning with the factory preinstalled image as the base image. If the file system type or the partition structure is not desirable, HP recommends that you still use the factory preinstalled image to build the common image. File system and partitioning can be customized during the image load phase of the deployment process.

Windows 7 preinstalled images support an F11 restore-feature, which allows a clean factory preinstalled image to be restored by rebooting the PC and pressing F11 at the start of the reboot. After pressing the "NEXT" button, check the "Recover the factory installed operating system, drivers and

applications" option and accept the default prompts. The "HP Backup and Recovery Manager" PC Recovery will restore the factory preinstalled image to the system.

If the factory preinstalled image has already been removed from the hard drive, you can restore that image using the System Recovery Restore DVD created from the Recovery Manager / Recovery Disk Creation application on a system with the preinstalled image or from HP technical support.

Another option is to perform a clean installation directly from operating system media. Reference the Microsoft Corporate Deployment documentation in order to build the base image, and then continue with the next section of this document to build a common image.

Customizing the Image

There are several actions you can take to customize an operating system image before capturing and deploying that image:

• Removing preinstalled software

• Adding software

• Adding hardware/drivers

• Additional customization

Removing Preinstalled Software

HP pre-installs several applications and software packages that provide additional value to customers. If you do not want to include these applications in the common image, they can be removed by using the Add or Remove Programs utility, located in the Control Panel.

Note
Software marked as a "Hotfix" should be removed. Your system ships with fixes and security updates from Microsoft. HP recommends that you do not uninstall these updates. In addition, any operating system Service Packs preinstalled by HP cannot be removed.

Adding software

Please refer to the documentation provided by software vendors on a case-by-case basis for installing additional, non-HP provided software on the image.

Adding Hardware/Drivers

The addition of peripheral hardware devices can necessitate the installation of associated drivers. These drivers can be downloaded using HP SoftPaq Download Manager (available from www.hp.com/go/sdm); alternatively, you can download individual SoftPaqs from the HP website.

For more information, refer to Appendix A: Using HP SoftPaq Download Manager.

Clean Installing the OS, drivers, and enhancements

This section provides guidelines for users performing a clean installation of Windows on a supported HP business desktop PC.

For more information on installing Windows, refer to the Microsoft website at http://windows.microsoft.com/help.

IMPORTANT
Follow the installation instructions in the order provided. Failure to complete these steps in the proper order can result in an unsuccessful or unstable installation. These instructions are independent of the operating system currently installed on the PC.

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1. Depending on the particular Internet connection(s) being used, download the driver(s) for the network interface card and/or wireless LAN adapter driver. Save to a USB storage device or optical media.
   - Contact your network administrator to properly set up the networking components of Windows.

2. Change the boot order in F10 Setup so the optical drive is the first boot device.
3. Boot with the Windows 7 OS disk; follow the on-screen instructions for installation.
   - OS recovery media from HP does not require a product ID or key for installation on a supported HP business desktop PC.
   - If using Advanced format hard drives (4K sector drives), please refer to the HP white paper "Preparing Advanced Format hard drives for Microsoft Windows installations on HP Business Notebook PCs and Desktop PCs."

4. Install the appropriate communications driver from either the optical media or USB storage device (Step 1 above) and configure your Internet connection.
5. Install the desired patches from www.microsoft.com/windowsupdate or contact your network administrator for additional updates. Reboot the system after these patches have been installed.
6. Install the drivers and enhancements listed in Table 1 using HP SoftPaq Download Manager (available from www.hp.com/go/sdm); alternatively, you can download individual SoftPaqs from the HP website. Some deliverables may have direct dependencies on other deliverables that may require .NET.

   For more information, refer to

Drivers and enhancements

Table 1 lists minimum recommended drivers and enhancements for Windows 7 Professional. The table also includes dependencies on .NET Framework (if applicable). Required drivers will vary depending on hardware configurations deployed in your environment.

Table 1. Minimum recommended software versions

Name	Version	Win 7 x86	Win 7 x64	Priority	.NET Required
Driver – Audio					
Realtek High-Definition Audio Driver	6.0.1.6582 A	X	X	Required	3.0
HP SRS Premium Sound	1.12.76.0 A	X	X	Optional	N/A
Driver – Chipset					
Intel® Chipset Support	9.2.0.1030 F	X	X	Required	N/A
Intel® AMT LMS_SOL for AMT 8.xx	8.0.3.1427 G	X	X	Required	3.5 SP1
Intel® USB 3.0 Drivers	1.0.3.214 D	X	X	Required	N/A
Driver – Graphics					
AMD Windows 7 Graphics Driver	8.940.11.0000 E	X	X	Required	3.5 SP1
Intel Graphics Driver	8.15.10.2696	Rev. R	Rev. P	Required	3.0
NVIDIA Graphics Driver	8.17.12.96.19 G	X	X	Required	3.0
Driver – Network					
Broadcom NIC Drivers	Multiple versions	15.2.4.1 F	15.0.4.2 E	Required	N/A
Intel PRO/1000 Drivers	16.8_257663 L	X	X	Required	N/A
Broadcom 2070/20702 Bluetooth Driver	6.5.1.2700 A	X	X	Required	N/A
Broadcom Wireless LAN Driver 802.11a/b/g/n	5.100.82.105 A	X	X	Required	N/A
Intel® My WiFi and Wireless LAN Driver	15.1.0.18 A	X	X	Required	N/A
Ralink 802.11n Wireless LAN	3.2.12.0 A	X	X	Required	N/A
Driver – Storage					
Alcor Micro Smart Card Reader Driver	1.7.28.0 A	X	X	Required	N/A
Intel Rapid Storage Technology Driver	11.1.0.1006	X	X	Required	3.5 SP1
Priority Key					
Required - Mandatory for optimal hardware support Recommended - HP recommends installing for optimal system performance Optional - Value-add software for desired solution					

Building a common image

Instructions are provided for building Windows 7 Professional images.

Windows 7 Professional

1. Install Windows 7 Professional on a supported platform.
2. Copy all device drivers to the **%SystemDrive%\DRV** folder.
3. Run Windows System Image Manager to create the **sysprep.xml** file.
4. As shown in Figure 2, make the following changes to the **sysprep.xml** file:
   - In the Microsoft-Windows-PnpCustomizationsNonWinPE component –
     Set the PnP driver search path.
   - In the Microsoft-Windows-Deployment component –
     Following the **pass="auditUser"** phase, set **Reseal** in **OOBE** mode.

NOTE
Figure 2 does not show the complete sysprep.xml file.

Figure 2. Example of sysprep.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<unattend xmlns="urn:schemas-microsoft-com:unattend">
    <settings pass="auditSystem">
        <component name="Microsoft-Windows-PnpCustomizations NonWinPE" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
            <DriverPaths>
                <PathAndCredentials wcm:keyValue="dfbbff91" wcm:action="add">
                    <Path>C:\Drv</Path>
                </PathAndCredentials>
            </DriverPaths>
        </component>
    </settings>
    <settings pass="auditUser">
        <component name="Microsoft-Windows-Deployment" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
            <Reseal>
                <ForceShutdownNow>false</ForceShutdownNow>
                <Mode>OOBE</Mode>
            </Reseal>
        </component>
    </settings>
```

5. Copy **sysprep.xml** to **% SystemDrive%\Windows\System32\Sysprep**.
6. Run the following command:

    sysprep /generalize /audit /shutdown /unattend:sysprep.xml

7. After shutting down the system, use hard-drive duplication software to deploy the common image.

Appendix A: Using HP SoftPaq Download Manager

Using HP SoftPaq Download Manager to update the current platform

1. Boot the Windows OS.
2. Open Microsoft Internet Explorer.
3. Download and install HP SoftPaq Download Manager from www.hp.com/go/sdm.
4. Launch SoftPaq Download Manager.
5. When prompted, select **Show software for this model only** (Figure A-1).

NOTE
Use the Check software updates for this model option to automatically install the updates on the current system or to download SoftPaqs to install on systems similar to the current platform.

Figure A-1. SoftPaq Download Manager menu

6. The current platform will automatically be displayed and selected in the Product Catalog window.
7. Select the desired SoftPaqs from the Available SoftPaqs list (Figure A-2).

Figure A-2. Available SoftPaqs list
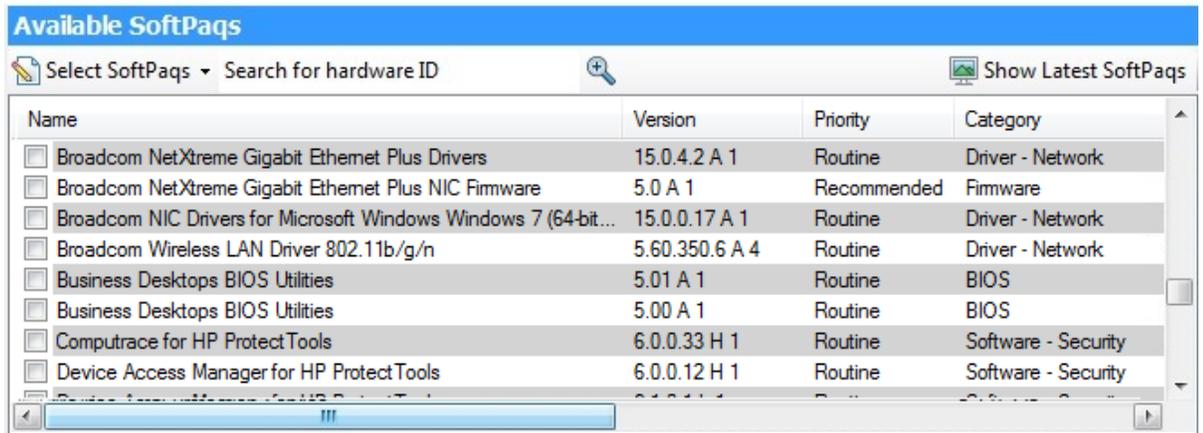
8. After selecting the desired SoftPaqs, the following options are available in the Downloaded SoftPaqs window: **Download Only, Download and Unpack or Download and Install** (Figure A-3).

Figure A-3. Downloaded SoftPaqs window
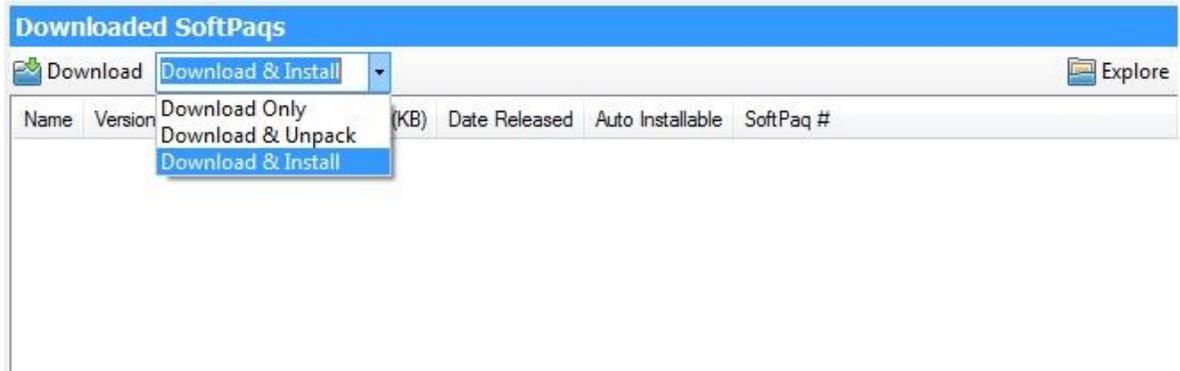
- **Download Only** – this option will download all selected SoftPaqs to "C:\ProgramData\HP\HP SoftPaq Download Manger\SWDownload".
- **Download and Unpack** – this option will download all selected SoftPaqs to "C:\ProgramData\HP\HP SoftPaq Download Manger\SWDownload" and unpack each individual SoftPaq in a unique folder based on SP#: (i.e. \SPxxxxx).
- **Download and Install** – this option will download all selected SoftPaqs to "C:\ProgramData\HP\HP SoftPaq Download Manger\SWDownload" and then install each individual SoftPaq on the current system.

Using HP SoftPaq Download Manager to download SoftPaqs for multiple platforms

1. Download and install HP SoftPaq Download Manager from www.hp.com/go/sdm on any Windows based system.
2. Launch HP SoftPaq Download Manager
3. When prompted, select **Show software for all supported models** (Figure A-4).

Figure A-4. SoftPaq Download Manager menu

4. Select the respective platforms in the Product Catalog window.
5. Select the appropriate **Driver** and **Operating System Enhancement** SoftPaqs from the Available SoftPaqs list (Figure A-5).

Figure A-5. Available SoftPaqs list

6. Prior to downloading the SoftPaqs, set your download preferences in the **Configuration Options** window (Figure A-6) accessed from the Tools menu (Tools -> Configuration Options).

Figure A-6. Download tab in Configuration Options window
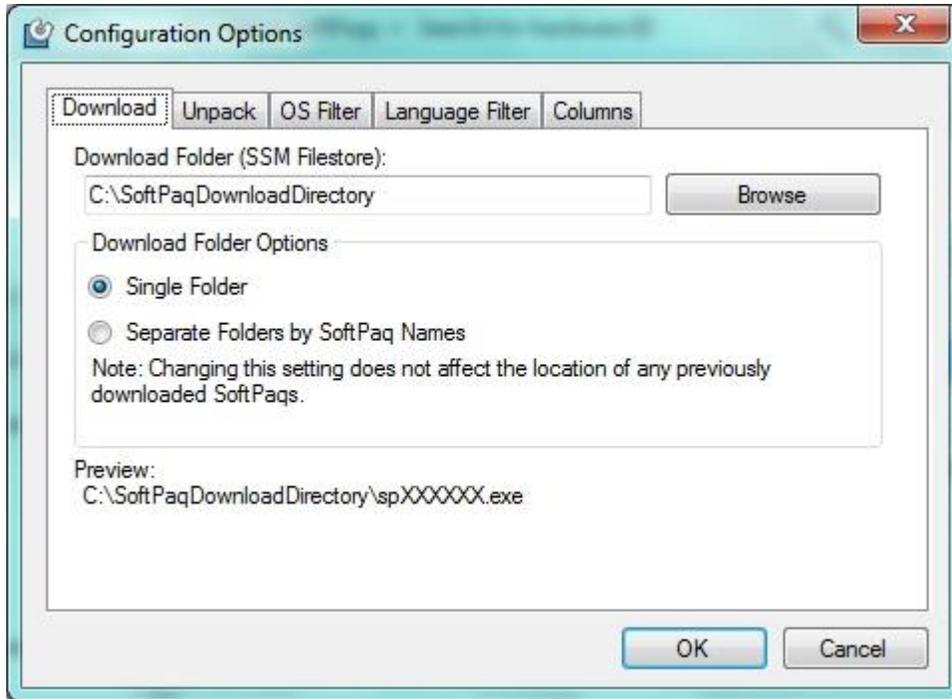
7. Additional customizations are available through the **Unpack** tab (Figure A-7).

Figure A-7. Unpack tab in Configuration Options window
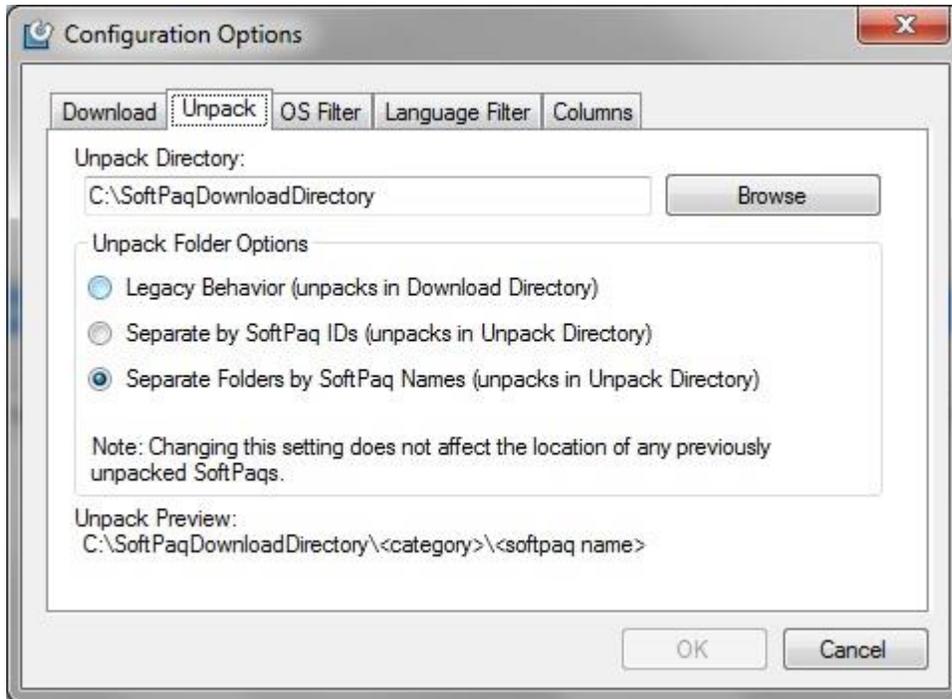
- **Unpack Directory** – this field allows the user to change the location where the SoftPaqs will be unpacked once they are downloaded.
- **Unpack Folder Options**
  - **Legacy Behavior** – this option will unpack all selected SoftPaqs in the Download Directory established on the **Download** tab (above). Unpack directory field will be locked.
  - **Separate by SoftPaq IDs** – this option will unpack all selected SoftPaqs in the folder designated in the Unpack directory. Individual SoftPaqs will be unpacked in a unique folder based on SP# (i.e. \SPxxxxx) according to SoftPaq category (Driver – Video, Driver – Audio, etc.). Figure A-8 shows an example of this folder structure.

Figure A-8. Example of folder structure separated by SoftPaq IDs
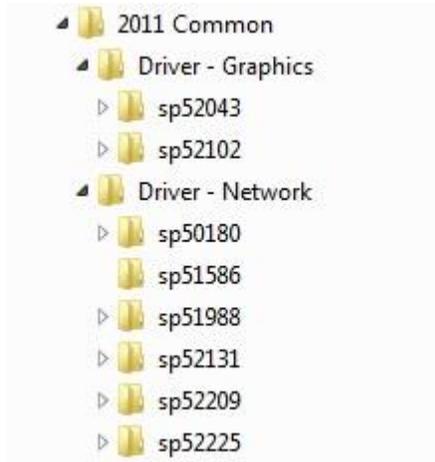
- **Separate by SoftPaq Names** – this option will unpack all selected SoftPaqs in the folder designated in the Unpack directory. Individual SoftPaqs will be unpacked in a unique folder based on SP Name (i.e. HP Universal Camera Driver) according to SoftPaq category (Driver – Video, Driver – Audio, etc.). Figure A-9 shows an example of this folder structure.

Figure A-9. Example of folder structure separated by SoftPaq Name

8. After selecting the desired SoftPaqs, the following options are available in the Downloaded SoftPaqs window: **Download Only** or **Download and Unpack** (Figure A-10).

Figure A-10. Downloaded SoftPaqs window
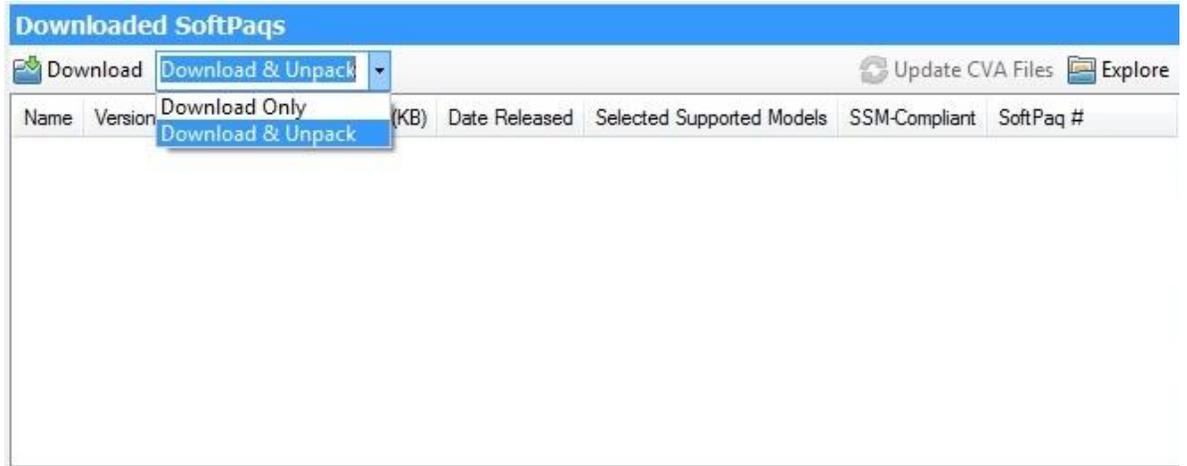
- **Download Only** – this option will download all selected SoftPaqs according to the settings established in the **Download tab** in the Configuration Options dialog. Default is Single Folder set to "C:\SoftPaqDownloadDirectory".
- **Download and Unpack** – this option will download all selected SoftPaqs according to the settings established in the **Unpack tab** in the Configuration Options dialog. Default is Legacy Behavior (unpack in Download directory) "C:\SoftPaqDownloadDirectory".

9. After download is complete, the SoftPaqs can either be installed directly or imported into your respective management solution.

For more technical information about using HP SoftPaq Download Manager, please refer to the User Guide at www.hp.com/go/sdm.

Appendix B: Sample Sysprep.inf files

Example of Windows XP SYSPREP.INF

```
[Unattended]
OemSkipEula=No
OemPnPDriversPath =
"Drv\Video;Drv\Nic;Drv\Audio;Drv\Modem;Drv\Misc1;Drv\Misc2;Drv\Misc3;Drv\Misc4;Drv\Misc5;Drv\
Chipset;Drv\KBD;Drv\MSD;Drv\USB;Drv\Network"

InstallFilesPath = "C:\i386"

[GuiRunOnce]
Command0=c:\Drv\install.bat

[GuiUnattended]
AdminPassword=*
EncryptedAdminPassword=NO
AutoLogon=Yes
AutoLogonAccountCreation=NO
AutoLogonCount=1
OEMSkipRegional=0
OemSkipWelcome=0
WaitForReboot=NO

[UserData]
ComputerName=*

[RegionalSettings]
LanguageGroup=1

[Identification]
JoinWorkgroup=WORKGROUP

[Networking]
InstallDefaultComponents=Yes

[OEM_Ads]
Background=BACKGRND.BMP

[Data]
UseBIOSToBoot=1

[SysprepMassStorage]
PCI\VEN_8086&DEV_2410       = %systemroot%\inf\machine.inf        ;INTEL PCI-ISA bridge
PCI\VEN_1106&DEV_0571 = %systemroot%\inf\mshdc.inf          ;VIA IDE controller
PCI\VEN_10DE&DEV_01BC = %systemroot%\inf\mshdc.inf          ;NVidia IDE controller
```

Example of Windows 7 SYSPREP.XML

```xml
<?xml version="1.0" encoding="utf-8"?>
<unattend xmlns="urn:schemas-microsoft-com:unattend">
    <settings pass="oobeSystem">
        <component name="Microsoft-Windows-International-Core" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
            <InputLocale>en-us</InputLocale>
            <SystemLocale>en-us</SystemLocale>
            <UILanguage>en-us</UILanguage>
            <UILanguageFallback>en-us</UILanguageFallback>
            <UserLocale>en-us</UserLocale>
        </component>
        <component name="Microsoft-Windows-Shell-Setup" processorArchitecture="x86" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
            <OOBE>
                <HideEULAPage>true</HideEULAPage>
                <NetworkLocation>Work</NetworkLocation>
                <ProtectYourPC>1</ProtectYourPC>
                <SkipUserOOBE>true</SkipUserOOBE>
            </OOBE>
            <RegisteredOrganization>Bmankind</RegisteredOrganization>
            <RegisteredOwner>Bmankind</RegisteredOwner>
            <UserAccounts>
                <LocalAccounts>
                    <LocalAccount wcm:action="add">
                        <Password>
                            <Value>cABhAHMAcwB3AG8AcgBkAFAAYQBzAHMAdwBvAHIAZAA=</Value>
                            <PlainText>false</PlainText>
                        </Password>
                        <Name>UserA</Name>
                        <Group>administrators</Group>
                        <DisplayName>UserA</DisplayName>
                    </LocalAccount>
                </LocalAccounts>
                <AdministratorPassword>

<Value>cABhAHMAcwB3AG8AcgBkAEEAZABtAGkAbgBpAHMAdAByAGEAdABvAHIAUABhAHMAcwB3AG8AcgBkAA==</Value>
                    <PlainText>false</PlainText>
                </AdministratorPassword>
            </UserAccounts>
        </component>
    </settings>
    <settings pass="auditSystem">
        <component name="Microsoft-Windows-PnpCustomizationsNonWinPE" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
            <DriverPaths>
                <PathAndCredentials wcm:keyValue="dfbbff91" wcm:action="add">
                    <Path>C:\Drv</Path>
                </PathAndCredentials>
            </DriverPaths>
        </component>
        <component name="Microsoft-Windows-Deployment" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
```

```xml
xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Reseal>
           <Mode>Audit</Mode>
        </Reseal>
        <AuditComputerName>
           <MustReboot>false</MustReboot>
           <Name>*</Name>
        </AuditComputerName>
     </component>
     <component name="Microsoft-Windows-Shell-Setup" processorArchitecture="x86" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <AutoLogon>
           <Username>Administrator</Username>
           <Enabled>true</Enabled>
           <LogonCount>3</LogonCount>
        </AutoLogon>
     </component>
  </settings>
  <settings pass="specialize">
     <component name="Microsoft-Windows-Shell-Setup" processorArchitecture="x86" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <ProductKey>xxxxx-xxxxx-xxxxx-xxxxx-xxxxx</ProductKey>
        <ShowWindowsLive>false</ShowWindowsLive>
        <TimeZone>Eastern Standard Time</TimeZone>
        <Display>
           <ColorDepth>32</ColorDepth>
           <DPI>106</DPI>
           <HorizontalResolution>1280</HorizontalResolution>
           <RefreshRate>75</RefreshRate>
           <VerticalResolution>1024</VerticalResolution>
        </Display>
        <ComputerName>*</ComputerName>
        <CopyProfile>true</CopyProfile>
     </component>
     <component name="Microsoft-Windows-Security-Licensing-SLC-UX" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <SkipAutoActivation>true</SkipAutoActivation>
     </component>
     <component name="Microsoft-Windows-UnattendedJoin" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Identification>
           <Credentials>
              <Domain>arbor01</Domain>
              <Password>nopass</Password>
              <Username>installman</Username>
           </Credentials>
           <JoinDomain>arbor01</JoinDomain>
        </Identification>
     </component>
     <component name="Microsoft-Windows-Deployment" processorArchitecture="x86"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
```

```
xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <RunSynchronous>
          <RunSynchronousCommand wcm:action="add">
             <Order>1</Order>
             <Path>net user administrator /active:yes</Path>
          </RunSynchronousCommand>
        </RunSynchronous>
     </component>
   </settings>
   <cpi:offlineImage cpi:source="wim:d:/sources/install.wim#Windows 7 ULTIMATE" xmlns:cpi="urn:schemas-microsoft-
com:cpi" />
</unattend>
```

Appendix C: Glossary of Terms

Product Family—defined as a set of form-factor types within a numerically-defined series. For example, the HP Elite 8300 product family consists of the convertible mini-tower, small form factor, and ultra-small desktop form factor. While the ultra-small desktop form factor machines are considered to be within a product family, their size could dictate some hardware differences including possible chipset components. These differences in hardware components do not negate the possibility of a common image; however, they do add risk and complexity.

Clean Install—for the purposes of this paper, defined as an image installed on a system using operating system media.

Common Image—for the purposes of this paper, defined as an operating system image that works across multiple hardware platforms such as the Elite 8300 and Pro 6300 products.

Identical Image—an operating system image that is deployed across machines of a single product line, all using the exact same hardware options, or configuration. If you are creating an Identical Image, you can disregard the section entitled "obtaining drivers for the product family."

Driver Support—in a common image, includes the functionality that can be obtained via an INF-based install of the driver by the operating system. This includes device recognition and basic functionality. However, any functionality that is normally achieved by running a setup program will not be available. For information on adding setup application processing, please see the section titled "Customizing the Image."

Reference Machine—term used to describe the system that is being used to perform work to pool drivers, customize software and set OS options and parameters. This will be the machine from which the image is captured.

ImageX—a Microsoft command-line tool for capturing, servicing, and applying Windows Imaging Format (WIM) files, which are file-based Windows disk images used by Windows. In addition to other tools, documentation and samples to enable the IT professional to perform automated deployment of Windows 7, ImageX is available in the Microsoft Windows Automated Installation Kit (WAIK) that is available from the Microsoft Download Center as a free download.

SYSPREP (System preparation tool)—a Microsoft tool that prepares the operating system for imaging. This tool must be run before imaging a system and then deploying that image.

SYSPREP, as well as other useful documentation and tools, can be found on your operating system CD obtained either from HP or Microsoft. SYSPREP is located in the SYSPREP folder at %SYSTEMROOT%\system32\SYSPREP for Windows 7.

References

HP Client Catalog for SCCM
- http://h20331.www2.hp.com/Hpsub/cache/561194-0-0-225-121.html

HP Client Management Interface
- www.hp.com/go/hpcmi

Microsoft .NET Framework
- http://www.microsoft.com/net/

System Preparation Tool and Answer File Usage
- http://support.microsoft.com/kb/314460

Windows Automated Installation Kit (AIK) Download
- http://www.microsoft.com/downloads/details.aspx?FamilyID=C7D4BC6D-15F3-4284-9123-679830D629F2&displaylang=en

Windows Automated Installation Kit Information
- http://technet.microsoft.com/en-us/library/cc748933(WS.10).aspx

For more information

To learn more about HP business desktop and notebook models, contact your local HP sales representative or visit www.hp.com.

Get connected
www.hp.com/go/getconnected
Current HP driver, support, and security alerts delivered directly to your desktop

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