



BUILDING A

COMMON IMAGE

Developing a common software image
for the HP 8200 Elite, and HP 6200 Pro
desktop models

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Introduction

The goal of this document is to guide IT professionals through the process of creating a Windows Vista or Windows 7 image that can be deployed across the various platforms within an HP product family; specifically the HP 8200 Elite and HP 6200 Pro platforms.

Due to the high level of testing and qualification that goes into the image preinstalled on HP products; HP recommends the following:

- Begin with the HP 8200 Elite preinstalled image as a base on which to build a customized common image.
- If the pre-install image has been modified since delivery, create the System Recovery restore DVDs and Supplemental Disk DVD from the Recovery Manager / Recovery Disk Creation application installed on your 8200 Elite system. This will restore the factory image to the hard drive. In addition, if the operating system is Windows Vista or Windows 7, the product family may support an F11 feature that will also restore the factory image to the hard drive.
- If the first two options are not possible or preferable, a clean installation may be performed using the method and media of choice.

This white paper will *not* guide you through the process of creating a new operating system installation—such support can be found from the appropriate Microsoft Windows operating system Resource Kit, Microsoft's website, or other Microsoft subscriptions. Refer to Microsoft documentation obtained through appropriate channels.

This document does not discuss image capture, deployment, or management. Due to the high number of infrastructures available for these processes, it will be left to each customer to decide, research, and implement these portions of the imaging process.

With Windows Vista Microsoft delivered a set of tools to update images without having to install them. Below is a synopsis of the changes for Windows 7.

- **ImageX**—allows multiple images to be modified simultaneously. The Windows Imaging API (WIMGAPI) is still available and is included in every Windows 7 edition.
- **DISM (Deployment Image Servicing and Management)**—is the consolidation of the offline management tools (including pkgmgr.exe and intlcfg.exe) into a single tool. DISM supports logging, inventory commands, offline INF driver package installation, direct application of MS update packages, international settings, and PEImg support for WinPE.
- **Windows Automated Installation Kit (WAIK)**. The WAIK autorun page contains links to the other Application Compatibility and Deployment toolkits. WAIK is available at www.microsoft.com.

Windows Licensing Notice

This document does not provide a license to create and/or distribute an operating system image. This document is a technical resource for those with the proper license to deploy Windows Vista/Windows 7 operating systems.

The operating system license shipped with HP PC's does not grant re-imaging and deployment rights. Before using the document to deploy an image, please contact your Microsoft licensing representative to obtain the proper license agreements. HP cannot be held liable if a customer uses this document to create or deploy an image that violates Microsoft license agreements.

Definition of Terms

This document will detail processes that use the following terms.

Product Family—defined as a set of form-factor types within a *numerically-defined series*. For example, the HP 8200 Elite 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.

Common Image—for the purposes of this paper, defined as an operating system image that works across multiple hardware platforms such as the 8200 Elite and 6200 Pro 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 Vista. In addition to other tools, documentation and samples to enable the IT professional to perform automated deployment of the Windows Vista or Windows 7 operating system, 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 Vista and Windows 7.

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.
- 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 Vista and Windows 7.
- 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.

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.

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.

If the preinstalled image is modified and the operating system is Windows Vista or Windows 7 on a reference PC that supports the F11 restore-feature, a clean factory preinstalled image can 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” cannot be removed. This is by design and is intended to ensure that you have the latest fixes and security updates from Microsoft at the time the system was shipped. 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. Table 1 lists integrated and optional hardware components available from HP for the HP 8200 Elite and HP 6200 Pro series. Unless otherwise indicated, all integrated components or add-on options apply to both HP 8200 Elite and HP 6200 Pro platforms.

Table 1. Common hardware matrix

Function type	Integrated component	Add-on option	Notes
Audio controller	Realtek ALC261 HD Audio		
TV Tuner	HP TV Tuner (Mini PCIe or PCIe based on form factor)		[1]
LAN/ Wireless/ Modem	Intel GbE Network Interface Controller (NIC)	Broadcom NetXtreme GbE PCIe NIC	
	LSI Hi-Speed 56K Int'l SoftModem PCIe	Intel Pro 1000 CT GbE NIC	
		HP Wireless NIC 802.11b/g/n PCIe	
		Intel 802.11a/b/g/n Wireless 6205 Mini PCIe NIC	
Graphics controller	Intel HD Graphics	NVIDIA GeForce 405 512MB DDR3 FH PCIe x16	
		NVIDIA Quadro NVS 295 Graphics 256MB DH PCIe	
		NVIDIA Quadro NVS 295 PCIe x16	
		NVIDIA NVS 300 PCIe x16 512MB	
		ATI Radeon HD 5450 (512MB) MXM 3.0A	[2]
		AMD FirePro 2270 (512MB) DH PCIe x16	
		AMD Radeon HD 6350 (512MB) DH PCIe x16	
		AMD Radeon HD 6450 DP (512MB) PCIe x16	
Security/ Management	Trusted Platform Module		
	Intel(R) AMT LMS_SOL for AMT 5.xx		
	Intel Active Client Manager HECI Device		

NOTES:

[1] North America, Asia Pacific, Latin America

[2] HP 8200 Elite only

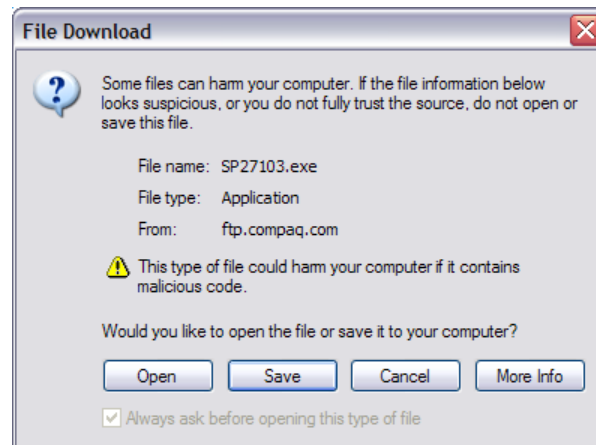
Additional customization

At this time, any additional customizations should be applied. Typical examples include applying a custom wallpaper or desktop theme, changing power profile settings, and setting device options.

Obtaining drivers

There are three ways to obtain drivers for an entire product family:

- From the System Recovery *Supplemental Disk* created from the reference system. The Supplemental Disk has the advantage of containing all drivers in one place. In addition, all of the drivers are packaged in a manner that is very cohesive with the image deployment process. Note, however, that the Supplemental Disk usually does not contain the very latest versions of all drivers, but contains the versions of the drivers that shipped from the factory release of the product. To obtain the latest versions of the drivers, see one of the other options below. Note that the contents of the Restore CD/DVD are typically compressed in cabinet, or “cab” format. There are several tools available to uncompress this format including “expand.exe,” which is included in the “%windir%\system32” directory. After gathering drivers from the Restore CD/DVD, all extracted files must be expanded prior to use within the common image scenario.
- From the SoftPaq files obtained from the HP support website. Go to <http://www.hp.com> and choose the “Support and Drivers” link. Select (or enter) the product name for which you want to download drivers, and the corresponding operating system. For each driver, choose to “Save” the Softpaq when prompted with the following screen:



Once the Softpaq has been saved, there are several ways to install the files.

- Open the .exe file with a utility such as WinZip and extract the files (may not work with all Softpaqs).
- If the Softpaq is an InstallShield “PackageForTheWeb” file, it will have the following icon:



In this case, the contents can be extracted by running the following command line:

```
SPXXXXXX.exe /f <path> /e /s
```

...where:

/f specifies the directory in which to save the files

/e specifies the command to run. Most Softpaqs will automatically launch a setup or other executable. Leaving a blank value to the **/e** switch will disable this auto-launch functionality and allow for just extracting files.

/s specifies “silent” operations. No user interaction is required.

<path> indicates the location to store the files. If the directory doesn’t exist, it will be created. For example, the following chipset Softpaq can be extracted by running:

```
Sp27532.exe /f c:\hp\chipset /e /s
```

- Finally, you may choose to simply execute the Softpaq to extract and/or install the software.
- Subscribe to the HP Support Software CD service, which is a service that provides monthly CD updates containing the latest drivers for a product.

Creating/deploying a Common Image

This section specifically addresses Windows Vista and Windows 7 and focuses on assembling Plug and play drivers on the reference machine. These drivers may be identical or different for platforms in the same family. However, the following discussion will show one way of integrating the Plug and Play drivers into a common image that will make these drivers available to the respective platform on which it is installed.

Creating a Common Image

After obtaining the relevant drivers using one of the methods described above, copy the INF files to a location on the drive. You may create a unique folder name for each type. However, assigning names that reflect the type of drivers that are installed is helpful in establishing a process flow. For example, HP uses the following directories and paths for drivers:

```
C:\Swsetup\Drivers\Audio1; C:\Swsetup\Drivers\Chipset1  
C:\Swsetup\Drivers\Video1; C:\Swsetup\Drivers\Modem1  
C:\Swsetup\Drivers\Video2; C:\Swsetup\Drivers\Audio2  
C:\Swsetup\Drivers\Chipset2; C:\Swsetup\Drivers\Modem2  
C:\Swsetup\Drivers\Video; C:\Swsetup\Drivers\Chipset
```


The INF files of each driver are placed in these locations and the **“C:\Swsetup\Drivers”** path is added to the **“Microsoft-Windows-PnpCustomizationsNonWinPE”** component in a SYSPREP.XML answer file (see SYSPREP.XML file below). Using an answer file while SYSPREPIng the image allows the drivers to be copied to the driver store of the Windows installation during the AuditSystem configuration pass. Later when the deployed image is first booted, and the system runs Plug and Play, these drivers will be available to install hardware on the target computer.

After all customizations have been made on the reference machine and drivers have been copied to desired locations, the system is ready to be prepared for imaging. This is accomplished by running Microsoft tool SYSPREP.exe. SYSPREP.exe is located in the %WINDIR%\system32\SYSPREP directory. SYSPREP.exe must always be run from the %WINDIR%\system32\SYSPREP directory and must run on the version of Windows with which it was installed. SYSPREP.exe can be run using three different methods:

- From the command line
- From the UI (User Interface)
- From an answer file

Running SYSPREP.exe from an answer file is chosen primarily because of the ability to instruct Windows Vista and Windows 7 how to configure itself on first boot after the image is applied to a PC. An answer file will automate OS setup – **Computer name, product key, time zone**, and others (refer to the section titled [“Sample SYSPREP.xml Answer file”](#)). Most importantly, one can add settings to the answer file in the OOBE and audit configuration passes that will be processed on the target PC on first boot. Further detailed information on how SYSPREP works is available on Microsoft Technet at www.microsoft.com.

The SYSPREP.xml now needs to be created. It can be named anything you want-with an .XML extension. SYSPREP.xml is created using the Windows System Image Manager (WSIM). WSIM is part of the Windows Automated Installation Kit (WAIK) which is available from the Microsoft download center. For more information on how to use WSIM, refer to Microsoft websites.

Copy the newly created SYSPREP.xml to the reference PC (i.e., copy SYSPREP.xml to the %WINDIR%\system32\SYSPREP folder). Before you run SYSPREP on the reference PC, you may need to clean up the PC by removing residue of the previous customization. For example:

- Delete any user profiles that you do not need.
- Delete any .ZIP or .EXE program/driver files you might have copied to the PC to install, and no longer need it.
- Delete any extra folders you might have created and do not need.
- Run “Delete” in Internet Explorer > Internet Options to clear out temp files, cookies, settings, and others.
- Uninstall any utility applications you might have used for testing and do not need them in the final image.

Once you have cleaned up the reference PC, open an Administrative command prompt, change directory to %WINDIR%\system32\SYSPREP and enter:

```
SYSPREP.exe /audit/generalize/reboot /unattend:<name_of_answer_file.xml>
```

The **/unattend** switch uses the SYSPREP answer file you created with WSIM.

The **/generalize** switch does its own PC clean up (Remove SIDs, clear event logs, etc).

The **/audit** switch says to start the computer in audit mode after running the configuration passes in auditSystem and audit user.

The **/reboot** switch forces the PC to reboot once SYSPREP is finish running.

Please note that when the reference PC reboots into audit mode this allows you do additional customizations and test these customizations prior to deploying the image. These could include adding device drivers, installing applications, and installing software updates. One of the benefits in this mode is the copying of the driver files to the driver store during the auditSystem configuration pass. Subsequent first boot on the target PC will make the drivers available for hardware installation after Plug and Play runs.

If you are satisfied with your latest customizations and test in audit mode, run SYSPREP one more time before capturing the final image. Open an Administrative command prompt, change directory to %WINDIR%\system32\SYSPREP and type:
SYSPREP.exe /oobe/shutdown /unattend:<name_of_answer_file.xml>

The **/oobe** switch says to start the computer in Windows welcome mode the next time it is booted up.

The **/shutdown** switch shuts down the computer once SYSPREP has run.

One way to capture the final image on the reference PC is to use the ImageX tool. ImageX is part of the Windows Automated Installation Kit (WAIK) for windows Vista. Please consult the documentation for the WAIK. It includes an OPK.chm compiled HTML help files on ImageX command-line options.

Saving/deploying a Common Image

The following procedure describes how to: a) boot to the reference PC, b) capture the image with ImageX, and c) save the image on a server.

1. Get a USB flash drive, or CD with Windows 7 WinPE version (WinPE 3.0) on it, and boot your reference PC.
2. Map a drive to the server you will be saving the image to.
3. Now use ImageX to capture an image of the PC and save it to the server.

```
ImageX.exe /capture /check c: z:\CommonImage.wim "commonImage"
```

— **/capture**—tells ImageX it will be capturing an image

— **/check**—tells ImageX to check the integrity of the image file

— **C:** —is the drive being imaged

— **Z:\CommonImage.wim**—is the mapped drive on the server and image file name you are creating on the server

— **"commonImage"**—is a descriptive name for the image within the WIM

Now that you have captured and created a common image file and saved it on a server, it can be used to image other PCs within a designated family. Applying an ImageX image file is very similar to capturing one.

4. Use the WinPE based USB flash drive or CD and boot up the target PC
5. Map a drive to the server where the common image file is stored.
6. ImageX does not partition or format a drive when applying an image. If the hard drive has not been partitioned and formatted, use the Microsoft DISKPART utility to create the partition and run FORMAT from the command prompt to format it.
7. Run ImageX with the following command line to apply an image to the PC:
ImageX.exe /apply z:\CommonImage.wim "commonImage" C:\
 - **Z:\CommonImage.wim**—the mapped server location and image file name being applied
 - **"commonImage"**—the descriptive name of the image you want to apply
 - **C:** —the destination root directory of the applied image

After the image is successfully applied, at the WINPE command prompt enter, **WPEUTIL Reboot** to reboot or **WPEUTIL shutdown** to shut down the PC.

Sample SYSPREP.xml (*unattend.xml*) Answer file

```
<?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>dABvAHgAdQB0AGEAdABQAGEAcwBzAHcAbwByAGQA</Value>
          <PlainText>>false</PlainText>
        </Password>
        <Name>Testuser</Name>
        <Group>administrators</Group>
        <DisplayName>Testuser</DisplayName>
      </LocalAccount>
    </LocalAccounts>
    <AdministratorPassword>

<Value>dABvAHgAdQB0AGEAdABBAGQAbQBpAG4AaQBzAHQAcgBhAHQAbwByAFAAYQB
zAHMAdwBvAHIAZAA=</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/WMICConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <DriverPaths>
      <PathAndCredentials wcm:keyValue="dfbbff91"
wcm:action="add">
        <Path>C:\SWSetup\Drivers</Path>
      </PathAndCredentials>
    </DriverPaths>
  </component>
  <component name="Microsoft-Windows-Deployment"
processorArchitecture="x86" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS"
xmlns:wcm="http://schemas.microsoft.com/WMICConfig/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/WMICConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

```

```

    <AutoLogon>
      <Username>Administrator</Username>
      <Enabled>>true</Enabled>
      <LogonCount>2</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/WMICConfig/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/WMICConfig/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/WMICConfig/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/WMICConfig/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>
<settings pass="generalize">
  <component name="Microsoft-Windows-Security-Licensing-SLC"
processorArchitecture="x86" publicKeyToken="31bf3856ad364e35"
language="neutral" versionScope="nonSxS"
xmlns:wcm="http://schemas.microsoft.com/WMICConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <SkipRearm>0</SkipRearm>
  </component>
</settings>
<cpu:offlineImage
cpu:source="wim://arbors01/installs/vistaos/install.wim#Windows
Vista ULTIMATE" xmlns:cpu="urn:schemas-microsoft-com:cpu" />
</unattend>

```

Frequently asked questions

Q: What is a common image?

A: A common image is a software image that can be installed on a mixed set of PC hardware devices without modification. The software image contains all of the appropriate operating system and device driver files. The image may be installed and run on “any” of the representative hardware configurations that the image supports.

Q: What are the benefits of a common image?

A: The benefits of a common image are as follows:

- Single image can be developed for multiple HP Business Desktop models
- Significantly lowers number of drivers and utilities to manage
- Fewer changes to software images which reduces qualification costs— test/validate on one platform and deploy on any other platform supported by the common image
- Easier management of standard images
- Lower Total Cost of Ownership

Q: What are the types of Common Images?

A: The following are types of Common Images:

- Common, “shared” hardware—this type of common image starts with the hardware design process using similar product components. PC systems that use a single supplier for certain components (for example, NIC, audio, etc) can reduce the image complexity by reducing the number of driver and image components. HP believes customers value the ability to scale hardware solutions across their entire environment, and thus this approach

is not ideally suited for deployments that serve a vast range of diverse user needs.

- Super Image—a software image that contains a large set of drivers to accommodate a full range of hardware devices. While a super image can reduce the number of images it can be complex to manage by the sheer number of additional number of drivers to test, qualify and keep current, vastly complicating root-cause issues. This approach can also lead to a significantly larger image size.
- Combination—a single solution cannot be predictable for every need. Sharing product architecture across a product family makes sense to help IT professionals reduce the image management churn. While many user needs can be put into a common architecture “bucket,” every corporation will have user needs outside of the standard bucket. For example, some users will require very advanced graphic solutions while others will require specialized peripherals. Servicing these users will require corporate image adjustments. HP believes that customers want PC design simplicity yet require flexibility to adapt to their unique needs. Our innovative hardware designs allow IT professionals to simplify their image development to create a combination common image.

Q: What is HP doing in the area of Common Image?

A: HP supports the use of Common Images in the following ways:

- For desktops, The HP 8200 Elite and 6200 Pro product families share a common integrated architecture allowing IT professionals to easily manage and deploy a shared image across their environment.
- HP Professional Services available. The HP PCCS (PC Custom Solutions) organization can work with you to consult on common image creation. PCCS has vast experience with HP hardware and common image creation to solve your complex needs and simplify your work. Contact your HP Account Manger to engage with the HP PCCS organization.
- HP provides white papers, Manageability tools and ready access to software which ease image creation and management.

Q: Can a common image be created and shared across both desktop and notebook products?

A: It’s possible. While HP does not deliver a common image compatible between both desktop and portable systems, we do have customers who are deploying common images across these systems in their environments. There are some technical differences between desktop and notebook architecture that must be taken into consideration prior to creating common image across these products. The HP PCCS organization can help you deliver this solution in your environment. Contact you HP Account Representative for more information on how to contact PCCS.

Q: How can I ensure that I have the proper license to build and deploy a common image?

A: Contact your Microsoft licensing representative.

Q: Can I build an image that will work on desktop products in other product families?

- A: Yes, see the “extending the process” section of this document for details.
- Q: Can I build a common image that will work on PC’s from different manufacturers?
- A: No. When you purchase a product from a hardware vendor such as HP, your license for the operating system is tied to that vendor’s hardware. In addition, Windows Product Activation will detect the hardware differences and prompt users to register their operating system with Microsoft.
- Q: Can I deploy a common image on systems that originally contained a different operating system?
- A: Not without the proper licensing obtained from Microsoft. Please contact your Microsoft licensing representative to ensure you have the proper license.



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