

Building HP Driver Packs for Image Deployment

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Executive summary

HP driver packs contain HP platform-specific drivers for the Windows® operating system in an INF-based installation format. This INF installation method can be used either alone or with baremetal operating system deployment tools that require INF-based drivers. HP provides both 32-bit and 64-bit driver packs for select managed notebooks, tablets, workstations, and desktops running Windows 7, Windows 8, and Windows 8.1 operating systems.

HP also provides a subset of drivers for deploying the Windows Preinstall Environment (WinPE). These driver packs contain network interface card drivers as well as storage drivers for deploying the system faster and providing multi-configured RAID systems (select platforms only). Each version of the WinPE driver pack is geared toward one specific operating system, such as WinPE 3.0, 4.0, or 5.0.

Using HP driver packs, IT organizations can easily integrate all necessary hardware-enabling driver support into their corporate images. These driver packs are known as new product introduction, or NPI, driver packs. This allows for quicker evaluation of new HP products as they are introduced to the market. In addition, HP also supports the capability to create custom driver packs via HP SoftPaq Download Manager (SDM). These driver packs are specific to the hardware in the organization and can be refreshed as the drivers are updated.

To ease deployment, HP offers the HP Client Integration Kit (CIK). HP CIK allows for WinPE and platform-specific driver packs to be configured directly into Microsoft[®] Configuration Manager (ConfigMgr). This allows for quick, nearly hands free importation of the drivers for image deployment. All HP driver packs, including WinPE and custom-built via HP SDM, are designed for HP CIK use.

The following topics are covered in this document:

- NPI driver packs
- Custom driver packs with HP SDM
- Solutions using HP driver packs
 - HP CIK
 - ConfigMgr & Microsoft Deployment Toolkit (MDT)

NPI driver packs—Platform and WinPE

HP build/test strategy for NPI driver packs

NPI driver packs are created and tested through the course of the product development phase. During a product's multiphase test cycle, several driver packs are built and tested based on the platform's planned factory images. This ensures that both the product drivers and the driver pack are fully functional prior to the product's shipping date. When a product reaches the official public launch, it has a fully tested and functional driver pack ready for deployment.

Packaging strategy

To ease multi-platform purchases, HP combines product series into one driver package (for example, G1, G2, and G3). This has a two-fold effect. One, it allows for one driver pack per operating system to be downloaded and covers multiple platforms. Two, it allows newer drivers to be deployed as the drivers are updated for newer NPI platforms.

Platform support strategy

With each new platform cycle, HP determines which platforms are managed. Currently, the following platforms are supported for NPI driver packs:

- EliteBook/ElitePad/ProBook/ProTablet/ZBook (14/15/17/600/700/800/900/1000)
- EliteDesk/EliteOne/ProDesk/ProOne (800/600)
- Z workstations

HP creates NPI driver packs based on the planned operating system strategy for the platforms. Each platform typically supports multiple operating system/architecture combinations (or factory images) and multiple web-only supported factory images. For all factory image combinations, an NPI driver pack is created from the factory image prior to the platform's introduction to the public. For web-based factory images, the NPI driver packs are created and released within 60 days of the platform's introduction to the public.

For the 400 series notebooks and desktops, all driver packs are available for creation via SDM after the products are introduced to the public. Testing is done to ensure that the quality of the drivers for a custom driver package via SDM is equivalent to the quality of the NPI driver packs.

Accessing NPI driver packs

There are several ways to access NPI driver packs. Primary access is available through the HP Client Management Solutions website: <u>http://www.hp.com/go/clientmanagement</u>. This site covers all aspects of HP Client Management as well as providing a single focal point for all HP Client Management downloadable material.Secondary access is available through each platform's HP.com driver support page. Each platform has a link under the **Manageability – Driver Pack** category.

Note

Each driver pack typically contains support for multiple platforms in that series (for example, G1, G2, and G3), so it might be possible to download the same driver package more than once if pulled from multiple platform web pages.

Use case for NPI driver packs

All products that have driver packs are designed to make large-scale multiplatform deployment easier. With each platform, there is a per-operating system driver pack. Using Microsoft's deployment tools (MDT/ConfigMgr) as well as HP CIK allows for large-scale bare metal image deployment. See the <u>HP Client Integration Kit User Guide</u> on the HP Client Management Solutions website for more information using driver packs with CIK and ConfigMgr.

In addition, driver packs provide an easy, quick, and stable way to install a clean, fully functional operating system without any extra tools. This can be done by redirecting the operating system via the registry to search the driver pack for system drivers. NPI- and HP SDM-created driver packs are the fastest way to bring a system to a ready state for customer software deployment and use.

Building custom driver packs via HP SDM

HP SDM now provides the ability to generate custom hardware-enabling driver packs to support bare metal image deployment on select HP systems. To build custom driver packs, use the following procedures to install, configure, and select the platforms using SDM.

Downloading and installing SDM

The latest version of SDM is available from HP at <u>http://www.hp.com/go/sdm</u>. After SDM is installed, it appears in the Start Menu, under **All Programs > HP > HP SoftPaq Download Manager**.

General requirements and setup for SDM

- .Net Framework 3.5 or later
- Broadband Internet Connection (Authenticated proxies supported: Basic, Digest, KLM and Kerberos)
- 512 MB RAM minimum, 1 GB recommended
- Windows XP, Vista, Windows 7, Windows 8, Windows 8.1, Server 2008, Server 2008 R2, Server 2012, Server 2012 R2

Building driver packs via SDM

- 1. Launch HP SoftPack Download Manager.
- 2. When prompted, select **Show software for all supported models**. If already in SDM, select the **Show All Products** tab.

🗳 HP SoftPaq Download Manager 🗙
HP SDM is an efficient way of obtaining software and drivers for HP business computer models.
Check software updates for this model.
O Show software for this model only.
Show software for all supported models.
Do not show this again
ОК:

3. Select **Tools > Configuration Options**, and then set your preferences.

Tip

After all selections have been made, you can save the configuration file for future usage and backup purposes. This preserves the download directory, download structure, operating system and language settings, and the products you selected. To save the configuration file, select **File > Save Product Configuration**.

For each respective tab, select your desired configuration:

• **OS Filter**—Select the desired operating systems for the custom driver packs. Note that not all operating systems listed are supported for driver packs. Currently, only Windows 7 32- and 64-bit, Windows 8 32- and 64-bit, and Windows 8.1 64-bit are supported.

🔮 Configuration Options 📃	3
Download Unpack OS Filter Language Filter Columns	
Microsoft Windows 7 Home Premium 32 Edition Microsoft Windows 7 Home Premium 64 Edition Microsoft Windows 7 Professional 32 Edition Microsoft Windows 7 Professional 64 Edition	
Microsoft Windows 7 Starter 32 Edition Microsoft Windows 7 Ultimate 32 Edition Microsoft Windows 7 Ultimate 64 Edition Microsoft Windows 8 32 Edition Microsoft Windows 8 64 Edition Microsoft Windows 8 64 Edition Microsoft Windows 8 Chinese Market 32 Edition Microsoft Windows 8 Chinese Market 64 Edition Microsoft Windows 8 Chinese Market 32 Edition	
Select All Select None	
OK Cancel	

• Language Filter—Select the desired languages for the operating systems used in your environment.

Note

English – International is recommended.

	onpoor	0011101		COR		150
Arabic Bulgaria	m					^
Chinese	- Hong	Kona				=
Chinese	- Simplif	ied				1
Chinese	- Traditi	onal				
Croatia	1					
Czech						
Danish						
Dutch						
English	- Interna	tional				
Estonia	n					-
- FITITIISTI	0.000		22			
Select A	II S	elect None				

• Columns—Controls which fields are displayed in the Available SoftPaqs window. (optional)

۲	Configuration Options					
Download Unpack Available Columns Supported Languag Supported OS	OS Filter Language Filter Columns Selected Columns Selected Columns es Image: Selected Columns Image: Selected Columns Image: Selected Columns Category Image: Selected Columns Image: Selected Columns Image: Selected Columns Image: Selected Columns Image: Selected Columns Image: Selected Columns Image: Selected Columns Image: Selected Columns SoftPaq # Priority Image: DPB-Compliant SoftPaq # Image: Selected Columns Image: Selected Columns]				
	OK					

- 4. Select **OK** to close the Configuration Options wizard.
- 5. Select the **Build Driver Pack** tab.

💡 🛛 😸 Check For Updates 🛛 😹 Show This Computer 🔗 Show All	Products 📓 Build Driver Pack Configuration last checked on: Me	nday, March 17, 201
Product Catalog	Available SoftPaqs	
🔂 Find Available SoftPaqs 🧠 Clear All		
→ →	Name Version Category Size (KB) Date Released Selected Supported Mo	dels SSM-Compliant
Microsoft Windows 7 Ultimate 64 Edition Microsoft Windows 7 Home Basic 32 Edition	Downloaded SoftPags	-
Microsoft Windows 7 Home Premium 32 Edition		Explore
Hore Street Windows / Home Premium 64 Edition Microsoft Windows 84 64 Edition Microsoft Windows 8.1 64 Bit Figlish - International HP ElteBook Folic 1000 Notebook PC HP ProBook Notebook PCs HP Zook Mobile Workstation HP Workstations HP Business Desktop PCs	Name Version Category Size (KB) Date Released Selected Supported Mo	SSM-Compliant

6. Select the plus sign (+) next to the desired product category in the **Product Catalog** to expand the category. Continue expanding until you find the desired product. Then, select the desired product by selecting the check box next to the product.

Note

You can make a selection at any level of the tree; however, if your selection is broad (for example, if you select the entire product family), then the search might take longer.

Multiple operating systems and architectures can be selected; however, only one combination can be used to create a driver pack. For example, you can select Windows 7 32-bit and Windows 8 64-bit, but only one of those operating system and architecture combinations can be used to create a driver pack.

The Product Catalog is updated weekly; however, HP reserves the right to update the Product Catalog as necessary.

7. Select Find Available SoftPaqs. This shows all available SoftPaqs for the selected platform and operating system.

All Available SoftPaqs										
Select SoftPaqs • Search for hardware ID	۹									🙀 Show Latest SoftPaqs
Name		Version	Priority	Category	Size (KB)	Date Rel	S	S	Soft	
Alcor Micro Smart Card Reader Driver		1.7.35.0	Routine	Driver - Storage	4,400	2013-07-26	850	Yes	62783	
Alcor Micro Smart Card Reader Driver		1.7.37.0	Recommended	Driver - Storage	4,431	2013-09-25	850	Yes	63565	
Alcor Micro Smart Card Reader Driver		1.7.38.0	Recommended	Driver - Storage	4,424	2013-12-09	850	Yes	64757	
AMD Video Driver and Control Panel		13.152.1.9002	Routine	Driver - Graphics	293,611	2014-02-17	850	Yes	65357	
ATI Video Driver and Control Panel		13.152.11130910A162566C	Routine	Driver - Graphics	290,206	2013-10-18	850	Yes	63591	E
ATI Video Driver and Control Panel		13152119131112A165093C	Routine	Driver - Graphics	220,528	2013-12-27	850	Yes	64660	
Broadcom Wireless LAN Driver		6.30.223.170	Routine	Driver - Network	25,438	2013-10-12	850	Yes	63814	
Broadcom Wireless LAN Driver		6.30.223.170	Routine	Driver - Network	25,438	2013-10-16	850	Yes	63888	
Broadcom Wireless LAN Driver		6.30.223.170	Routine	Driver - Network	25,353	2013-12-06	850	Yes	64725	
HP 3D DriveGuard 6		6.0.15.1	Routine	Driver - Storage	18,682	2013-09-03	850	Yes	63231	
HP 3D DriveGuard 6		6.0.15.1	Routine	Driver - Storage	18,682	2013-09-25	850	Yes	63563	
HP 3D DriveGuard Software		6.0.16.1	Routine	Driver - Storage	18,682	2013-12-18	850	Yes	64934	
HP Hotkey Support		5.0.20.1	Recommended	Driver - Keyboard, Mouse and Input Devices	26,724	2013-10-22	850	Yes	64042	
HP Hotkey Support		5.0.21.1	Recommended	Driver - Keyboard, Mouse and Input Devices	26,721	2013-12-03	850	Yes	64639	
HP Universal Camera Driver		1.00	Critical	Driver - Keyboard, Mouse and Input Devices	58,840	2013-10-22	850	Yes	64029	
HP Universal Camera Driver		1.00	Routine	Driver - Keyboard, Mouse and Input Devices	48,216	2013-12-20	850	Yes	64824	
HP Wireless Button Driver		1.1.2.1	Recommended	Driver - Keyboard, Mouse and Input Devices	2,881	2013-10-22	850	Yes	64043	
IDT High Definition (HD) Audio Driver		1.00	Routine	Driver - Audio	43,732	2013-10-18	850	Yes	63556	
IDT High Definition (HD) Audio Driver		1.00	Routine	Driver - Audio	36,046	2013-11-11	850	Yes	63940	
DT IN A DRIVE AID A RED.		1.00	D	Draw Auto	20.015	2012 12 27	050	V.	CACCE	*

- A. Right-click any SoftPaq to view release notes and CVA details.
- B. Select Show Latest SoftPaqs to show the latest available SoftPaqs only.

Note

If more than one computer platform or operating system is selected, then Show Latest SoftPaqs is grayed out.

8. Select the desired SoftPaqs by selecting the check box next to each one.

You can select individual SoftPags or use the Select SoftPags menu to select SoftPags according to priority.

		HP SoftPa	ag Download Manager
File Tools Help	v All Products 📓 Build Driver Pack		
Product Catalog	Latest SoftPaqs Only		
🕼 Find Available SoftPags 🕞 Clear All	Select SoftPags + Search for hardware ID		
HP ElteBook Notebook PCs HP ElteBook 820 Notebook PC series	S Critical	Version	Category
HP EliteBook 840 Notebook PC series	Critical/Recommended	1.7.38.0	Driver - Storage
HP EliteBook 850 Notebook PC series HP EliteBook Folio 1000 Notebook PC HP EliteBook Folio 1040 G1 Notebook PC	All Auto Installable (SSM-Compliant) None	5.0.24.1 1.00 1.1.2.1	Driver - Keyboard, Mouse and Inp Driver - Keyboard, Mouse and Inp Driver - Keyboard, Mouse and Inp
Microsoft Windows 7 Enterprise 32 Edition Manage Windows 7 Enterprise 64 Edition	Visitel 7250/3150 Wineless LAN Driver	1.00	Driver - Audio Driver - Network
Microsoft Windows 7 Professional 32 Edition	V Intel Chipset Installation Utility	9.4.0.1022	Driver - Chipset
Microsoft Windows 7 Professional 64 Edition Microsoft Windows 7 Starter 32 Edition	Intel Management Engine Components Driver	9.5.24.1790	Driver - Network Driver - Chipset
Microsoft Windows 7 Ullimote 32 Edition Microsoft Windows 7 Ullimote 32 Edition Microsoft Windows 7 Home Bailties 22 Edition Microsoft Windows 7 Home Premium 22 Edition Microsoft Windows 7 Home Premium 22 Edition Microsoft Windows 7 Home Premium 64 Edition Microsoft Windows 7 Home Premium 64 Edition Microsoft Windows 7 Home Premium 64 Edition	Intel Rapid Storage Technology Driver Intel Smart Connect Technology Driver	4 2 41 2499	Driver - Storage Driver - Storage
	Intel Video Driver and Control Panel Near Field Proximity (NFP) Driver by NXP Semiconductors	10.18.10.3316 6.5.5.0	Driver - Graphics Driver - Network
	Realtek PCle Media Card Reader Driver Synaptics TouchPad Driver Violety, Encentral Sensor Driver	1 1 9200 23 17.0.18.17 4.5.122.0	Driver - Storage Driver - Keyboard, Mouse and Inpu Driver - Keyboard, Mouse and Inpu

- 9. Select the desired action from the menu next to the **Download** button.
 - Build CAB File—Select this option if you are using MDT or HP CIK in conjunction with ConfigMgr.
 - **Build ZIP File**—Select this option if you are using HP CIK with ConfigMgr, or if you want to manually unpack and deploy the driver pack through another application.

Downloaded SoftPaqs					
Download Build CAB File	•				🙄 Update CVA Files 📔 Explore 👻
Name Version Build ZIP File Build CAB File	(KB) Date F	Released Selected Supported Models	SSM-Compliant	SoftPaq #	

- 10. The **End User License Agreement** screen is displayed when the first download per session starts. If the EULA appears, accept the license and continue.
- 11. The Driver Pack Builder screen appears. Enter the Driver Pack Name, Author, OS-Bitness, and Output Directory as desired, and then select Build. See the following example.

Drive Pack Builder	
Driver Pack Name:	Elitebook w7 64
Author:	Test
OS-Bitness:	Windows 7 64-bit
Output Directory:	C:\Driver Packs
Build	Cancel

- The SDM status bar shows the status of the downloading SoftPaqs, the unpacking SoftPaqs, and the building/compressing of the driver pack. A message appears when the build is complete. Select **OK**.
 SDM automatically launches the README.TXT (summary of the build) and the output directory selected earlier that contains the actual driver pack.
- 13. Navigate to the output directory to obtain the driver pack and associated logs.

Microsoft MDT and SSM

Installing HP drivers and software using MDT with SSM

- 1. Create a new application in MDT using the following steps.
 - A. Open the **DeploymentWork** bench and navigate to **Deploymentbench** > **Deployment Shares** > **MDT Deployment Share (C:\DeploymentShare\)**.
 - B. Right-click **Applications** and select **New application**.
 - C. In the resulting wizard, select **Application without sources files or elsewhere on the network**.

	New Application Wizard
Application T	уре
Assilication Type Detaile Source Destination Dominand Details Summay Progress Confirmation	Specify the type of application to add.

- D. Select Next.
- E. Enter the **Application Name**, **Version (optional)**, and **Language (optional)** as desired. For example, enter HP SSM, version 3.1.6.1, and English.

	New Application Wizard
Details	
Application Type Details Source Destination	Publisher (Options)
Convited Details Summary Progress Confirmation	Application Name: HP SSM
	Venion (Optional) [316.1
	Language: (Cotonal) US
	Previous Next Cancel

F. Select Next.

G. Enter \\MDTserver name\SSMFS\ssm.exe \\MDTserver\SSMFS /accept in the **Command line** box. Enter the File Store address in the **Working directory** box; for example, \\MDTserver\SSMFS.

New Application Wizard		x
Command Details		
Application Type Details Source Depination Communic Datab Summay Progress Continuation	Specify the quark initial commond line and vorking directory needed to initial the application. Commond line: VMDTserverSSMFSVam.com VMDTserverSSMFS/Account Working directory VMDTserverSSMFS	
	Previous Next Cancel	

- H. Select Next until you reach the final page of the wizard, and then select Finish to complete the wizard.
- 2. Select your application, and then select Properties.

If you do not want this application to show in the applications list, select **Hide this application in the Deployment Wizard** in the application properties. Select **Apply** after any changes.

HP HP SSM Properties		
General Details Dependen	toles	
Name:	HP HP SSM	
Commenta:		
Display name:		
Shot name:	HP SSM	
Version:		
Publisher:	HP	
Language:		
Source directory:		
Application GUID:	{7427oc79 8b00 44b5 b/u4 6d72u60uc656}	
Hide this application in the Deployment Waved		
Enable this application	1	
	OK Creat Links Links	
	UK Cancel Apply Help	

- 3. In the State Restore phase, add an **Install Application** step to add the application HP System Software Manager (SSM) to the desired task sequence.
 - A. Open the task sequence.
 - B. Navigate to **State Restore > Install Applications**.
 - C. Select Install a single application.
 - D. Click **Browse** and select the application name and version you added to MDT; for example, HP SSM 3.1.6.1.

Note

When HP SSM is executed, it searches in the driver folder for missing drivers and applications to update the target client.

For more information

To learn more about HP business notebooks and desktops, contact your local HP sales representative or visit http://www.hp.com/go/notebooks and http://www.hp.com/go/businesspc.

HP Client Management Solutions website

<u>http://www.hp.com/go/clientmanagement</u>

HP SoftPaq Download Manager

• <u>http://www.hp.com/go/sdm</u>

HP System Software Manager

• http://www.hp.com/go/ssm

Windows Automated Installation Kit (AIK) Download

<u>http://www.microsoft.com/en-us/download/details.aspx?id=10333</u>

Windows Automated Installation Kit Information

<u>http://technet.microsoft.com/en-us/library/cc748933(WS.10).aspx</u>

To help us improve our documents, please provide feedback at <u>hp.com/solutions/feedback</u>.

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