Technical white paper

Installing Microsoft Windows 8 on an HP ProBook or EliteBook Notebook PC

Commercial Managed IT

Table of contents

Executive summary

This white paper provides instructions for installing the 64-bit versions of Microsoft® Windows® 8 operating systems (OSs) along with applicable HP drivers and applications on supported HP EliteBook and HP ProBook Notebook PC models.

Windows 8 is the latest client operating system from Microsoft. It features a modern user interface while maintaining all of the compatibility, manageability, and security features for which Windows is known. For more information on Windows 8 features, refer to **Appendix D: Windows 8 Product Guides**.

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

System requirements and prerequisites

64-bit Windows 8 minimum hardware requirements are available at **http://www.microsoft.com**.

Supported models

- HP EliteBook 2170p
- HP EliteBook 2570p
- HP EliteBook Revolve 810
- HP EliteBook 8470p
- HP EliteBook 8470w
- HP EliteBook 8570p
- HP EliteBook 8570w
- HP EliteBook 8770w
- HP ProBook 6470b
- HP ProBook 6570b
- HP ProBook 6475b
- HP ProBook 4340s
- HP ProBook 4440s
- HP ProBook 4540s
- HP ProBook 4740s

WARNING
Before proceeding with the installation of Windows, you should back up all personal data, such as files, photos and videos. If not backed up, your personal data will be lost.

The following items are needed to install Windows 8:

- A supported HP business notebook PC model with DPK injected, Retail Key or KMS server with Volume License (VL)
- Windows OS recovery media provided by HP; if you are using media from an alternate source, consider the following:
    - A product ID (PID)[1] will be required

        NOTE: HP OS Media only contains a default key; if DPK is not injected in the BIOS then a key will be required
    - Booting to Window Preinstallation Environment (WinPE) for hard-drive formatting or other activities requires WinPE 4.0
- Access to Drivers/OS enhancements provided by HP

---

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

- HP SoftPaq Download Manager (**www.hp.com/go/sdm**)
- High speed Internet access (**www.hp.com**)

Installing the OS, drivers, and enhancements

This section provides guidelines for users performing a clean installation of Windows 8 on a supported HP business notebook PC.

For more information on installing Windows 8, refer to the Microsoft website at **http://windows.microsoft.com/help**.

1. Connect to AC power.
2. 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 8.
3. Verify BIOS version per Appendix B. Update if necessary.
4. Verify the following in F10 Setup
   - System Configuration>Boot Options>CD-ROM boot enabled
   - System Configuration>Boot Options>Boot Mode set to *UEFI Native (without CSM)*
   - Secure Boot should be set to *On*
5. Boot with the Windows OS recovery disk provided by HP; follow the on-screen instructions for installation.
6. Install the appropriate communications driver from either a disc or USB storage device (Step 2 above) and configure your Internet connection.
7. Install Microsoft Updates:
   - Install any required patches from **http://windowsupdate.microsoft.com** or contact your network administrator for additional updates. Reboot the system after these patches have been installed.
   - NOTE: The following updates are recommended:
     - KB 931125 – Root Certificate Update (**http://support.microsoft.com/kb/931125**)
     - KB 2756872 – Windows 8 Client General Availability Cumulative Update (**http://support.microsoft.com/kb/2756872**)
8. Install HP Updates:
   - 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. For more information, refer to **Appendix A: Using HP SoftPaq Download Manager**.

Drivers and enhancements

The tables provided in this section list minimum recommended software versions for a range of HP EliteBook and ProBook models. The following priorities are specified:

- Required – Mandatory for optimal hardware support
- Recommended – Recommended by HP for optimal system performance
- Optional – Value-add software for desired solution

Table 1 lists minimum recommended HP drivers and enhancements for Windows 8 Professional covering HP EliteBook 2170p, EliteBook 2570p, EliteBook 8470p/w, EliteBook 8570p, EliteBook 8570w, EliteBook 8770w, ProBook 6470b and ProBook 6570b models.

Table 1. Minimum recommended software versions for many HP EliteBook and ProBook models

Name	Version	Priority
Alcor Micro Smart Card Reader Driver	1.7.30.0 A	Required
AMD Win8 Video Driver	8.982.9 A	Required (Models with AMD discrete graphics only)
Broadcom Bluetooth Software	12.0.0.1900 E	Required
Broadcom WLAN Driver	6.30.59.43 D	Required
Ericsson Mobile Broadband Drivers	8.0.6.2 A	Required
Essential System Updates for Microsoft Windows 8	1,0,1,2	Required
HP 3D DriveGuard	5.1.3.1 A	Required
HP Hotkey Support	4.6.8.1 A	Required
HP Software Framework	4.6.8.1 A	Required
HP Universal Camera Driver	4.00 A	Required
HP Wireless Button Driver	1.0.5.1 A	Required
IDT HD Audio Driver	1.00 F	Required
Intel 82579LM and 82579V Gigabit Ethernet Driver for Microsoft Windows	1.00 E	Required
Intel Management Engine 8 Components Driver	8.1.0.1281 A	Required
Intel Rapid Storage Technology Driver	11.5.4.1001 A	Required
Intel Video Driver	2843 A	Required (Models with Intel UMA graphics only)
JMicron Media Card Reader Driver	1.0.72.4 A	Required
Novatel Mobile Broadband Drivers	3.13.29.2 A	Required
Qualcomm Atheros AR9000 Series Wireless LAN Driver	1.00 A	Required
Sierra Wireless Driver Package for HP un2430 Mobile Broadband Module	2.2.1208.0 B	Required
Synaptics TouchPad Driver	16.2.10.3 V	Required
Validity Fingerprint Driver	4.4.228.0 A	Required

Table 2 lists minimum recommended HP drivers and enhancements for Windows 8 Professional covering HP ProBook 6475b.

Table 2. Minimum recommended software versions for the HP ProBook 6475b

Name	Version	Priority
Alcor Micro Smart Card Reader Driver	1.7.30.0 A	Required
AMD AHCI Controller Driver	1.3.1.43 A	Required
AMD Comal Video Driver	8.982.7.1 A	Required
Broadcom Bluetooth Software	12.0.0.1900 E	Required
Broadcom WLAN Driver	6.30.59.43 D	Required
Ericsson Mobile Broadband Drivers	8.0.6.2 A	Required
Essential System Updates	1,0,1,2	Required
HP 3D DriveGuard	5.1.5.1 A	Required
HP Hotkey Support	4.6.10.1 A	Required
HP Software Framework	4.6.8.1 A	Required
HP Universal Camera Driver	4.00 A	Required
HP Wireless Button Driver	1.0.5.1 A	Required
IDT HD Audio Driver	1.00 F	Required
JMicron Media Card Reader Driver	1.0.72.4 A	Required
Qualcomm Atheros AR9000 Series Wireless LAN Driver	1.00 A	Required
Realtek Ethernet Controller Drivers	1.00 C	Required
Sierra Wireless Driver Package for HP un2430 Mobile Broadband Module	2.2.1208.0 B	Required
Synaptics TouchPad Driver	16.2.10.12 W	Required
Validity Fingerprint Driver	4.4.228.0 A	Required

Table 3 lists minimum recommended HP drivers and enhancements for Windows 8 Professional covering HP ProBook s-series models.

Table 3. Minimum recommended software versions for HP ProBook s-series models

Name	Version	Priority
AMD Thames Win8 Video Driver	8.982.6 A	Required
Atheros AR3012 Bluetooth 4.0+HS Driver	1.00 B	Required
Atheros AR9485 Wireless LAN Driver	1.00 B	Required
Broadcom Bluetooth Software	12.0.0.1900 E	Required
Broadcom WLAN Driver	6.30.59.43 D	Required
Essential System Updates	1,0,1,2	Required
HP 3D DriveGuard 5	5.1.5.1 A	Required
HP Hotkey Support	4.6.10.1 A	Required
HP Software Framework	4.5.10.1 A	Required
HP Universal Camera Driver	4.00 A	Required
HP Wireless Button Driver	1.0.5.1 A	Required
IDT HD Audio Driver	1.00 F	Required
Intel Bluetooth Driver	2.5 D	Required
Intel Rapid Storage Technology Driver	11.5.2.1001 A	Required
Intel Video Driver	2843 A	Required
Intel WiDi Software	3.5.34.0 D	Required
Intel Wireless Lan Drivers	15.5 D	Required
JMicron Media Card Reader Driver	1.0.72.4 A	Required
Ralink 802.11 b/g/n WiFi Adapter	1.00 B	Required
Ralink Bluetooth Software Driver	1.00 A	Required
Realtek Ethernet Controller Drivers	1.00 C	Required
Synaptics TouchPad Driver	16.2.10.3 V	Required
Validity Fingerprint Driver	4.4.228.0 A	Required

NOTE
Additional software may require Microsoft .NET. Refer to Appendix F for details on installing .NET Framework.

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**.
   - NOTE: .NET Framework 3.5 SP1 is required. Refer to **Appendix F** for details on installing .NET Framework.
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.

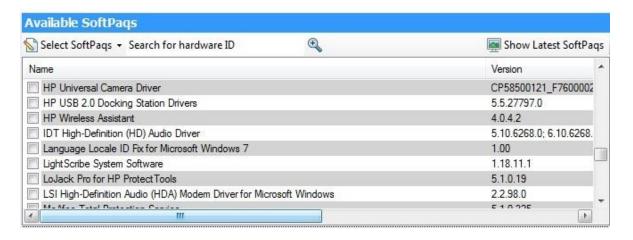# Using HP SoftPaq Download Manager to download SoftPaqs for multiple platforms

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).
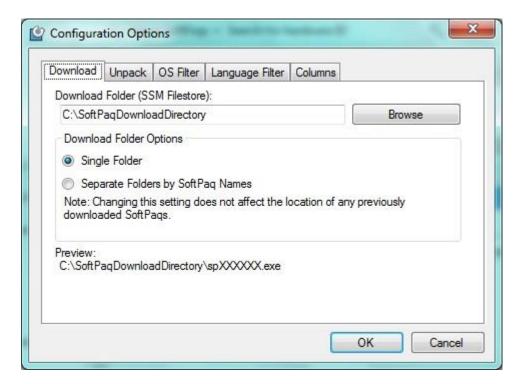
Figure A-4. SoftPaq Download Manager menu

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).
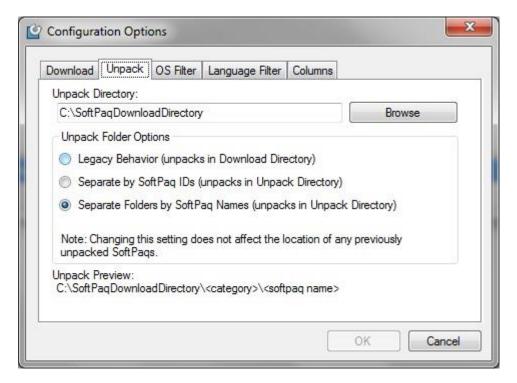
Figure A-5. Available SoftPaqs list

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).

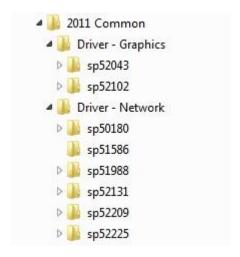Figure A-6. Download tab in Configuration Options window

7. Additional customizations are available through the **Unpack tab** (Figure A-7).

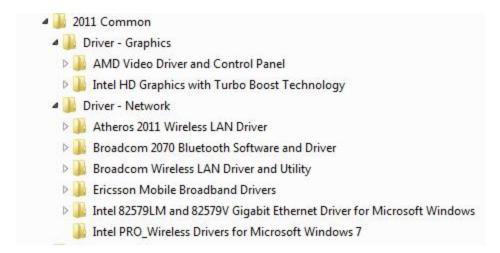Figure A-7. Unpack tab in Configuration Options window

- **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.

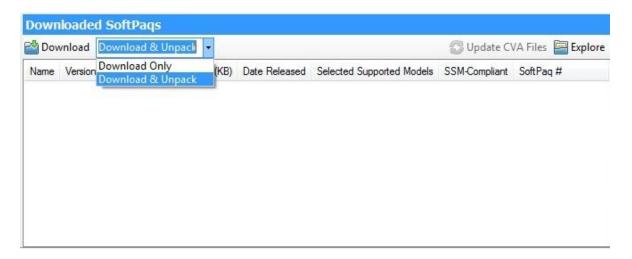Figure A-8. Example of folder structure separated by SoftPaq IDs

    - **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 downloading 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**.

NOTE: Additional information is available via the SDM Support Forum (SDM -> Help -> Support Forum)

Appendix B: Minimum Required BIOS Versions

Model	Minimum BIOS version
HP EliteBook 2170p	F.30
HP EliteBook 2570p	F.31
HP EliteBook Revolve 810	F.31
HP EliteBook 8470p	F.31
HP EliteBook 8470w	F.31
HP EliteBook 8570p	F.31
HP EliteBook 8570w	F.31
HP EliteBook 8770w	F.31
HP ProBook 6470b	F.31
HP ProBook 6570b	F.31
HP ProBook 6475b	F.32
HP ProBook 4445s	F.31
HP ProBook 4545s	F.31
HP ProBook 4340s	F.31
HP ProBook 4440s	F.31
HP ProBook 4540s	F.31
HP ProBook 4740s	F.31

Checking BIOS Version

1. Shut down the PC.
2. Power up the PC.
3. Immediately after pressing the power button, press F1 when prompted to display System Information.
4. BIOS Revision will be displayed in System Information list.

Updating BIOS

1. Connect to AC power and close all open applications.
2. Go to **www.hp.com/go/support**.
3. Click on Drivers & Software.
4. Enter your model number.
5. A list of models will be displayed. Click on your model.
6. Select the appropriate operating system.
7. Click on BIOS in the category list.
8. Click on the Download button.
9. Click on the run button and follow the onscreen instructions.

Appendix C: Installing preboot applications and tools

On Windows 8 systems, the preboot applications are installed on the UEFI System Partition, which is created by the Windows installation. The UEFI preboot applications on the UEFI system partition are not required for the basic operation of HP notebook computers. However, if the applications are missing, some of the features described in this paper will not be available.

Applications accessible during startup

The UEFI system partition includes the following applications and utilities:

- HP UEFI PC Hardware Diagnostics - allows you to perform diagnostic tests on select system components
- BIOS Management and Recovery – tools for BIOS updates and automatic BIOS corruption detection and recovery

Restoring the preboot applications on the hard drive

Use the following steps to install preboot applications onto the partition:

10. Download the SoftPaqs for HP UEFI Support Environment and platform specific System BIOS to the operating system partition. SoftPaqs are available from **http://www.hp.com/support**.
    - Install the HP UEFI Support Environment SoftPaq first.
11. Verify that the SoftPaqs run and install successfully.
12. Verify the HP UEFI PC Hardware Diagnostics works properly after installation by pressing F2 from the boot menu when the system is started.

UEFI application errors

If the preboot application launch keys fail to operate, the partition may have become corrupt. Reinstall the application using the related SoftPaq from **http://www.hp.com/support**. If a reinstalled preboot application does not work after reinstallation, contact technical support.

The following errors may be displayed if a problem occurs when launching EFI and preboot applications:

- Preboot partition not found: can't find UEFI System partition.
- Application not found: can't find preboot application in directory.
- Invalid signature: BIOS fails to verify the signature of the preboot application.

If there is a backup version of the application in BIOS flash (for example, HP System Diagnostics), BIOS will launch the backup. Otherwise, BIOS displays an error message.

WARNING
Do not encrypt HP_TOOLS partition using software encryption programs such as Windows BitLocker or Full Volume Encryption for HP ProtectTools. When the partition is encrypted, HP preboot applications cannot function.

Appendix D: Windows 8 Product Guide

You can download a Windows 8 Product Guide from the Microsoft website using the following steps:

1. Go to **www.microsoft.com/download**.
2. Search on "Windows 8 Product Guide".

Appendix E: Downgrading to Windows 7

The Windows 8 Professional license allows you to use Windows 7 Professional or Windows 8 Professional. A clean install must be performed when downgrading from Windows 8 to Windows 7. All applications and data will be lost during the downgrade process.

1. Connect to AC power.
2. 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 7.
3. Verify BIOS version per Appendix B. Update if necessary.
4. Change the Boot mode to either "Hybrid" (recommended) or "Legacy" in F10 Setup -> System Configuration
5. Verify the following in F10 Setup
   - System Configuration>Boot Options>CD-ROM boot enabled
   - System Configuration>Boot Options>Boot Mode set to either "Hybrid" or "Legacy" (refer to Step 4 above)
   - Secure Boot should be set to *On*
6. Boot with the Windows OS recovery disk provided by HP; 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 notebook PC.
7. Install the appropriate communications driver from either a disc or USB storage device (Step 2 above) and configure your Internet connection.
8. Install Microsoft Updates:
   - Install any required patches from **http://windowsupdate.microsoft.com** or contact your network administrator for additional updates. Reboot the system after these patches have been installed.
9. Install HP Updates
   - 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.
     For more information, refer to **Appendix A: Using HP SoftPaq Download Manager**.

Appendix E: Q & A

Q: Are my accessories compatible with Windows 8?

A: Software and hardware compatibility can be checked at the **Compatibility Center for Windows 8** on Microsoft's website.

Q: Will I have access to HP Store?

A: Depends. Scenarios outlined below:

- If using VL or KMS server to install Windows 8:
    - No. Access will not be available to HP Store. Therefore no HP Metro apps available that are preloaded from HP.
- If using Retail Key to install Windows 8:
    - No. Access will not be available to HP Store. Therefore no HP Metro apps available that are preloaded from HP.
- If using clean OS with HP DPK and HP Recovery Image:
    - Yes. Access will be available to HP Store.

Q: Can Windows Store apps be deployed outside of the Windows Store?

A: Yes. Refer to the following link for more details:

- **http://blogs.msdn.com/b/windowsstore/archive/2012/04/25/deploying-metro-style-apps-to-businesses.aspx**

Appendix F: Installing .NET Framework 3.5 on Windows 8

Although .NET Framework 4.5 is included with Windows 8 and installed on your computer with the operating system, .NET Framework 3.5 is not automatically installed with Windows 8. Thus, to run applications that require .NET Framework 3.5 on a Windows 8 system, you must first enable this version using one of the following methods

- Installing .NET Framework 3.5 on demand (that is, when an application that requires .NET Framework 3.5 finds that this version is not available).
- Using the Control Panel to enable .NET Framework 3.5.

These two options are outlined below; for more information, refer to **http://msdn.microsoft.com/en-us/library/hh506443.aspx**.
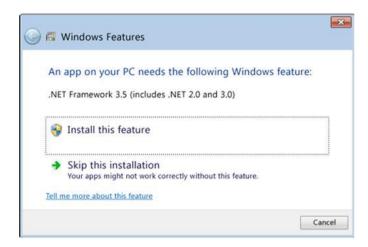
Important notes

- Use .NET Framework 3.5 for applications built for versions 3.5, 3.0, and 2.0.
- Installing a Windows language pack on Windows 8 before installing .NET Framework 3.5 causes the .NET Framework 3.5 installation to fail. Thus, you should install .NET Framework 3.5 before installing any Windows language packs.
- Windows CardSpace is not available with .NET Framework 3.5 on Windows 8.

Installing .NET Framework 3.5 on demand

If an application requires .NET Framework 3.5 but does not find this version enabled on your system, the message shown in Figure F-1 is displayed, either when you install the application or when you run it for the first time.

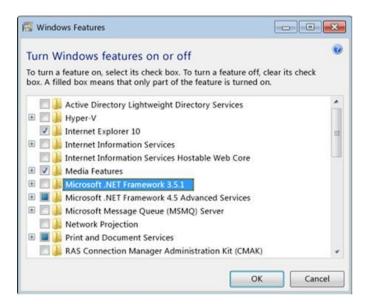Figure F-1. Message box that allows you to install .NET Framework 3.5 on demand

If you have an Internet connection, you can select **Install this feature** to enable .NET Framework 3.5.

Using the Control Panel to enable .NET Framework 3.5

You can also enable .NET Framework 3.5 yourself through the Control Panel. Select **Control Panel→Programs and Features→Turn Windows features on or off**, as shown in Figure F-2.

If you have an Internet connection, you can select the **Microsoft .NET Framework 3.5.1** check box.

Figure F-2. Message box that allows you to turn on .NET Framework 3.5.1

References

Microsoft .NET Framework

- **http://www.microsoft.com/net/**

Microsoft Windows 8 Compatibility Center

- **http://www.microsoft.com/en-us/windows/compatibility/en-us/CompatCenter/Home**

HP Support & Drivers Page

- **http://www.hp.com/go/support**

HP & Windows 8 Page

- **http://www.hp.com/go/windows8**

For more information

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

Get connected

hp.com/go/getconnected

Current HP driver, support, and security alerts
delivered directly to your desktop

718503-002, Created January 2013. Updated April 2013