



HP Image Assistant

User Guide

© Copyright 2018 HP Development Company,
L.P.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Second Edition: January 2018

First Edition: April 2017

Document Part Number: 936944-002

User input syntax key

Text that you must enter into a user interface is indicated by `fixed-width font`.

Item	Description
Text without brackets or braces	Items you must type exactly as shown
<Text inside angle brackets>	A placeholder for a value you must provide; omit the brackets
[Text inside square brackets]	Optional items; omit the brackets
{Text inside braces}	A set of items from which you must choose only one; omit the braces
	A separator for items from which you must choose only one; omit the vertical bar
...	Items that can or must repeat; omit the ellipsis

Table of contents

1 Getting started	1
Glossary	1
System requirements	2
HPIA use cases	2
Downloading HPIA	3
2 HPIA components and configuration	4
HPIA components	4
HPIA user interface	4
Testing the connection	4
Running HPIImageAssistant.exe	4
Changing the user-interface language	4
Configuring a web proxy	4
Finding the supported platform list	5
User Guides	5
3 Analyzing a system image	6
Analyzing the summary	6
Summary	7
Recommendations	7
Advisories	8
Device Drivers	8
Installed Software	9
QFEs	9
Security	9
Firmware	10
BIOS Settings	10
Saving a results file	10
4 Capturing an image	11
5 Running analysis from a command-line	12
6 Migrating an operating system	13
Migration considerations	13

In-place upgrade	13
Migrating from Windows 7 or Windows 8.1 OS to Windows 10 OS	13
Summary	14
Recommendations	14
Downloading packages	15
Common solutions	15
WinPE Driver Pack	15
BIOS Setup Password	15
Prepare TPM	16
BIOS	16
BIOS Settings	16
TPM	16
HP-Verified Driver Pack	16
Custom Driver Pack	16
Drivers not included in Driver Pack	16
Software	17
HTML Migration Report	17
Download information	17
Downgrading from Windows 10 to Windows 7	17
Appendix A TPM firmware upgrade	18
Supported platforms	18
Supported operating systems	18
Other system prerequisites	18
Appendix B Connection or proxy issues	19
Index	20

1 Getting started

HP Image Assistant (HPIA) is a Windows® image comparison tool that captures metadata configuration files from images, compares image configuration files, and provides recommendations to help you develop, maintain, and support images for an optimal Windows performance.

HPIA can compare reference images developed by HP to IT-developed target images to highlight differences in such things as the BIOS version, BIOS settings, device drivers, installed software, and Windows updates. By automating these comparisons and providing an interface to quickly locate differences and to download and install updates, HPIA reduces the time needed to develop and maintain quality Windows images with the correct device drivers, software patches, and BIOS settings for HP business computers.

Glossary

- **Reference image**—XML file extracted from a known, good system image to be used as a reference. An IT administrator either can use reference images provided by HP, which correspond to the factory-shipping state, or can create and maintain reference images using HPIA. The image configuration file contains metadata describing the image, but is not an actual image.

- **Target image**—XML file of an image that can be compared to a reference image. HPIA can generate a target image of a system running HPIA or it can use a previously-captured target image from any system. The image configuration file contains metadata describing the image, but is not an actual image.

- **Platform system ID**—Four-character hexadecimal string that identifies an HP platform.

To retrieve this string, use one of the following methods:

- In Command Prompt, enter the following command:

```
wmic path win32_baseboard get product /value
```

The platform system ID is displayed like the following example, where 212A is the ID:

```
Product=212A
```

- In a tool with WMI query, such as wbemtest, perform the following query:

```
select Product from Win32_BaseBoard
```

The Product value is the platform system ID (for example, 212A).

- **QFE**—Software update released by Microsoft to a limited-distribution release channel to address severe instability, security problems, preinstallation problems, and problems reported by customers.
- **Driver pack**—Bundle of all driver files (INF) that can be injected into an operating system image using the Microsoft DISM.exe tool.
- **Reference computer**—Source of the operating system image that is captured and deployed to other computers.
- **TPM**—Abbreviation for Trusted Platform Module, an industry-standard, dedicated microcontroller that provides basic security-related functions.

- **Configuration Manager**—Abbreviation for Microsoft® System Center Configuration Manager, which is enterprise system-management software.
- **MDT**—Abbreviation for Microsoft Deployment Toolkit, a unified collection of tools, processes, and guidances for automating desktop and service deployment.

System requirements

HPIA requires one of the following versions of the Windows operating system (OS) and .NET Framework 4.5.



NOTE: HPIA is not supported on computers with embedded or mobile operating systems.

Operating system	.NET Framework 4.5
Windows 10	Included in OS release
Windows 8.1	Included in OS release
Windows 7 SP1	Go to https://www.microsoft.com/en-us/download/details.aspx?id=30653 to download and install the .NET Framework 4.5 software.

HPIA can capture and analyze XML image configuration files from select HP Elite computers, HP Pro computers, and HP workstations running Windows 10, Windows 8.1, or Windows 7 SP1 operating systems. For a full list of platforms supported by HPIA, go to <https://ftp.hp.com/pub/caps-softpaq/cmit/imagepal/ref/platformList.html>.

HPIA use cases

The HPIA tool suite can be used in several stages of an operating system image life cycle: development, deployment, maintenance, and support.

During the image development process, HPIA can be used by IT administrators to make sure that all required components are included and updated, which improves the quality of the image without manual verification or updates.

HPIA also provides information and support for managing BIOS settings, basic security concerns, QFEs, and optional software. After the reference image is finalized, HPIA can capture, analyze, and save XML image configuration files from supported platforms for future maintenance and support needs.

After the image is developed and deployed, HP recommends periodically performing image maintenance to make security and performance enhancements and install bug fixes. HPIA can analyze the stored XML image configuration file against the latest HP reference image to identify, obtain, and install available updates. After major updates to an image, HP recommends that you use HPIA to capture and save XML configuration files for future reference.

If you need to troubleshoot an end-user issue relating to the BIOS, BIOS settings, drivers, or software, you can run HPIA on the system to compare it to the corresponding HP reference image or any other known, good image XML file.

If you need to contact HP for support for BIOS, driver, or software issues, you can capture an XML image configuration file from the system and send it to HP to help resolve your issue.

After an in-place upgrade, an IT administrator can run HPIA on a reference computer to analyze whether HP software is up-to-date and then update it, if necessary. For wipe-and-load scenarios, the IT administrator can run HPIA on a representative system to be migrated and receive the HP OS migration recommendations. These recommendations include high-level migration steps with detailed recommendations on HP settings, updates, and best practices to help reduce the time needed to prepare for and execute a migration.

Downloading HPIA

1. Go to <http://www.hp.com/go/clientmanagement>.
2. Under **Resources**, select **HP Download Library**.
3. Download the **HP Image Assistant** SoftPaq.
4. Double-click the downloaded SoftPaq and follow the on-screen instructions to extract the HPIA files. The HPIA files are saved to the location specified in the wizard.

2 HPIA components and configuration

HPIA components

HPIA comprises HPIImageAssistant.exe, ImageCapture.exe, language resource files, and other supporting files. HPIA can be run from a USB flash drive, a target computer, or any other computer running a Windows 10, Windows 8.1, or Windows 7 operating system. HPIA does not update the registry or copy files to the target computer.

HPIImageAssistant.exe is the HPIA user interface.

 **NOTE:** HPIImageAssistant.exe supports the parameter `/debug` to write log files for troubleshooting issues.

ImageCapture.exe is a standalone tool that captures an XML image configuration file that can then be compared against a reference image.

You must run these executable files as an administrator to capture image configuration files using HPIA.

HPIA user interface

Testing the connection

Many operations performed by HPIA require Internet access to get the latest SoftPaq data. By default, HPIA uses Internet Explorer connection settings to access the Internet. Be sure that you can successfully connect to either of the following links using Internet Explorer:

- <https://hpia.hpcloud.hp.com/>
- <https://ftp.hp.com/pub/caps-softpaq/cmit/imagepal/ref/platformList.html>

If your network environment requires proxy settings and you cannot connect to either link, run HPIA and configure the web proxy. See [Configuring a web proxy on page 4](#)

Running HPIImageAssistant.exe

1. Right-click **HPIImageAssistant.exe**.
2. Select **Run as administrator**.

Changing the user-interface language

- ▲ Select **Languages**, and then select one of the supported languages.

Configuring a web proxy

1. Select **Tools**, and then select **Proxy Configuration**.
2. Enter the network proxy information.
3. Select **Save**.

The proxy information is saved to the tool configuration file in the same location as HPIImageAssistant.exe is saved. The information is available for subsequent use.

Finding the supported platform list

- ▲ Select **Help**, and then select **Supported Platforms** to display the list of reference images provided by HP.

The supported platforms list can be organized by **Product**, **OS**, **Architecture**, or the date the image was **Last Modified**.

User Guides

- ▲ Select **Help**, select **User Guide** and then the desired **Language**.

3 Analyzing a system image

1. On the **Analyze image** tab, select an option under **Choose Target Image**.
 - **Browse**—Select the previously saved XML image configuration file to be analyzed.
 - **<This Computer>**—Selects the computer HPIA is running on to be analyzed. When the analysis is started, HPIA captures the image configuration information and then uses it in the analysis.
2. Select an option under **Choose Reference Image**.
 - **Browse**—Select the previously saved XML image configuration file.
 - **<This Computer>**—Selects the computer HPIA is running on to compare the target image to. When the analysis is started, HPIA captures the image configuration information and then uses it in the analysis. This can be useful in scenarios where the current computer is a known, good image.
 - **<From HP.com>**—Automatically selects the latest XML image configuration file provided by HP. The automatic XML selection depends on the system ID, OS version, and architecture of the target image.



NOTE: To receive recommendations from HPIA, you must select this option.

To use this option, you must be connected to the Internet.

3. Select **Analyze**.



NOTE: If the system ID, OS version, and architecture (64-bit or 32-bit) of the reference image and target image do not match, the images cannot be compared and analyzed.



After the image configuration files are analyzed, a summary is displayed.





Analyzing the summary

After you run HPIImageAssistant.exe, a summary is displayed. Select one of the other tabs to see additional details about device drivers, installed software, security, firmware, and BIOS settings. If you selected the **<From HP.com>** option, there is a **Recommendations** tab. If you did not select the **From <HP.com>** option, there is a **QFEs** tab.

The **Summary**, **Security**, and **Recommendations** tabs contain information about the target image only. The **Device Drivers**, **Installed Software**, **QFEs**, **Firmware**, and **BIOS Settings** tabs contain information about the comparison between the target image and the reference image.

The following table describes the icons used to help you analyze the results and prioritize the recommended changes to the target image.

Icon	Description
	Identifies components that exist on the target image only. These components often include third-party drivers, user-installed software, and QFEs.
	Identifies components that exist on the reference image only. If you are using an HP reference image, all available drivers are displayed.

Icon	Description
	Identifies components that are the same on the target image and the reference image.
	Identifies components where the version installed on the target image is earlier than the version on the reference image.
	Identifies components necessary for full system function that do not exist on the target image.
	Identifies components that exist on both the target image and the reference image, but are different in a manner not described by other filters. Difference can include components made by different manufacturers or a newer version installed on the target image.

Summary

The **Summary** tab summarizes the overall health and overall security of the target image. The tab includes details about the platform, BIOS and firmware configuration, missing or out-of-date drivers, HP recommended software, out-of-date software, and security settings.

The **Security Settings** summary includes details on whether antivirus and antispyware protection is enabled and up-to-date, whether the firewall is enabled, and whether a BIOS Setup Password is set. This section also indicates whether the target image contains any root certificates with an embedded private key. For more information, see [Security on page 9](#).

In the **BIOS Configuration** section, **Different** identifies the BIOS settings that exist in both the target image and reference image, but have different values. **Added** and **Missing** identify the BIOS settings that were either added or removed between BIOS releases.


The **Firmware** section indicates the number of firmware components which are out-of-date on the target image.

Recommendations



NOTE: The **Recommendations** tab is available only if the <From HP.com> option was selected as the reference image.

The **Recommendations** tab displays the latest versions of the BIOS, drivers, and software installed on the target image and reference image. Based on the comparison, HPIA recommends installing any missing or newer components on the target image.


In the **SoftPaq** column, the document icon links to the SofPaq release notes and the CVA icon links to the SoftPaq CVA file. The INF icon indicates whether INF-based installation support is available. The HP System Software Manager (SSM) icon  indicates that silent installation is available.

To install or update a component:

1. If additional software needs to be installed before a SoftPaq is installed, it is listed under **Prerequisites**. If there is a green checkmark next to the prerequisite, it is already installed on the system. Download and install any prerequisites until all of them are marked with a green checkmark. After each prerequisite is installed, analyze the system. Continue this process until all prerequisites are marked with a green checkmark.
2. Advisories pertaining to the SoftPaq and the target image are listed under **Advisories**.

3. In the **SoftPaq** column, select the link to download the SoftPaq.
– or –
To download multiple SoftPaqs simultaneously, select the box next to the name of each update.
4. Select **Download**.
5. Select a download option.
 - **Download Softpaq(s) only**—Downloads the SoftPaqs.
 - **Extract SoftPaq Files**—If the Download Softpaq(s) only option is selected, you can also select this option to extract the files after they are downloaded.
 - **Download SoftPaq(s), extract files, and install**—Downloads, extracts, and installs the SoftPaqs on the computer running HPIA. The selected SoftPaqs must support silent installation to use this option.
6. Select **Start**.

Advisories

The **Advisories** tab provides a list of customer advisories, product change notification documents, and security bulletins relating to the target image. Click on the document icon  to view the details of the document in [HP.com](https://www.hp.com).

To export the list to a CSV file.

- ▲ Select the Microsoft Excel icon.

To display a specific set of documents:

- **Advisories**—Displays customer advisories.
- **Notices**—Displays product change notification documents.
- **Bulletins**—Displays security bulletins.

Device Drivers

The **Device Drivers** tab provides information about the device drivers installed on the target image and reference image, including the class description, driver name, device ID, device manufacturer, driver provider, date the driver was last updated, and driver version. Select the Microsoft Excel icon, next to the search bar, to export device driver details to a CSV file.

To export the device driver details to a CSV file:

- ▲ Select the Microsoft Excel icon.

To display a specific set of drivers, select one or more of the following filters:

- **Target Image Only**—Displays drivers installed on the target image but not the reference image
- **Reference Image Only**—Displays drivers installed on the reference image but not the target image
- **The Same**—Displays drivers that match on the target image and the reference image
- **Out-of-Date**—Displays drivers that need to be updated on the target image (based on the reference image); might be identified as a critical update

- **Missing**—Displays drivers that need to be installed on the target image for full system function (based on the reference image)
- **Different**—Displays drivers installed on both the target image and reference image, but with a difference not covered by the other filters

Installed Software

The **Installed Software** tab provides information about the software installed on the target image and reference image, including the name, version, manufacturer, and date installed. This software can be found under Programs and Features in Control Panel.

To export the installed software details to a CSV file:

- ▲ Select the Microsoft Excel icon.

To display a specific set of software, select one or more of the following filters:

- **Target Image Only**—Displays software installed on the target image but not the reference image
- **Reference Image Only**—Displays software installed on the reference image but not the target image
- **The Same**—Displays software that matches on the target image and the reference image
- **Out-of-Date**—Displays software that needs to be updated on the target image (based on the reference image); might be identified as a critical update
- **Missing**—Displays software that needs to be installed on the target image for full system function (based on the reference image)
- **Different**—Displays software installed on both the target image and reference image, but with a difference not covered by the other filters

QFEs

 **NOTE:** The QFEs tab is available only if a custom XML file is selected as the reference image.

The QFEs tab provides information about available Microsoft updates, including the ID, description, comments about the fix, and the date the update was installed.


To export the QFEs details to a CSV file:

- ▲ Select the Microsoft Excel icon.

To display a specific set of QFEs, select one or more of the following filters:

- **Target Image Only**—Displays QFEs installed on the target image but not the reference image
- **Reference Image Only**—Displays QFEs installed on the reference image but not the target image
- **The Same**—Displays QFEs that matches on the target image and the reference image
- **Different**—Displays QFEs installed on both the target image and reference image, but with a difference not covered by the other filters

Security

 **NOTE:** The information in this tab applies to the target image only.

The **Security** tab provides information about security items.

The **Security Settings** section provides information about the firewall, antivirus software, antispyware software, and BIOS setup password. You can see whether the firewall is enabled, whether the antivirus software is enabled and up-to-date, whether the antispyware software is enabled and up-to-date, and whether there is a BIOS Setup Password. HP strongly recommends that you use a BIOS Setup Password.

The **Certificates** section provides a list of root certificates and whether each certificate has an embedded private key. HP does not recommend using root certificates that have an embedded private key.

To export the certificate details to a CSV file:

- ▲ Select the Microsoft Excel icon.

Firmware

The **Firmware** tab provides information about the firmware in the computer, including the firmware name and version for both the target image and the reference image. If they are the same, the version is listed once.

To export the firmware details to a CSV file:

- ▲ Select the Microsoft Excel icon.

To display a specific set of firmware, select one or more of the following filters:

- **Target Image Only**—Displays firmware installed on the target image but not the reference image
- **Reference Image Only**—Displays firmware installed on the reference image but not the target image
- **The Same**—Displays firmware that matches on the target image and the reference image
- **Out-of-Date**—Displays firmware that needs to be updated on the target image (based on the reference image); might be identified as a critical update
- **Different**—Displays firmware installed on both the target image and reference image, but with a difference not covered by the other filters

BIOS Settings

The **BIOS Settings** tab provides information about the BIOS settings on the target image and the reference image, including name, F10 Setup path, and the current value. Only BIOS settings that can be configured are displayed.

To export the BIOS settings details to a CSV file:

- ▲ Select the Microsoft Excel icon.

To display a specific set of BIOS settings, select one or more of the following filters:

- **Target Image Only**—Displays BIOS settings installed on the target image but not the reference image
- **Reference Image Only**—Displays BIOS settings installed on the reference image but not the target image
- **The Same**—Displays BIOS settings that match on the target image and the reference image
- **Different**—Displays BIOS settings installed on both the target image and reference image, but with a difference not covered by the other filters

Saving a results file

- ▲ After analyzing a system image, elect **File**, and then select **Save Recommendations**.

This HTML file can be opened and printed as needed.

4 Capturing an image

If you run HPIA on an HP computer, by default, HPIA selects the reference image provided by HP. HPIA also supports capturing a reference image from a known, good computer.

ImageCapture.exe is a lightweight command-line executable that can be run on a machine to capture the image configuration in an XML file for future analysis against target images. IT administrators using MDT or Configuration Manager can create a software package or task sequence to run this tool on a client and save the XML file to a designated location to be used with other HPIA features.

The HPIA Image Capture tool generates the configuration XML file in the same directory as the executable, using the naming convention of `SYSID_BIT_OSVERSION.xml`, as follows:

- `SYSID`—HP platform system ID (for example, 2253)
- `BIT`—Operating system architecture (64 for 64-bit, 32 for 32-bit)
- `OSVER`—Operating system major and minor versions (for example, 6.3 for Windows 8.1)

To capture an image:

1. Run **ImageCapture.exe** as an administrator from a USB flash drive.


– or –

Run `ImageCapture.exe` as an administrator from the command line.

– or –

Open the directory where you extracted the HPIA files to a computer, right-click **HPIImageAssistant.exe**, and then select **Run as administrator**. Select **Tools**, and then select **Capture Target Image Configuration**.

2. Save the configuration files to a USB flash drive.

 **TIP:** This ensures that you do not modify the image of the computer you are working on.

5 Running analysis from a command-line



NOTE: For syntax help, see [User input syntax key on page iii](#).

HPIA supports running analysis from a command-line. An IT administrator can automate the analysis and downloading of recommendations.

The following table describes the valid command line options.

Option	Description
<code>/Silent</code>	Runs the application in silent (no UI, non-interactive) mode.
<code>/Operation:Analyze</code>	Performs the analyze operation.
<code>/TargetFile:targetImagePath</code>	A saved XML image configuration file to be analyzed.
<code>/Selection:[All Critical AutoInstallable]</code>	<ul style="list-style-type: none"><code>[All]</code> Selects all recommendations available. This is the default operation if no option is specified.<code>[Critical]</code> Selects critical recommendations only.<code>[AutoInstallable]</code> Selects Auto-installable or SSM-compliant recommendations only.
<code>/Action:[List Download Extract Install]</code>	Specifies the action to perform. <ul style="list-style-type: none"><code>[List]</code> Retrieves a list of recommendations. This is the default action if omitted.<code>[Download]</code> Downloads recommendations.<code>[Extract]</code> Downloads and extracts recommendations.<code>[Install]</code> Downloads, extracts, and installs recommendations. This is only applicable if <code>/TargetFile</code> is not specified. Only Auto-installable (SSM-compliant) Softpaqs will be installed.
<code>/Category:[All, BIOS, Drivers, Software, Firmware]</code>	Specifies the recommendation category. <code>[All]</code> is default if omitted.
<code>/ReportFolder:folderPath</code>	Specifies the output folder path.
<code>/SoftpaqDownloadFolder:folderPath</code>	Specifies the SoftPaq download folder. If omitted, defaults to the current user's download folder.

For example, to Get/Save a list of recommendations to C:\HPIAOut\Recommendations folder:

```
HPImageAssistant.exe /Operation:Analyze /Action:List /Silent /  
ReportFolder:C:\HPIAOut\Recommendations.
```

To download recommended critical driver Softpaqs: `HPImageAssistant.exe /`

```
Operation:Analyze /Category:Drivers /Selection:Critical /Action:Download /  
Silent
```

6 Migrating an operating system

HPIA supports both in-place upgrade and wipe-and-load migration scenarios. For an in-place upgrade, an IT administrator can perform the OS upgrade on a representative computer and then analyze the image using HPIA after the upgrade to identify, download, and deploy additional updates to similar computers after the migration.

In a wipe-and-load migration, HPIA can help with specific supported options.

Migration considerations

During the migration process, if a TPM firmware upgrade is needed, any encrypted drives associated with the keys stored in the TPM must be decrypted. Then, encryption must be disabled (not suspended).

HP recommends connecting any peripheral devices that only enumerate if attached to the selected system, such as a smart card reader, before capturing or analyzing the image information of a system. This is necessary for HPIA to detect those devices as well as the associated driver and firmware versions and updates.

In-place upgrade

HP recommends using an in-place upgrade to migrate from the Windows 7 OS to either the Windows 8.1 OS or Windows 10 OS.

The following are the advantages of using an in-place upgrade instead of a wipe-and-load migration:

- No user data backup is required. Data, settings, drivers and applications from the existing OS is automatically preserved.
- It is usually faster than a wipe-and-load migration.
- Windows 10 build 1703 and later include a MBR2GPT tool to convert a disk from Master Boot Record (MBR) to GUID Partition Table (GPT). MBR-to-GPT conversion with in-place upgrade scenarios is now possible without the need to modify or delete existing data on a disk. For more details, see the Microsoft documentation at the following URL: <https://technet.microsoft.com/en-us/itpro/windows/deploy/mbr-to-gpt>.

Migrating from Windows 7 or Windows 8.1 OS to Windows 10 OS

 **NOTE:** You must be connected to the Internet to receive recommendations from HPIA.

1. On the **Migrate OS** tab, select one of the following options under **Choose System**.

- **Browse**—Specifies a saved XML image configuration file.
 - **<This Computer>**—Selects the image configuration of the computer running HPIA. HPIA captures and then analyzes the image.
2. Under **Choose OS & Partition**, select the option with the appropriate Windows version, architecture, and disk-partitioning scheme.



NOTE: HP recommends using the default selection: **Win10 64 GPT**. BIOS-based options are supported if you rely on the legacy boot mode.

3. Under **Choose WinPE OS**, verify the selected boot image version. HP recommends using the boot image version that matches the Windows version you are migrating to. **WinPE 10** is the default, and only, selection if you are migrating to the Windows 10 operating system.
4. Under **Choose TPM Version**, verify the target TPM firmware specification version. The available options include TPM firmware version 2.0, if the computer supports a TPM firmware upgrade. For more information, see [TPM firmware upgrade on page 18](#).



NOTE: If a TPM firmware upgrade is available, HP recommends upgrading to TPM 2.0 to improve your security.

If you do not know your TPM specification version, run `TPM.msc` from the command line and locate the **Specification Version**.

5. Select **Analyze**.

HPIA retrieves and displays the recommended migration tasks in the **Summary** tab and detailed components information in the **Recommendations** tab.

Summary

The high-level recommended tasks serve as a guideline and are applicable to most management solutions.

Tasks with links under the **Recommended Packages** column link to the **Recommendations** tab, where HPIA provides binaries and scripts that can be used during the migration process or in a task sequence.

All tasks with **N/A** listed under the **Recommended Packages** column either are common tasks already provided by a task sequence or third-party tools or are not applicable to the selected computer.


For example, the Backup User Data task does not have a recommended package because IT administrators can use either Microsoft User State Migration Tool (USMT) or another third-party tool to back up the user data.

Recommendations


The **Recommendations** tab provides information about available solutions, including the build versions of software, the value of a BIOS setting, or the target TPM version; the downloads associated with the solution; and any comments.

These solutions are divided into types, identified by the icons described in the following table.

Icon	Description
	Identifies a recommended solution. This package contains all items successful for a necessary migration and HP best practices.
	Identifies an optional solution.

Icon	Description
	These packages contain components that add value or drivers that are supported by the product model, but the associated hardware is not detected on the system.
	Identifies solutions that are necessary for the chosen system. For example, if a BIOS Setup Password is set on the current system and the item has been cleared on the target configuration, the Current BIOS Setup Password solution is displayed with the warning icon.

Downloading packages

1. Select **Select Packages to Download/Apply**.
 2. From the dropdown menu, select one of the following options:
 - **All**—Selects all recommended and optional packages.
 - **HP Recommendations with HP-Verified Driver Pack**—Selects all driver packs built and tested by HP in addition to other recommended items, except for all drivers listed under the **Customer Driver Pack** section. This option is available when a system supports driver packs verified by HP, and is the default selection.
-  **NOTE:** Driver packs verified by HP are updated quarterly, or when there is a critical update. Using HP driver packs can help minimize your time spent creating and verifying driver packs.
- **HP Recommendations with Custom Driver Pack**—Creates a driver pack that includes the latest recommended drivers in addition to other recommended items. This option provides the latest driver files that have been tested individually, but not necessarily in combination with each other. For optimal results, verify the custom driver pack before deployment.
 - **None**—Clears all selected packages.
 3. Select **Download (X)**, where X is the number of packages selected.
 4. Enter the download folder location. By default, this is the current user download path with a subfolder named the product model.
 5. If prompted, enter the new or current BIOS setup password.
 6. Select **Start** to download the binaries and scripts for the selected recommendations.

Common solutions

The following are common solutions that might be recommended for your system.

WinPE Driver Pack

This is the HP WinPE driver pack that can be added to a Windows PE 10 image to make sure that the boot image can connect to the network and that USB and storage devices function properly in the Windows PE environment.

BIOS Setup Password

HP recommends setting a BIOS setup password to strengthen the security protecting your BIOS settings.

If **New BIOS Setup Password** is selected, the download dialog requires that you enter a new password.

If **Current BIOS Setup Password** is selected, the download dialog requires that you enter the current password.

Prepare TPM

These recommendations help create a script to be sure that the TPM is available and enabled. The script makes sure that the TPM activation policy requires no prompt. When HPIA detects that the selected system has TPM properly enabled already, the script is still provided in the recommendation list because other systems in the target collection might have their TPM disabled or hidden.

BIOS

A BIOS update is recommended if the system BIOS version of the selected system is out of date. Be sure to review the release notes for fixes and feature and device support updates.



NOTE: BIOS updates require that a system is connected to AC power to ensure the completion of an update. For best practices, always connect a system to AC power before an imaging process.

BIOS Settings

Any BIOS settings that your system needs are listed in this section.

TPM

TPM firmware updates are supported for systems from 2015 or later. For more information, see [TPM firmware upgrade on page 18](#).



WARNING! To avoid a complete loss of data, before you updated the TPM firmware, encrypted drives must be decrypted and the encryption is disabled. The TPM firmware utility included in the download has a built-in verification for BitLocker and HP Drive Encryption software solutions only. If BitLocker or HP Drive Encryption is used and the primary drive is not decrypted, the utility exits with an appropriate error code. The utility does not detect other disk encryption solutions.



NOTE: The TPM firmware update also requires physical presence. A manual action is required to complete the reboot after the firmware upgrade utility is run.

HP-Verified Driver Pack

This driver pack has been tested by HP with different deployment scenarios: manual injection via DISM.exe to an offline image, deployment via MDT, and deployment via Configuration Manager task sequences. The drivers and versions included in the driver pack are listed in the collapsible **Contents** section.

Custom Driver Pack

This section lists all drivers that can be injected into an OS with DISM.exe. If a driver is associated with a device that exists on the selected system, it is marked recommended. A driver is marked optional if it is supported by the selected product model, but the associated hardware has not been detected on the selected system. It is listed because other target systems might include the hardware option. All selected drivers are built into a driver pack for the target OS during the download process. The individual SoftPaqs are also downloaded.

Drivers not included in Driver Pack

The section list drivers that are not included in the driver pack verified by HP and that cannot be built into a custom driver pack because they do not support an INF install. These drivers need additional configuration to work properly, such as Bluetooth and wireless network drivers. These drivers need to be installed by running the silent install command of their installers.

Software

Recommended hardware-enabling and optional value-added software are both listed in this section. Hardware-enabling software is marked recommended.

HTML Migration Report

After the selected packages are downloaded, the HTML Migration Report is displayed in your default browser. The report lists both the current configuration and the target configuration of the selected system for the migration. The following sections correspond to the high-level tasks from the **Summary** tab. If a section contains binaries and/or scripts, there is a link to the subfolder containing those binaries or scripts.

- ▲ To open the download folder, select **Download Folder**.

Download information

In the download folder, binaries and scripts are organized into subfolders based on the high-level task order and task description. These folders can be used for the migration process, or as packages referenced by a task sequence in MDT or Configuration Manager.

In folders containing BIOS operations or software applications, HPIA automatically generates command-line scripts.

Downgrading from Windows 10 to Windows 7

The process is similar to migrating from Windows 7 to Windows 10. HPIA makes both recommended and optional suggestions for a selected system. The recommended Windows PE boot image recommended is Windows 7 based; that is, Windows PE 3. Because Windows 7 does not support native UEFI boot, UEFI hybrid with Compatibility Support Module (CSM) boot mode is recommended.

If a system does not support Windows 7, HPIA displays a message that the configuration is not supported by the platform.

A TPM firmware upgrade

The TPM firmware update utility helps perform the following actions:

- Upgrading from an older TPM 1.2 firmware to a newer TPM 1.2 firmware
- Upgrading from an older TPM 2.0 firmware to a newer TPM 2.0 firmware
- Converting from TPM 1.2 to the latest TPM 2.0 firmware
- Converting from TPM 2.0 to the latest TPM 1.2 firmware



NOTE: TPM can be converted between TPM 1.2 and TPM 2.0 up to a maximum of 64 times.

Converting TPM involves potentially upgrading to a newer TPM firmware. The following rules govern this operation:

- If the system has TPM 1.2 and the target is TPM 2.0, TPM 2.0 is enabled and upgraded with the latest firmware version.
- If the system has TPM 2.0 and the target is TPM 1.2, TPM 1.2 is enabled and upgraded with the latest firmware version.
- If the system has TPM 1.2 and the target is TPM 1.2, TPM 1.2 is upgraded to the latest firmware version.
- If the system has TPM 2.0 and the target is TPM 2.0, TPM 2.0 is upgraded to the latest firmware version.

Supported platforms

TPM firmware updates are supported for systems from 2015 or later. To confirm whether your platform supports a TPM firmware upgrade, see the *Maintenance and Service Guide* for your platform. Go to <http://www.hp.com/support> and follow the on-screen instructions to locate this manual.

Supported operating systems

- Windows 10
- Windows 8.1
- Windows 7 (TPM 1.2 only)

Other system prerequisites

- Infineon SLB9670 TPM chip
- Latest commercial BIOS

B Connection or proxy issues

Reference image configurations provided by HP require a connection to the Internet. Verify that your computer is connected to the Internet and then try to use the reference image from HP.com again.

Verify that network connection icon in the notification area shows that you are connected and there are no issues.

Verify that the primary HP reference file location can be accessed by your default browser: <https://hpie.hpcloud.hp.com/>. If this URL cannot be accessed, be sure that your IT department allows the connection.

Verify that the secondary HP reference file location can be accessed by your default browser: <https://ftp.hp.com/pub/caps-softpaq/cmit/imagepal/ref/platformList.html>. If this URL cannot be accessed, be sure that your IT department allows the connection.



NOTE: If HPIA cannot access the primary location, it automatically attempts to access the secondary location.

Index

C

Configuration Manager 1

D

download folder

 binaries and scripts 17

downloading

 HPIA 3

driver pack 1

I

image

 analyzing 6

 capturing 11

ImageCapture.exe 11

M

MDT 1

migration

 considerations 13

 Recommendations tab 14

 report 17

 Summary tab 14

O

operating system

 in-place upgrade 13

 migration 13

P

platform system ID 1

Q

QFE 1

R

reference computer 1

reference image 1

results file 10

S

summary 6

system requirements 2

T

target image 1

TPM 1

U

use cases 2

user interface 4

 BIOS settings tab 10

 Device Drivers tab 8

 Firmware tab 10

 Installed Software tab 9

 language 4

 QFEs tab 9

 recommendations tab 7

 running 4

 Security tab 9

 Summary tab 7

W

web proxy, configuration 4

Windows 10

 downgrading 17

 upgrading 13