



HP Device Manager 4.7 Release (4.7.0.23051)

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Overview

This document describes the release of HP Device Manager 4.7.

HP Device Manager (HPDM) is an enterprise-class application for managing and administering thin client devices on large- and small-scale networks. The system consists of five major components:

- **HPDM Console**—The graphical application used by administrators to access the management system.
- **HPDM Server**—The central server which consolidates and controls all management activities.
- **HPDM Gateway**—The gateway that serves as the link between the HPDM Agent on the thin clients and the HPDM Server.
- **HPDM Agent**—Client-side software required for managing devices.
- **Master Repository Controller**—The component that manages the content in the Master Repository and synchronizes that content to other repositories as requested by the HPDM Server.

For more detailed instructions on how to use HP Device Manager, see the [*HP Device Manager Administrator Guide*](#).

Component version information

This release provides the following versions of these components (* are new versions since HPDM 4.6 Service Pack 5, build revision 4.6.5.22726):

Component	Version
HPDM installer	4.7.0.23051*
HPDM Console and HPDM Server	4.7.3610.23043*
HPDM Gateway for Windows®	4.7.3630.23021*
Master Repository Controller	4.7.3680.23046*
HPDM Agent	
• Windows Embedded 8.1 Industry Pro (64-bit)	4.7.3669.23051*
• Windows Embedded 8 Standard (64-bit)	4.7.3669.23051*
• Windows Embedded Standard 7P (64-bit)	4.7.3669.23051*
• Windows Embedded Standard 7P (32-bit)	4.7.3660.23051*
• Windows Embedded Standard 7E (32-bit)	4.7.3660.23051*
• Windows Embedded Standard 2009	4.7.3660.23051*
• Windows XP Embedded	4.7.3660.23051*
• HP ThinPro 5	4.7.3670.23051*
• HP ThinPro 4	4.7.3668.23051*
• HP Smart Zero Core	4.7.3667.23051*
• HP ThinPro 3	4.6.3665.20713
• Windows Embedded CE 6.0	4.6.3662.19313

System requirements

HPDM Server requirements

Component	Requirements
Operating system	Windows Server 2003 Windows Server 2003 R2 Windows Server 2008 Windows Server 2008 R2 Windows Server 2012 Windows Server 2012 R2
Third-party software	OpenJDK 7 Java Runtime Environment update 60 (bundled with installer) One of the following database management systems (DBMS): Microsoft SQL Server 2005 or later PostgreSQL 8.3 or later (bundled with installer)
Hardware	Pentium® IV or greater 1 GB RAM 2 GB free disk space

HPDM Gateway requirements

Component	Requirements
Operating system	Windows Server 2003 Windows Server 2003 R2 Windows Server 2008 Windows Server 2008 R2 Windows Server 2012 Windows Server 2012 R2
Hardware	Pentium IV or greater 1 GB RAM 2 GB free disk space

HPDM Console requirements

Component	Requirements
Operating system	Windows Server 2003 Windows Server 2003 R2 Windows Server 2008 Windows Server 2008 R2 Windows Server 2012 Windows Server 2012 R2 Windows 7 Windows XP Professional
Third-party software	OpenJDK 7 Java Runtime Environment update 60 (bundled with installer)
Hardware	Pentium IV or greater 1 GB RAM 1 GB free disk space

HPDM Agent requirements

HPDM provides full support for all HP thin clients within EOL (end-of-life) + 3 years and partial support for all HP thin clients within EOL + 5 years. Each thin client should have a minimum of 10 MB of free disk space. See the following matrix for support coverage by thin client model and operating system.

Full support (F) means that all existing and new features in HPDM 4.7 are supported.

Partial support (P) depends on the operating system:

- For Windows XP Embedded and Windows Embedded Standard 2009, all existing and new features except settings and connections are supported.
- For Windows Embedded CE 6.0 and HP ThinPro 3, all existing features are supported but no new features will be supported. The existing features might not include imaging, settings, or connections.

Thin client model	Windows Embedded 8.1 Industry Pro (64-bit)	Windows Embedded 8 Standard (64-bit)	Windows Embedded Standard 7P (64-bit)	Windows Embedded Standard 7P (32-bit)	Windows Embedded Standard 7E (32-bit)	Windows Embedded Standard 2009	Windows Embedded CE 6.0	Windows XP Embedded	HP ThinPro 5	HP ThinPro 4	HP ThinPro 3	HP Smart Zero Core	Teradici
t820		F	F		F								
t620/t620 PLUS		F	F		F				F	F		F	
t520		F	F		F				F				
t610/t610 PLUS		F		F	F	F			F	F		F	
t510					F	F	P		F	F		F	
t505					F	F			F	F			
t420					F				F				
t410/t410 AiO												F	
t310/t310 AiO													F
mt245			F										
mt41					F								
mt40					F								
6360t					F	F							
4320t					F	F							
EliteBook 745 G2					F								
ElitePad 1000 G2	F												
t5745										F	P		
t5740e					F								
t5740						F		P					
t5735											P		
t5730								P					
t5630								P					
t5570e					F								
t5570						F							
t5565z												F	
t5565										F	P		
t5550							P						
t5545											P		
t5540							P						
t5400						F							
t5335z												F	
t5325											P		
t5145											P		
gt7725											P		
gt7720						P							

Master Repository Controller requirements

Component	Requirements
Operating system	Windows Server 2003 Windows Server 2003 R2 Windows Server 2008 Windows Server 2008 R2 Windows Server 2012

Hardware	Pentium III or greater 512 MB RAM 2 GB free disk space NOTE: The above hardware is the minimum required for the Master Repository. If there will be a large number of imaging or file-copying operations, then HP recommends using a more powerful system with more free disk space.
Protocol	FTP, FTPS, SFTP, or SMB
Recommended third-party FTP servers	FileZilla Microsoft Internet Information Server (IIS) 6.0 or later freeSSHd

Network requirements

Component	Requirements
Network	HPDM supports only IPv4 networks. HPDM can image thin clients using either PXE or non-PXE (preferred) methods. If PXE imaging is desired, make sure that there are no other PXE services running on the network. If you are using an ISC DHCP server, it must be running at least version 3.0.

Port requirements

If you are using a server behind a firewall, you must add ports 1099 and 40002 to the exception ports in the firewall settings. A number of other UDP and TCP ports are also required for client/server communication. See the *HP Device Manager Administrator Guide* for a list of standard and custom ports required.

Installation procedure

Console, Server, Gateway, and Master Repository Controller

The server-side components of the system are installed using the HP Device Manager installer (HP_Device_Manager-revision.exe). There are a number of options during the installation:

Complete:

The Management Console, Server, Gateway, and Master Repository Controller will be installed with their default configurations. If you choose to install the Server, you will be required to configure a database for it. If you choose to install the Master Repository Controller, you will be required to set the root path for the Master Repository before copying the installation files to the disk.

Custom:

Select which components to install and specify the configuration of each one.

- Console: Does not require any configuration.
- Server: The administrator can choose which database will be used for the Server. The optional databases are PostgreSQL and Microsoft SQL Server.
- Gateway: The administrator should configure DHCP settings and Gateway settings. The DHCP server is used by the PXE boot ROM to get an IP address, as well as other basic networking information (subnet mask, default gateway, etc.).
- Master Repository Controller: The administrator should set the root path for the Master Repository. The root path is where the Master Repository will store the necessary HPDM tools, the Gateway and Agent install files, and all payload files associated with templates such as _File and Registry, _Deploy Image, etc. Once set, the latest HPDM tools and the latest Gateway and Agent install packages will be copied into this location, replacing any previous versions. When selecting this location, in order for the HPDM Console, Gateway, and Agents to be able to access the Master Repository, the path the administrator specifies must be accessible via the specified file transferring protocol (FTP, FTPS, SFTP, or Shared Folder).

Note 1: HP Device Manager will create some necessary configuration and log files in the installation folder. Please make sure you have the write permission of the installation folder and its subfolders when you install and run HP Device Manager.

Note 2: For Microsoft SQL Server users only: If you want to use Microsoft SQL Server with Windows Authentication mode to connect to the database, please note the following prerequisites:

- You should have already set up the demanded Windows user account (Local Windows user or Windows domain user) as a valid Windows Authentication account in Microsoft SQL Server.
- You're running HPDM installer and DBSetup application as the demanded Windows user.
- After installation is done and services are created, please manually change the HPDM Server Service's account to the demanded Windows user (Windows Start menu -> Control Panel -> Administrative Tools -> Services -> "HP Device Management Server Service" -> "Log on" tab -> Change "Log on as:" from "Local System account" to "This account:" and input the demanded Windows user name and password).
- The demanded Windows user or Windows domain user should have the privilege to log on as a service.

Ignoring any of the above prerequisites may result in HPDM Server Service not being able to start (Please check Microsoft Windows and Microsoft SQL Server Help for more details about relative settings and knowledge).

Silent:

Silently install any combinations of Console, Server, and Gateway with command-line parameter combinations. Command line options can be specified when running the installer with the following format:

setup.exe /z"options"

Please note, the double quotation marks after /z are necessary. For example:

```
setup.exe /z"--silent --language=en_US --component=CSGM --destination=C:\Program
Files\Hewlett-Packard\HP Device Manager --user=root --password=secret --
serveraddr=192.168.1.2 --gatewayconfig=C:\Documents and
Settings\Administrator\Desktop\Gateway.cfg --
repositorypath=C:\inetpub\Ftproot\HPDM"
```

A result log file "C:\hpdm-install.log" will be generated after silent installation, and the user can check the log file if the installation failed.

The following table lists the available command line options and their parameters:

Command Line Option	Default Parameter	Description
--silent	n/a	This option runs the installer silently.
--component=[C][S][G][M]	CSGM	This option determines which HPDM components will be installed. Use one or more of the following arguments with this option: C – Installs the Console S – Installs the Server G – Installs the Gateway M – Installs the Master Repository Controller
--language=<language>	en_US	This option determines which language will be installed. Use one of the following arguments for the desired <language>: zh_TW - Chinese (Taiwan) zh_CN - Chinese (Simplified) en_US - English (United States) fr_FR - French (France) de_DE - German (Germany) ja_JP - Japanese (Japan) ko_KR - Korean (Korea) es_ES - Spanish (International)
--destination=<path>	C:\Program Files\Hewlett-Packard\HP Device Manager	This option determines the installation path of HPDM.
--user=<username>	root	This option determines the HPDM administrator account name. This option is only applicable and is required if the Server component is being installed.
--password=<password>	n/a	This option determines the HPDM administrator account password. The parameter value for the <password> must be provided. This option is only applicable and is required if the Server component is being installed.
--serveraddr=<address>	n/a	This option determines the IP address of HPDM Server. This option is only applicable and is required if the Console component is being installed. The IP address must be provided as the <address> parameter.
--gatewayconfig=<filespec>	n/a	This option determines the path of the predefined Gateway configuration file. Please note the <filespec> parameter provided must be an absolute path. For example, you cannot set: --gatewayconfig=.gateway.cfg you must set: --gatewayconfig=C:\Program Files\gateway.cfg. This option is only applicable and is required if the Gateway component is being installed.
--repositorypath=<path>	C:\Inetpub\Ftproot\HPDM	This option determines the Master Repository root path.

Installation language

By default, the installer is launched in the target system's language. If you want to launch the installer in a different language, you can specify a language identifier when launching the installer as shown below:

```
setup.exe -l<Language ID>
```

For example, to launch the installer in German:

```
setup.exe -l0x0407
```

The following table lists the available language IDs:

Language ID	Language name
0x0804	Chinese (Simplified)

0x0404	Chinese (Traditional)
0x0409	English (United States)
0x040c	French (France)
0x0407	German (Germany)
0x0411	Japanese (Japan)
0x0412	Korean (Korea)
0x040a	Spanish (International)

Note

You can specify the language for the HPDM UI language, which is different from the installer's UI language. For example, the installer is launched in German, and you can specify Simplified Chinese as the HPDM UI language. The HPDM UI language setting is present in the Installation Configuration Wizard.

HPDM Agent

HP thin clients will ship with an HPDM Agent preinstalled. To update the HPDM Agent, from the HPDM Console, send an **_Update Agent** task to all thin clients.

Imaging notes

Imaging support matrix

The following matrix shows which operating systems and HP thin clients are supported for each imaging method.

Operating system and thin client models	File-based capture ¹	Disk-based capture	File-based deployment ¹	Disk-based deployment	PXE imaging ²
Windows Embedded 8.1 Industry Pro (64-bit) ElitePad 1000 G2	✓		✓		
Windows Embedded 8 Standard (64-bit) t820, t620/t620 PLUS, t610/t610 PLUS, t520	✓		✓		
Windows Embedded Standard 7 (64-bit)³ t820, t620/t620 PLUS, t520, mt245	✓		✓		
Windows Embedded Standard 7 (32-bit)³ t820, t620/t620 PLUS, t610/t610 PLUS, t520, t510, t505, t5740e, t5570e, t420, 6360t, mt41, mt40, 4320t, EliteBook 745 G2	✓		✓	✓	
Windows Embedded Standard 2009 t610/t610 PLUS, t510, t505, t5740, t5570	✓		✓	✓	✓
Windows Embedded Standard 2009⁴ 6360t, 4320t, t5400	✓		✓	✓	
Windows XP Embedded t5740, t5730, t5630		✓		✓	✓
HP ThinPro 5 t620/t620 PLUS, t610/t610 PLUS, t520, t510, t420		✓		✓	
HP ThinPro 4 t610/t610 PLUS, t510, t505, t5745, t5565		✓		✓	✓
HP ThinPro 3 (x86) t5745, t5565, t5545		✓		✓	✓ ⁵
HP ThinPro 3 (ARM) t5325 ⁶					
HP Smart Zero (x86) t610/t610 PLUS, t510, t5565z		✓		✓	
HP Smart Zero (ARM) t410/t410 AiO, t5335z		✓		✓	
¹ File-based imaging is the current method used by HPDM for Windows Embedded imaging. The original imaging method used by HPDM in version 4.4.2 and prior was disk-based imaging. ² Full image-version checking is not available for PXE imaging (for example, Windows XP Embedded image version 5.1.502 is compatible with BIOS version 786A1 but not with another BIOS version). ³ Drivers will be missing when deploying a Windows Embedded Standard 7 image captured from a different HP thin client. For example, an image captured from a t610 will not work if deployed to a t5570e. ⁴ PXE imaging is not supported for the 6360t, 4320t, or t5400. ⁵ PXE imaging does not work with the default HPDM Agent in an HP ThinPro 3 image due to some folder name changes. Update the HPDM Agent to the latest version (equal to or newer than 3.9.3665.4266) or the one in this release before attempting PXE imaging. ⁶ Imaging is not supported for the t5325.					

Preserved settings during imaging

Source device—The device from which the image will be captured.

Target device—The device to which the captured image will be deployed.

_Capture Image

Operating system	Preserved settings
Windows Embedded 8.1 Industry Pro Windows Embedded 8 Standard Windows Embedded Standard 7 Windows Embedded Standard 2009	All settings from the source device are preserved on both the source device and the captured image except hostname, network settings, domain settings, and Write Filter status.
HP ThinPro HP Smart Zero Core	All settings from the source device are preserved on both of the source device and the captured image except hostname and network settings.
Note: For Windows Embedded operating systems, if the source thin client was joined to a domain prior to a _Capture Image task, then domain membership will be lost after cloning the image. It is recommended to remove the source device from any domain prior to this task. There is also a known issue where the group policy that controls the domain password complexity will affect local user accounts, resulting in the user requirement to change the password to meet more strict criteria.	

_Deploy Image

Operating system	Preserved settings
Windows Embedded 8.1 Industry Pro Windows Embedded 8 Standard Windows Embedded Standard 7 Windows Embedded Standard 2009	• Write filter status • Hostname • Network settings • Terminal Service license • Windows activation license (select operating systems only)
HP ThinPro HP Smart Zero Core	• Hostname • Network settings

Checks before imaging

The following matrix describes which items are checked before imaging in HPDM 4.7.

Operating system type	BIOS family	Flash size	Hardware architecture
Windows Embedded (file-based imaging)	✓	✓ ¹	
Windows Embedded (disk-based imaging)		✓	✓
HP ThinPro		✓	✓
¹ For file-based imaging, check the partition size instead of the flash size.			

What's new in HPDM 4.7

This release includes the following enhancements:

- Enhances HPDM privilege system to cover all operations
- Adds the distributed administration ability to the HPDM privilege system, which includes allowing or disallowing down to the template level
- Adds the ability to quickly search the device pane and task pane
- Adds the ability of cached updates to allow updates to be sent to thin clients while in use, then executed at a later time
- Adds the ability to lock the thin client screen when an **_Execute Cached Tasks** task is executed to let end users know an HPDM task is being executed
- Adds the ability to schedule when an **_Execute Cached Tasks** task is executed on a thin client after the task has already been sent to the thin client
- Enhances reporting by adding more output for device asset and task information
- Enhances reporting by allowing administrators to customize which information is output from HPDM
- Adds support to the new imaging mechanism introduced in ThinPro 5.2
- Adds the ability to archive tasks for better performance of HPDM
- Enhances the **_Update Agent** task for all Windows Embedded images by updating the HPDM Agent without a restart of the thin client to avoid interrupting end users
- Enhances the **_Configure Agent** task by configuring the HPDM Agent without a restart of the thin client to avoid interrupting end users
- Enhances the **_Set Domain** template for Windows Embedded by allowing a device to be added to a specific OU
- Enhances the security of HPDM by updating the TLS version to 1.2 for all HPDM components
- Enhances the security of HPDM by adding certificate support for HPDM repositories
- Enhances the security of the HPDM Gateway by encrypting HPDM Gateway cached tasks and reports
- Enhances the security of HPDM by disabling the Web Access option for Windows Embedded VNC
- Adds the ability to customize the columns in the device pane to select which information is displayed in which order
- Adds support for the FBWF and UWF Exclusion List
- Adds support for snapshot management in HP ThinPro
- Adds support for the Profile Editor for HP ThinPro 5
- Adds the ability to remotely switch between the ThinPro and Smart Zero configurations of HP ThinPro 5
- Improves stability support for HP ThinPro 5
- Adds the ability to configure the embedded PostgreSQL database password
- Changes from Java Runtime Environment to OpenJDK 1.7 for better support and enhancements
- Adds the following enhancements to LDAP in HPDM:
 - Adds support for multiple trusted domains
 - Adds support for a universal group
 - Adds support for subgroups
 - Adds support for a full domain account name in the format of **domain\account**.
 - Refines some LDAP management GUI
- Enhances the HPDM repository verification process to cover authority of accounts
- Refines the time zone settings for HP ThinPro
- Adds a new filter criteria called **Last Time Online (Dynamic)** to filter thin clients that are updated on specified days
- Adds the VNC option "Refuse connections in default" for HP ThinPro 5, which controls whether or not a user can refuse a VNC connection
- Changes the delay between template sequence tasks from 3 minutes to 20 seconds for greater efficiency
- Adds the **_Enroll Certificate With SCEP** template for HP Smart Zero Core
- Changes all Windows Embedded naming in the HPDM Console UI to the full names
- Enhances HP ThinPro imaging to support task deferment

Issues fixed in HPDM 4.7

This release includes the following fixes:

- Fixed an issue where a thin client could not register with the HPDM Server because of some special characters in a group option in a DHCP tag
- Fixed an issue where VNC shadowing stopped working after a restart of the thin client
- Fixed an issue where the task to set a custom hostname displayed “failed” even if the task executed successfully and the hostname was set properly
- Fixed an issue where a grouped device could not be found when searching from a parent group level
- Fixed an issue where the administrator could not send tasks by right-clicking over a top-level device group
- Fixed an issue where a template sequence task partially failed if the task’s valid time was set to a small value
- Fixed an issue where the template list of a template sequence in a rule was lost after the HPDM Server was restarted
- Fixed an issue where batched tasks were sent at the same time
- Fixed an issue where a user who had the Device Filter Management privilege but not the User Management privilege could not edit device filters
- Fixed an issue where manual grouping did not work
- Fixed an issue where HPDM logged PostgreSQL error messages to Windows event logs during HPDM installation
- Fixed an issue where an Active Directory server could not connect due to the password containing a “single quote” character
- Fixed an issue where the option “Require VNC authentication” was disabled for VNC Server on 64-bit Windows Embedded images
- Fixed an issue where an image capture would fail for a thin client that had a 3rd-party OpenVNC application installed

Known issues

This release includes the following known issues:

- Payload of customized File and Registry templates will be removed from repositories if the Deploy Files subtask is removed while sending a task with this customized template. This issue can be avoided by not modifying template content while sending tasks.
- Sometimes devices disappear from the device table during task execution. The devices can be displayed again after refreshing device table or switching to another device folder and switching back.
- The PXE Deploy imaging task fails for Windows Embedded Standard 2009 and Windows XP Embedded.
- The Deploy Profile task cannot be finished when the profile has a large file attached.
- The privilege of the Administrator account will change to User after cloning an image from a device if the Administrator account has never been logged on to and the administrator's password has been changed by HPDM remotely.
- Windows Embedded CE 6.0 has been found to intermittently freeze after a reboot during the task processing for several tasks types. This has been found to occur with versions 6.02.625 and 6.05.655 of the operating system, but it has not been found to occur with version 6.00.612.10. The probability of occurrence for this issue has been greatly reduced by postponing HPDM Agent startup by 30 seconds and disabling HP Easy Tools OBL (OnBootLogic) and Deploy Service, but there is still the possibility that the issue can occur.
- Some FTP servers do not support Unicode. In this case, you need to set the proper system language settings for all components to make the file name readable.
- Sometimes IIS will use the dynamic port “4XXXX” instead of the default FTP ports 20 and 21. On Windows Embedded, it will not be allowed to pass the Sygate firewall.
- If a localized character set other than English is used in DHCP tags, such as grouping information, the information will be shown as unrecognizable codes in HPDM.
- If a localized character set other than English is used in LDAP, the information will be shown as unrecognizable codes in HPDM.
- Wake-on-LAN (WOL) tasks will fail on Windows Embedded devices that are in a S3 power state (sleep):
 - To enable WOL from an S3 power state, open the Windows Device Manager on the thin client and navigate to the **Power Management** tab of the network adapter properties. Then, change the settings to enable **Allow this device to wake the computer**, accept the changes. If UWF is enabled, right-click the EWF tray icon, select **Commit EWF (C)**, and then reboot. If UWF is enabled, select **Disable UWF** and reboot. Then, do the above changes, select **Enable UWF**, and then reboot again. The display on the device will remain off until local input (keyboard/mouse) is received, but it can be pinged and otherwise managed. Also note that HPDM does not show any indication of suspended devices.

- On HP ThinPro platforms, only the settings of network card eth0 can be set. If eth0 is disabled or does not exist, the task to apply network settings (change hostname and other network information) will fail.
- When deploying device settings and configurations captured using HP Easy Tools, the target thin clients must have the EWF disabled and be logged on as Administrator. This is because HPDM calls the HP Easy Tools utility to apply the changes, and this is a requirement of HP Easy Tools.

License

All the license information of open source software used in HPDM can be found in the HPDM installation directory at **Doc\licenses**.

Portions of HPDM are licensed under the terms of the GNU Public License version 2 or the GNU Lesser Public License version 2.1.

Source code for these components may be found at [ftp.hp.com/pub/device_manager](ftp.hp.com/pub/device_manager) or by contacting HP support.

For more information

To read more about HP Device Manager, go to <http://www.hp.com/go/hpdm>.

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