



2011 Management Guide for HP Compaq Desktops

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2011 Management Guide for HP Compaq Desktops


HP Compaq


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About This Guide

This guide provides definitions and instructions for using manageability features that are preinstalled on some models.

 **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

 **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.


 **NOTE:** Text set off in this manner provides important supplemental information.

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1 Desktop Management Overview

HP Client Management Solutions provides standards-based solutions for managing and controlling desktops, workstations, and notebook PCs in a networked environment. HP is a patent holder of manageability technology and pioneered desktop manageability in 1995 with the introduction of the industry's first fully manageable desktop personal computers. Since then, HP has led an industry-wide effort to develop the standards and infrastructure required to effectively deploy, configure, and manage desktops, workstations, and notebook PCs. HP develops its own management software and works closely with leading management software solution providers in the industry to ensure compatibility between HP Client Management Solutions and these products. HP Client Management Solutions are an important aspect of our broad commitment to providing you with solutions that assist you in lowering the total cost of owning and maintaining the PCs throughout their lifecycle.



NOTE: Support for specific features described in this guide may vary by model or software version.

2 Software Updating and Management

HP provides several tools for managing and updating software on desktops, workstations, and notebooks:

- HP Client Automation Starter and Standard Editions
- HP Client Automation Enterprise Edition
- HP Client Manager from Symantec
- Altiris Client Management Suite from Symantec
- HP Client Catalog for Microsoft System Center & SMS Products
- Intel Active Management Technology (AMT) Remote Management Technology
- HP Power Assistant
- HP Client Management Interface
- HP SoftPaq Download Manager
- HP System Software Manager
- HP Proactive Change Notification
- HP Subscriber's Choice

HP Client Automation Starter and Standard Editions

HP Client Automation is a hardware and software management solution for Windows 7, Windows Vista, Windows XP and HP Thin Client environments that is easy to use and quick to deploy, while providing a strong foundation for future requirements. It is offered in two editions:

- The Starter Edition is a free product for managing HP and non-HP desktops, notebooks and workstations, providing hardware and software inventory, remote control, HP alert monitoring, HP BIOS and driver updates, integration with HP Protect Tools and add-on support for Intel AMT. The Starter Edition also supports deployment and management of HP Thin Clients.
- The Standard Edition, available for purchase, includes all functionality provided in Starter Edition and adds Windows deployment and migration, patch management capabilities, software distribution and software usage metering.

HP Client Automation Starter and Standard Editions provide a migration path to HP Client Automation Enterprise Edition (based on Radia technology) for automated management of large, heterogeneous and continuously changing IT environments.

For more information about the HP Client Automation solutions, visit <http://www.hp.com/go/client>.

HP Client Automation Enterprise Edition

HP Client Automation Enterprise Edition is a policy-based solution that enables administrators to inventory, deploy, patch, and continuously manage software and content across heterogeneous client platforms. With the HP Client Automation Enterprise Edition, the IT professional can:

- Automate the entire lifecycle management process from discovery, deployment, and ongoing management through migration and retirement
- Automatically deploy and continuously manage an entire software stack (operating systems, applications, patches, settings, and content) to a desired state
- Manage software on virtually any device, including desktops, workstations, and notebooks, in a heterogeneous or standalone infrastructure
- Manage software on most operating systems

With continuous configuration management, HP customers report dramatic savings in IT costs, accelerated time-to-market for software and content, and increased user productivity and satisfaction.

For more information about the HP Client Automation solutions, visit <http://www.hp.com/go/client>.

HP Client Manager from Symantec

HP Client Manager from Symantec, developed with Altiris, is available free for all supported HP business desktop, notebook, and workstation models. System Software Manager is integrated into HP Client Manager, and enables central tracking, monitoring, and management of the hardware aspects of HP client systems.

Use HP Client Manager from Symantec to:

- Get valuable hardware information such as CPU, memory, video, and security settings
- Monitor system health to fix problems before they occur
- Automatically acquire and install drivers and BIOS updates without visiting each PC
- Remotely configure BIOS and security settings
- Automate processes to quickly resolve hardware problems

Tight integration with HP Instant Support tools reduces hardware troubleshooting time.

- Diagnostics—remotely run & view reports on HP desktop, notebook, and workstation models
- System Health Scan—check for known hardware issues in your installed base of HP client systems
- Active Chat—connect to HP customer support to resolve issues
- HP Knowledgebase—link to expert information
- Automated SoftPaq collection and delivery process for fast resolution of hardware problems
- Identify, inventory, and initialize systems with HP ProtectTools embedded security chip

- Option for health alerts to display locally on the client system
- Report basic inventory information for non-HP clients
- Setup and configure TPM security chip
- Centrally schedule client backup and recovery
- Add on support for managing Intel AMT

For more information on HP Client Manager from Symantec, visit <http://www.hp.com/go/clientmanager>.

Altiris Client Management Suite from Symantec

Altiris Client Management Suite is an easy-to-use solution for full lifecycle software management of desktops, notebooks, and workstations. Altiris Client Management Suite includes the following Altiris products:

- Inventory Solution
- Deployment Solution
- Software Delivery Solution
- Patch Management Solution
- Application Metering Solution
- Application Management Solution
- Carbon Copy Solution

For more information on Altiris Client Management Suite, visit <http://www.symantec.com/business/client-management-suite>.

HP Client Catalog for Microsoft System Center & SMS Products

The HP Client Catalog enables IT professionals using Microsoft products to automate the deployment of HP software updates (SoftPaqs) to HP business PCs, workstations, and notebooks. The catalog file contains detailed platform information on HP business desktops, notebooks and workstations. It can be used in conjunction with the custom inventory and update features of Microsoft products to provide automated driver and patch updates to managed HP client computers.

Microsoft products supported by the HP Client Catalog include:

- System Center Configuration Manager 2007
- System Center Essentials 2007
- Systems Management Server (SMS) 2003 R2

For more information on HP Client Catalog for SMS, visit http://h20331.www2.hp.com/Hpsub/cache/486247-0-0-225-121.html?jumpid=reg_R1002_USEN.

Intel Active Management Technology (AMT) Remote Management Technology


Models include either Intel vPro technology or standard technology. Both technologies allow:

- Better discovery, healing, and protection of networked computing assets
- PCs to be managed whether the system is on, off, or the operating system is hung

The three forms of remote manageability available on business desktops are Alert Standard Format (ASF), Intel Active Management Technology (AMT), and Desktop and mobile Architecture for Systems Hardware (DASH).

Remote management technology features include:

- Network discovery
- Hardware inventory information
- Platform health monitoring
- Power management—power on/off, cycle power
- Remote diagnosis and repair
 - Text console redirection—allows console control of remote PC during its boot phase
 - Media redirection—allows system booting from a remote boot drive, disk, or ISO image (the two variants of this are IDE-Redirect (IDE-R) on AMT platforms and USB Media Redirection)
- Hardware-based isolation and recovery—limit or cut off PC network access, if virus-like activity is detected
- Platform event tracking and auditing
- Integrated web server management portal for remote access and configuration
- Remote management technologies are integrated with HP's management console partners

 **NOTE:** All features above are not available on all platforms.

HP Power Assistant

HP Power Assistant is a PC based power management solution providing a unique user interface to manage the PC's power plans and power states. HP Power Assistant enables the user to establish scheduled changes of the PC's active power plan much like a programmable thermostat can schedule varying temperature settings throughout the day. The estimated power consumption for each power profile is displayed based on established schedule.

HP Power Assistant features include:

- Flexible scheduling of custom power profile and power state changes
- View historical information of estimated power consumption
- Detects and shows power estimate for supported attached HP monitors

HP Client Management Interface

HP Client Management Interface (HP CMI) is a free management tool that seamlessly integrates HP business PCs into the managed IT environment. HP CMI provides an interface that simplifies the integration of HP business computers with popular industry system management tools (including Microsoft Systems Management Server, IBM Tivoli Software, HP Operations) and customized management applications. Using HP CMI, systems management tools and applications can request in-depth client inventory, receive health status information, and manage system BIOS settings by communicating directly with the client computer, reducing the need for agent or connector software to achieve integration.

HP Client Management Interface is based on industry standards that include Microsoft Windows Management Interface (MS WMI), Web-Based Enterprise Management (WBEM), System Management BIOS (SMBIOS), and Advanced Configuration and Power Interface (ACPI). HP CMI is a foundation technology utilized in HP Client Management Solutions. HP CMI provides flexibility in choosing how to manage HP client computers.

Regardless of the system management tools the IT department uses, managing both hardware and software assets is important to keeping IT costs low and the business agile. The IT administrator can access the HP Client Management Interface by writing simple scripts and integrating those scripts to the management solution of their choice.

HP Client Management Interface used in conjunction with system management software can:

- Request in-depth client inventory information—Capture detailed information about the processors, hard drives, memory, BIOS, drivers, including sensor information (such as fan speed, voltage, and temperature).
- Receive health status information—Subscribe to a wide range of client hardware alerts (such as over-temperature, fan stall, and hardware configuration changes) to be sent to the system management console, application, or to the local client computer. Alerts are sent real-time when triggered by hardware events.
- Manage system BIOS settings—Perform F10 functions including setting and changing the BIOS passwords and computer boot order remotely from the system management console on any or all client systems without having to visit each machine.

For more information on HP Client Management Interface, refer to <http://www.hp.com/go/hpcmi/>.

HP SoftPaq Download Manager

HP SoftPaq Download Manager is a free, easy-to-use interface for locating and downloading software updates for the HP client PCs in the environment. By specifying models, operating system, and language, it is easy to quickly locate, sort, and select the SoftPaqs that are need. To download HP SoftPaq Download Manager, visit <http://www.hp.com/go/sdm>.

HP System Software Manager

HP System Software Manager (SSM) is a free utility that automates remote deployment of device drivers and BIOS updates for your networked HP business PCs. When SSM runs, it silently (without user interaction) determines the revision levels of drivers and BIOS installed on each networked client system and compares this inventory against system software SoftPaqs that have been tested and stored in a central file store. SSM then automatically updates any down-revision system software on the networked PCs to the later levels available in the file store. Since SSM only allows distribution of

SoftPaq updates to the correct client system models, administrators can confidently and efficiently use SSM to keep system software updated.

System Software Manager integrates with enterprise software distribution tools such as HP Client Automation solutions, HP Client Manager from Symantec, and Microsoft Systems Management Server (SMS). Using SSM, customer-created or third-party updates that have been packaged in the SSM-format can be distributed.

SSM may be downloaded at no charge by visiting <http://www.hp.com/go/ssm>.



NOTE: SSM does not currently support remote ROM flash on systems that have Windows BitLocker Drive Encryption enabled and are using TPM measurements to protect the BitLocker keys because flashing the BIOS would invalidate the Trust Signature that BitLocker created for the platform. Disable BitLocker via Group Policy in order to flash the system BIOS.

Enable BitLocker support without TPM measurements of BIOS to avoid invalidating the BitLocker keys. HP recommends you keep a secure backup of the BitLocker credentials in case of recovery emergencies.

HP Proactive Change Notification

The Proactive Change Notification program uses the HP Subscriber's Choice Web site in order to proactively and automatically:

- Send Proactive Change Notification (PCN) e-mail informing you of hardware and software changes to most commercial computers and servers, up to 60 days in advance
- Send e-mails containing Customer Bulletins, Customer Advisories, Customer Notes, Security Bulletins, and Driver alerts for most commercial computers and servers

Create individual profiles to ensure only information relevant to a specific IT environment will be sent. To learn more about the Proactive Change Notification program and create a custom profile, visit <http://www.hp.com/go/pcn>

Subscriber's Choice

Subscriber's Choice is a client-based service from HP.

Based on the profile, HP will supply personalized product tips, feature articles, and/or driver and support alerts/notifications.

Subscriber's Choice Driver and Support Alerts/Notifications will deliver e-mails based on the subscriber profile. To learn more about Subscriber's Choice and create a custom profile, visit <http://www.hp.com/united-states/subscribe/gateway>.

3 Initial Configuration and Deployment

The computer comes with a preinstalled system software image. After a brief software “unbundling” process, the computer is ready to use.

If preferred, replace the preinstalled software image with a customized set of system and application software. There are several methods for deploying a customized software image, which includes:

- Installing additional software applications after unbundling the preinstalled software image.
- Using software deployment tools, such as HP Client Automation Standard Edition or HP Client Automation Enterprise Edition (based on Radia technology) to replace the preinstalled software with a customized software image.
- Using a disk cloning process to copy the contents from one hard drive to another.

The best deployment method depends on the information technology environment and processes.

ROM-based setup and ACPI hardware provide further assistance with recovery of system software, configuration management and troubleshooting, and power management.

HP Client Automation Agent

The management agent used by both HP Client Automation Standard and Enterprise Editions is pre-loaded on the computer. When installed, it enables communication with the HP management console.

To install the HP Client Automation Agent:

1. Click **Start**.
2. Click **All Programs**.
3. Click **HP Manageability**.
4. Click the **HP Management Agent Readme** applicable to the language you desire.
5. Review and follow the instructions contained in the Readme file to install the HP Client Automation Agent.

HP Client Automation Agent is a key infrastructure component for enabling all of the HP Client Automation solutions.

HP Power Assistant

HP Power Assistant is available for installation on supported systems. Install HP Power Assistant to manage power consumption of the PC and supported HP displays.

To install HP Power Assistant:

1. Click **Start**.
2. Click **All Programs**.
3. Click **Install HP Power Assistant**.

4 ROM/BIOS

The computer's BIOS is stored in a programmable flash ROM (read only memory). By establishing a setup password in the Computer Setup (F10) Utility, the ROM is protected from being unintentionally updated or overwritten. This is important to ensure the operating integrity of the computer. To upgrade the BIOS, download the latest BIOS images from the HP driver and support page, <http://www.hp.com/support/files>.

⚠ CAUTION: For maximum ROM protection, be sure to establish a setup password. The setup password prevents unauthorized ROM upgrades. HP System Software Manager allows the system administrator to set the setup password on one or more PCs simultaneously. For more information, visit <http://www.hp.com/go/ssm>.

Remote ROM Flash

Remote ROM Flash allows the system administrator to safely upgrade the BIOS on remote HP computers directly from the centralized network management console, resulting in:

- Consistent deployment of, and greater control over, HP PC BIOS images over the network
- Greater productivity and lower total cost of ownership

📝 NOTE: HP SSM does not currently support remote ROM flash on systems that have Windows BitLocker Drive Encryption enabled and are using TPM measurements to protect the BitLocker keys because flashing the BIOS would invalidate the Trust Signature that BitLocker created for the platform. Disable BitLocker via Group Policy in order to flash the system BIOS.

The computer must be powered on, or turned on through Remote Wakeup, to take advantage of Remote ROM Flash.


For more information on Remote ROM Flash, refer to the HP Client Manager Software or HP System Software Manager at <http://www.hp.com/go/ssm/>.

HPQFlash

The HPQFlash utility is used to locally update or restore the system BIOS of individual PCs from a Windows operating system.

For more information on HPQFlash, visit <http://www.hp.com/support/files> and enter the model number of the computer when prompted.

Configuring the Intel Management Engine

 **NOTE:** For an overview of Intel vPro technology, visit <http://www.intel.com/vpro>.

For HP-specific information on Intel vPro technology, see the white papers at <http://www.hp.com/support>. Select your country and language, select **See support and troubleshooting information**, enter the model number of the computer, and press **Enter**. In the **Resources** category, click **Manuals (guides, supplements, addendums, etc.)**. Under **Quick jump to manuals by category**, click **White papers**.

Available management technologies include the following:

- AMT (includes DASH 1.1)

To configure Intel vPro systems for AMT:

1. Turn on or restart the computer. If you are in Microsoft Windows, click **Start > Shut Down > Restart**.
2. As soon as the computer is turned on, press the hot key, **Ctrl+P**, before the computer boots to the operating system.

 **NOTE:** If you do not press **Ctrl+P** at the appropriate time, you must restart the computer and again press **Ctrl+P** before the computer boots to the operating system to access the utility.

This hot-key enters the Intel Management Engine BIOS Execution (MEBx) setup utility. This utility allows the user to configure various aspects of the management technology. Some of the configuration options are listed below:


- Main Menu
 - Intel ® ME General Settings
 - Intel ® AMT Configuration
 - Exit
- INTEL ® ME PLATFORM CONFIGURATION
 - Change Intel ® ME Password
 - FW Update Settings
 - Set PRTC
 - Power Control
- FIRMWARE UPDATE SETTING
 - Local FW Update
- INTEL ® ME POWER CONTROL
 - Intel ® ME ON in Host Sleep States
 - Idle Time out

- INTEL ® AMT CONFIGURATION
 - Manageability Feature Selection
 - SOL/IDER/KVM
 - User Consent
 - Password Policy
 - Network Setup
 - Activate Network Access
 - Unconfigure Network Access
 - Remote Setup and Configuration
- SOL/IDER/KVM
 - Username and Password
 - SOL
 - IDER
 - Legacy Redirection Mode
 - KVM
- USER CONSENT CONFIGURATION
 - User Opt-in
 - Opt-in Configurable from Remote IT
- INTEL ® ME NETWORK SETUP
 - Intel ® ME Network Name Settings
 - TCP/IP Settings
- INTEL ® REMOTE CONFIGURATION
 - Remote Configuration
 - PKI DNS Suffix
 - Manage Hashes
- Change Intel ® ME Password (HP highly recommends that this password be changed. The default password is **admin**.)

In order to remotely manage AMT systems, the administrator must use a remote console that supports AMT. Enterprise management consoles are available from suppliers such as HP, Altiris and Microsoft SMS. In SMB mode, the client provides a Web browser interface. To access this feature, open a browser from any other system on the network and enter `http://host_name:16992` where `host_name` is the name assigned to the system. Alternatively, the IP address may be used in place of the host name.


Replicating the BIOS Setup

The following procedures give an administrator the ability to easily copy one BIOS Setup configuration to other computers of the same model. This allows for faster, more consistent configuration of multiple computers.

 **NOTE:** Both procedures require a supported USB media device.


NOTE: HP System Software Manager (SSM) can be used to replicate computer setup information from within the Windows operating system. For more information see the SSM User's Guide at <http://www.hp.com/go/ssm>.

Copying to Single Computer

 **CAUTION:** A BIOS Setup configuration is model-specific. File system corruption may result if source and target computers are not the same model. For example, do not copy the BIOS Setup configuration from an HP Compaq Elite PC to an HP Compaq Pro PC.

To copy a BIOS Setup configuration from a computer:

1. Select a computer with the BIOS Setup configuration that you want to copy.
2. Turn off the computer. If you are in Windows, click **Start > Shut Down > Shut Down**.
3. Insert a USB media device into the computer.
4. Turn on the computer.
5. As soon as the computer is turned on, press **F10** before the computer boots to the operating system to enter Computer Setup. Press **Enter** to bypass the title screen, if necessary.


 **NOTE:** If you do not press **F10** at the appropriate time, you must restart the computer and again press **F10** before the computer boots to the operating system to access the utility.

6. In the Computer Setup utility, select **File > Replicated Setup > Save to Removable Media**. Follow the instructions on the screen to create the configuration USB media device.


To replicate the BIOS Setup configuration on a target computer:

1. Turn off the computer to be configured and insert the USB media device.
2. Turn on the computer to be configured.
3. As soon as the computer is turned on, press **F10** before the computer boots to the operating system to enter Computer Setup. Press **Enter** to bypass the title screen, if necessary.
4. In the Computer Setup utility, select **File > Replicated Setup > Restore from Removable Media**, and follow the instructions on the screen.
5. When the configuration is complete, remove the USB media device and restart the computer.

Copying to Multiple Computers

 **CAUTION:** A BIOS Setup configuration is model-specific. File system corruption may result if source and target computers are not the same model. For example, do not copy the BIOS Setup configuration from an HP Compaq Elite PC to an HP Compaq Pro PC.

This method takes a little longer to prepare the USB media device, but copying the configuration to target computers is significantly faster.

 **NOTE:** A bootable USB media device is required for this procedure.


Configure a bootable USB media device to automatically start Repsetup.exe:

1. Download a BIOS utility for replicating setup (Repsetup.exe) and copy it onto a USB media device. To obtain this utility, go to <http://welcome.hp.com/country/us/en/support.html?pageDisplay=drivers> and enter the model number of the computer.
2. On the bootable USB media device, create an autoexec.bat file containing the following command:

```
Repsetup.exe
```


To copy a BIOS Setup configuration from a computer:

1. Insert the bootable USB media device into the computer with a BIOS setup configuration that you want to copy.
2. Turn off the computer. If you are in Windows, click **Start > Shut Down > Shut Down**.
3. Turn on the computer.
4. As soon as the computer is turned on, press **F10** before the computer boots to the operating system to enter Computer Setup. Press **Enter** to bypass the title screen, if necessary.

 **NOTE:** If you do not press **F10** at the appropriate time, you must restart the computer and again press **F10** before the computer boots to the operating system to access the utility.

5. In the Computer Setup utility, select **File > Replicated Setup > Save to Removable Media**. Follow the instructions on the screen to create the bootable USB media.

To replicate the BIOS Setup configuration on target computers:

 **CAUTION:** Not all computers can be booted from a USB media device. If the default boot order in the Computer Setup (F10) Utility lists the USB device before the hard drive, the computer can be booted from a USB media device. You can press the F9 key at startup to boot to the boot menu and select the USB media device or change the boot order.

1. Turn off the computer to be configured. Insert the bootable USB media device and turn the computer on. The configuration utility will run automatically.
2. When the configuration is complete, remove the bootable USB media device and restart the computer.

5 Boot Block Emergency Recovery Mode

Boot Block Emergency Recovery Mode permits system recovery in the unlikely event of a ROM flash failure. For example, if a power failure were to occur during a BIOS upgrade, the ROM flash would be incomplete. This would render the system BIOS unusable. The Boot Block is a flash-protected section of the ROM containing code that checks for a valid system BIOS image when the system is turned on.

- If the system BIOS image is valid, the system starts normally.
- If the system BIOS image is not valid, a failsafe Boot Block BIOS provides enough support to search removable media for BIOS image files. If an appropriate BIOS image file is found, it is automatically flashed into the ROM.

To recover the system after it enters Boot Block Emergency Recovery Mode, complete the following steps:

1. Turn off the power.
2. Insert a CD or USB flash device containing the desired BIOS image file in the root directory.


 **NOTE:** The media must be formatted using the FAT16 or FAT32 file system.

3. Turn on the computer.

If no appropriate BIOS image is found, you will be prompted to insert media containing a BIOS image file.

If the system successfully reprograms the ROM, the system will automatically power off.

4. Remove the removable media used to upgrade the BIOS.
5. Turn the power on to restart the computer.

 **NOTE:** BitLocker prevents Windows Vista from booting when a CD containing the BIOS image file is in an optical drive. If BitLocker is enabled, remove this CD before attempting to boot to Windows Vista.

6 HP Web Site Support

HP engineers rigorously test and debug software developed by HP and third-party suppliers, and develop operating system specific support software, to ensure performance, compatibility, and reliability for HP computers.

When making the transition to new or revised operating systems, it is important to implement the support software designed for that operating system. If you plan to run a version of Microsoft Windows that is different from the version included with the computer, you must install corresponding device drivers and utilities to ensure that all features are supported and functioning properly.

HP has made the task of locating, accessing, evaluating, and installing the latest support software easier. You can download the software from <http://www.hp.com/support>.

The Web site contains the latest device drivers, utilities, and flashable ROM images needed to run the latest Microsoft Windows operating system on the HP computer.

7 Industry Standards

HP management solutions integrate with other systems management applications, and are based on industry standards, such as:

- Web-Based Enterprise Management (WBEM)
- Windows Management Interface (WMI)
- Wake on LAN Technology
- ACPI
- SMBIOS
- Pre-boot Execution (PXE) support

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