HP Compaq Business Desktop dc7700 Software Overview
September 2006

Abstract

The purpose of this white paper is to present both an overview of the preinstalled software operating system support along with a brief description of major software components and features. This white paper covers the new HP Compaq Business Desktop dc7700 models, along with a comparison to HP Compaq Business Desktop dc7600 and the HP Compaq Business Desktop dc7100.

Definition of Terms

Preinstalled applications – Applications that are installed in the factory and are ready to use immediately.

Preloaded applications – Applications from HP that are loaded on the hard drive in an uninstalled state; the user must install the application manually before it can be used. The HP Software Setup application provides a simple interface to access the uninstalled applications.

Software Setup –An application provided by HP that makes it easier to locate and install software that is preloaded (not preinstalled) on the hard drive.

Product family – A set of form-factor types within a numerically-defined series. For example, the HP Compaq Business Desktop dc7700 Series consists of the HP Compaq dc7700 Convertible Minitower Business PC, HP Compaq dc7700 Small Form Factor Business PC, and the HP Compaq dc7700 Ultra-slim Desktop Business PC.

QFE – Often referred as QFE's or quick fixes, Microsoft calls them Quick Fix Engineering Software Updates. The QFE's are important software updates provided by Microsoft and many are included in operating system images provided by HP.

***Restore Plus!* CD** – System recovery media provided by HP as ISO files in a partition on HDD. Users can burn these files onto a set of CD's that allow a user to re-image the system back to its factory state.

HP Backup & Restore Manager – application software that facilitates creation of the *Restore Plus!* CD sets as well as provides full disaster recovery and backup/restore functionality.

Standalone service packs – A large collection of QFE's from Microsoft that are grouped together to provide a significant update to an existing Microsoft operating system.

Sysprep (System preparation tool)—A Microsoft tool that prepares the operating system for imaging. This tool must be run before imaging a system and then deploying that image. Sysprep.exe can be found on your operating system CD obtained either from HP or Microsoft. Sysprep, as well as other useful documentation and tools, is contained in the named **deploy.cab**, located in the **support\tools** directory.

Operating System Support

Operating systems preinstalled[1] with the dc7700 series include one of the following:

- Microsoft Windows© XP Professional Edition with Service Pack 2
- Microsoft Windows XP Home Edition with Service Pack 2

Operating systems with Limited Supported[2] for the dc7700 series include:

- Windows 2000 with Service Pack 4

Operating systems NOT supported but have been tested and documented[3] for the dc7700 series include:

- None

Operating systems NOT supported[4] (not a complete list) by HP for the dc7700 series include:

- IBM OS/2
- Windows 95
- Windows Me
- Windows NT
- Windows 98SE

Operating systems certified[5] for the dc7700 series include:

- Red Hat Enterprise Workstation 3.0 (post launch availability)
- SUSE Linux Desktop (post launch availability)
- Novell Netware client (post launch availability)

Microsoft Windows XP

The dc7700 series will launch with a choice of Microsoft Windows XP Professional with Service Pack 2 or Windows XP Home Edition Service Pack 2 preinstalled.

Below is a table highlighting software components added to the dc7700 compared to previous generation products and can be used by IT Professionals as a guide to note driver changes within the Windows XP operating system.

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[1] Pre-installed support is defined as follows: 1) Operating System offered for sale pre-installed on system, 2) drivers fully WHQL certified, and 3) drivers posted to WEB (www.hp.com) at product announcement.
[2] Limited Support is defined as follows: 1) Operating System is not offered pre-installed, 2) critical sub-system drivers are available on web/CD within 30 days of product announcement (critical sub-systems include NIC, audio, video.)
[3] Test & Document Support is defined as follows: 1) OS is loaded and tested in a "will it run criteria", 2) no driver development, 3) problems are documented, 4) no integration testing and 5) no support provided by HP.
[4] Not Supported is defined as follows: 1) No loading of Operating System, 2) no testing and 3) no issue documentation.
[5] Certified is defined as follows: 1) Hardware is provided to vendor for testing and certification, 2) all drivers are OS vendor dependant, no support provided by HP, and 3) certification is posted to vendor Web site.

Table 1 Windows XP Software Component Version Comparison

Windows XP Driver Comparison	dc7700	dc7600	dc7100
Name	Version	Version	Version
ROM BIOS			
ROM Firmware for dc7100	-		786C1
ROM Firmware for dc7600	-	786D1	-
ROM BIOS	786E1 1.05		
Audio Drivers			
ADI AC97 Integrated Digital Audio	-	-	5.12.1.4070
Realtek HD Audio Driver	5.10.0.5275	5.10.0.5121	-
Communications Drivers			
Agere Systems PCI Soft Modem	2.1.65	2.1.47	2.1.45.10
Broadcom Drivers for Windows XP and 2000	9.52.0.0	8.27.1	7.73
HP WLAN 802.11a-b-g PCI WL500	-	-	2.4.225
Intel(R) PRO/1000 MT Drivers for Windows XP	9.4.21.0	6.4.16.1	6.4.16.1
Belkin Wireless NIC Driver	-	4.1.2.71	-
Graphics Drivers			
ATI Radeon Graphics Driver PCI Express	8.261.4.0	8.11.5-050405a-022	8.01
Intel(R) 915G Express Chipset Family	-	-	6.14.10.3829
Intel(R) 965G Express Chipset Family	-	6.14.10.4299	-
Intel(R) Broadwater XPDM Graphics	6.14.10.4642	-	-
nVidia Graphics Drivers - Windows XP	8.4.7.8	-	61.88
nVidia Rel 60 Driver - Windows XP		-	61.71
nVidia LPG Graphics Drivers - Windows XP		61.88	-
nVidia NVS280 PCI Registry Patch		1.01	-
Input Drivers			
Modular Access Keyboard Software		5.00	5.00
USB Serial Converter Driver		-	1.0.2146.0
HP Modular USB Smartcard Keyboard Adapter	-	-	4.2x.01
HP USB Smartcard Keyboard Adapter	4.30.0.1		

OS Support / Microsoft QFE's			
Microsoft DirectX 9.0b	-	1.00 A	1.00 A
Q815304 - Microsoft Windows Fix for S4 function broken on SP2	1.00		
Microsoft Explorer Hang during PnP fix - KB314405	-	1.00	1.00
Microsoft HTML Help Topics fix - Q811630	-	1.00	1.00
Microsoft IE6 SP1 November 03 Cumulative patch - Q824145	-	1.00	1.00
Microsoft Messenger Vulnerability fix - Q828035	-	1.00	1.00
Microsoft Windows DMA Downshift Fix	-	1.00	1.00
Microsoft Windows XP Service Pack 1 Hot fixes	-	1.00	1.00
Monitor INF and ICM Files	-	1.20	1.20
Multiple Fixes In RPC - Q824146	-	1.00	1.00
Chinese Quad Byte Support	2.00 a 2	2.00 A 1	2.00 A 1
Dot Net for Windows XP Pro	1.10	1.10	1.10
Intel Chipset Support for Windows	-	6.00	6.00
NTFS Security Update	-	1.02	1.02
Q828028 Microsoft Vulnerability within ASN fix	-	1.00	1.00
Q828741_Cumulative Update_Vulnerability within RPC_DCOM fix	-	1.00	1.00
Security Update_Vulnerability within Microsoft Windows fix_Q835732	-	1.00	1.00
Set Video Refresh rate.	1.2.1.3	1.2.1.3	1.2.1.3
Sun Java	-	1.4.2_03	1.4.2_03
USB 2.0 Upgrades for Windows XP	(integrated into SP2)	(integrated into SP2)	1.00
Windows XP MUI Pack - BULGARIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - CROATIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - ESTONIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - LATVIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - LITHUANIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - ROMANIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - SLOVAKIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - SLOVENIAN	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP MUI Pack - THAI	1.00 A (XP Pro only)	1.00 A (XP Pro only)	1.00 A (XP Pro only)
Windows XP SATA Fix Q812415	(integrated into SP2)	(integrated into SP2)	1.00
Windows XP Unchecked Buffer in Windows Shell Fix Q329390	(integrated into SP2)	(integrated into SP2)	1.00
WinXP ICH5 Intelide.sys Fix	(integrated into SP2)	(integrated into SP2)	-
Q885222 Performance of 1394 devices may decrease after installing Windows XP SP2	1.00	-	-
3 mode floppy driver for Windows 2000/XP	1.00	-	-
Q886199 – Fix for RDC Audio redirect failure	1.00	-	-
Q888111 - Updated UAA audio package for XP SP2	1.00	-	-
Q889673 DEP enabled XP2 system may fail resuming from sleep	1.00	-	-
Q895246 – Fix for DhcpRequestParams function broken on SP2	1.00	-	-
Q9909095 - System occasionally does not hibernate	1.00	-	-
Q923232 Microsoft Write Combining fix for XP SP2	1.00	-	-

Preinstalled Applications			
Adobe Acrobat Reader	7.0	6.00	6.00
Application Installer	2.00	2.00	2.00
Help Support Center	4.2.00101	4.00.0026 H 3	3.100.6.1
HP Backup & Recovery Manager	2.3i	-	-
HP ProtectTools Embedded Security Module 1.2	4.5 SP1	-	-
HP BIOS Configuration Manager for ProtectTools	**2.00**	-	-
Credential Manager for HP ProtectTools	1.5.0.631.40.4_RC6	-	-
HP ProtectTools Security Manager	2.00,D,3	2.00	1.00
Intervideo WinDVD Software	5.0.11.683	-	5.0.11.285
Roxio CinePlayer	-	2.2A	-
PDF Complete (select models only)	3.0.33	3.0.33	2.5.15
Safety and Comfort Guide - Desktop	3.100.3.1 D	3.100.3.1 D	3.100.3.1 C
ZIM SMS Mail	-	-	1.00
Symantec Antivirus	10.00	-	-
Norton Antivirus 2005	-	2005	-
Preloaded Applications			
Adobe Acrobat Reader	Preinstall for this product	Preinstall for this product	Preinstall for this product
Altiris Deployment Agent for Windows- Preload	6.50	6.10	5.50
Altiris Local Recovery	-	6.1.1592.0	6.00.381
Diagnostics for Windows - Commercial	-	-	Available on HP.com
Norton AntiVirus 2004	-	-	2004 A
CD Delivered Applications			
Roxio Easy CD Creator	-	-	6.1.1.48
Dantz Retrospect	-	7.0.272	6.5.342
Intervideo WinDVD Creator	-	-	5.0.11.285
Roxio DigitalMedia Plus	7.2.1	7.2 A	-
Web Delivered Applications			
HP Client Manager Software	hp.com/go/easy deploy	hp.com/go/easy deploy	hp.com/go/easy deploy
System Software Manager (SSM)	hp.com/go/ssm	hp.com/go/ssm	hp.com/go/ssm

Table 2 below summarizes the software updates (Softpaqs) available for download from www.hp.com/support. Table 2 also contains application software (and related updates) for the dc7700 (some of this software is dependent on specific hardware configuration details.)

Table 2 Windows XP Software Drivers available for dc7700

Windows XP dc7700 Softpaqs		dc7700
Name	Softpaq	Version
ROM BIOS		
ROM Firmware for dc7700 (786E1)	SP33710	1.05A
Chipset		
Intel Chipset Support for Windows 2000/XP	SP30737	8.0.0.1009 A
Audio Drivers		
Realtek High Definition Audio Driver	SP33498	5.10.0.5283
Communications Drivers		
Agere Systems PCI Soft Modem	SP33438	2.1.65
Broadcom NetXtreme Gigabit Drivers for Microsoft Windows XP	SP33670	9.52.0.0 A
Broadcom NetXtreme Gigabit Drivers for Multiple Operating Systems	SP33683	9.52.0.0 A
Intel(R) PRO/100/1000 MT Drivers for all Operating Systems	SP33671	9.4.21.0 A
Graphics Drivers		
Intel(R) Integrated Graphics Driver for Windows 2000/XP	SP33620	6.14.10.4670 A
ATI Graphics Driver	SP33525	8.26.1.4
nVidia Graphics Driver	SP33254	84.78
Operating System Updates and other Software		
Microsoft Windows XP SP2 Fix for RDC Audio Redirect Failure (Q886199)	SP32385	1.00 C
Set Video Refresh Rate Utility	SP25827	1.2.1.3
Lexar HP Secure		
LightScribe Driver Update	SP33668	1.4.111.3
HP BIOS Configuration for Protect Tools	SP33255	2.0-J-3
HP ProtectTools Java Card – mini	SP33290	B.4-a-2
HP ProtectTools Embedded Security Module	SP33107	4.5 SP1RC2-A-4
Credential Manager for HP ProtectTools	SP33291	2.0.0.802.12-A-3
MS Office 2003 Patch for Japanese Windows XP SP2 Upgrade	SP28929	
PDF Complete	SP33534	3.0.33

Microsoft Windows 2000

PC OEMs are no longer allowed to ship personal computers with Windows 2000 licenses; thus, HP will not be providing this operating system preinstalled on the dc7700 series. HP will continue to provide limited software support for Windows 2000 Professional with Service Pack 4. Available software drivers to support the dc7700

series for Windows 2000 are available for download from www.hp.com usually within 30 days of product launch. As a service, HP can install Windows 2000 on new PCs using customer provided Windows 2000 image via the HP PC Customization Services (PCCS) process. Interested customers should contact their HP account manger. Below is a list of Windows 2000 compatible drivers expected to be available within 30 days of the launch of the dc7700 product line:

Table 4 Windows 2000 Software Drivers available for dc7700

Windows 2000 dc7700 Softpaqs		dc7700
Name	Softpaq	Version
ROM BIOS		
HP Compaq Business Desktop System BIOS (786E1)	SP33710	1.05 A
Audio Drivers		
Realtek High Definition Audio Driver	SP33498	5.10.0.5283
Communications Drivers		
Broadcom Drivers for Windows XP and 2000	SP33683	9.52.0.0 A
Intel(R) PRO/100/1000 Drivers for all Operating Systems	SP33671	9.4.21.0 A
Graphics Drivers		
Intel(R) Graphics Driver for Windows 2000/XP	SP33620	6.14.10.4670
ATI Graphics Driver for Windows 2000/XP	SP33525	8.26.1.4
NVIDIA Graphics Driver	SP33254	84.78
OS Support / Microsoft QFEs		
Intel Chipset Support for Windows	SP30737	8.0.0.1009 A
Set Video Refresh Utility for Windows 2000/XP	SP25827	1.2.1.3
Preinstalled Applications		
HP ProtectTools Embedded Security		
HP ProtectTools Security Manager		
Preloaded Applications		
Altiris Deployment Agent for Windows (A Client)	SP33625	6.5.233 D

Microsoft Windows NT

Microsoft NT is not supported for the dc7700 series. Customers may experience some success with running Windows NT on the dc7700 but there will be limitations. Windows NT was retired by Microsoft from the PC OEM channel on 30 June 2002 with all maintenance support dropped on 30 June 2003. Most hardware technology introduced after 30 June 2003 is not supported by Microsoft or Intel. They will no longer provide the required software updates to make this operating system function. Please refer to the HP white paper *Operating System and Device Driver Support for HP Business Desktop Computers*, part number 372899-001.

ROM BIOS Information

Key features of the dc7700 BIOS include:

Deployment and manageability - HP BIOS provides several technologies that help integrate the HP Business desktop computer into the enterprise such as PXE, remote configuration, remote control, and F10 Setup support for 12 languages.

Stability - HP BIOS supports the HP stable product roadmap by releasing only critical BIOS changes to the factory and advanced change notification.

Security - HP BIOS offers a robust and flexible set of security features to help the system administrator secure their systems from removal of sensitive data, and help prevent access by unauthorized users, subversion of OS security

policies, removal of hardware, flash of rogue BIOS images, master boot record viruses, and attacks on BIOS settings.

Thermal and power management - The HP BIOS provides and enables thermal and power management technologies to assist in operating the HP Business Desktop computer in any enterprise environment.

Serviceability - HP BIOS provides diagnostic and detailed service information.

Upgrades and recovery - HP BIOS provides numerous ways to upgrade HP Business Desktop computers including BIOS updates from within DOS (Flashlite), BIOS updates from within Windows (HPQFlash, SSM), and fail-safe recovery.

Additional BIOS Highlighted Features

Power-On password - The power-on password helps prevent an unauthorized user from powering on the system. After a power-on password is established, the user is required to type the password during the power-on process.

Administrator password - The administrator password, also known as the setup password, helps prevent unauthorized changes to the system configuration. If the administrator password is not known, the BIOS version cannot be changed and changes cannot be made to BIOS settings using F10 setup or under the OS. Advanced Configuration and Power Interface (ACPI) - Advanced Configuration and Power Interface (ACPI) represents a significant innovation in power and configuration management, allowing operating systems and applications to manage power based on activity and usage. HP Compaq dc7700 models use ACPI to provide power conservation features under Windows XP and Windows 2000.

The ROM BIOS version that will initially ship on the dc7700 is version 1.05.

Common Image Considerations

One of the design benefits of the dc7700 product family is that HP carefully engineers the software image to be compatible across the various hardware form factors within the family. An important ingredient is delivering common hardware architecture as this reduces image compatibility issues. HP realizes that many of our customers create their own OS images to incorporate applications and standards for their business.

For these customers who create their own images it is recommended by HP to begin with the factory preinstalled image as a "base" for the common image. If the file system type or the partition structure is not desirable, HP recommends that you still use the factory preinstalled image to build the common image. File system and partitioning can be customized during the image load phase of the deployment process.

If the factory preinstalled image has already been removed from the hard drive, you may restore that image using the HP Backup & Recovery Manager included with the computer. For more information on building a common image please refer to HP document, *Building a Common Image, Developing a Common Image across HP Desktops,* part number 339083-002.

Software Image Development on dc7700 Stable Products

At the product launch of the dc7700 product family, the dc7700 small form factor (SFF), ultra-slim desktop (USDT), and convertible mini-tower (CMT) designs will utilize the Intel Q965 chipset. It is important to point out that HP will deliver a common software OS image that is fully compatible between the dc7700 CMT/SFF and USDT architectures.

- To prevent visible hardware re-enumeration between the SFF/CMT and USDT systems, HP recommends that customers follow recommended procedures to prepare their system image using Microsoft's Sysprep tool. For guidelines on how to develop a sysprep image refer to HP whitepaper, "Building a Common Image" part number 339083-002.
- If the software image is captured without first using Sysprep but instead copied to new systems using a disk duplication tool, the operating system will require discovery of new hardware causing visible re-enumeration, even on identical chipset hardware.

Visible re-enumeration is common function of the operating system (to enable hardware support) and should not be a cause for concern as long as the appropriate drivers are available for the operation system to locate and install. If during re-enumeration a software driver is not found during the discovery process the affected hardware will not be properly installed and the hardware device will be unavailable to the user. The hardware devices can be viewed using Windows Device Manager and each unavailable hardware device will display a yellow exclamation mark "!" commonly referred to as bang. At this point, proper loading of the appropriate software driver for the hardware device will enable the unsupported device to function.

Important Note: When creating a master image it is very important to keep the hardware device drivers in their original directory locations. Moving them can cause Windows to not properly locate the software drivers for installation during the hardware discovery process and fail. If it is deemed necessary to move drivers to another location within the image, it is important to update the path directory requirement for the Sysprep process. For more about driver directory path structures see "Pooling Drivers on the Reference Machine" in the HP whitepaper, "Building a Common Image" part number 339083-002.

Software delivery

Delivery methods for software updates available for HP commercial computers include:

- HP Worldwide Web site and Download Facility (http://www.hp.com)
- HP Support Software CD
- HP *Restore Plus!* CD (ISO files included in HDD partition as part of the HP Backup & Recovery Manager software)

HP Worldwide Web site and download facility
Individual drivers and utilities can be downloaded, in the form of Softpaqs, from the HP Download Facility or from the Web site at http://h18000.www1.hp.com/support/files/ or ftp://ftp.compaq.com/pub/Softpaq/. Softpaqs provide a distribution method for driver and ROM updates and product software enhancements.

HP *Restore Plus!* CD
HP *Restore Plus!* CDs are provided with each HP Compaq desktop system as ISO files located in a recovery partition on the HDD. The ISO files can be accessed with HP Backup & Recovery Manager to burn to CD or to be moved to another safe location for later burning. The CDs provide an easy-to-use complete restore solution for preinstalled operating systems. This restore solution allows users to return the operating system to near factory state. Please refer to the *Restore Plus!* installation manual for instructions on restore options.

Software enhancements

This section discusses the following software enhancements:

- HP Client Manager Software

- Video
- Audio
- DMI Transition
- User Manuals

HP Client Manager Software

HP Client Management Solutions, part of the HP Adaptive Management initiative, respond to customer needs for easy-to-manage computers in stand-alone and networked environments. HP, in partnership with Altiris, a recognized leader in delivering cost-reducing lifecycle management technologies, offers a cohesive set of solutions that span the entire IT lifecycle. The combination of HP Client Manager and Altiris solutions helps enables customers to lower total ownership costs on HP systems. HP and Altiris solutions focus on business needs in the following critical lifecycle areas:

- HP platform management – Proactively respond to hardware changes, alerts, and manage mass updates to system software.
- Deployment & Migration – Manage the end-to-end software deployment and migration process.
- Inventory & Asset management – Keep track of hardware and software within the business environment.
- Help desk & problem resolution – Help resolve customer issues and streamline the help desk.
- Connectors – Integrate with enterprise technology and systems management solutions.

With both stan   d-alone solutions and integrated suites, customers can manage hardware and software from a single Web-based console to address the complete IT lifecycle. For more information, see the brochure, *HP and Altiris Client Management Solutions* (5981-4665EN), or visit the HP Web site at www.hp.com/go/easydeploy.

Video

HP dc7700 PCs feature the Intel Graphics Media Accelerator X3000. Intel software drivers enable all functionality of the video hardware. Driver support is complemented by a display utility that provides easy access to video settings through the Windows Control Panel.

Audio

The dc7700 incorporates the UAA (Universal Audio Architecture) hardware via a RealTek ALC262 High Definition audio CODEC. In order to enable the HD audio BUS, Q888111 (The Microsoft UAA bus driver) must be applied to the system before the RealTek driver is installed. Both Q888111 and the RealTek audio driver are available from the HP support web site for the dc7700.

DMI Transition

The Desktop Management Task Force (DMTF) introduced the DMI standard almost ten years ago. Due to new standards adoption such as the Common Information Model (CIM), the DMTF has initiated end-of-life for DMI. Given other advancements in HP Client Management Solutions, HP Systems Insight Manager, and Microsoft's implementation of CIM, known as Windows Management Instrumentation (WMI), the HP Insight Management Agent is no longer being provided on new HP commercial desktop, workstation, and notebook models introduced after January 1, 2004.

Microsoft Windows Management Instrumentation (WMI) is standard with Windows 2000 and Windows XP. WMI provides hardware inventory and alert information directly through the Windows OS to a system management application.

HP Client Manager (HP CM) developed with Altiris, is a free hardware management solution for HP commercial desktop, notebook and workstation models. It tracks detailed inventory information, monitors hardware faults, and

can update drivers and BIOS on client PCs. HP CM can also integrate with HP Systems Insight Manager to provide consolidated deployment and management of HP clients and servers from a single HP Systems Insight Manager console.

User manuals

Numerous manuals are available on the *Documentation* CD included with the dc7700 desktop:

- **Quick Setup** - Provides information needed to connect your computer and peripheral devices.
- **Getting Started** - Provides information needed to set up factory-provided software. Basic troubleshooting is also provided should you have problems during initial startup.
- **Hardware Reference** - Provides basic information for upgrading this series of computers.
- **Computer Setup (F10) Utility** - Provides instructions on how to use Computer Setup. This tool is used to reconfigure and modify computer default settings when new hardware is installed and for maintenance purposes.
- **Desktop Management Guide** - Provides definitions and instructions for using security and manageability features that are preinstalled on select models.
- **HP ProtectTools Embedded Security** - Provides instructions for using the software that allows you to configure settings for the HP ProtectTools Embedded Security chip.
- **Network and Internet Connections** - Provides definitions and instructions for using network interface controller (NIC) features that are preinstalled on select desktop models.
- **Troubleshooting** - Provides helpful hints and solutions for troubleshooting this series of computers as well as scenarios for possible hardware and software problems.
- **Safety and Regulatory Information** - Provides safety and regulatory information that is compliant with U.S., Canadian, and International regulations.
- **Warranty*** - Provides the warranty terms and conditions, warranty period, and types of warranty service available for the product

General Software Image Contents

HP Compaq Business Desktops come standard with a factory-installed software image. The image consists of a number of separate software components including the operating system (such as Microsoft Windows XP Professional Edition), drivers for the specific hardware devices included with your system (such as graphics, network interface cards, modems, etc.) and a small number of additional applications. See the *Additional Software* section for possible list of applications.

Quick fixes (QFEs) are also included with the image for any Microsoft operating system issues that HP identified as problems that might affect its customers. These QFEs will show up under the Add/Remove Programs applet in the Control Panel. Since most of these fixes are critical in nature, they will appear grayed out by design so they cannot be removed.

Standalone service packs may also be preloaded on some systems depending on the version of the integrated operating system and the timing and nature of the HP Compaq Business Desktop product introduction. Other software applications that are preloaded include optional business software. Examples of these types of applications include Norton Anti-Virus, and Altiris Deployment Agent for Windows (A Client). An HP developed application called Software Setup provides a user interface to allow installation of these optional preloaded programs.

Following is a more detailed list of general software that may comprise the factory image:

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*This document is provided in print and on the Web only, and is not included on the Documentation CD.

Microsoft Windows Operating System Software

- Windows XP Professional or Windows XP Home Edition
- Microsoft Direct X
- .Net (pronounced dot net) Framework for Windows XP
- Microsoft-provided QFE's
- Quad Byte Supplement (for Simplified Chinese language only)
- Windows XP Professional Multilingual User Interface (MUI) Pack (for Eastern European and Thai regions)
- Standalone Service Packs

Hardware/OEM specific drivers and files

- Graphics
- Network Interface Card
- Audio
- Modem
- Wireless LAN
- HP Monitor INF
- Chipset INF
- HP SLP files for Windows XP – Allows a user to immediately use Windows XP without having to activate the operating system with Microsoft
- HP Online Crash Analysis File
- HP Security Guest account fix

HP Specific Applications

- HP Help and Support Center for Windows XP
- HP Software Setup (allows users to install components that are included with the image but not already installed)
- HP Online EULA for Windows XP
- HP Safety and Comfort Guide
- HP Technical Support Phonebook

- Set Video Refresh Rate

Other typically preinstalled applications

- Altiris Deployment Agent for Windows – A Client (preloaded)
- HP Openview Client Manager Agent
- Adobe Acrobat Reader (preinstalled)
- Microsoft Word (optional)
- Microsoft Works (optional)
- Microsoft Office XP (optional)
- Norton Anti Virus (optional)

In addition to the above list, some HP specific tools will temporarily reside on the hard drive during factory installation. These are later deleted from the drive but will show up if you examine the hard drive contents using one of the methods in the next section of this document. Some examples of these tools are:

- HP File Based installer
- HP FBI Toolbox
- HP Marketing Tweak Scripts
- HP Marketing Tweak Bitmaps & URLs
- Multiple OS Processing Module
- WinPE with Network Support
- Device Checking Utility
- Windows XP Unbundle Processing Tweaks
- Windows XP 2000 OS Tweaks
- CDC Flag Check Utility
- Extend MSC
- SDV ghost load high flag
- System corruption checker
- Set Video Refresh rate
- Preinstall Image tag
- Run CDC flag for USB devices
- Enable MSI extended debug
- Power management settings
- CVA Reader
- INFO.BOM Generator
- Online Crash Analysis Utility

Examining the Image Contents

Begin with the preinstalled image as a base for determining what is installed. If the preinstalled image has already been removed from the hard drive, you may restore using the *Restore Plus!* CD.

This white paper describes three methods of examining the factory-preinstalled image:

Examining the INFO.BOM file (OS-independent)

The preinstalled image on an HP Compaq Business Desktop contains a file called INFO.BOM located in the c:\system.sav folder (hidden folder) on the hard drive. This is a plain text file that contains a list of preinstalled software. The following shows a sample INFO.BOM file:

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ID#, P/N, PrismRev, Description, Version, Revision, Pass


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(01) 000000-00A, 100, POGEN PLACEHOLDER
(02) 218154-B2R, 100, MARKETING TWEAK SCRIPTS, VER 1.00, REV C, PASS 9
(03) 218155-B2T, 101, MARKETING BITMAPS AND URLS, VER 1.10, REV G, PASS 2
(04) 226623-B2H, 100, APPLICATION INSTALLER, VER 2.00, REV H, PASS 1
(05) 257956-B2C, 101, WINDOWS XP SLP FILES, VER 2.00, REV A, PASS 2
(06) 267992-B2D, 100, SYSTEM CORRUPTION CHECKER, VER 1.00, REV D, PASS 1
(07) 274432-B2H, 100, SET VIDEO REFRESH RATE., VER 1.2.1.3, REV H, PASS 1
(08) 284840-B2B, 100, BRAND.INI - COM DESK SRP, VER 1.00, REV B, PASS 1
(09) 291529-B2D, 100, TECH SUPPORT PHONEBOOK, VER 1.00, REV A, PASS 8
(10) 303647-B2C, 100, POWER MANAGEMENT SETTINGS, VER 1.00, REV A, PASS 4
(11) 303730-B2D, 100, MONITOR INF AND ICM FILES, VER 1.20, REV D, PASS 1
(12) 305407-B2A, 106, WINDOWS XP SP1 PRO AND HOME OS TWEAKS, VER 2.00, REV A, PASS 6
(13) 305408-B2B, 102, WINDOWS XP SP1 PRO AND HOME UNBUNDLE PROCESS TWEAKS, VER 3.00, REV A, PASS 2
(14) 306153-B2C, 100, ONLINE CRASH ANALYSIS FILE, VER 4.2, REV C, PASS 1
(15) 307374-B2B, 100, EXTEND NTFS MSC, VER 1.00, REV A, PASS 5
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(16) 316762-B21, 100, ASSEMBLY
   (16.01) 306733-B2A, 100, SDV GHOST LOAD HIGH FLAG, VER 1.00, REV A, PASS 1
   (16.02) 322276-B2A, 100
(17) 316856-B2E, 107, ADI AC97 INTEGRATED DIGITAL AUDIO, VER 5.12.1.4070, REV E, PASS 9
   * VEN_8086&DEV_266E&SUBSYS_3005103C, VEN_8086&DEV_266E&SUBSYS_3006103C, VEN_8086&DEV_266E&SUBSYS_3007103C
(18) 318044-B2E, 101, ADOBE ACROBAT READER, VER 6.00, REV E, PASS 2
(19) 323301-B2B, 100, HYPERTHREADING DEFAULTS, VER 1.00, REV A, PASS 3
(20) 323740-B2D, 106, HP PROTECTTOOLS EMBEDDED SECURITY, VER 3.00, REV D, PASS 7
   * ACPI\IFX0101
(21) 325642-B2E, 100, NTFS SECURITY UPDATE, VER E, REV 1.02, PASS 1
(22) 325643-B2B, 101, ALTIRIS EXPRESS AGENT - PRELOAD, VER 5.50, REV B, PASS 2
(23) 325740-B2A, 100, WINDOWS XP UNCHECKED BUFFER IN WINDOWS SHELL FIX Q329390, VER 1.00, REV A, PASS 1
(24) 325755-B2A, 102, MICROSOFT DIRECTX 9.0, VER 1.00, REV A, PASS 4
(25) 325939-B2B, 100, IT DEPT INFO README FILE, VER 1.00, REV B, PASS 1
(26) 326094-B2A, 100, PREINSTALL IMAGE TAG, VER 1.00, REV A, PASS 1
(27) 330899-B2A, 102, DRIVER REPAIR TEXT ADD ON, VER 1.00, REV A, PASS 3
(28) 333095-B2A, 100, INSTALL SHIELD FIX, VER 1, REV A, PASS 1
(29) 335591-B2B, 100, WINDOWS XP SATA FIX Q812415, VER 1.00, REV B, PASS 1
(30) 336614-B2D, 100, USB 2.0 UPGRADES FOR WINDOWS XP, VER 1.00, REV D, PASS 1
(31) 339254-B2A, 101, MICROSOFT WINDOWS DMA DOWNSHIFT FIX, VER 1.00, REV A, PASS 2
(32) 342538-B2A, 100, DOT NET 1.1 FOR WINXP INSTALL SCRIPT, VER 1.10, REV A, PASS 1
(33) 343140-B2E, 100, SUN JAVA, VER 1.4.2_03, REV E, PASS 1
(34) 347963-B2B, 100, MULTIPLE FIXES IN RPC - Q824146, VER 1.00, REV B, PASS 2
(35) 347966-B2A, 100, MICROSOFT DIRECTX 9.0B, VER 1.00, REV A, PASS 2
(36) 348293-B2A, 100, MICROSOFT EXPLORER HANG DURING PNP FIX - KB314405, VER 1.00, REV A, PASS 1
(37) 352304-B2A, 100, MICROSOFT HTML HELP TOPICS FIX - Q811630, VER 1.00, REV A, PASS 1
(38) 352601-006, 100, ASSEMBLY
   (38.01) 303650-00E, 100, COMMERCIAL EULA, VER 1.00, REV A, PASS 6
   (38.02) 307970-00B, 100, WINXP PROFESSIONAL SP1 SBSI, VER 2.00, REV A, PASS 1
   (38.03) 317498-00B, 100, DOT NET FOR WINXP, VER 1.10, REV A, PASS 1
   (38.04) 340314-00A, 101, WINDOWS XP PROFESSIONAL SP1A INTEGRATED I386, VER 1.00, REV A, PASS 2
   (38.05) 340322-00A, 102, WINDOWS XP SP1A PROFESSIONAL OS IMAGE APIC, VER 1.00, REV A, PASS 2
(39) 355084-B2A, 100, MICROSOFT MESSENGER VULNERABILITY FIX - Q828035, VER 1.00, REV A, PASS 1
(40) 356854-B2A, 100, MICROSOFT IE6 SP1 NOVEMBER 03 CUMULATIVE PATCH - Q824145, VER 1.00, REV A, PASS 1
(41) 357826-B2A, 101, WINDOWS XP SBSI GLOBAL INSTALL SCRIPT, VER 1.00, REV A, PASS 2
(42) 359229-B21, 109, ASSEMBLY
   (42.01) 153574-B2K, 100, FBI INSTALLATION TOOL BOX, VER 2.50, REV C, PASS 4
   (42.02) 228570-B2W, 101, MULTIPLE OS PROCESSING MODULE, VER 1.40, REV A, PASS 5
    * USR_FACTORY
   (42.03) 279843-B2D, 100, DMI UIA TOOL, VER 1.00, REV D, PASS 1
   (42.04) 288252-B2C, 107, WINPE WITH NETWORK SUPPORT, VER 1.00, REV C, PASS 6
   (42.05) 291900-B2F, 100, DEVICE CHECKING UTIL 32-BIT, VER 1.00, REV F, PASS 1
   (42.06) 300593-B2B, 100, INFO.BOM GENERATOR, VER 1.00, REV B, PASS 1
   (42.07) 325670-B2C, 101, HP FILE BASED INSTALLER, VER 1.60, REV E, PASS 4
   (42.08) 333746-B2C, 100, CDC FLAG CHECK UTILITY, VER 1.05, REV C, PASS 1
   (42.09) 346573-B2E, 102, DEVICE CHECKING UTIL 32-BIT CONFIG, VER 2.00, REV E, PASS 3
   (42.10) 367180-B2A, 100, CHECK FOR CERTAIN FILES, VER 1.00, REV A, PASS 1
(43) 359674-B2A, 108, HP PROTECTTOOLS SECURITY MANAGER, VER 1.0, REV A, PASS 9
(44) 359678-B2A, 107, BROADCOM DRIVERS FOR WINDOWS XP AND 2000, VER 7.73.0.0, REV A, PASS 9
   * VEN_14E4&DEV_1676, VEN_14E4&DEV_1677, VEN_14E4&DEV_1696, VEN_14E4&DEV_16A6, VEN_14E4&DEV_1653, VEN_14E4&DEV_166E
(45) 360182-B2B, 101, MICROSOFT WINDOWS XP SERVICE PACK 1 HOTFIXES, VER 1.00, REV B, PASS 2
(46) 360426-B2A, 114, INTEL GRANTSDALE GRAPHICS DRIVER, VER 6.14.10.3829, REV A, PASS 14
   * VEN_8086&DEV_2582, VEN_8086&DEV_2782
(47) 360458-B2B, 100, PROTECT YOUR PC OOBE SCREEN, VER 1.00, REV A, PASS 2
(48) 361874-B2A, 102, INTEL CHIPSET SUPPORT FOR WINDOWS XP (ICH6), VER 6.00, REV A, PASS 3
   * VEN_8086&DEV_2580, VEN_8086&DEV_2581, VEN_8086&DEV_2584, VEN_8086&DEV_2585, VEN_8086&DEV_2640, VEN_8086&DEV_2641,
VEN_8086&DEV_2642, VEN_8086&DEV_266A, VEN_8086&DEV_244E, VEN_8086&DEV_2448, VEN_8086&DEV_2660, VEN_8086&DEV_2662,
VEN_8086&DEV_2664, VEN_8086&DEV_2666, VEN_8086&DEV_2651, VEN_8086&DEV_2652, VEN_8086&DEV_266F, VEN_8086&DEV_2658,
VEN_8086&DEV_2659, VEN_8086&DEV_265A, VEN_8086&DEV_265B, VEN_8086&DEV_265C
(49) 364887-B2B, 100, Q828028 MICROSOFT VULNERABILITY WITHIN ASN FIX, VER 1, REV B, PASS 1
(50) 370917-B2A, 101, SECURITY UPDATE_VULNERABILITY WITHIN MICROSOFT WINDOWS FIX_Q835732, VER 1.00, REV A, PASS 2
(51) 370918-B2A, 100, Q828741_CUMULATIVE UPDATE_VULNERABILITY WITHIN RPC_DCOM FIX, VER 1, REV A, PASS 1
```

The previous list includes the HP software part number, database revision, name of the software, version, revision, pass, and a list of hardware Plug-and-Play ID's that are supported (if applicable). You can use Notepad or any other application that displays text files to examine the contents of this file.

HP Branded XP Help and Support Module

The HP dc7700 series desktop ships with an HP modified Windows XP Help and Support module. This module includes many new customer support enhancement as well as a revised new look.

Feature Overview

- **My HP Computer**: Access general information about your HP PC in addition to installed hardware and software.

- **Display of Product name and Serial number**: Easy identification of product model and serial number. Information extracted from the system BIOS.
- **HP Product Information**: Web link to model specific product information (Internet connection required).
- **HP Software and Drivers Downloads**: Web link to model specific software and driver downloads (Internet connection required).
- **HP Support Tools**: Web link to HP Instant Support chat service (Internet connection required).
- **Contact HP for Support**: Access to HP Customer Support phone numbers and Web link to HP Instant Support chat service (Internet connection required for HP Instant Support chat service).
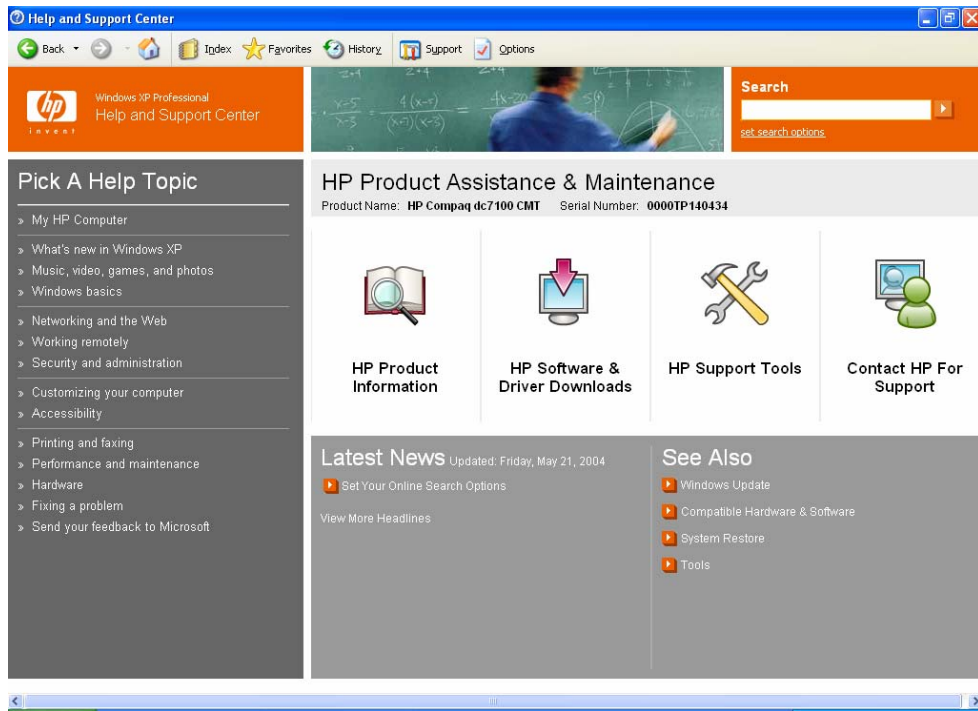
Figure 1 - Windows XP Help and Support – HP Version

Preloaded Components

Some software may be preloaded (versus preinstalled). To view a list of preloaded components, you can run HP Software Setup. To run Software Setup, click **Start** > **All Programs** > **Software Setup**. A welcome screen will be displayed followed by a list of preloaded components. From Software Setup, you can select the programs you want to install. The Software Setup application will launch the setup program for any of the components selected.
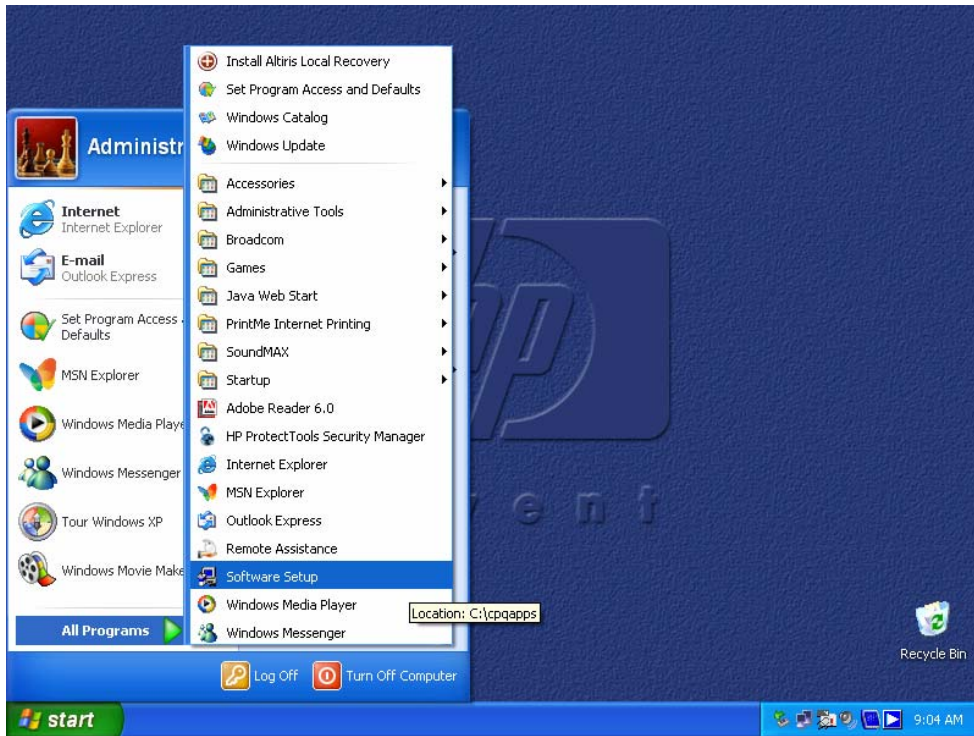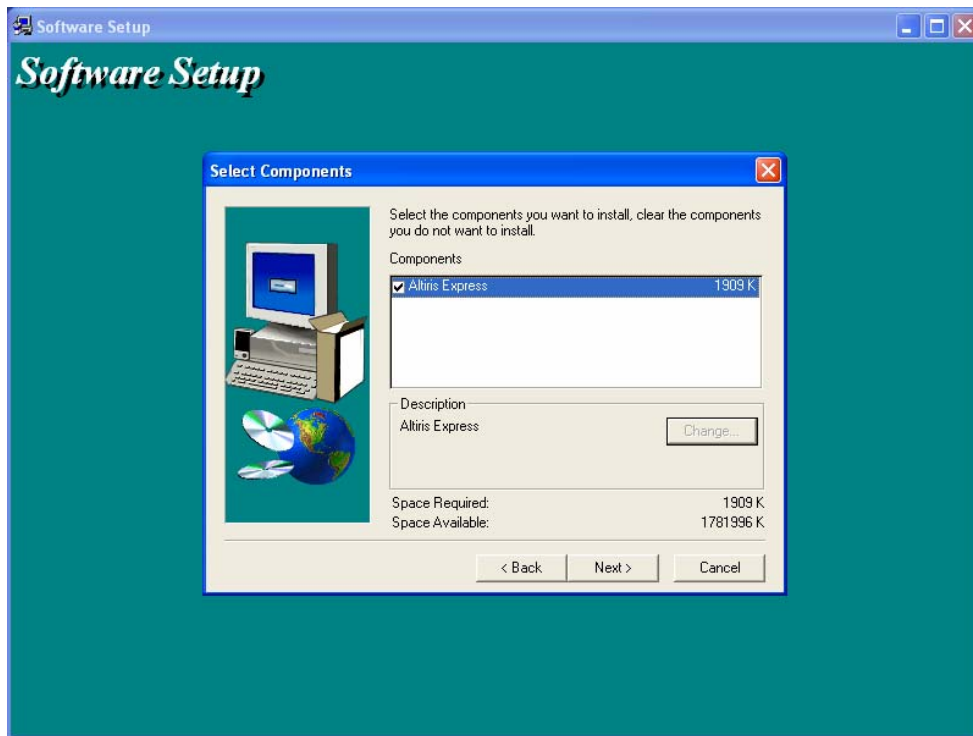
Figure 2 - Access to HP Software Setup
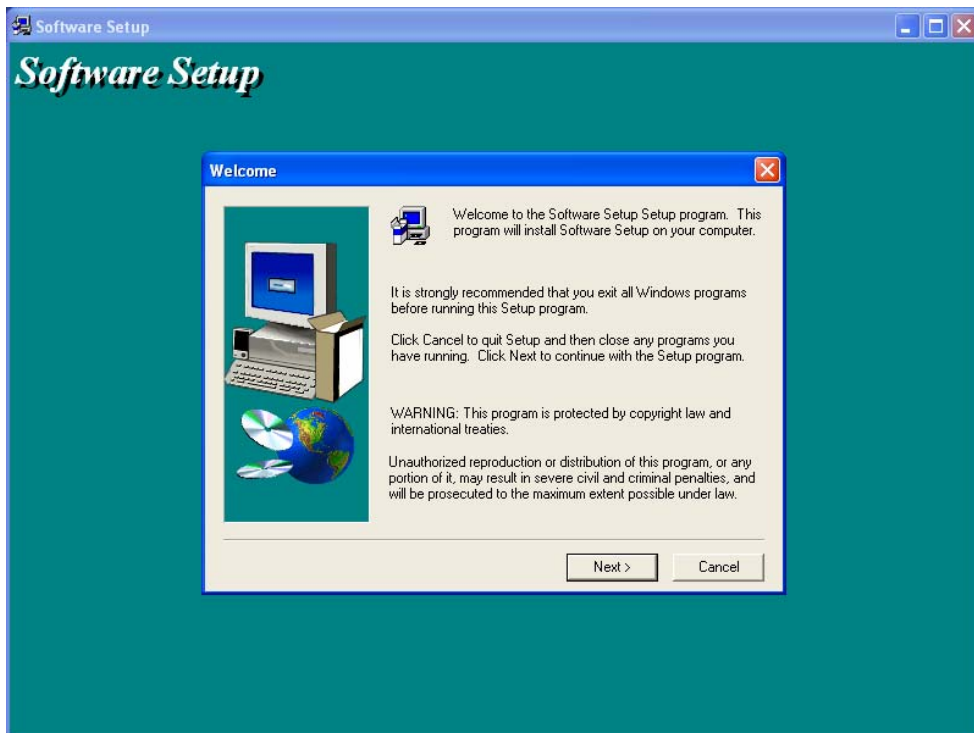
Figure 3 – HP Software Setup Welcome Screen

Figure 4 – HP Software Setup Screen

Additional Software

HP provides additional software on its PCs which can vary depending on the hardware configuration ordered. The additional software may be pre-loaded, preinstalled or provided on CD with the PC when shipped. Below is a list of additional software that may have shipped on your dc7700 system:

- **Adobe Acrobat Reader** – Adobe® Reader® 7.0 is an application that lets you view and print Adobe Portable Document Format (PDF) files on a variety of hardware and operating system platforms (ships preinstalled).
- **HP Backup & Recovery Manager** – HP provides free data and system file protection for its business desktops, notebooks, and workstations. With HP Backup & Recovery Manager, you can quickly recover and get back to work when information is accidentally deleted or your operating system is corrupted.
- **HP ProtectTools** – HP ProtectTools Embedded Security Solution Software is a comprehensive set of tools that enables use of the HP ProtectTools Embedded Security Chip available on select desktop and notebook computers from HP. This solution provides a range of security features and application support including local file/folder encryption, protected digital certificate operations and support for the RSA SecurID software token authentication solution. Designed to the Trusted Computing Group (TCG) standard, HP ProtectTools Embedded Security is ready for future applications designed to use the TCG standard, as well as those available today. HP ProtectTools Embedded Security is a hardware security chip, called the Trusted Platform Module (TPM) that integrates the core elements of trust into the subsystem (ships with the HP TPM).
- **HP ProtectTools Smart Card Security Manager** helps prevent unauthorized users from accessing business or personal data on your notebook, with added Smart Card BIOS preboot capabilities advantage of industry standards like CAPI and PKCS#11

- **Intervideo WinDVD** supports DVD playback for all systems that include a combo (CD-RW/DVD), DVD-ROM, or DVD +/- RW drive.
- **Roxio DigitalMedia Plus** – Roxio's "all-in-one" suite of applications that allows you to burn data, video, audio, create labels and play DVDs all from one application. Roxio DigitalMedia Plus allows you to rip, play, edit, organize and burn your digital music, preserve memories in electronic albums, create photo slide shows, or print or e-mail photos. Save large data projects to multiple discs or copy personal discs. Do more with your digital media with this powerful, easy-to-use and fully integrated product.

    PDF Complete Special Edition - Generate PDF files from any Windows application with the click of a button. The PDF format is a de-facto standard for the distribution of "read-only" company to company document interchange. Output created by PDF Complete SE are 100% compatible with Adobe Acrobat reader. After PDF Complete Special Edition has created 50 pages, it begins to place a small PDF Complete watermark on each page. A user may remove this watermark and receive additional features and benefits by upgrading to other PDF Complete products. However, even if a user does not choose to upgrade, PDF Complete Special Edition will continue to produce high quality PDF documents (ships preinstalled).
- **Set Video Refresh Rate** – Set Video Refresh Rate is a utility which attempts to optimize the monitor's refresh rate, and in some cases the resolution, for the best user experience. It does this by querying the capabilities of the display adapter and the monitor. For more information, see information contained in the Softpaq on the HP website for Set Video Refresh Rate.

Thank you for your purchase of and interest in HP business PC products. HP hopes that this white paper was useful in helping you understand the contents of your factory installed Business PC software image.

Frequently asked questions

Q: How can DVD movies be viewed on Business Desktop dc7700 models?
A: Intervideo WinDVD combines the picture and sound features of a PC to bring your DVDs to life. With comprehensive audio support, including Dolby Digital decoding, WinDVD lets you enjoy an unmatched theater experience anytime.

Q: Is the dc7700 preinstall image also compatible with other dc7700 models?
A: Yes, the dc7700 preinstalled software image has been tested with the CMT, USDT and SFF form factors.

Q: How do I obtain updated software components?
A: The latest software updates are available from the HP Web site at http://www.hp.com. For customers without Web access, the HP Software Support CD Kit is available.

Q: Will the current image change significantly if new models are introduced?
A: Changes made to the preinstall images will be limited to critical fixes, modifications that support new hardware features, and Microsoft related security issues or enhancements that will significantly improve overall system performance. Customers concerned about image changes should sign up for the HP Product Change Notification (PCN) process. See next question.

Q: How will I know what has changed?
A: Updated HP desktop family software white papers describe updates or differences in software versions that are introduced with new products. HP Product Change Notification (PCN) is another method of communication to inform customers of changes to shipping models. For more information, go to http://www.hp.com/go/pcn.

Q: What is the difference between preloaded and preinstalled software?
A: Preinstalled software refers to drivers, hardware enabling utilities, and applications that are ready to use as soon as your system has completed setup after initial power-on (unbundling). Preloaded software refers to applications and utilities that provide additional features on applicable models, such as management, DVD playback or CD-RW burning and must be installed prior to use.

Q: Why is some software preloaded?
A: Select software is preloaded to provide flexibility for our customers. It's loaded onto the hard drive but in an uninstalled state.

Q: How do I install preloaded software?
A: HP has made installation of preloaded software easy by including a Software Setup application. Simply launch Setup Software by clicking **Start** > **Programs** > **Software Setup**, select the desired applications, and follow the easy-to-use menus.

For more information

To learn more about preinstalled software with OS support, contact your local HP sales representative or visit our Web site at http://www.hp.com.