



INSTALLING UEFI-BASED MICROSOFT WINDOWS VISTA SP1 (X64) ON HP ELITEBOOK AND COMPAQ NOTEBOOK PCS

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Introduction

The purpose of this document is to describe the steps required to successfully install UEFI (Unified Extensible Firmware Interface) based Microsoft® Windows Vista® SP1 on HP Notebook PCs. Microsoft initiated support of UEFI boot on x64 systems with Windows Vista SP1. HP EliteBooks and Compaq Notebooks began support of UEFI boot in 2008.

The following notebooks are those platforms and models supporting UEFI at the time of this writing:

- HP EliteBook Mobile Workstation, Notebook PC and Tablet PCs (8530p, 8530w, 8730w, 6930p, 2530p, 2730p)
- HP Compaq Notebook PCs (6735s, 6535s, 6735b, 6535b, 6730s, 6830s, 6530b, 6730b, 2230s)

Step 1: HP and Compaq notebooks are shipped with the BIOS boot as default, so to enable the UEFI boot; the user must first make the change to UEFI boot at the Setup. To accomplish this, immediately after the PC is powered on, enter Setup by pressing <ESC> when prompted and then press <F10> - see Figure 1.

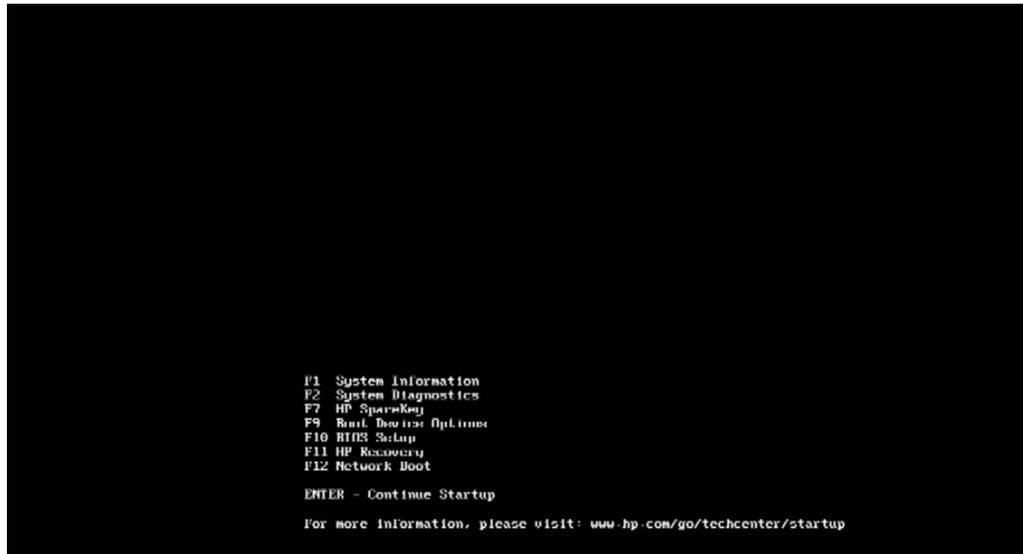


Figure 1: Screenshot after pressing <ESC>

While in Setup, press the <TAB> key to select the System Configuration page – see Figure 2.

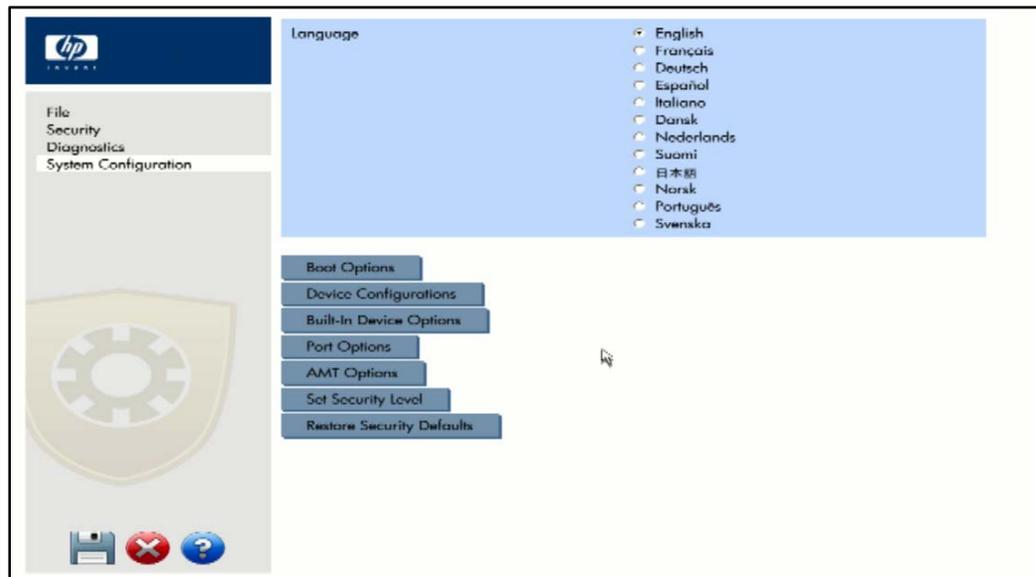


Figure 2: Screenshot of the System Configuration page

While on the System Configuration page, select the Device Configuration page – see Figure 3.

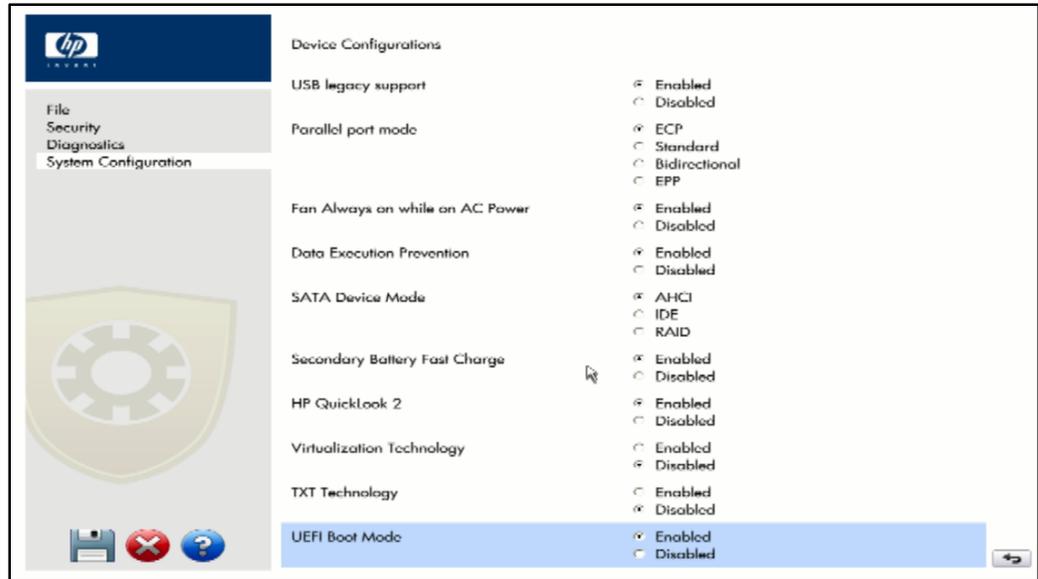


Figure 3: Screenshot of the Device Configuration page

While on the Device Configuration page, make sure the UEFI Boot Mode is enabled. Also, if HP QuickLook 2 application use is desired, make sure HP QuickLook 2 is enabled as well.

Now exit the Setup, making sure to save these changes – the system will reboot.

Step 2: After the system reboots, press <ESC> and then select <F9>. On the F9 menu, select the “Boot From EFI File” option (this option only shows up when the PC is in the UEFI Boot Mode). See Figure 4.

Note: Selecting the “Boot From EFI File” option enables launching the Windows Setup process from the installation media using the UEFI boot method on the Windows installation DVD. The UEFI boot of Windows Setup is required for Windows to configure the installed operating system for UEFI boot. If the UEFI boot method on the installation DVD is not used, Windows Setup will launch using BIOS firmware by default, and the installed operating system will use BIOS boot.

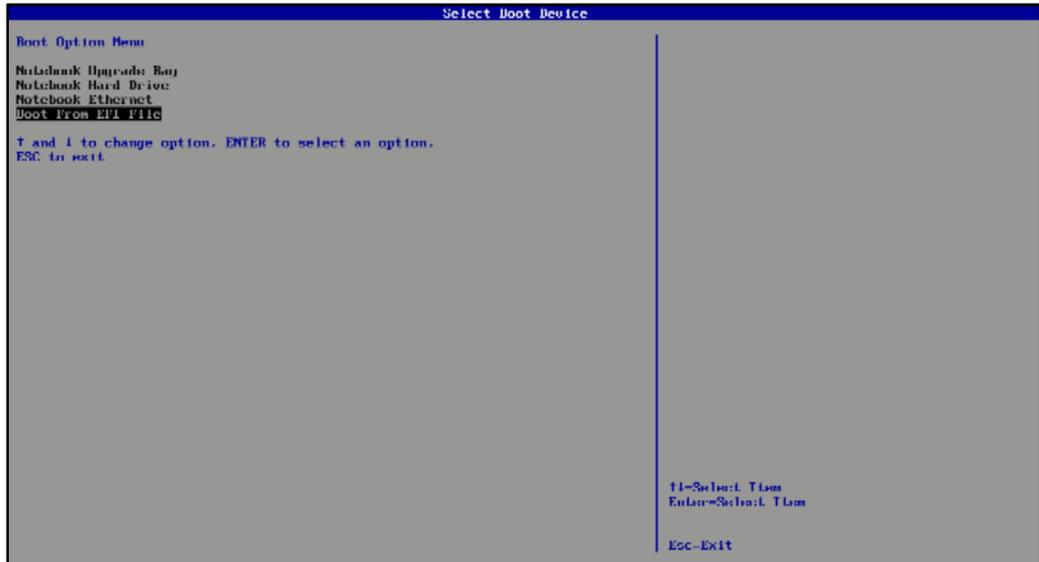


Figure 4: Screenshot of the F9 Menu. The “Windows Boot Manage” boot option will not be listed if this is the first time installing UEFI-based Windows Vista SP1

The initial File Explorer menu lists available storage devices including a “Primary Master” hard disk, if the hard disk is formatted, and an entry for Removable Media for the “CDROM”, if the installation media is inserted into the CD/DVD reader. Select the CDROM entry (one that has the Removable Media type with the CDROM (Entry1) as the last portion of the device path shown). See Figure 5. If the hard disk has never been formatted, the CDROM entry should be the only one shown.

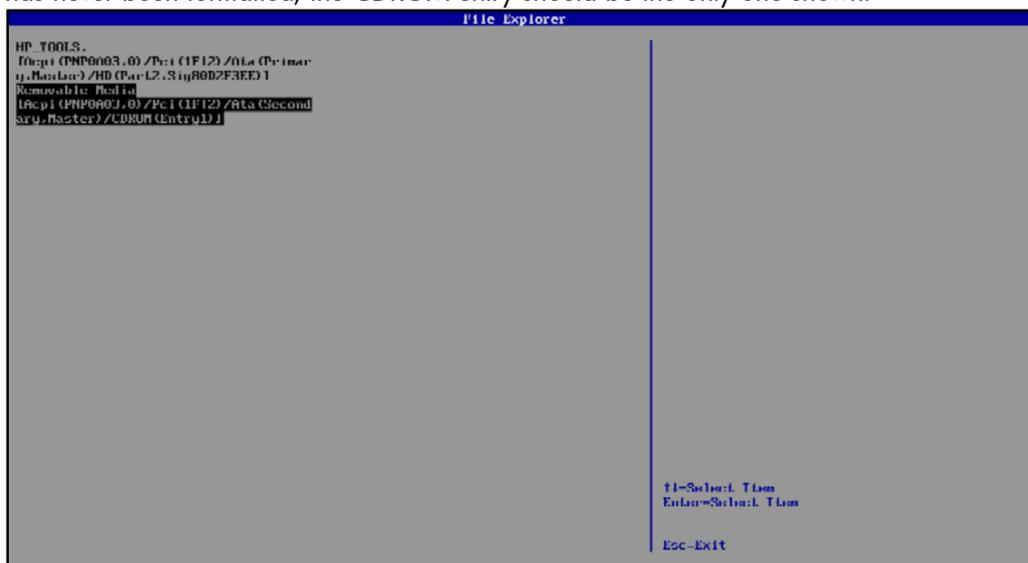


Figure 5: Screenshot after selecting “Boot from EFI File”

Now the File Explorer will list the directory structure of the UEFI boot portion of the Windows Vista SP1 Installation DVD. Navigate to the \EFI\BOOT directory, and select **Bootx64.efi**. This will clear the screen and present the message, "Press any key to boot from CD or DVD...".

Step 3: After Windows Setup is launched from the install media, the Windows Vista SP1 installation process for either UEFI or BIOS configuration is the same. The difference in the installed system after Setup completes is the hard disk partition format uses the GPT format with UEFI enabled, and the Windows boot environment uses a UEFI version of the Windows boot manager. Without UEFI enabled, the installed operating system uses the MBR format for hard disk partitions and a BIOS version of the Windows boot manager. If the user wants to install UEFI-based Windows Vista SP1 on a hard disk already formatted in MBR, the warning message "Windows cannot be installed to this disk" would appear. The user must delete all partitions before start the installation. The same is true in the reverse scenario if the user wants to install BIOS-based Windows Vista SP1 on a hard disk already formatted in GPT. See Figure 6.

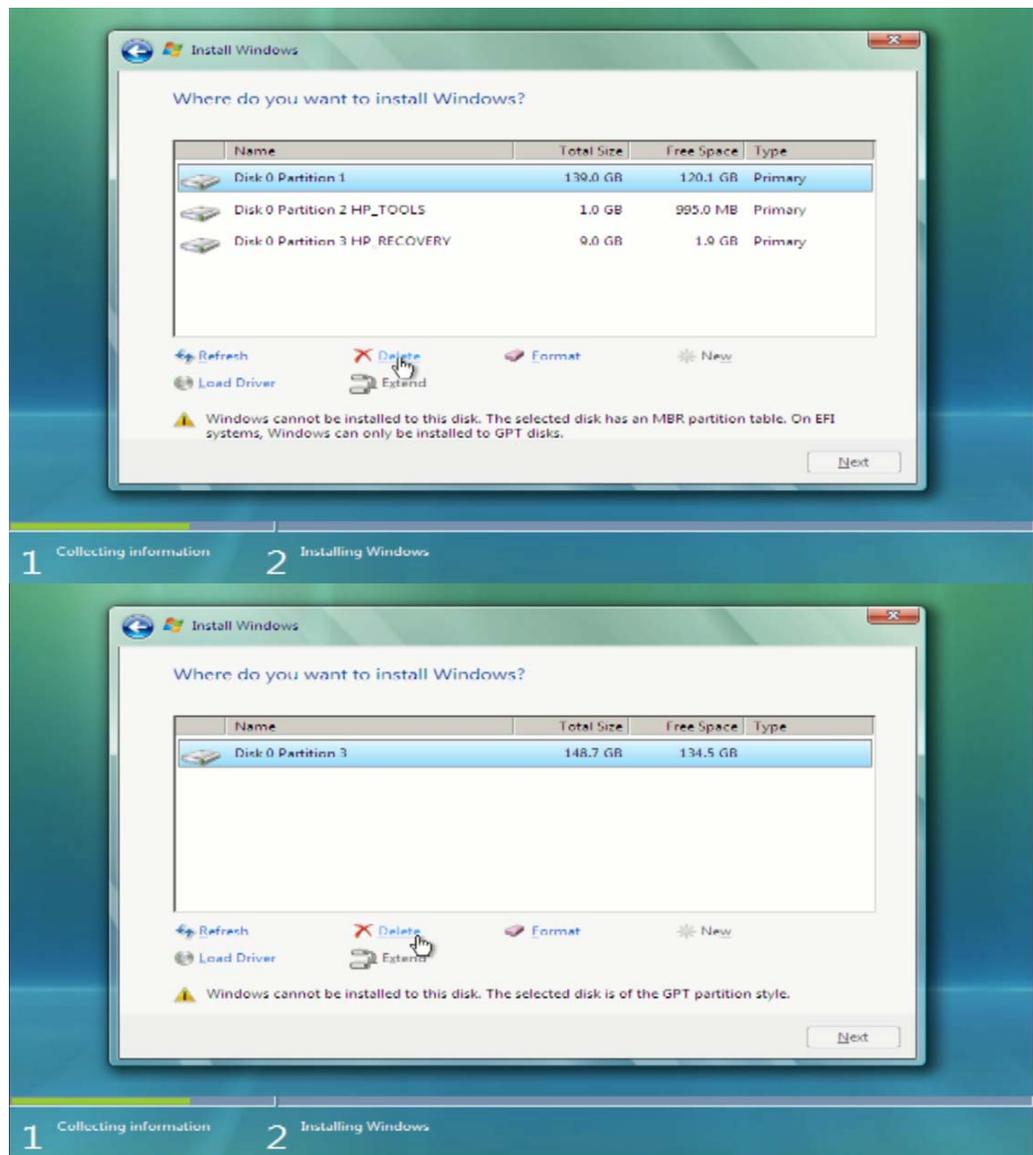


Figure 6: Deleting existing partitions before installation top: existing MBR disk for UEFI-based Vista SP1 install; bottom: existing GPT disk for BIOS-based Vista SP1 install)

If the user intends to install HP QuickLook 2, HP System Diagnostic or BIOS Recovery, an additional disk partition HP_TOOLS must be created and it must be assigned a drive letter after the OS is started. Please refer to the white paper “[HP Business Notebook Computer EFI Guidelines](#)” for more details.

Step 4: After the installation is complete, open the Disk Manager Console to verify the Windows Vista SP1 installation configured the system for the UEFI firmware environment. The Disk Manager will show two partitions on the disk, and one of the partitions is identified as the “EFI System Partition”. Another way to verify

that the system is configured for UEFI boot is to check the Windows Vista SP1 boot configuration.

To check the boot configuration, start a command prompt and run as Administrator (Click **Start**, in the **Start Search** box, type **command**. A list of matches will appear above. Right-click **Command Prompt** in **Programs** list, and then click **Run as administrator**. You will likely be prompted for an administrator confirmation, or a password. Type your password or click Continue). From the command prompt, run the command: **bcdedit** – which will display the boot configuration for Windows Vista SP1. You will see the Windows Boot Manager path refers to \EFI\Microsoft\Boot\bootmgfw.efi, as per following example:

```
C:\Windows\system32>bcdedit
```

Windows Boot Manager

```
-----
identifier      {bootmgr}
device          partition=\Device\HarddiskVolume1
path            \EFI\Microsoft\Boot\bootmgfw.efi
description     Windows Boot Manager
locale          en-US
inherit         {globalsettings}
bootems         Yes
default         {current}
resumeobject    {343086e5-0a74-11dd-8475-001320f5f13e}
displayorder    {current}
toolsdisplayorder {memdiag}
timeout         30
```

Notes: Not all the Windows drivers for the devices on these systems are available on the Windows Vista installation disk. Please go to www.hp.com and search for the model string (e.g., 2730p), software and drivers for the model would be available from the links provided. Please make sure to select the software and drivers for the x64 edition of Vista.

The "UEFI Boot" option is provided for development purposes only and is currently not fully supported or warranted by HP. Preboot Authentication and Drive Lock are currently not supported under the UEFI Boot mode. HP strongly recommends disabling Preboot Authentication and Drive Lock before enabling UEFI Boot.

For more information

HP Business Notebook Computer EFI Guidelines -

<http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01564727/c01564727.pdf>

UEFI Forum - www.uefi.org



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