



HP BIOS Configuration Utility (BCU)

User Guide

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About this guide

This guide provides a functional overview of BIOS Configuration Utility and a comprehensive guide to its installation and usage.

This document uses the following conventions to distinguish elements of text:

Text conventions

Elements of text	Convention used
COMMANDS, FOLDER NAMES, and DRIVE LETTER DESIGNATORS	Commands, folder names, and drive letter designators are shown in uppercase.
<variable>	Variables or placeholders are enclosed in angle brackets and italicized. For example, replace <pathname> with the appropriate path, such as C:\windows\system. When typing the actual value for the variable, omit the brackets.
[optionalparameters]	Optional parameters are enclosed in square brackets. When specifying the parameters, omit the brackets.
"literal value"	Command line text that appears inside quotation marks should be typed exactly as shown, including the quotation marks.
Type	When you are instructed to type information, type the information without pressing the Enter key.
Enter	When you are instructed to enter information, type the information and then press the Enter key.

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1 Getting started

What is BIOS Configuration Utility?

BIOS Configuration Utility (BCU) is a free utility that enables you to do the following:

- Read available BIOS settings and their values from a supported desktop, workstation, or notebook computer
- Set or reset Setup Password on a supported desktop, workstation, or notebook computer
- Replicate BIOS settings across multiple client computers

Download the latest version of BCU from <http://www.hp.com/go/ssm>.

System requirements

Table 1-1 Minimum hardware and software for clients

Windows XP Professional, Windows XP Professional x64, Windows Vista, Windows 7, Windows 8 (desktop mode), or Windows PE*

NOTE: BIOS setting management is supported under Windows PE 3.x or 4.0.

Installation

Run the BCU SoftPak to install its contents to the folder <PROGRAMFILES_DIR>\Hewlett-Packard\BIOS Configuration Utility\, where <PROGRAMFILES_DIR> is the Program Files folder on the target system (e.g. C:\PROGRAM FILES). The resulting files at the target folder include:

- **BIOSConfigUtility.exe**
- **BIOSConfigUtility64.exe**
- **BIOS Configuration Utility User Guide.pdf** (this document)

2 Command line parameters

Use the following syntax to run BCU:

```
BIOSConfigUtility.exe <options>
```

—or—

```
BIOSConfigUtility64.exe <options>
```

The valid options are:

Parameter	Description
/Get:"filename"	Gets the configuration data.
—or—	
/GetConfig:"filename"	
/Set:"filename"	Modifies the system BIOS configuration. Accepts only REPSET formatted files.
—or—	
/SetConfig:"filename"	
/? or /Help	Displays a help message.
/cspwd:"pwd"	Specifies the current BIOS Setup Password. Provide only if needed for /SetConfig or if changing the password with /NewSetupPassword . Can specify multiple current passwords.
—or—	
/CurSetupPassword:"pwd"	
/nspwd:"pwd"	Specifies the new BIOS Setup Password. Used to modify the password. To remove the password, use /NewSetupPassword:"" . Can specify only one new password.
—or—	
/NewSetupPassword:"pwd"	
/verbose	Displays details about each setting, such as failure code or reason for failure.

3 BIOS configuration

BCU is a Windows-based tool that lets you create standard configuration settings and deploy them across the enterprise. By creating a configuration text file with only the setting you want to change, you can deploy it to all systems in the enterprise. If a particular system does not support the specified setting, it will be ignored.


BIOS configuration is supported on most commercial HP desktops, notebooks, and workstations.


BIOS settings may also be managed through WMI by using the HP Client Management Interface (HP CMI). Refer to <http://www.hp.com/go/hpcmi> for more information on HP CMI, including available software components, technical white papers, and sample scripts.


Replicated Setup

To create, save, and deploy the configuration settings, complete the following procedure:

1. Run the program **BIOSConfigUtility.exe** using the **/GetConfig:config.txt** command-line parameter.
2. Edit the file **config.txt**. Remove properties that you do not want to change and modify the other properties.

 **NOTE:** Some properties, such as model and manufacturer, are read-only. Such properties will be ignored if specified during **/SetConfig**.

 **NOTE:** If a property value has not changed in the input configuration file from its existing value in BIOS, it will be ignored during **/SetConfig**. It is recommended to remove such settings during **/SetConfig** operation.

 **NOTE:** If a property name or value is invalid or does not exist on the client system, such settings will be ignored during **/SetConfig**.

The following **config.txt** example shows a configuration file that changes some properties:

```
English
Asset Tracking Number
CORPTAG001ABCDEF
```

```

Removable Media Boot

    Enable

    *Disable

Removable Media Write

    Enable

    *Disable

Enter Ownership Tag

    property of company XYZ

Boot Order

    Network Controller

    PnP Device#1

    Hard Drive (C:)

    CD-ROM Drive

    IDE CD-ROM Drive

    Multibay Device (A: or CD-ROM)

    Diskette Drive (A:)

    USB device

Cover Lock

    Unlock

    *Lock

```

3. Run **BIOSConfigUtility.exe** with the **/SetConfig:config.txt** command-line parameter to apply the settings contained in **config.txt**.

Helpful hints

- The **/SetConfig** and **/GetConfig** functionality is supported on select commercial desktop, mobile, and workstation systems. Supported settings vary by model.
- The first line must be the word "English".
- The settings are indented with a tab character. Indenting with space characters will not work.
- There is no space between **/GetConfig:** or **/SetConfig:** and the filename.
- The exact strings for some boot devices may vary between models. For example, the network controller for Boot Order was identified with the tag PNP Device #1 on 1998 model Deskpro EN systems and Network Controller on newer systems. If your environment includes a mix of systems,

then ensure that all known values for a particular boot device are placed together in the list relative to the next type of boot device. See the example above. Note that CD-ROM is specified several different ways.

- Asset Tag and Ownership Tag cannot be set to empty strings through the replicated settings file format. For platforms that support HP Client Management Interface (HP CMI), these settings can be set to empty strings through WMI scripting. For more information on HP CMI, refer to <http://www.hp.com/go/hpcmi>.
- It is recommended that you do not mix replicated setup changes with software updates that include BIOS firmware updates. It is a best practice to perform each operation independently and to restart the system between either operation. This procedure accommodates cases in which the internal structure of BIOS configuration setting information changes between BIOS revisions.
- The **SSM.exe /REPSET** command-line functionality has been deprecated and is no longer supported. It is recommended that you use this stand-alone utility `BiosConfigUtility.exe` with the **/SetConfig** command-line switch to apply BIOS settings outside of your typical SoftPaq deployment process.
- The **/advanced** switch, when used in conjunction with **/GetConfig**, will read the hidden BIOS settings and write to the REPSET configuration file. The **/advanced** switch can also be used with **/SetConfig** to write hidden BIOS settings from the REPSET configuration file. It has no effect on any other switches. For example:

```
BiosConfigUtility.exe /advanced /GetConfig:"config_filename"
```

Password management

BCU also has the ability to establish, modify, and remove the BIOS setup password. This utility supports both keyboard scan code and unicode encoding formats for password characters and hides this requirement from the end user.

The following characters are supported for use in a setup password:

```
` 1 2 3 4 5 6 7 8 9 0 - =
```

```
q w e r t y u i o p [ ] \ <KEYPAD 7> <KEYPAD 8> <KEYPAD 9> <KEYPAD *>
```

```
a s d f g h j k l : ' <KEYPAD 4> <KEYPAD 5> <KEYPAD 6> <KEYPAD ->
```

```
z x c v b n m , . <KEYPAD 1> <KEYPAD 2> <KEYPAD 3> <KEYPAD +>
```

```
<SPACE> <KEYPAD 0> <KEYPAD .>
```

Valid SHIFT+characters are as follows:

```
~ ! @ # $ % ^ & * ( ) _ +
```

```
Q W E R T Y U I O P { } |
```

```
A S D F G H J K L ; "
```

```
Z X C V B N M <LT> <GT> ?
```

Use the below sample command to create a BIOS setup password on a system with no existing password:

```
BIOSConfigUtility.exe /nspwd:"12345678"
```

Use the below sample command to modify the BIOS setup password:

```
BIOSConfigUtility.exe /cspwd:"12345678" /nspwd:"newpassword"
```

Use the below sample command to remove the BIOS setup password:

```
BIOSConfigUtility.exe /cspwd:"12345678" /nspwd:""
```



NOTE: To specify a " (double quote character) in a password, use "" (2 double quote characters). For example, use the command:

```
BIOSConfigUtility.exe /nspwd:"123""45678"""
```

to set the password as 123"45678".



NOTE: Since the < and > characters are reserved, use the <LT> and <GT> tags to specify these characters in password. For example, use the command:

```
BIOSConfigUtility.exe /nspwd:"<LT>12345678<GT>"
```

to set the password as <12345678>.

Comments

BCU configuration files support adding comments by using the ';' (semicolon) character. Any text following the ';' character will be ignored while writing setting values to the system. The comment character can be used at any place on a line. The comment character and any text following it are ignored until the end of line. The comment does not carry over to the next line.

Example usage of comments:

```
English
; This file shows usage of comments in configuration files
; Comment may begin anywhere on a line.
;
; Below is an example of comments starting at beginning of line
Sunday
;          *Disable
;          Enable
; Below is an example of comments starting after white space
Monday
;          ;*Disable
;          ;Enable
; Below is an example of comments starting after setting name
Tuesday
;          Disable
;          *Enable
; Below is an example of comments following a setting value
Wednesday
;          Disable
;          *Enable
; Below is an example of comments forcing the setting values to bleed over to next setting
Thursday
;          *Disable
;          Enable
; Below comments will invalidate Thursday's values due to multiple '*'
;Friday
;          Disable
;          *Enable
; Below comment will force the setting to an empty string
Notebook Ownership Tag
;          Property of XYZ
;
; Below is an example of comments starting following a setting value
Legacy Boot Order
;          Notebook Hard Drive
;          Notebook Upgrade Bay
;          ;USB Floppy
;          ;USB CD-ROM
;          ;USB Hard Drive
;          Notebook Ethernet
;          SD Card
;          Dock Upgrade Bay
;          ;eSATA Drive
```

Using the above configuration file with the BCU /Set and /Verbose commands will result in the following output:

```
Administrator: C:\Windows\system32\cmd.exe
<SETTING changeStatus="warning" name="Sunday" reason="BCU: Invalid setting value"
returnCode="21">
  <OLDVALUE><![CDATA[Disable]]></OLDVALUE>
  <NEWVALUE><![CDATA[]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="warning" name="Monday" reason="BCU: Invalid setting value"
returnCode="21">
  <OLDVALUE><![CDATA[Disable]]></OLDVALUE>
  <NEWVALUE><![CDATA[]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="pass" name="Tuesday" reason="" returnCode="0">
  <OLDVALUE><![CDATA[Disable]]></OLDVALUE>
  <NEWVALUE><![CDATA[Enable]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="pass" name="Wednesday" reason="" returnCode="0">
  <OLDVALUE><![CDATA[Disable]]></OLDVALUE>
  <NEWVALUE><![CDATA[Enable]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="warning" name="Thursday" reason="BCU: Invalid setting value"
returnCode="21">
  <OLDVALUE><![CDATA[Enable]]></OLDVALUE>
  <NEWVALUE><![CDATA[Enable]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="pass" name="Notebook Ownership Tag" reason="" returnCode="0">
  <OLDVALUE><![CDATA[Property of XYZ]]></OLDVALUE>
  <NEWVALUE><![CDATA[]]></NEWVALUE>
</SETTING>
<SETTING changeStatus="pass" name="Legacy Boot Order" reason="" returnCode="0">
  <OLDVALUE><![CDATA[Notebook Hard Drive , Notebook Upgrade Bay , Notebook Ethernet , SD Card , USB Floppy , USB CD-ROM , USB Hard Drive , Dock Upgrade Bay , eSATA Drive]]></OLDVALUE>
  <NEWVALUE><![CDATA[Notebook Hard Drive,Notebook Upgrade Bay,Notebook Ethernet,SD Card,Dock Upgrade Bay]]></NEWVALUE>
</SETTING>
<Warning msg="BCU return value" real="0" translated="0" />
</BIOSCONFIG>
```

A Error codes

Table A-1 Error codes

Error code	Description	Notes
10	Valid password not provided.	BCU was unable to find a valid password on the command line in the following cases: <ul style="list-style-type: none">• When attempting to change the password, the correct password was not provided.• When attempting to change the password, the new password did not satisfy password requirements for the platform.• When attempting to change setting values, the correct password was not provided.
11	/SetConfig file not valid.	BCU was unable to locate the configuration file or unable to read the file at the specified path.
12	First line in config file is not the word "English".	First line in the configuration file must be the word "English".
13	Failed to change setting.	BCU failed to change one or more settings. Use /verbose mode to get status per setting.
14	BCU not ready to write file.	Not used.
15	Command line syntax error.	No file specified: No configuration file name was specified with /SetConfig . Could not convert '/' into a keyboard scan code: Invalid character was specified in the password. See <code>BIOSConfigUtility.exe /HELP</code> or the User Guide (this document) for valid options. /format:XML is not supported anymore: Use /format:REPSET . Only REPSET is supported. At most one new BIOS Setup Password parameter can be used: Only one /nspwd parameter is allowed.
16	Unable to write to file or system.	BCU was unable to connect to BIOS in WMI. WMI classes are corrupted or the system is not supported.
17	Help is invoked.	Show BCU help text.
18	Setting is unchanged.	/verbose mode per setting only.
19	Setting is read-only.	/verbose mode per setting only.

Table A-1 Error codes (continued)

Error code	Description	Notes
20	Invalid setting name.	/verbose mode per setting only.
21	Invalid setting value.	/verbose mode per setting only.

B Sample configuration file

This configuration file shows the list of BIOS settings for an HP ProBook 6460b:

```
English
Manufacturer
    Hewlett-Packard
System Board ID
    161D
Universal Unique Identifier(UUID)
    8E086CEBBA31E11183421C85BF0CA029
System Configuration ID
    A0001D02
Processor Type
    Intel(R) Core(TM) i5-2520M CPU
Product Number
    SP936UC#ABA
Warranty Start Date
    00/00/0000
Processor Speed
    2.50GHz
Sunday
    *Disable
    Enable
```

Monday
 *Disable
 Enable
Tuesday
 *Disable
 Enable
Wednesday
 *Disable
 Enable
Thursday
 *Disable
 Enable
Friday
 *Disable
 Enable
Saturday
 *Disable
 Enable
Set Alarm Time
 00:00
PCID Version
 A0.00
PCID
 A0001D02
Define Custom URL

Memory Size
 4096 MB
BIOS Date
 08/26/2011

BIOS Version
68SCE Ver. F.08
Serial Number
CNU147116F
Video BIOS Revision
INTEL 2089
Keyboard Controller Version
97.45
Notebook Ownership Tag
Notebook Asset Tag
XYZ
Primary Battery Serial Number
24778 10/10/2011
Serial port
Disable
*Enable
Secondary Battery Serial Number
No Battery Present
Parallel port
Disable
*Enable
Flash media reader
Disable
*Enable
USB Port
Disable
*Enable
...