

HP BIOS Configuration Utility

FAQ



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Feature updates

Version	Features
4.0.2.1	Changes config file keyword to BIOSConfig. Changes commands from /cspwdfile and /nspwdfile to /cpwdfile and /npwdfile to match HP SSM. Adds /Unicode command to query if a system supports a Unicode password. Removes BIOS user commands. Maintains backwards compatibility.
3.0.13.1	Allows only one /cspwdfile command. Adds /WarningAsErr command to include warnings in the final BCU return code.
3.0.3.1	Changes commands from /cspwd and /nspwd command to /cspwdfile and /nspwdfile to read passwords from encrypted files created by HPQPswd.exe
2.60.13.1	Adds additional return codes when encountering WMI errors.
2.60.3	Add /SetDefaults command to reset BIOS to factory default. Supports configuration file comments.

Common questions

Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms?

A: BCU is a command-line utility for controlling various BIOS settings on a supported HP notebook, desktop, or workstation system. It requires a BIOS that supports HP WMI Namespace within the BIOS.

HP began integrating CMI/WMI support directly into the BIOS during approximately 2006–2008 for managed business systems, which did not include consumer-based systems or entry-level units.

If the system BIOS does not have the required WMI support, BCU does not work. This is not a failure of BCU. It is a limitation of the system BIOS that does include WMI support in the BIOS code.

Q: Where can I download BCU?

A: Go to <http://www.hp.com/go/clientmanagement>. Click **HP CMS Download Library**. Under **BIOS Tools**, select a BIOS Configuration Utility download link.

To download the user guide, go to <http://www.hp.com/go/clientmanagement>. Click **HP CMS Whitepapers**. Under **HP Management Tools**, select **BIOS Configuration Utility User Guide**.

Q: How do I create an encrypted password file?

A: Use the HP Password Encryption Utility (HPQPswd.exe) to create the password file needed to specify new or current password. Go to the HP Client Management Solutions website at <http://www.hp.com/go/clientmanagement> to download it. Click **HP CMS Download Library**. Under **BIOS Setup Password**, select the HPQ Password link.

This utility can be used in either command-line mode or GUI mode. To run it in GUI mode, double-click the .exe file or run without parameters.

Note

Use the /? command to open Help.

Q: Can I use BCU to reset the BIOS to factory default settings?

A: Yes, if you have BCU 2.60 or higher and an HP 600, 700, 800, or higher model. It does not work on HP 400 or lower models.

Use the following command to reset the BIOS to factory default settings. The /cspwd parameter is optional.

```
BiosConfigUtility.exe /SetDefaults /cspwd:"mypassword"
```

Note

Starting with BCU 3.0.3.1, support of the BIOS setup password as clear text on the command line was removed and support for the BIOS setup password as an encrypted file was added.

If using BCU 3.0.3.1 or higher, use the following command to reset the BIOS to factory default settings:

```
BiosConfigUtility.exe /SetDefaults /cspwdfilename:"filename"
```

Note

Some settings are not affected by resetting factory defaults, such as USB device Boot Security Level.

BCU sends a single command to the BIOS and the BIOS performs the reset according to the BIOS design specifications.

BCU does not have knowledge of each individual setting, nor does it send each setting individually to perform a factory reset.

Q: Why can't I set BIOS password to "<12345678>"?

A: The characters < and > are reserved. Use the <LT> and <GT> tags to specify these characters in a password. Use the following command to set password to "<12345678>".

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

Note

Starting with BCU 3.0.3.1, support of the BIOS setup password as clear text on the command line was removed and support for the BIOS setup password as an encrypted file was added.

Use the following command to set a BIOS setup password, if using BCU 3.0.3.1 or later:

```
BiosConfigUtility.exe /nspwdfilename:"filename"
```

For more password information, see Password Management in the *BIOS Configuration Utility User Guide*.

Q: Can I use BCU to enable Trusted Platform Module (TPM)?

A: Yes, you can use BCU to enable TPM. This feature requires HP systems with either an attached or embedded TPM chip. The requirements to enable TPM are as follows:

- The BIOS setup password is set.
- The embedded security device setting is set to have the device available.

To enable TPM:

1. Capture the current configuration of the target device a file. This ensures that you have the right setting names and values. Each device might have different setting names.
2. Edit the configuration in the file, leaving only the settings that you are about to change. For example, for an HP Elite 8200, the configuration file EnableTPM.txt might look like the following figure:

```
English
Embedded Security Device
    Device hidden
    *Device available
Activate Embedded Security On Next Boot
    Disable
    *Enable
Embedded Security Activation Policy
```

F1 to Boot
Allow user to reject
*No prompts

3. Run BCU with the parameters to set the configuration file and to provide/set the BIOS setup password. If the target client already has the setup password set, you must provide the password when changing the BIOS configuration (see the first example as follows). If the client does not have the setup password set, you can set it at the same time you enable TPM (see the second example as follows). If the target client environment is 64-bit, you must run the 64-bit executable instead. Make sure that you change the configuration file name and the password to the appropriate values.

- `BiosConfigUtility.exe /setconfig:EnableTPM.txt /cspwd:"mypassword"`
- `BiosConfigUtility.exe /setconfig:EnableTPM.txt /nspwd:"mypassword"`

If using BCU 3.0.3.1 or higher, use one of the following commands to provide or set BIOS setup password:

- `BiosConfigUtility.exe /setconfig:EnableTPM.txt /cspwdfile:"filename"`
- `BiosConfigUtility.exe /setconfig:EnableTPM.txt /nspwdfile:"filename"`

Q: I have provided the correct password, but BCU returns the message "Password is set, but no valid current admin password provided."?

A: Reboot your system.

Your BIOS might behave incorrectly after changing the password frequently. This is a known issue, and a system reboot can solve this issue. Multiple attempts with wrong password can also cause this.

Q: Can I use BCU to enable power-on password?

A: Yes, you can use BCU to enable power-on password by creating a BIOS user.

Enabling power-on password requires a BIOS setup password to be set. Use the following command to set a BIOS password:

```
BiosConfigUtility.exe /nspwd:"BIOS password"
```

Use the following command to create BIOS user:

```
BiosConfigUtility.exe /CreateUser:"username","password" /cspwd:"BIOS password"
```

To remove a power-on password, you need to remove all BIOS users using the following command:

```
BiosConfigUtility.exe /DeleteUser:"username" /cspwd:"BIOS password"
```

– Or –

To clear BIOS password using the following command:

```
BiosConfigUtility.exe /cspwd:"BIOS password" /nspwd:""
```

Note

If the BIOS setup password is enabled and the BIOS user account is created, but the power-on password is not prompted, run HP ProtectTools to ensure that the BIOS domain is enabled. HP ProtectTools can then be uninstalled using **Add or Remove Programs** in the Control Panel. If HP ProtectTools is uninstalled, the BIOS domain remains enabled.

BIOS user commands are no longer supported in BCU 4.0.1.1 or higher.

For more information, go to <http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=c01712354>.

Q: How can I troubleshoot BCU?

A: Use the following procedure.

1. Verify the meaning of your error code using the following table or the user guide.
2. Make sure you are using BCU on a commercial HP desktop, workstation, or notebook.
3. Update BCU to the latest version.

4. Contact us. Questions can be posted to the HP PC Client Management Support forum, which is monitored by the manageability team. Go to <http://www.hp.com/go/clientmanagement>. Click **HP PC Client Management Support forum**. Be sure to include the BCU version and error code, as well as the system model number, BIOS version, operating system version, and operating system edition of your system.

Error code	Description	Notes
0	Success	Operation succeeded.
1	Not Supported	WMI result code – Setting is not supported on system.
2	Unknown	WMI result code – Operation failed for unknown reason.
3	Timeout	WMI result code – Operation timed out.
4	Failed	WMI result code – Operation failed.
5	Invalid Parameter	WMI result code – A parameter is missing or the wrong type.
6	Access Denied	WMI result code – Setting modification failed due to BIOS permissions.
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	Config 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 keyword "English"	First line in the configuration file must be the word "English". <p>Note</p> For BCU 4.0.1.1 or higher, the keyword is "BIOSConfig" followed by file format version "1.0".
13	Failed to change setting	BCU attempted, but failed, to change one or more settings. Use <code>/verbose</code> or <code>/WarningAsErr</code> to get the status per setting.
14	BCU not ready to write file	Not used.
15	Command-line syntax error	Possible reasons for this error include the following: <ul style="list-style-type: none"> Invalid command line option specified. Use <code>/?</code> or <code>/Help</code> for available options. Invalid combination of command line options used. Multiple password files were specified. Only one new or current setup password file can be provided on command line. No configuration file name was specified with <code>/set</code>. No file name was specified with <code>/cspwdfile</code> or <code>/nspwdfile</code>.
16	Unable to write to file or system	BCU was unable to connect to the HP BIOS WMI. WMI classes are corrupted or the system is not supported. See Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms? for additional information.
17	Help is invoked	Shows usage text.
18	Setting is unchanged	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to the BIOS and do not affect the BCU return code.
19	Setting is read-only	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are

		skipped when BCU attempts to write to the BIOS. When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
20	Invalid setting name	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>//WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to BIOS. . When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
21	Invalid setting value	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to BIOS. . When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
23	Unable to connect to HP BIOS WMI namespace	System not supported. Unable to connect to HP BIOS WMI namespace: <code>root\HP\InstrumentedBIOS</code> . See Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms? for additional information.
24	Unable to connect to HP WMI namespace	System not supported. Unable to connect to HP BIOS WMI namespace: <code>root\HP</code> . See Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms? for additional information.
25	Unable to connect to Public WMI namespace	System not supported. Unable to connect to Public WMI namespace: <code>root\CIMV2</code> . Ensure that the WMI service is enabled and running.
30	Password file error	Unable to read or decrypt the password file.
31	Password is not F10 compatible	If a platform does not support Unicode passwords, BCU can set and change the password, but it does not function in F10 Setup. BCU must be used to change or clear it.
32	Platform does not support Unicode passwords	Returned when <code>/Unicode</code> option is used to check for support.
10	Valid password not provided	BCU was unable to connect to the HP BIOS WMI. WMI classes are corrupted or the system is not supported. See Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms? for additional information.
11	Config file not valid	Show usage text.
12	First line in config file is not the keyword "English"	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to BIOS and do not affect BCU return code.
13	Failed to change setting	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to the BIOS. When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
14	BCU not ready to write file	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to the BIOS. When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
15	Command line syntax error	This return code is returned by BCU on a per setting basis when <code>/verbose</code> or <code>/WarningAsErr</code> options are specified. Settings with this return code are skipped when BCU attempts to write to the BIOS. When <code>/verbose</code> is used, this return code generates a warning and does not affect the BCU return code. If <code>/WarningAsErr</code> is used, it results in BCU error code 13.
16	Unable to write to file or system	System not supported. Unable to connect to the HP BIOS WMI namespace: <code>root\HP\InstrumentedBIOS</code> . See Q: The BIOS Configuration Utility (BCU) is an HP utility, so why it does not work on some HP platforms? for additional information.

Q: What are the differences between “config file,” “reset file,” and “settings file”?

A: When sing BCU with the command line parameter `/getConfig: "path/ filename"` , BCU returns a file containing the existing BIOS settings.

The reference to config file is derived from the BCU parameters `/setconfig: " filename"` and `/getConfig: " filename"` . Reset file and settings file are derived from a reference to a replicated config file.

BCU writes a text file commonly referred to as a config file when reading existing values of a system. It can read reset and settings files created by some BIOS versions directly or through a utility similar to BCU called Repset. BCU began supporting comments within a config file in version 2.60.3, which is not compatible with the reset utility nor with a BIOS reading the reset directly. BCU adds a comment to the top of each config file identifying the BCU version it was created with and the date it was created. Users can also add comments to the file. For example, a user might document the reason that a particular setting is selected, such as disabling USB boot because of company policy. Comments in the BCU config file are lines that begin with a semicolon as the first character on a line.

Use of the terms config file, reset file, and settings file were typically used interchangeably with BCU prior to version 2.60.3, and BCU continues to read reset files. Removing all comments from a BCU-created config file results in a file compatible with the reset utility. In an environment where settings are only loaded using BCU, the terms are commonly used interchangeably.

Q: Does BCU have the ability to create the setting name or any of its possible values?

A: No. BCU is basically a communications tool that sends and receives settings between the system BIOS and the settings file using the instrumented BIOS WMI. The information put in it by the user via the settings file is delivered to the system BIOS through WMI.

BCU does not change the system directly, but through the messenger. The system BIOS takes the values received through WMI and applies them. If a system BIOS does not support a particular setting or value, then BCU cannot change the setting or value. No changes, updates, or modifications to BCU can add a feature to a BIOS that does not already contain the feature, nor expose that feature to be modified through WMI.

Q: What do I do if I get this message: ‘Warning BCU Return Value Real=“16” Translated=“16”’?

A: If BCU returns value real 16, translated 16, the file could not be read or, more specifically, the BIOS configuration could not be read.

Reboot the computer and copy BCU to the target device local storage. Running BCU from the network can give you the BCU return value real = 16. Run the command prompt as an administrator of the computer, and make sure that the location you are writing the BIOS config file to is writable to the administrator account and also on the same local storage.

The file BCUErr.cfg contains a table that BCU uses to map actual return values to translated ones. The default table maps actual values to identical values of translated ones.

Q: How do I isolate a WMI failure?

A: Error code 16 refers not only to the ability to read/write a file, it also refers to the ability to communicate (read/write) with the target system through WMI.

In prior versions, error code 16 was the only code reported for any type of WMI communication error in addition to file read/write errors. Beginning with BCU 2.60.13.1, WMI communication errors should appear as error codes 23, 24, and 25.

For more information, see the following background information:

BCU now attempts to validate WMI communication when it first launches. There might be other initializations before the WMI communication test, but no set/get commands occur prior to this test.

BCU performs this test in three steps to help isolate any pre-existing WMI issues.

- First, it attempts communication to Public WMI.
- Second, it attempts communication to HP WMI Namespace.
- Third, it attempts communication to HP BIOS WMI Namespace.

The user guide reports error codes 23, 24, and 25 as follows:

25 Unable to connect to Public WMI namespace. System not supported. Unable to connect to PUBLIC WMI namespace: root\CIMV2. Ensure that WMI service is enabled and running.

Note

WinPE will return a value of 25 if the WIM image does not have the Windows® WMI module. This has been confirmed on an HP Compaq 6200 desktop.

24 Unable to connect to HP namespace. System not supported. Unable to connect to HP WMI namespace: `root\HP`.

Note

A return code of 24 indicates that the application successfully connected to Public WMI namespace but was unable to connect to HP WMI namespace. It does not attempt to connect to HP Instrumented BIOS if it fails to connect to the HP WMI namespace. This condition exists for non-HP systems and might also exist for HP systems using a non-HP BIOS. This return code has been confirmed on an HP Pavillion dv-6500 series and also on a whitebox system containing a Gigabyte system board running Windows 7 Pro 64-bit.

23 Unable to connect to HP BIOS WMI namespace. System not supported. Unable to connect to HP BIOS WMI namespace: `root\HP\Instrumented BIOS`.

Note

A return code of 23 indicates that the application successfully connected to both the Public WMI namespace and the HP WMI namespace `root\HP` but was unable to connect to the proper HP BIOS namespace.

The three steps are attempted before any BCU execution and are in place specifically for determining WMI errors.

BCU performs these steps in the specified sequence because it can only determine pass/fail with regard to this communication. There is no error code returned from WMI to BCU that indicates what failed.

If BCU attempted to go straight to the HP BIOS WMI Namespace it could only report that it failed. There would be no indication if the cause was the result of a problem with Public WMI, HP WMI, or HP BIOS WMI.

Because this sequence only occurs a single time and is prior to get/set operations, it might still be possible for BCU to report an error code 16 later in the logic flow if there is a corruption that occurs after WMI communication validation. This is a remote possibility, but can be verified by running BCU a second time.

Corruption of the namespace does not disappear and the utility would report 23, 24, or 25 on the second run.

Q: Can I execute BCU on a network server?

A: BCU attempts to call the WMI of the system it is running on. It does not attempt to connect through WMI to systems across a network connection. As a result, executing it on a server does not work.

The BCU utility can reside on a network or share drive, but it must be executed on the targeted device.

Q: Can BCU read or write the configuration files to network drives?

A: Yes. BCU can read or write the configuration files to network drives, but it is not recommended if you are performing a get config command where the target system configuration is only one of many being captured. A get config command overrides any prior configuration files, so writing to a network drive might cause an administrator some grief if a hundred systems all overwrite the same file name in the same directory on the same network drive.

If the target directory is a network drive, it must be mapped to a drive letter.

Q: Can I use BCU with WinPE?

A: Yes. BCU works with WinPE if the image is constructed with the proper WMI support (that is, a WinPE-WMI.cab file).

BIOSConfigUtility.exe is the 32-bit version of BCU. This also works with the 64-bit version of Windows if Windows on Windows (WoW) is present.

BIOSConfigUtility64.exe is the 64-bit version of BCU. It was created primarily to support WinPE 64-bit without having to add WoW to the WIM image file. The 64-bit version still requires the WinPE-WMI.cab file in the build.

Q: Does BCU have the ability to remember an existing/lost password or bypass a lost BIOS setup password?

A: No. BIOS setup passwords are not intended to be bypassed. BCU does not remember existing passwords or bypass a lost BIOS setup password.

If a BIOS setup password was set as part of a corporate purchase, HP recommends that you contact the group that made the purchase or the IT department responsible for the deployment of the systems.

Q: What are the behaviors of BCU on a non-Unicode system?

A: The following are matrices for a number of scenarios.

1. The system does not have a BIOS setup password.

Present on command line				Expected return code and message		
/cspwdfilename	/nspwdfilename	/Getconfig	/Setconfig	Return code	Return message	Notes/F10 verification
	Yes			0	Successfully set BIOS configuration.	Could not enter into F10 with the password.
Yes	Yes			0	Successfully modified setup password.	Could not enter into F10 with password.
		Yes		0	Successfully read BIOS configuration.	Successfully created repset file.
			Yes	0	Successfully set BIOS configuration.	Successfully modified BIOS settings.
Yes			Yes	0	Successfully set BIOS configuration.	Successfully modified BIOS settings
	Yes		Yes	0	Successfully modified setup password. Successfully set BIOS configuration.	Could not enter into F10 with password; however, the BIOS settings were modified.
Yes	Yes		Yes	0	Successfully modified setup password. Successfully set BIOS configuration.	Could not enter into F10 with password; however, the BIOS settings were modified.

Note

To clear a BIOS password, use the command /cspwdfilename:"BIOS password"/nspwdfilename:""

2. System has a BIOS setup password that was set via BCU.

Present on command line				Expected return code and message		
/cspwdfilename	/nspwdfilename	/Getconfig	/Setconfig	Return code	Return message	Notes/F10 verification
	Yes			10	Attempted to change password, but correct password was not provided.	The password is not changed.
Yes	Yes			0	Successfully modified setup password.	Could not enter into F10 with password.
		Yes		0	Successfully read BIOS configuration.	The current setup password is not required to get the config file.
			Yes	10	Could not change settings. The password is set, but no current valid admin password was provided.	BIOS settings are unchanged.
Yes			Yes	0	Successfully set BIOS	Could not enter into F10 with password; however,

					configuration.	the BIOS settings were modified.
	Yes		Yes	10	Attempted to change password, but correct password was not provided.	The password and BIOS settings are unchanged.
Yes	Yes		Yes	0	Successfully modified setup password. Successfully set BIOS configuration.	Could not enter into F10 with password; however, the BIOS settings were modified.

Note

To clear a BIOS password, use the command `/cspwdfile:"BIOS password"/nspwdfile:"`

3. The system has a BIOS setup password that was set via F10 setup.

Present on command line				Expected return code and message		
/cspwdfile	/nspwdfile	/Getconfig	/Setconfig	Return code	Return message	Notes/F10 verification
	Yes			10	Attempted to change password, but correct password was not provided.	The password is not changed.
Yes	Yes			10	Attempted to change password, but correct password was not provided.	The password is not changed.
		Yes		0	Successfully read BIOS configuration.	The current setup password is not required to get the config file.
			Yes	10	Could not change settings. The password is set, but no current valid admin password was provided.	BIOS settings are unchanged.
Yes			Yes	10	Could not change settings. The password is set, but no current valid admin password was provided.	BIOS settings are unchanged.
	Yes		Yes	10	Attempted to change password, but correct password was not provided.	The password and BIOS settings are unchanged.
Yes	Yes		Yes	10	Attempted to change password, but correct password was not provided.	The password and BIOS settings are unchanged.

Note

To clear a BIOS password, use F10 setup.

HP recommends using BCU 2.60.13.1 or higher to set or modify a password via BCU on a non-Unicode system. Use BCU 3.0.3.1 or higher to set or modify an encrypted password.

For more information

Go to http://ftp.hp.com/pub/caps-softpag/cmit/whitepapers/BIOS_Configuration_UTILITY_User_Guide.pdf.

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