

TutorialBiosSet.exe

DeskView Client BIOS Management

BiosSet.exe is part of DeskView Client manageability software. The purpose of this command line executable is to change, view and manage BIOS setup items by software. Using software, Administrators can apply settings to many systems at once or apply settings during preinstallation of their systems.

An individual user could access the items by entering BIOS setup during boot by pressing F2.



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DESKVIEW

Preface

This document gives a short overview and some usage examples of the command line executable BiosSet.exe. As part of the Lifecycle Management software product "DeskView Client", including more tools and WMI classes to manage Fujitsu Client Computing Devices. Further information on the complete product, including the detailed manual, can be found online. See the Additional Information chapter.

Making changes to the BIOS Setup should be handled with care and system knowledge. The tool does request administrative privileges to execute. Making careless changes in the BIOS setup poses a certain risk to compromise the system and prevent booting of the current OS installation.

For detailed information review the chapter "BIOS Management (Settings)" inside the DeskView Client User Manual.

Regarding the BIOS settings and their effects on a particular system, be sure to consult the system or mainboard manual.

Find download links at Additional Information.

Download and Installation

You can install Biosset.exe permanently as part of DeskView Client, using the msi package.

Another option is to use the "instant" package. This package and runs an install / uninstall procedure with one call. This might be preferred if WMI and other features of DeskView Client are not needed. The instant package can be used on Windows PE for pre-installation usage too.

Administrators can choose to distribute the tools via their companywide management toolset or offer it on a common network share. Installation and execution will need administrative privileges.

Common procedures and command line switches

With DeskView Client, tools are installed under the % ProgramFiles(x86)% Fujitsu\DeskView directory per default. Msi Setup creates a %DESKVIEW% environment variable, which can be used even if another installation path has been chosen manually.

To run an executable, you can open a cmd window as administrator and call the tool with e.g:

```
%DESKVIEW%\DeskSettings\BiosSet.exe /?
```

Show help, options and syntax: /?

Calling a command line tool with the parameter /? shows help and syntax. You can pipe it into a text file to have a document easier to read as inside the cmd window. The syntax is in EBNF format with optional parameters in [] brackets and placeholders for items listed in the help placed in <>.

```
BiosSet.exe /? > BiosSet_Help.txt
```

```
C:\>"%DESKVIEW%\desksettings\biosset.exe" /?
```

Part of this output:

```
...
Change single BIOS setting:
-----
BiosSet <setting>=<state> [/PWD=<password>|/PWC=<encryptedpassword>] [/Q]
BiosSet /EXPERT <expertsetting>=<expertstate> [/PWD=<password>|/PWC=<encryptedpassword>] [/Q]
...
List of Settings (<setting>):
-----
...
/BT          : Bluetooth (OFF, ON)
...
```

Accordingly a correct command line would be:

```
C:\>"%DESKVIEW%\desksettings\biosset.exe" /BT=ON /PWD=BiosSetupPassword
```

If successful the output would be

```
C:\>"%DESKVIEW%\desksettings\biosset.exe" /BT=ON /PWD=BiosSetupPassword
Success.
Errorlevel: 0
```

Show Errorlevels: /E

Produce a list of Errorlevels and explanation.

These are the returncodes of the executables, which could be tested inside batches or scrips as %ERRORLEVEL%

Part of this output:

```
C:\>"%DESKVIEW%\desksettings\biosset.exe" /E
BiosSet Errorlevels
    0  Success.
    1  General error.
    2  Syntax error in command line.
    3  Access to BIOS Setup denied (either wrong password, SmartCard protected or MemoryBird protected.
...
   12  The BIOS Setting which should be set is not supported by this system.
...
```

How to protect BIOS settings from unwanted changes:

As Administrator, you might want to prevent unwanted changes to BIOS setup by securing it with a BIOS setup password.

```
BiosSet.exe /newpwd=BiosSetupPassword
```

Windows users should not have administrative rights, so they will not be able to execute this command.

When you have to enter setup during system start (reboot, press F2), keep in mind that BIOS does by default assume an EN-us keyboard.

If the attached keyboard has e.g. an DE-de layout, you will have to press the 'z' key if the password contains an 'y'.

Still users might get hold of a script containing this BIOS password and then enter BIOS Setup at system restart, pressing F2. To prevent this approach, you can use an encrypted password, which will not be usable to enter BIOS Setup:

How to encrypt and use an encrypted BIOS Setup password:

To prevent non-administrative users using the password from some administrative script, use BiosSet with an encrypted password.

This encrypted Password cannot be used to enter BIOS Setup during restart.

```
C:\Program Files (x86)\Fujitsu\DeskView\DeskSettings>BiosSet.exe /Crypt=BiosSetupPassword
3A6194C350EB557BF30A80D094D4C5CDCB94E28F3A7B3F5AEF93605FB9CD5B714A
Success.
Errorlevel: 0
C:\Program Files (x86)\Fujitsu\DeskView\DeskSettings>BiosSet.exe /Crypt=BiosSetupPassword
699F314E9156BD70244E5930BAD1A250071C7C0E5F5433038CDC4AEB798D7A19DF
Success.
Errorlevel: 0
```

To use this password, replace /pwd with /pwc inside the commands like:

```
C:\Program Files (x86)\Fujitsu\DeskView\DeskSettings>BiosSet.exe /AC=OFF
/PWC=3A6194C350EB557BF30A80D094D4C5CDCB94E28F3A7B3F5AEF93605FB9CD5B714A
Success.
Errorlevel: 0
```

As shown above, a password might /crypt into different codes. This is intentional.

How to set/get a single BIOS setting with a switch:

```
C:\>"%DESKVIEW%\desksettings\biosset.exe" /BFR
Get Item: Boot from removeable Media
Value: OFF
Success.
Errorlevel: 0
C:\>"%DESKVIEW%\desksettings\biosset.exe" /BT=ON /PWD=BiosSetupPassword
Success.
Errorlevel: 0
C:\>"%DESKVIEW%\desksettings\biosset.exe" /BT
Get Item: Bluetooth
Value: ON
Success.
Errorlevel: 0
```

How to list all available switches of a specific system:

As BIOS settings may slightly differ from system to system or BIOS version, not all switches shown in `/?` might be available on a specific model. To list only the available <settings> in the command line help, you can use `BiosSet.exe /local?`

This may take a while, as BIOS is queried for each <setting>, if it does exist.

Another way to get all available settings is, to have them exported with even more information into an xml file:

How to set/get all available settings using an xml file Archive:

The settings addressable on the specific systems with their current state can be exported into an xml file:

```
BiosSet.exe /AR=Archive.xml
```

The file does contain a list of the switches and values as they would be used at the commandline:

```
...
<ArchiveSettingEntry>
  <ArchiveSetting Switch="NUMLOCK">
    <Value>ON</Value>
  </ArchiveSetting>
</ArchiveSettingEntry>
...
```

Is the pendant to the command

```
BiosSet /NUMLOCK=ON
```

You can change the <Value> elements, remove <ArchiveSettingEntry> elements of the file and (re) apply the settings to this or other systems with:

```
BiosSet.exe /UPD=Archive.xml /PWD=BiosSetupPassword
```

The settings will be applied one after the other. If a particular setting does fail, e.g. the settings does not exist on a specific system, the process does continue with the next setting.

When editing the file with a simple text editor, the changes must follow the schema file, which is installed in the same directory as the executable. Convenient XML editors could load and automatically check the schema conformance during edit.

Passwords and security chip (TPMState) related settings are not contained in the archive file.

How to get/set additional settings with /EXPERT:

Several BIOS settings might not have a dedicated switch like `/AC`. To handle these use, use the `/EXPERT` option.

All the settings have a unique hexadecimal ID and a textual representation defined.

They can be handled as xml archive or as single setting in the command line. Use hex ID's or text in "" to get and set.

```
Get:
BiosSet.exe /expert 0x0011
Get Item: 0x0011 [Power-on Source LAN (Wake up on LAN)]
Value: 0x0002 [Enabled]
Set:
BiosSet.exe /expert 0x0011=0x0001 /PWC=8B3F9AF3F7BC8BBE28589BA4BBB9DA9684
BiosSet.exe /expert "Power-on Source LAN (Wake up on LAN)"="Disabled" /PWC=8B3F9AF3F7BC8BBE28589BA4BBB9DA9684
```

How to get/set all available options and values with /EXPERT Archive:

The `/EXPERT` option is available for the Archive operations. See also [Archive](#)

```
BiosSet.exe /expert /ar=Expert_Archive.xml
```

You can edit the <SettingValue> elements, remove <ArchiveSettingEntry> element you don't want to change and reapply the complete archive with:

```
BiosSet.exe /expert /upd=Expert_Archive.xml /pwd=BiosSetupPassword
```

Sample BIOS manual download:

The screenshot shows the Fujitsu support website interface. At the top, there is a search bar and navigation links for 'Services', 'Products', 'Solutions', 'Support', 'Fujitsu Globally', and 'Fujitsu in UK & Ireland'. The breadcrumb trail reads 'Home > Support > IT Products and Systems > Desktops'. A left-hand navigation menu lists various support categories like 'Servers', 'Storage', 'Integrated Systems', etc. The main content area is titled 'Downloads for ESPRIMO Q958' and features a 'Downloads' button. Below this, there is a section for 'Automatic driver update' and a 'DeskUpdate' application description. A dropdown menu shows 'Selected operating system: Windows 10 (64-bit)'. A tabbed interface has 'Documents' selected. Under 'Documentation', the 'Systemboard' section is expanded to show 'D3613-A1x'. A table lists the available documents:

Title	Version (Build/Date)	Size	Language
BIOS manual for system boards with 8th Generation Intel® 300 Series / C246 Chipset	12/2018 (31/01/2019)	1.76 MB	English

Additional Information:

Detailed information:

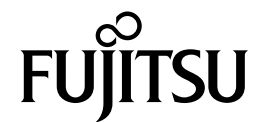
<http://ts.fujitsu.com/Manageability>

Manageability Solutions , DeskView Downloads, DeskView Client User Manual:

<https://www.fujitsu.com/fts/solutions/business-technology/manageability/downloads/index.html>

Client Computing Devices Support:

<https://support.ts.fujitsu.com/Index.asp?lng=&OICOpen=ClientComputing>



Published by / Contact address in the EU

Fujitsu Technology Solutions GmbH
Mies-van-der-Rohe-Straße 8
80807 Munich, Germany
<http://www.fujitsu.com/fts/>

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Publication Date

12/2019

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