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Enterprise

Integrated Smart Update Tools CLI Reference Guide

Abstract

This document describes the CLI commands available for use with Integrated Smart Update Tools. This document is intended for individuals who understand the configuration and operations of Microsoft Windows, Windows Server, Linux, VMware, Service Pack for ProLiant (SPP), and Smart Components.

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Integrated Smart Update Tools

Integrated Smart Update Tools (SUT) is the smart update solution for performing online firmware and driver updates. SUT is used with iLO 4, iLO 5, and with update solutions (management appliances such as iLO Amplifier Pack or HPE OneView and Smart Update Manager (SUM) to stage, install, and activate firmware and driver updates.

The solution must be installed on the operating system, where it updates results through Rich Infrastructure Services (RIS) communication.

- **SUT:** Polls iLO to check for requests from SUM, iLO Amplifier Pack, or HPE OneView for updates through local iLO using the iLO channel interface driver installed on the OS and orchestrates staging, deploying, and activating updates. You can adjust the polling interval by issuing the appropriate command-line option provided by SUT. Performs inventory on target servers, stages deployment, deploys updates, and then reboots the servers.
- **iLO 5 with integrated Smart Update** (Gen10 or later servers only): Performs iLO Repository-based updates by downloading the components from iLO Repository when iLO Installation Queue has the components which can be updated by SUT.
- **iLO Amplifier Pack and HPE OneView:** Displays available updates for servers. Communicates with SUT (or SUT 1.x) to initiate updates using the iLO Redfish interface. SUT reports the status of updates to iLO Amplifier Pack through iLO Restful Interface.
- **SUM:** A tool for firmware and driver maintenance for HPE ProLiant servers and associated options.

NOTE: SUM and iLO Amplifier Pack should not manage the same nodes.



Issuing iSUT commands

SUT command-line basics

The following example is the basic SUT syntax:

```
sut /[command] (Windows)
```

```
sut -[command] (Linux/VMware ESXi)
```

NOTE:

- Running SUT on a server with iLO configured in High Security mode needs iLO Administrator credentials. Use the `sut -set` command to store iLO credentials in the host so that SUT can use the iLO credentials for iLO communication. If you do not want SUT to store the iLO credentials, provide the credentials with each SUT command. Providing credentials with each command will not work with `sut -deploy` or `sut -deployreboot` commands if the baseline also contains the SUT component. When using Auto mode, always use the `sut -set` command so that SUT performs the deploy operation in Auto mode when iLO is configured in High Security mode.
 - Running SUT on a server with iLO configured in CAC mode requires iLO certificate. Use the `sut -addcertificate` command to store the provided iLO certificate and private key path details and private key password in the host so that iSUT can use the iLO certificate for iLO communication. If you do not want SUT to store the iLO certificate, provide the certificate with each SUT command. Providing certificate with each command will not work with `sut -deploy` or `sut -deployreboot` commands if the baseline also contains the SUT component. When using Auto mode, always use the `sut -addcertificate` command so that iSUT performs the deploy operation in Auto mode when iLO is configured in CAC mode.
-

Changing the SUT mode

Prerequisites

SUT installed on the server.

Procedure

1. Open a command line on the server.
2. Issue the **set** parameter:

```
sut -set mode={mode_type}
```

NOTE: The supported mode types are AutoStage, AutoDeploy, and AutoDeployReboot. The default mode on installation is OnDemand.

Reviewing staged components

Use the following command to display a list of all components staged by SUT.



Procedure

From a command line, type `sut -status`.

SUT generates a list of components available for deployment, and required user actions.

Example

```
[root@localhost Desktop] # sut -status
This operation may take a while
System Update Manager.....: HPE OneView
Update Manager URL.....: https://XX.XXX.XX.XXX
Deploy Type.....: FirmwareAndOSDrivers
Task Status.....: Bios: N/A; LocalStorage:N/A; Deploy:Staged
Staging Directory.....: /var/tmp/sut/stagingdirectory
Baseline URI.....: http://XX.XXX.XX.XXX/nossl/fwbundles/bp -
                    2019=02-25-06.iso
Baseline version.....: 2019.02.25.06
Mode of Operation.....: Autostage
Polling Interval in Minutes.....: 5
Force Deploy.....: Yes
Optional Components.....: None
Enable iLO Queued Updates.....: false
User Action Needed.....: Execute "deploy" or "deployreboot" command
                        to deploy the components
iLO CAC Smartcard Authentication...: OniLO
CAC Strict Mode.....: On
```

```
-----
[ INVENTORY REPORT ] <The report is based on the staging results alone>
-----
```

```
Component Count.....: 17
HasFailedDependencies.....: No
HasOmittedComponents.....: No
RebootRequiredAfterDeploy.....: Yes
SoftwareAndDriverComponentCount....: 10
```



Command-line parameters

The following parameters are valid for the command line.

help

Syntax

`/help` (Windows)

`-help` (Linux/VMware)

Description

Displays command-line help information.

Example input

```
sut /help
```

```
sut /?
```

```
sut -help
```

```
sut -?
```

version

Syntax

`/version` (Windows)

`-version` (Linux/VMware)

Description

Displays the installed version of SUT.

Example input

```
sut /version
```

```
sut -version
```

set

Syntax

`/set` (Windows)

`-set` (Linux/VMware)

Description

Changes SUT options.



Options

sut -set mode=<OnDemand,AutoStage,AutoDeploy,AutoDeployReboot>

Selects the mode SUT uses.

- **AutoStage**

Legacy update:

- Mounts the SPP via iLO Virtual Media.
- Uses SUM present in the SPP to inventory the server.
- Copies the applicable components from the SPP to the SUT staging directory on the server.

iLO Repository-based update:

- No operations are performed in this mode.
- Components are staged in iLO Repository and no components are found in iSUT staging directory during stage operation.

- **AutoDeploy:**

Legacy update:

- Performs all the tasks in AutoStage mode.
- Updates the applicable components found in the iSUT staging directory on the host server.

iLO Repository-based update:

- Components that are updatable by iSUT in iLO Repository are downloaded to iSUT staging directory before updating.
- Deploys the components marked as updatable by RunTimeAgent. Does not reboot the system.

- **AutoDeployReboot:**

Legacy update:

- Performs all the tasks in AutoDeploy mode.
- If required, reboots the host server.

iLO Repository-based update:

- Performs all the tasks in AutoDeploy mode.
- Reboot the system if the component update requires a reboot or if a Type C (Updatable by Unified Extensible Firmware Interface—UEFI—only) component is found in the iLO task queue.

- **OnDemand:** SUT deploys updates when the admin issues commands.

sut -set stagingdirectory=<directory_path>

Specifies the directory where iSUT stages components.

sut -set rebootmessage <message>

iSUT displays the reboot message.

sut -set rebootdelay <seconds>

The number of seconds before iSUT reboots the node.




```
sut -set pollingintervalinminutes=<time_minutes>
```

How frequently iSUT requests information from SUM, HPE OneView, or iLO Amplifier Pack.

```
sut -set savelogs=<true/false>
```

Sets whether iSUT saves the log files.

```
sut -set enableiloqueuedupdates=<true/false>
```

Default = `true`. Valid for iLO 5 nodes only. If true, iSUT polls the iLO for any updates in the iLO Installation Queue.

```
sut -set ignorewarnings=true
```

Ignores warnings iSUT encounters during deployment.

```
sut -set tpmbypassflag=true
```

Bypasses TPM warnings.

```
sut -set ilusername=<username> ilopassword=<password>
```

To enable the iSUT to perform updates, enter iLO credentials when iLO 5 is in one of the High Security modes.

To hide the password characters, provide iLO username and press **Enter**, which prompts you to enter the password as follows:

```
sut -set ilusername=<username>
```

```
Please provide the iLO password: <*****>
```

The iLO credentials are stored in the iSUT database, and will be used to run any On-Demand commands and perform stage and deploy in High Security mode.

```
sut -set baselineuri=<url location>
```

For the nodes on which firmware update is not performed by HPE OneView or HPE iLO Amplifier Pack, the baseline URI path must be set to start an update operation. If the baseline URI path requires authentication, credentials can be specified as follows:

```
sut /set baselineuri=http://<username>:<password>@<uri location>
```

Example input

```
sut /set mode=OnDemand
```

```
sut -set mode=AutoDeploy
```

stage

Syntax

```
/stage (Windows)
```

```
-stage (Linux)
```

Description

Determines which components must be applied on the node and copies the components to the staging directory.

Restrictions

SUT requires permissions to write to the staging directory.



Example input

```
sut /stage  
sut -stage
```

deploy

Syntax

```
/deploy (Windows)  
-deploy (Linux/VMware)
```

Description

Deploys components, and then enables verification after reboot to check whether components are deployed correctly.

Options**noautoverify**

Passing parameter prevents iSUT from verifying the component installation automatically after deployment.

Example input

```
sut /deploy  
sut -deploy
```

deployreboot

Syntax

```
/deployreboot (Windows)  
-deployreboot (Linux/VMware)
```

Description

Deploys components and then reboots the server if a reboot is required. After reboot, verifies if the updates are deployed correctly.

Options**noautoverify**

Passing parameter prevents iSUT from verifying the component installation automatically after deployment is completed and re-booted.

Example input

```
sut /deployreboot  
sut -deployreboot
```

activate

Syntax

```
/activate (Windows)
```



-activate (Linux/VMware)

Description

Reboots the server if a reboot is required to activate the firmware/software. The command asks for reboot confirmation.

Options

Provide this option to avoid the reboot confirmation step.

```
sut /activate force
```

Restrictions

Valid in the following state:

InstalledPendingReboot

Example input

```
sut /activate
```

```
sut -activate
```

addcertificate

Syntax

- /addcertificate (Windows)
- -addcertificate (Linux/VMware)

Description

Adds iLO certificate, private key paths, and private key password to SUT database to enable SUT perform updates when CAC Smartcard Authentication is enabled in iLO 5.

Options

```
sut /addcertificate <path to certificate file>
```

If SUT finds the file and successfully adds it, SUT queries the user for a private key value.

- Enter the private key path
- Does the private key have an associated password (yes/no)
- Enter the private key password

Example input

- sut /addcertificate <path to certificate file>
- sut -addcertificate <path to certificate file>



clearstaging

Syntax

/clearstaging (Windows)

-clearstaging (Linux)

Description

Clears everything in the current staging directory.

Restrictions

Not valid in the following states:

- Staging
- Staged
- Installing
- Activating
- InstalledPendingReboot

Example input

```
sut /clearstaging
```

```
sut -clearstaging
```

clearcertificate

Syntax

• /clearcertificate (Windows)

• -clearcertificate (Linux/VMware)

Description

Clears the stored iLO certificate details from the SUT database.

Example input

• sut /clearcertificate

• sut -clearcertificate

verify

Syntax

/verify (Windows)

-verify (Linux)



Description

Verifies that the update happened successfully. Changes state to Activated if the update is successful. Only required if you passed the `noautoverify` parameter with the `deploy` or `deployreboot` command.

Example input

```
sut /verify
sut -verify
```

clearilocreds

Syntax

```
/clearilocreds (Windows)
-clearilocreds (Linux/VMware)
```

Description

Clears the stored iLO credentials from the SUT database.

Example input

```
sut /clearilocreds
sut -clearilocreds
```

exportconfig

Syntax

```
/exportconfig <filename> (Windows)
-exportconfig <filename> (Linux/VMware)
```

Description

Uses the configuration file name as a parameter and writes all SUT setting values to the file.

Restrictions

Valid in all states.

Example input

```
sut /exportconfig <filename>
sut -exportconfig <filename>
```

importconfig

Syntax

```
/importconfig <path_to_config_file> (Windows)
-importconfig <path_to_config_file> (Linux/VMware)
```



Description

Uses the configuration file parameters and applies the settings.

Restrictions

This command is allowed in the following states:

- StageFailed
- InstallFailed
- Activated
- ActivatedFailed
- InstalledPendingReboot

Example input

```
sut /importconfig <path_to_config_file>  
sut -importconfig <path_to_config_file>
```

start

Syntax

```
/start (Windows)  
-start (Linux/VMware)
```

Description

If SUT is in any of the Auto modes, starts the SUT service.

Restrictions

SUT mode must be in the following modes:

- AutoDeploy
- AutoDeployReboot

Example input

```
sut /start  
sut -start
```

deregister

Syntax

```
/deregister (Windows)  
-deregister (Linux/VMware)
```

Description

Resets database to default values and stops the iSUT service.



Example input

```
sut /deregister  
sut -deregister
```

status

Syntax

```
/status (Windows)  
-status (Linux/VMware)
```

Description

Displays the current state of the SUT engine.

Example input

```
sut /status  
sut -status
```

stop

Syntax

```
/stop (Windows)  
-stop (Linux/VMware)
```

Description

Stops the SUT service.

Example input

```
sut /stop  
sut -stop
```



Supported CLI commands with ESXCLI extension

Following table lists supported iSUT OnDemand commands and details of corresponding command options with the ESXCLI extension feature.

SUT command	SUT Command with esxcli extension	Options	Parameters
sut -start	esxcli <conn_option> sut start	NA	NA
sut -stop	esxcli <conn_option> sut stop	NA	NA
sut -deregister	esxcli <conn_option> sut deregister	NA	NA
sut -set mode= <sut mode>	esxcli <conn_option> sut mode set	-m --mode	sut mode
sut -set ilusername= <username> ilpassword= <password>	esxcli <conn_option> sut ilcreds set	-u --ilusername -p --ilpassword	ilusername ilpassword
sut -clearilcreds	esxcli <conn_option> sut clearilcreds	NA	NA
sut -set pollingintervalinm inutes=< time_minutes>	esxcli <conn_option> sut pollingintervalinm inutes set	-t -- pollingintervalinm	Interval time
sut -set stagingdirectory=< directory_path>	esxcli <conn_option> sut stagingdirectory set	-d -- stagingdirectory	Staging dir path
sut -set enableiloqueuedupdat es=<true/false>	esxcli <conn_option> sut iloqueuedupdates set	-e --enabled	true or false
sut -exportconfig <filename>	esxcli <conn_option> sut export	-x --export	Filename with path
sut -importconfig <filename>	esxcli <conn_option> sut import	-i --import	Filename with path



NOTE: <conn_option> refers to the options required for ESXCLI command to authenticate the users on the machine where they are running the ESXCLI command as well as for the communication with the ESXi Server.

Example:

```
"esxcli --server xx.xx.xx.xx --username "xxxxxx" --password "*****"  
--thumbprint xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx:xx  
--vhost "xx.xx.xx.xx" sut <sut command options and parameters>"
```

In the previous example, <conn_option> refers to IP address, username, password, vCenter thumbprint, and Server IP address.

Help

Syntax

```
-h  
--help
```

Description

Use -h or --help option at the end of the command to view command description.

Example input

```
esxcli <conn_options> sut --help  
esxcli <conn_options> sut -h
```



Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:
<https://www.hpe.com/info/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:
<https://www.hpe.com/support/hpesc>

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

Hewlett Packard Enterprise Support Center: Software downloads

<https://www.hpe.com/support/downloads>

My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:
<https://www.hpe.com/support/e-updates>
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:
<https://www.hpe.com/support/AccessToSupportMaterials>





IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

HPE Get Connected

<https://www.hpe.com/services/getconnected>

HPE Proactive Care services

<https://www.hpe.com/services/proactivecare>

HPE Datacenter Care services

<https://www.hpe.com/services/datacentercare>

HPE Proactive Care service: Supported products list

<https://www.hpe.com/services/proactivecaresupportedproducts>

HPE Proactive Care advanced service: Supported products list

<https://www.hpe.com/services/proactivecareadvancedsupportedproducts>

Proactive Care customer information

Proactive Care central

<https://www.hpe.com/services/proactivecarecentral>

Proactive Care service activation

<https://www.hpe.com/services/proactivecarecentralgetstarted>

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

<https://www.hpe.com/support/ProLiantServers-Warranties>

HPE Enterprise and Cloudline Servers

<https://www.hpe.com/support/EnterpriseServers-Warranties>

HPE Storage Products

<https://www.hpe.com/support/Storage-Warranties>

HPE Networking Products

<https://www.hpe.com/support/Networking-Warranties>

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>



Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

<https://www.hpe.com/info/reach>

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

<https://www.hpe.com/info/ecodata>

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

<https://www.hpe.com/info/environment>

Documentation feedback

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