



Lenovo XClarity Essentials OneCLI User Guide



Version 2.5.0

Note

Before using this information and the product it supports, read the information in Appendix B “Notices” on page 145.

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About this publication

Lenovo XClarity Essentials OneCLI (OneCLI) is a collection of command line applications that facilitate Lenovo server management by providing functions, such as system configuration, system inventory, firmware and device driver updates. This guide provides information about how to download and use OneCLI.

Important:

- The previous umbrella name “ToolsCenter” is replaced by “XClarity Essentials”.
- OneCLI will only support 64-bit operating systems after V2.2.0. V2.1.0 32-bit binaries will be saved on Web site, so you can download it before running 32-bit operating systems.

Who should read this guide

This guide is for system administrators or other individuals responsible for system administration. Basic knowledge of system hardware, firmware, device driver, and operating system are required.

Conventions and terminology

Paragraphs that start with a Note, Important, or Attention in bold have specific meanings to highlight key information:

Note: These notices provide important tips, guidance, or advice.

Important: These notices provide information or advice that might help you avoid inconvenient or difficult situations.

Attention: These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

The following table provides a description of commonly used terms in the *Lenovo XClarity Essentials OneCLI Users Guide*.

Table 1. Commonly used terms

Term	Definition
ASU	Advanced Setting Utility A utility that allows you to modify firmware settings from the command line on multiple operating-system platforms.
BIOS	Basic Input Output System The code that controls basic hardware operations, such as interactions with diskette drives, hard disk drives, and the keyboard.
BMC	Baseboard Management Controller Standard IPMI compliant device for monitoring system sensors and displaying the data of system sensors.
BMU	Bare Metal Update.
CDM	Common Diagnostic Model Standard diagnostics subprofile of the CIM specification.

Table 1. Commonly used terms (continued)

Term	Definition
CIM	Common Information Model Standard developed by the Distributed Management Task Force for enterprise level modeling of computer systems.
CIM Object Manager (or CIM broker)	High level service in the operating system that manages the creation and life cycle of managed object data. The format of managed data conforms to the CIM specification.
CIM Provider	Platform specific management software that interfaces between a CIM object manager and any lower level platform interfaces.
CLI	Command Line Interface A type of computer interface in which the input command is a string of text characters.
CMM	Chassis Management Module A Flex System module that allows you to configure and manage all Flex System components that are installed.
CMPI	Common Management Programming Interface Programming API designed to bridge the differences between multiple CIMOM implementations and CIM provider APIs.
CNA	Converged Network Adapter An I/O device that combines the functionality of a host bus adapter (HBA) with that of a network interface controller (NIC).
DIMM	Dual Inline Memory Module A double SIMM (single inline memory module). Contains one or more random access memory (RAM) chips.
DSA	Dynamic System Analysis Strategic problem determination tool for data collection, fault detection and remediation.
fusb	Front panel USB.
Firefox	Open source browser from Mozilla.
Fix-ID	Unique identifier for updates.
FoD	Features on Demand
FTP	File Transfer Protocol A standard network protocol that is used for transferring files from one host to another over a TCP-based network.
FFDC	First Failure Data Capture.
GUI	Graphical User Interface A type of computer interface that presents a visual metaphor of a real-world scene, often of a desktop, by combining high-resolution graphics, pointing devices, menu bars and other menus, overlapping windows, icons and the object-action relationship.
HBA	Host Bus Adapter An integrated circuit adapter or circuit board that provides I/O processing and physical connectivity between a host system and storage devices or a network.
HTTP	Hypertext Transfer Protocol The set of rules utilized on the World Wide Web to transfer various types of files. Types of files can include graphics, audio, video, text, and multimedia.
IOM	ISDN-oriented Modular Interface A system architecture and its bus used for communication between VLSI ICs for the lower layers of ISDN.

Table 1. Commonly used terms (continued)

Term	Definition
IPMI	Intelligent Platform Management Interface Industry standard interface for communications between management applications and baseboard management controllers.
IPMI SEL	Intelligent Platform Management Interface System Event Log Used to view System Event Log (SEL) entries.
iSCSI	Internet Small Computer System Interface An Internet protocol-based storage networking standard for linking data storage devices and transferring data.
KCS	Keyboard Controller Style Keyboard An interface that is used between a Baseboard Management Controller and payload processor in Intelligent Platform Management Interface architecture.
KMS	Key Management System A method for activating physical computers or virtual machines on a local network.
LED	Light Emitting Diode A two-lead semiconductor device that produces visible light when electric current passes through it.
LLA	Link Local Address
LightPath	The light emitting diode (LED) indicators on each resource in your system provide status about informational and error events, location, and resource faults as well as other immediately required information.
MAC	Media Access Control sublayer of the data link layer (DLL) in the seven-layer Open Systems Interconnection (OSI) network reference model. It enables multiple terminals or network nodes to communicate within a multiple access network that incorporates a shared medium.
Multitool	The Lenovo service site used to parse inventory logs to html and text views.
OOB	Out-of-Band Pertaining to user-specific data that has meaning only for connection-oriented (stream) sockets. The server generally receives stream data in the same order that it was sent. OOB data is received independent of its position in the stream (independent of the order in which it was sent).
PCIe	Peripheral Component Interconnect Express A high-speed serial expansion bus standard for connecting a computer to peripheral devices.
PXE	Preboot Execution Environment An industry standard target/server interface that allows networked computers that are not yet loaded with an operating system to be configured and booted remotely. PXE is based on Dynamic Host Configuration Protocol (DHCP).
RAS	Reliability, Availability, Serviceability IBM standard requirements for system design and operation.
SFTP	Simple File Transfer Protocol A file transfer protocol with a level of complexity between TFTP and FTP.
SMM	System Management Module A management device to provide integrated and remote systems management functions for ThinkSystem Dense products.
SOL	Serial Over LAN Protocol for enabling serial communication over TCP/IP using standard IPMI commands.

Table 1. Commonly used terms (continued)

Term	Definition
UEFI	Unified Extensible Firmware Interface Replaces BIOS as the interface between the operating system and platform firmware.
UTF8	8-bit Unicode Transformation Format A variable-length character encoding that can encode all possible characters in Unicode, using 8-bit code units.
UXSP	UpdateXpress System Pack A package of updates that have been verified to work well together and can be updated together.
UXSPi	UpdateXpress System Pack Installer A XClarity Essentials software application that applies UpdateXpress System Packs (UXSPs) and individual updates to IBM branded system.
VPD	Vital Product Data Configuration and informational data that is associated with a particular set of hardware or software and allows for administration from the system or network level, such as, but not limited to serial number and FRU.

Publications and related information

To view a PDF file, you need Adobe Acrobat Reader, which can be downloaded for free at:
<http://www.adobe.com/products/acrobat/readstep.html>

Online help document and topic collections

For information about the System x and BladeCenter tools, go to the XClarity Essentials online help site <http://sysmgt.lenovofiles.com/help/index.jsp>

Publications

For the latest version of the *Lenovo XClarity Essentials OneCLI Users Guide*, go to:
[Lenovo XClarity Essentials OneCLI website](#)

Web resources

The following Web sites and information center topics are resources for using XClarity Essentials OneCLI.

Web sites

- [Lenovo XClarity Essentials OneCLI website](#)
Use this Web site to download the Lenovo XClarity Essentials OneCLI tool and documentation.
- [Lenovo XClarity Essentials website](#)
Use this Web site to download tools that support Lenovo branded systems. XClarity Essentials products are also available for download to support IBM branded systems.
- [Lenovo Flex System support products and services](#)
Use this Web page to obtain information about Flex System products.
- [System x Support website](#)
Use this Web site to obtain information about online product information for servers, storage and networking products.
- [Lenovo ServerProven](#)

Use this Web site to obtain information about the hardware compatibility of ThinkSystem, Flex, System x systems and BladeCenter with applications and middleware.

- [Lenovo Service and Support](#)

Use this Web site to obtain service and support information for Lenovo products.

- [Features on Demand Redbook website](#)

Use this Web site to download the *Using Lenovo System x Features on Demand* publication.

Chapter 1. Technical overview

Lenovo XClarity Essentials OneCLI is a consolidated command line software for managing Lenovo systems. It replaces the previous generation of ToolsCenter tools (Advanced Settings Utility for system configuration, Online Dynamic System Analysis for system inventory collection, and UpdateXpress System Pack Installer for firmware and device driver update).

You can run multiple OneCLI instances on a client operating system to manage multiple servers remotely.

The following table lists the functions and applications supported by OneCLI.

Table 2. OneCLI applications

Application	Description
config	<ul style="list-style-type: none">• View the current system configuration settings.• Create and change configuration settings for BMC-based systems.
inventory	<ul style="list-style-type: none">• Collect system information for BMC-based systems.• Upload inventory results to Lenovo Web site.
update	<ul style="list-style-type: none">• Download firmware and device driver updates.• Get device inventory information and check for available firmware and device driver updates.• Check for update packages in the local system folder.• Compare installed and available firmware and device driver versions, recommending updates to perform.• Update firmware and device drivers requiring upgrade.
misc	<ul style="list-style-type: none">• Collect the FFDC of BMC/CMM/SMM.• View or set the configurations of the front panel USB port.• Manage the system event logs and the BMC event logs.• Manage the host server OS.• Create, clear and save the raid configuration.• Restart BMC.• Restart CMM.• Restart IOM.• Restart SMM.• Reseat the blades on CMM.• Reseat CMM.• Reseat the switch on CMM.• Restore the BMU status on BMC.• Restore the SMM update progress.• Disable or enable SMM LAN.• Switch over CMM.• Collect and view the system health information.• Query or enable or disable USB LAN.

Table 2. OneCLI applications (continued)

Application	Description
diags	Run the diagnosis program of the remote server.
fod	Manage the FoD key

The following table lists the OneCLI global parameters used in different applications.

Table 3. OneCLI global parameters

Parameter	Description
--bmc, -b	Specify the access information of the target BMC. The format is <code>userid:password@host[:port]</code> . If the --bmc parameter is specified, OneCLI runs in out-of-band mode; otherwise, OneCLI runs in in-band mode. Note: Both the IPv4 address and the IPv6 address are supported. The IPv6 address shall be enclosed in brackets. For example, <code>[FE80:3BA7:94FF:FE07: CBD0]</code> . If the IPv6 is Link Local Address (LLA), the format is <code>[FE80:3BA7:94FF:FE07: CBD0%xxx]</code> . Replace xxx with the interface name. If the service processor or the SFTP server connects to local network of the OS that runs OneCLI, the service processor, the SFTP server and the OS shall have the same interface name.
--bmc-cim-port, -p	Specify the BMC CIM port for in-band mode.
--bmc-password, -w	Specify the BMC password for in-band mode.
--bmc-username, -u	Specify the BMC user name for in-band mode.
--config	Specify the OneCLI configuration file path.
--check-trust, -C	Verify the SSL certificate by using the HTTPS protocol, or verify the fingerprint of remote host by using the SSH protocol.
--never-check-trust, -N	Neither verify the SSL certificate by using the HTTPS protocol, nor verify the fingerprint of remote host by using the SSH protocol.
--nolog	Cancel logging when running OneCLI.
--output, -o	Specify where OneCLI logs are generated. If not specified, the logs of each OneCLI command are saved in the corresponding folder. The format of folder name is <code>logs/Onecli-%PID %-%date%-%time%/</code> . Note: The arguments of the --output parameter are case-sensitive.

To start using OneCLI, see Chapter 3 “Downloading and using XClarity Essentials OneCLI” on page 9.

Chapter 2. Hardware support scope and runtime environment requirements

Lenovo XClarity Essentials OneCLI has specific requirements for runtime environment. It can only support Lenovo systems and part of IBM branded systems. Before you begin using OneCLI, review the support scopes in this section carefully.

Hardware support scope

OneCLI supports all Lenovo x86 systems and some Lenovo ThinkServer systems. It can also act as a proxy to management IBM system x servers. To run OneCLI, ensure that the systems you are managing are in one of following tables.

Table 4. Supported Lenovo ThinkSystem systems

Server	Machine type
Lenovo ThinkSystem SR150/SR158	7Y54, 7Y55
Lenovo ThinkSystem SR250/SR258	7Y51, 7Y52, 7Y53, 7Y72, 7Y73
Lenovo ThinkSystem SR530	7X07, 7X08
Lenovo ThinkSystem SR550	7X03, 7X04
Lenovo ThinkSystem SR570	7Y02, 7Y03
Lenovo ThinkSystem SR590	7X98, 7X99
Lenovo ThinkSystem SR630	7X01, 7X02
Lenovo ThinkSystem SR650	7X05, 7X06
Lenovo ThinkSystem SR670	7Y36, 7Y37, 7Y38
Lenovo ThinkSystem SR850	7X18, 7X19
Lenovo ThinkSystem SR860	7X69, 7X70
Lenovo ThinkSystem SR950	7X11, 7X12, 7X13
Lenovo ThinkSystem ST250/ST258	7Y45, 7Y46, 7Y47
Lenovo ThinkSystem ST550	7X09, 7X10
Lenovo ThinkSystem ST558	7Y15, 7Y16
Lenovo ThinkSystem SD530	7X21
Lenovo ThinkSystem SD650 DWC	7X58
Lenovo ThinkSystem SN550	7X16
Lenovo ThinkSystem D2 Enclosure	7X20, 7X22, 7X85
Lenovo ThinkSystem SN850	7X15
Lenovo ThinkAgile VX Series	7Y11, 7Y12, 7Y13, 7Y14, 7Y92, 7Y93, 7Y94, 7Y91, 7Z58

Table 4. Supported Lenovo ThinkSystem systems (continued)

Server	Machine type
Lenovo ThinkAgile MX Series	7Z20
Lenovo ThinkAgile HX Series	7X81, 7X82, 7X83, 7X84, 7Y88, 7Y89, 7Y90, 7Y95, 7Y96, 7Z03, 7Z04, 7Z05, 7Z09, 7Y87, 7Z02, 7Z06, 7Z07, 7Z08

Table 5. Supported Lenovo System x systems

Server	Machine type
Lenovo Flex System x240 Compute Node	7162, 2588
Lenovo Flex System x240 M5 Compute Node	2591, 9532
Lenovo Flex System x280 X6/x480 X6/x880 X6 Compute Node	4258, 7196
Lenovo Flex System x440	7167, 2590
Lenovo NeXtScale nx360 M5	5465, 5467
Lenovo System x3250 M6	3633, 3943
Lenovo System x3500 M5	5464
Lenovo System x3550 M5	5463, 8869
Lenovo System x3650 M5	5462, 8871
Lenovo System x3750 M4	8753
Lenovo System x3850 X6/x3950 X6	6241
Lenovo Converged HX 3310 Appliance	8693
Lenovo Converged HX 5510/7510 Appliance	8695

Table 6. Supported Lenovo ThinkServer systems

Server
ThinkServer RD340
ThinkServer RD350
ThinkServer RD440
ThinkServer RD450
ThinkServer RD540
ThinkServer RD550
ThinkServer RD640
ThinkServer RD650
ThinkServer RQ750
ThinkServer RS140
ThinkServer RS160
ThinkServer SD350
ThinkServer TD340
ThinkServer TD350

Table 6. Supported Lenovo ThinkServer systems (continued)

Server
ThinkServer TS140
ThinkServer TS150
ThinkServer TS440
ThinkServer TS450
ThinkServer TS460

Table 7. Supported IBM systems (requires ASU/UXSPI/DSA)

Server	Machine type
IBM BladeCenter HS23	7875, 1929
IBM BladeCenter HS23E	8038, 8039
IBM Flex System x220 Compute Node	7906, 2585
IBM Flex System x222 Compute Node	7916
IBM Flex System x240 Compute Node	7863, 8737, 8738, 8956
IBM Flex System x280 X6/x480 X6/x880 X6	4259, 7903
IBM Flex System x440 Compute Node	7917
IBM iDataPlex dx360 M4 server	7912, 7913
IBM iDataPlex dx360 M4 Water Cooled server	7918, 7919
IBM NeXtScale nx360 M4	5455
IBM System x3100 M4	2582
IBM System x3100 M5	5457
IBM System x3250 M4	2583
IBM System x3250 M5	5458
IBM System x3300 M4	7382
IBM System x3500 M4	7383
IBM System x3530 M4	7160
IBM System x3550 M4	7914
IBM System x3630 M4	7158, 7159
IBM System x3650 M4	7915
IBM System x3650 M4 BD	5466
IBM System x3650 M4 HD	5460
IBM System x3750 M4	8722, 8733
IBM System x3750 M4	8752, 8718
IBM System x3850 X5	7145, 7146
IBM System x3850 X6/x3950 X6	3837, 3839
IBM System x3950 X5	7143, 7191

Server options

OneCLI supports options provided by the following vendors:

- Brocade
- Broadcom
- Cavium
- Intel
- Marvell
- Mellanox

Disk space requirements

To install OneCLI, the system must have a minimum of 300 MB of disk space.

Memory requirements

It is recommended that OneCLI run on a system with a minimum of 2 GB of physical memory.

Software requirements

The information in this section describes the required software for OneCLI.

To run OneCLI, you must have administrator or root-equivalent operating system privileges for in-band functions running inside server host OS. For remote functions such as update package acquisition, out-of-band update, non-root account is acceptable.

Linux System cmd used by OneCLI

This section describes the required linux system cmds that OneCLI invokes.

These cmds shall be added to system path probably. Not all of the cmds block OneCLI function, but some warning messages are print on the screenshot. for example:

- Requires xdpinfo. Receive message: sh: xdpinfo: command not found.

The examples of cmds:

- Moudle-related cmds: modinfo modprobe
- Ismod Network-related cmds: ip ifconfig ethtool route hostname lsmod
- Other cmds: hwinfo cat date diskpart /bin/ps ls lspci xpdinfo dmidecode

Required device drivers

It is recommended to have the appropriate service processor device drivers installed and running before running OneCLI. It provides access to additional problem determination information, including the hardware event logs.

The following list provides necessary device drivers and utilities when running OneCLI to collect system information.

- To collect SCSI and USB device information (including diagnostics), the sg driver must be loaded. Run **lsmod** and verify that the sg driver is loaded before running OneCLI. If it is not loaded, run **modprobe sg**.
- To collect Emulex HBA information from a system with Linux host OS, the emulex driver and utility (corekit) must be installed. Run **lsmod** and verify that lpfc and lpfcdfc are loaded before running OneCLI.

- To collect Service Processor logs, configuration, and environmental data, the appropriate Service Processor driver must be installed. These drivers are available to download from: <http://www.lenovo.com/support>.
- To update firmware using OneCLI on 64-bit Linux operating systems, the 32-bit compatibility library, `compat-libstdc++`, must be installed. You can use the following command to determine if this library is installed: `rpm -qa | grep compat-libstdc++-296`.
- To collect Emulex FC HBA data, the Emulex utility (**HBACmd**) must be installed.
- To transfer data collections to the support site using SFTP (by default) or FTP, `libcurl` must be installed.

Supported browsers

To view the information collected by OneCLI, you are recommended to use one of the following Web browsers.

- Internet Explorer
- Chrome
- Firefox

Supported operating systems

Use the information in this section to identify operating systems that are supported by OneCLI.

Windows

OneCLI supports the following Windows operating systems.

Microsoft Windows Server 2019 Editions

- Microsoft Windows Server 2019 (x64)

Microsoft Windows Server 2016 Editions

- Microsoft Windows Server 2016 (x64)
- Microsoft Windows Server, version 1709 (x64)
- Microsoft Windows Server, version 1803 (x64)

Microsoft Windows Server 2012 Editions

- Microsoft Windows Server 2012 (x64)
- Microsoft Windows Server 2012 R2 (x64)

Microsoft Windows Server 2008 Editions

- Microsoft Windows Server 2008 (x64)
- Microsoft Windows Server 2008 R2 (x64)

Microsoft Windows 7/8/10 Desktop Editions for Acquire and Remote function

Note: OneCLI does not support Hyper-V windows and nano.

Linux

OneCLI supports the following Linux operating systems.

Red Hat

- Red Hat Enterprise Linux 7 Server (x64) Editions (up to U6)
- Red Hat Enterprise Linux 6 Server (x64) Editions (up to U10)
- Red Hat Enterprise Linux 5 Server (x64) Editions (up to U10)

SUSE

- SUSE Linux Enterprise Server 15 (x64)
- SUSE Linux Enterprise Server 12 (x64) (SP3)
- SUSE Linux Enterprise Server 11 (x64) (SP4)
- SUSE Linux Enterprise Server 10 (x64) (SP4)

Lenovo VMware Customized ESXi image

OneCLI supports the following Lenovo customized VMware image versions of the ESXi operating systems on a remote system: for xfw update only.

- ESXi 6.7
- ESXi 6.5 (up to U2)
- ESXi 6.0 (up to U3)
- ESXi 5.5 (up to U3)

Chapter 3. Downloading and using XClarity Essentials OneCLI

The topics in this section describe how to download and use OneCLI. OneCLI is a command line interface program that does not require installation.

Note: It is recommended that you store OneCLI binary in a directory where only authorized users can access. It is also recommended that you use command line option `--output` to specify the location where OneCLI output files are generated.

Using XClarity Essentials OneCLI for Windows

This procedure describes how to download and extract XClarity Essentials OneCLI for Windows.

XClarity Essentials OneCLI is available for download from: [Lenovo XClarity Essentials OneCLI website](#).

- Step 1. Select an XClarity Essentials OneCLI package for your operating system:
 - `lnvgy_utl_tclixxx-2.x.x_winsrv_x86-64.zip`
- Step 2. Copy the XClarity Essentials OneCLI binary file to the target server or to a removable medium that has been inserted into the target machine.
- Step 3. After downloading the appropriate XClarity Essentials OneCLI zip file, manually extract the files.
- Step 4. Open a Command Prompt window.
- Step 5. On the command line, enter `cd` to change to the directory where the XClarity Essentials OneCLI binary file is located.
- Step 6. Enter `OneCli.exe` and press the `enter` key. You are now ready to begin using XClarity Essentials OneCLI.

Using XClarity Essentials OneCLI for Linux

This procedure describes how to download and extract XClarity Essentials OneCLI for Linux (use SLES 12 as an example).

XClarity Essentials OneCLI is available for download from: [Lenovo XClarity Essentials OneCLI website](#).

- Step 1. Select a XClarity Essentials OneCLI package for your Linux operating system: e.g, `lnvgy_utl_tclixxx-2.x.x_sles_x86-64.tgz` for SLES12
- Step 2. Copy the XClarity Essentials OneCLI binary file to the target server or to a removable medium that has been inserted into the target machine.
- Step 3. After downloading the appropriate XClarity Essentials OneCLI TGZ file, issue the `tar -xf binary_name` command to complete the file extraction.
- Step 4. Open a Linux Terminal window.
- Step 5. On the command line, enter `cd` to change to the directory where the XClarity Essentials OneCLI binary file is located.
- Step 6. Enter `./OneCli` and press the `enter` key. You are now ready to begin using XClarity Essentials OneCLI.

Note: Do not extract the files in Windows and then copy the extracted files to Linux.

XClarity Essentials OneCLI applications and commands

Applications represent major function areas that OneCLI supports. OneCLI currently has the following applications:

- config
- inventory
- update
- fod
- diags
- misc
 - ffdc
 - fpub
 - logmgr
 - ospower
 - raid
 - rebootbmc
 - rebootcmm
 - rebootiom
 - rebootsmm
 - reseatablade
 - reseatacmm
 - reseatswitch
 - restorebmu
 - restoresmm
 - smmlan
 - switchcmm
 - syshealth
 - usblan

Commands are used with applications. Each application supports a different set of commands.

Application and command syntax

`/OneCli <or> OneCli.exe <application> <command> [command option] [connect option]`

Note: `./OneCli` is for Linux, and `OneCli.exe` is for Windows.

To run OneCLI application, on a command line, enter the command string and press Enter.

IBM system support

The OneCLI only supports Lenovo systems. However, OneCLI supports redirecting to ToolsCenter products (ASU/UXSPi/DSA) for IBM systems.

If a OneCLI command is issued against a supported IBM system, it automatically invokes the corresponding ToolsCenter products (ASU/UXSPi/DSA) according to their binary path specified in OneCLI config file. If ToolsCenter product paths are not correctly specified, an error message displays, indicating the ToolsCenter version required by the IBM hardware.

Notes:

- The corresponding ToolsCenter product binary should be available (ASU for configuration, UXSPi for update, DSA for inventory collection).
- The path to the earlier ToolsCenter version must be specified in the **global.config** file.
- For commands related to the Advanced Settings Utility (ASU), the ASU binary file must be unzipped before commands can be directed to it (for example; “unzip Invgy_utl_asu_asut90e-10.*_windows_x86-64.exe”). The full path to the location where the ASU executable main program, must then be specified (for example; “C:\asu_bin\asu64.exe”) in the **global.config** file.

OneCLI commands that support translation to earlier ToolsCenter versions for use with IBM products are listed in the following.

Configuration commands and parameters supporting IBM hardware

- batch
- comparedefault
- createuuid
- delete
- deletecert
- export
- generate
- import
- loaddefault
- nodes
- replicate
- restore
- save
- set
- show
- showdefault
- showdes
- showgroups
- showvalues

Inventory commands and parameters supporting IBM hardware

- getinfor
- formatlog
- upload
- --output <dir>
- --srcdata <file>
- --upload multitool

- --htmlreport
- --ffdc
- --hldec
- --proxy user:pwd@addr:port
- --bmc

Update commands and parameters supporting IBM hardware

- compare
- flash
- --backup
- --type
- --forceid
- --dir
- --excludeid
- --includeid
- --scope
- --noscan
- --xml
- --esxi
- --mt

Lenovo XClarity Essentials OneCLI to IBM UXSPi command comparison

The following table compares commands and parameters used by the Lenovo XClarity Essentials OneCLI and IBM UXSPi tools.

Table 8. Lenovo XClarity Essentials OneCLI to IBM UXSPi command comparison

XClarity Essentials OneCLI Command	XClarity Essentials OneCLI parameter	UXSPi command	UXSPi parameter
acquire		acquire	The XClarity Essentials OneCLI acquire command is not platform-dependent, so no command mapping is required.
scan		Not supported.	
compare	--scanxml	compare	Not supported.
	--noscan		--noinventory
	--backup		--update-args="IMM:--user= <i>userid</i> --password= <i>pwd</i> ,UEFI:--backup"
	--disable-imm-lan		Not supported.
	--mt		-m <i>type</i> , --machine-type= <i>type</i>
	--ostype		Not supported.
	--osarch		Not supported.

Table 8. Lenovo XClarity Essentials OneCLI to IBM UXSPi command comparison (continued)

XClarity Essentials OneCLI Command	XClarity Essentials OneCLI parameter	UXSPi command	UXSPi parameter
	--queryxml		Not supported.
	--comparexml		Not supported.
	--type fw		-F, --firmware
	--type dd		-D, --drivers
	--scope <i>Latest</i>		-L, --latest
	--scope <i>UXSP/Default</i>		Default (UXSP)
	--includeid		-i <i>update-ids</i> , --include= <i>update-ids</i>
	--excludeid		-e <i>update-ids</i> , --exclude= <i>update-ids</i>
	--forceid		-f <i>update-ids</i> , --force= <i>update-ids</i> , -o <i>update-ids</i> Note: The -o parameter works only with device drivers and has no functional impact on firmware.
	--dir		-I UXSP, --local=UXSP
	--esxi		--vmware-esxi= <i>url</i>
	--output		Not supported
	--log		Not supported.
	--bmc		Not supported.
flash	--scanxml	flash	Not supported.
	--noscan		--noinventory
	--backup		--update-args="IMM:--user= <i>userid</i> --password= <i>pwd</i> ,UEFI:--backup"
	--disable-imm-lan		Not supported.
	--ostype		Not supported.
	--osarch		Not supported.
	--queryxml		Not supported.
	--comparexml		Not supported.
	--type fw		-F, --firmware
	--type dd		-D, --drivers
	--scope <i>Latest/Individual</i>		-L, --latest
	--scope <i>UXSP/Default</i>		Default (UXSP)
	--includeid		-i <i>update-ids</i> , --include= <i>update-ids</i>
	--excludeid		-e <i>update-ids</i> , --exclude= <i>update-ids</i>

Table 8. Lenovo XClarity Essentials OneCLI to IBM UXSPi command comparison (continued)

XClarity Essentials OneCLI Command	XClarity Essentials OneCLI parameter	UXSPi command	UXSPi parameter
	--forceid		-f <i>update-ids</i> , --force= <i>update-ids</i> , -o <i>update-ids</i> Note: The -o parameter works only with device drivers and has no functional impact on firmware.
	--dir		-l UXSP, --local=UXSP
	--esxi		--vmware-esxi= <i>url</i>
	--output		Not supported.
	--xml		--xml
	--log		Not supported.
	--bmc		Not supported.

Example of IBM script support

OneCli.exe update flash --dir c:\ --scope individual --includeid ibm_fw_dsa_dsala7o-9.63_anyos_32-64

Chapter 4. Configuration

The topics in this section describe how to use the Lenovo XClarity Essentials OneCLI config application and commands to view the current system configuration settings and modify BMC, UEFI and I/O settings. The saved configuration information can be used to replicate to another system or restore to current system. The config application also manages system certification.

For information about specific config application commands, refer to the following sections:

- “Commands that display configuration settings” on page 17
- “Commands that change or set system configuration settings” on page 27
- “Commands that save, replicate, and restore configuration settings” on page 31
- “Commands for certificate management” on page 37

Configuration setting

A configuration setting has three components: groupname, configname, and instance.

configuration setting format

<groupname>.<configname>.[instance]

This table provides a description of the configuration setting components.

Table 9. Configuration setting components

Component	Required/Optional	Description
groupname	Required	<ul style="list-style-type: none">• Required for all settings.• Unique identifier of a group; cannot be duplicated.• Use the showgroup command to view all of the supported groups in an instance.
configname	Required	<ul style="list-style-type: none">• Required for all settings.• Unique identifier of a configuration name; cannot be duplicated within a group, but can be duplicated in different groups.
instance	Optional	<ul style="list-style-type: none">• The instance ID of a setting instance.• Values start from 1 and are in an ascending order.• For more information, see “Instance and non-instance settings” on page 15.

Instance and non-instance settings

An instance setting includes the [.instance] component, otherwise it is considered a non-instance setting. An instance setting requires an instance ID.

Instance settings have a minimum and maximum number of allowed instances. To determine which settings have instances and the number of instances allowed, use the **showvalues** command with the **--instances** parameter. The output provides the number of instances.

Single instance settings do not have an instance number and appear as a non-instance setting. The output of the **showvalues** command has the maximum number of instances as *single*. For example, the iSCSI initiatorName is a single instance setting.

You can use the **show** or **set** commands for single instance settings. This list provides some examples of single instance settings/non-instance settings:

- IMM.HttpPortControl
- IMM.RetryLimit
- IMM.LanOverUsbIMMIP
- IMM.NetworkSettingSync
- SYSTEM_PROD_DATA.SysInfoProdName
- AdvancedRAS.MachineCheckRecovery
- SystemRecovery.POSTWatchdogTimer
- Processors.TurboMode

If there are multiple instances, the settings will be shown multiple times. Multiple instances can be viewed using the **show** command. For example, if there are three user accounts in a BMC system, then you will see three *loginid* settings as shown in the following list.

- IMM.Loginid.1
- IMM.Loginid.2
- IMM.Loginid.3

However, if a BMC system has no user account, the **show** command will not display anything.

Other instance settings include the following examples:

- IMM.UserAccountManagementPriv.1
- IMM.Community_Name.1
- IMM.RemoteConsolePriv.1
- iSCSI.AttemptName.1
- VPD.CompVPD_PartNumber.1
- PXE.NicPortPxeMode.1

Creating and deleting instances

This topic describes how to create and delete instances.

There are restrictions for creating and deleting instances of settings that are part of a record. For more information about these restrictions, see “Record management” on page 17.

To create an instance, use the **set** command. If an instance does not exist, and the instance number is between 1 and the maximum number of allowed instances, the instance is automatically created and set to the value specified in the **set** command.

To delete an instance, use the **delete** command. This command deletes an instance, if deleting the instance does not cause the number of instances for that setting to go below the minimum number of allowed instances for the setting.

Record management

Settings that have instances can be part of a record. A record is a group of settings that have dependencies on each other. For example, a user ID and a password are dependent on each other. A user ID must have a password and a password must have a user ID. Therefore, they are grouped in the same record.

Each record has a setting that is defined as the *record key*. It represents the primary setting for a record.

Settings that are part of a record are marked as:

- *recordKey*, if the setting is the record key, or
- *recordKey=key_name*, if the setting is part of a record but is not the key

Use the **showvalues** command with the **--instances** parameter to determine if a setting is part of a record. To see examples of the **showvalues** output for settings that are part of a record, see “showvalues command” on page 22.

All of the settings in a record are created or deleted as a group. To create an instance of a record, you must first perform a **set** on the key setting of that record. This automatically creates an instance and sets it to the default value for all of the other settings in that record. For more information about creating or deleting a setting instance, see “Creating and deleting instances” on page 16 and “set command” on page 28.

Commands that display configuration settings

The topics in this section provide detailed information about how to use the config application and commands to display different aspects of the system configuration settings.

Table 10. Commands that display configuration settings

Command	Description
show	View the value of one or more settings.
showvalues	Display possible setting values.
showdefault	View the default setting values.
comparedefault	Compare the default and the current setting values.
showdes	View the details of settings.
showgroups	Display groups of settings.
nodes	Obtain nodes.

Setting classes

Classes are used to indicate groups of settings for commands that support functionality for multiple settings.

Commands that support classes are:

- show
- showvalues
- showdefault
- comparedefault
- showdes
- loaddefault

This table lists setting classes and their descriptions.

Table 11. Settings classes

Class	Description	Example
all	Includes all of the settings.	
authentication	All of the settings classified as authentication settings, including: <ul style="list-style-type: none"> • passwords • userIDs • authority-related settings 	This example lists the settings defined by authentication, including password settings. Password settings are not displayed unless the showvalues command is used with the password class. OneCli.exe config showvalues authentication
backupctl	<ul style="list-style-type: none"> • Lists all of the settings that are not restored when you run the restore command. • An additional flag is required for these settings to be included during a restore operation. For more information, see “restore command” on page 35. • Class filter for the show, showvalues, and showdefault commands. 	This example lists the settings that are not restored if saved. OneCli.exe config show backupctl
noreplicate	<ul style="list-style-type: none"> • Lists all of the settings that are not replicated when you run the replicate command. These settings are unique to each system. • Class filter for the show, showvalues, and showdefault commands. 	This example lists the settings that are not replicated. OneCli.exe config show noreplicate
password	<ul style="list-style-type: none"> • Lists all of the settings that are classified as password settings. • Password setting values are not displayed using the show command. • Use the password class with the showvalues and the showdefault commands. 	This example list the settings defined by the password settings. Password settings are displayed with the showvalues command and the password class. OneCli.exe config showvalues password

Table 11. Settings classes (continued)

Class	Description	Example
readonly	<ul style="list-style-type: none"> Includes all of the settings that are read-only. These settings cannot be change. 	
writeonly	<ul style="list-style-type: none"> Includes all of the settings that are write-only. These settings can be changed but cannot be read, for example, passwords. 	

The output of commands that display configuration settings

The format of most outputs is: %settingname%=%settingvalue%. For example:

- IMM.SMTP_Authentication=Disabled
- IMM.SMTP_UserName=

Note: The value is empty string "".

The following are some examples of the output of the **showvalues** command:

- IMM.PowerRestorePolicy=Always Off=<Restore>=Always On

Note: The possible value is separated by “=”. The value contained in “<>” is the default value.

- IMM.ManufacturingCertInfo=char[] minchars=0 maxchars=47 pattern=[a-zA-Z0-9./+]{0,47}\$default=""
- Memory.CKSelfRefresh=<AUTO>=L1: CK_DRIVEN=L2: CK_TRI_STATE=L3: CK_LOW=L4: CK_HIGH

This setting is suppressed if the result of the following expression is true: ((Memory.MemoryPowerManagement == Automatic) || (Memory.MemoryPowerManagement == Disable))

This setting is read-only if the result of the following expression is true: (! (OperatingModes.ChooseOperatingMode == Custom Mode))

Note: The **showvalues** command also shows the sentence to check whether the setting is suppressed/grayed/read-only or not.

- IMM.SSL_HTTPS_SERVER_CSR=*generate=export

Note: This is for certification management settings. The output of the **comparedefault** command is IMM.PwDiffChar=0<2>. The value contained in “<>” is the default value and the other one is the current value.

Configuring the interactive mode

Users can use the interactive mode by configuring the --interactive (-i) option. In this mode, OneCLI supports to automatically configure the setting name after users press Tab.

The --interactive (-i) option supports the following commands: **set**, **show**, **showvalues**, **showdes**, and **showdefault**.

Do the following to configure the interactive mode:

Procedures

Step 1. Input “OneCli config show –i” to run the **show** command with the --interactive (-i) option, or input “OneCli config set –i” to run the **set** command with the --interactive (-i) option. The following information will be displayed:

Welcome to Auto Completion!

Tips:

1. Enter "exit()" to quit OneCLI.

2. Hit key "ESC" to reset all already entered options.

Now please follow wizard to complete options of command line.

setting name:

Step 2. Input the setting name:

a. Input part of setting name, for example, IMM.D.

b. Press Tab, and all setting names will be displayed on OneCLI. Following is the example of all setting names:

```
IMM.D
IMM.DeploymentBoot
IMM.DHCPConfig_Hostname
IMM.DHCPConfig_IP
IMM.DHCPConfig_GatewayAddress
IMM.DHCPConfig_Subnet
IMM.DHCPConfig_DomainName
IMM.DHCPConfig_DNS_Primary
IMM.DHCPConfig_DNS_Secondary
IMM.DHCPConfig_DNS_Tertiary
IMM.DNSSettings_Interface
IMM.DNSSettings_preference
IMM.DNSSettings_ServerIp1
IMM.DNSSettings_ServerIp2
IMM.DNSSettings_ServerIp3
IMM.DDNSSettings_Interface
IMM.DDNSSettings_preference
IMM.DDNSSettings_CustomDomain
setting name:
IMM.D
```

c. Input the entire setting name.

Note: The exclusive setting name will be input automatically, for example, IMM.DeploymentBoot.

Step 3. Do one of the following based on your needs:

- If “output directory:” is displayed, input the output directory.
- If you want to input the default value, press Enter.

Note: After OneCLI runs the entire command, the following outputs will be displayed:

output directory:

Invoking SHOW command

Connected to BMC at IP address 10.240.194.225 by IPMI

IMM.DeploymentBoot=Disabled

Success.

show command

Use the **show** command to view the current value of one or more settings.

show command syntax

OneCli.exe config show [command option] [<options>]

Table 12. show command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	all Default value. Displays all of the supported settings. group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on. setting name The setting name value.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --never-check-trust, -N• --node• --nolog• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the show command

OneCli.exe config show IMM.LanOverUsbIMMIP --bmc userid:password@host

showvalues command

Use the **showvalues** command to list all of the possible values for one or more settings. **showvalues** also lists the suppressed, grayed-out dependency information.

showvalues command syntax

OneCli.exe config showvalues [command option] [<options>]

Table 13. showvalues command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	<p>all Default value. Displays all of the supported settings.</p> <p>group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on.</p> <p>setting name The setting name value.</p>
--instances	Optional	Display the instances settings.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --node • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the showvalues command

OneCli.exe config showvalues IMM --bmc userid:password@host

showdefault command

Use the **showdefault** command to view the default values of one or more settings.

showdefault command syntax

OneCli.exe config showdefault [command option] [<options>]

Table 14. showdefault command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	all Default value. Displays all of the supported settings. group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on. setting name The setting name value.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Note: Some settings do not have a default value and will not be included in the list.

Example of the showdefault command

OneCli.exe config showdefault

comparedefault command

Use the **comparedefault** command to compare the current values and the default values of one or more settings.

comparedefault command syntax

```
OneCli.exe config comparedefault [command option] [<options>]
```

Table 15. comparedefault command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	all Default value. Displays all of the supported settings. group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on. setting name The setting name value.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Notes:

- Some settings do not have a default value and will not be included in the list.
- The value contained in the <> is the default value, while the other value is current setting value. For example: IMM.PwDiffChar=0<2>, 0 is the current value and 2 is the default value.

Example of the comparedefault command

```
OneCli.exe config comparedefault --bmc userid:password@host
```

showdes command

Use the **showdes** command to view a detailed description of one or more settings. For UEFI settings, the detailed description for this command is the same information that you access when you press F1 during startup.

showdes command syntax

OneCli.exe config showdes [command option] [<options>]

Table 16. showdes command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	<p>all Default value. Displays all of the supported settings.</p> <p>group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on.</p> <p>setting name The setting name value.</p>
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --node • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the showdes command

OneCli.exe config showdes imm --bmc userid:password@host

Example of the description of a setting:

IMM.IMMInfo_Location: IMM.IMMInfo_Location:XCC Location

Help for XCC Location

Configure the "XCC Information", "location" setting.

You can enter a maximum of 47 characters for this setting.

Special characters @`" ,{}#\$%^*()!~.;?[]=|+&<> are not allowed.

showgroups command

Use the **showgroups** command to list the setting groups that are available on a server.

showgroups command syntax

OneCli.exe config showgroups [<options>]

Notes:

- The **showgroups** command does not require any command options.
- Groups vary on different systems. See the following for some sample groups. The following is an example of the groups list:
 - UEFI
 - AdvancedRAS
 - BackupBankManagement
 - DevicesandIOPorts
 - DiskGPTRecovery
 - LegacySupport
 - Memory
 - Node1
 - OperatingModes
 - POSTAttempts
 - Power
 - Processors
 - SystemRecovery BootModes BootOrder
 - BootModes
 - BootOrder
 - IMM
 - BroadcomGigabitEthernetBCM5720-910
 - BroadcomGigabitEthernetBCM5720-000AF72567E6
 - BroadcomGigabitEthernetBCM5720-000AF72567E7 IMM
 - PXE
 - SYSTEM_PROD_DATA
 - SecureBootConfiguration
 - UEFIMisc
 - VPD
 - iSCSI

Example of the showgroups command

OneCli.exe config showgroups --bmc userid:password@host

nodes command

Use the **nodes** command to obtain the available nodes in the current system.

nodes command syntax

OneCli.exe config nodes [<options>]

Notes:

- The **nodes** command does not require any command options.
- The **nodes** command can be used on a multi-node or a single-node system.
- On a single node system, 1 is always reported.
- On a multi-node system, the available number of nodes is reported.

Example of the nodes command

OneCli.exe config nodes

Commands that change or set system configuration settings

The topics in this section provide detailed information about how to use the config application and commands to change and set the system configuration settings.

Table 17. Commands that change and set configuration settings

Command	Description
set	Change the setting value.
loaddefault	Set the setting value to the default value.
createuuid	Generate and set Universally Unique Identifier.
delete	Delete a setting instance group.

set command

Use the **set** command to create a setting or to change the value of a setting. The **set** command also creates an instance, when an instance number does not exist and if the instance value is less than or equal to the maximum number of allowed instances for a setting.

For more information about instances, see “Instance and non-instance settings” on page 15.

set command syntax

```
OneCli.exe config set <settingname> <settingvalue> [<options>]
```

Table 18. set command specific parameters

Parameter	Required/Optional	Notes
settingname	Required	The settingname parameter is required for changing a setting value.
settingvalue	Optional	The settingvalue parameter is the new value for the setting that is being changed.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Notes:

- If a **settingvalue** is blank, enter a value in quotes.
- If a **settingname** is a valid setting instance which did not exist before, the **set** command will create a setting instance.

Example of the set command

```
OneCli.exe config set IMM.DST Off --bmc userid:password@host
```


loaddefault command

Use the **loaddefault** command to load the default values of one or more settings.

loaddefault command syntax

OneCli.exe config loaddefault [command option] [<options>]

Table 19. loaddefault command specific parameters

Parameter	Required/Optional	Notes
command option	Optional	all Default value. Displays all of the supported settings. group name Displays the settings that belong to a group name, such as IMM, UEFI, and so on. setting name The setting name value.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the loaddefault command

OneCli.exe config loaddefault BootModes.SystemBootMode --bmc userid:password@host

OneCli.exe config loaddefault UEFI

OneCli.exe config loaddefault IMM -- bmc userid:password@host

createuuid command

Use the **createuuid** command to generate and set the Universally Unique Identifier.

createuuid command syntax

OneCli.exe config createuuid <uuidsetting> [<options>]

Table 20. createuuid command specific parameters

Parameter	Required/Optional	Notes
uuidsetting	Required	The setting name is: SYSTEM_PROD_DATA. SysInfoUUID
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Note: The value of the uuid created by the **createuuid** command depends on the time slot and the system information. Therefore, each time you run the command, you will get different setting values.

Example of the creatuuid command

OneCli.exe config createuuid SYSTEM_PROD_DATA.SysInfoUUID --bmc userid:password@host

Example of the UUID value got from createuuid command

The uuid for SYSTEM_PROD_DATA.SysInfoUUID value is 80b958fb5671b70127e57a51e2e00994

delete command

Use the **delete** command to delete an instance of a setting.

delete command syntax

OneCli.exe config delete <setting_instance> [<options>]

Table 21. delete command specific parameters

Parameter	Required/Optional	Notes
setting_instance	Required	A unique value is required for this parameter.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Note: The **delete** command is used only for a setting instance. It does not work for a normal setting.

Example of the delete command

```
OneCli.exe config delete imm.loginid.6 --bmc userid:password@host
```

Commands that save, replicate, and restore configuration settings

The topics in this section provide detailed information about how to use the config application and commands to save, replicate, and restore system configuration settings and how to run commands in batch mode.

Table 22. Commands that save, replicate, and restore a system

Command	Description
save	Save the current settings.
replicate	Replicate the settings to the other system.
restore	Restore a saved setting value to the current system.
batch	Run multiple config commands in a batch file.

save command

Use the **save** command to save the settings of all groups to a specified file, for example, the UEFI group, the IMM group. However, the read-only and write-only settings cannot be saved by using the **save** command. The file containing the saved settings can be used in the **restore** command and the **replicate** command.

save command syntax

```
OneCli.exe config save --file <savetofilename> [--group <groupname>] [--excbackupctl] [<options>]
```

Table 23. save command specific parameters

Parameter	Required/Optional	Notes
--file	Required	The file name where settings and values are stored. XClarity Essentials OneCLI reads the setting from the system and then stores the setting and value in the file.
--group	Optional	The name of a group section. The group_name is the name used in the XML to group setting per subsystem, which should be obtained by running the command showgroups.
--excbackupctl	Optional	Used to exclude the VPD settings. The default is to include all VPD.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the save command

```
OneCli.exe config save --file saved.txt --bmc userid:password@host
```

The format of the content in the saved file is:

```
<settingname1>=<settingvalue1>
```

```
<settingname2>=<settingvalue2>
```

```
<settingname3>=<settingvalue3>
```

This is an example of the saved.txt file output:

```
IMM.PowerRestorePolicy=Restore
```

```
IMM.ThermalModePolicy=Normal
```

```
IMM.PowerOnAtSpecifiedTime=0:0:0:0
```

IMM.MinPasswordLen=0

IMM.PwChangeInterval=0

IMM.PwMaxFailure=5

IMM.PwDiffChar=0

IMM.DefPasswordExp=Disabled

IMM.FirstAccessPwChange=Disabled

replicate command

Use the **replicate** command to replicate the settings in the configuration file to the target server. The settings in the nonreplicated group are saved in a specific file, and cannot be replicated.

replicate command syntax

```
OneCli.exe config replicate --file <filename> [<options>]
```

Table 24. replicate command specific parameters

Parameter	Required/Optional	Notes
--file	Required	<ul style="list-style-type: none">The file name for the saved settings and values to be stored.XClarity Essentials OneCLI reads the setting and value from the file and applies it to the system.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">--bmc, -b--bmc-cim-port, -p--bmc-password, -w--bmc-username, -u--check-trust, -C--config--node--nolog--never-check-trust, -N--output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Notes:

- You could use the saved file got in the **save** command. If you create your own file and specify with the --file option, follow the file format. For more information, refer to “save command” on page 32.
- The outputs of the **replicate** command contain a long list of the saved settings. OneCLI puts the outputs in a file and shows the summary in the command shell.

Example of the replicate command

```
OneCli.exe config replicate --file saved.txt --bmc userid:password@host
```

restore command

Use the **restore** command to restore the settings that are already saved in the file for the current server.

restore command syntax

```
OneCli.exe config restore --file <filename> [<options>]
```

Table 25. restore command specific parameters

Parameter	Required/Optional	Notes
--file	Required	<ul style="list-style-type: none">The file name for the saved settings and values to be stored.XClarity Essentials OneCLI reads the setting and value from the file and applies it to the system.
--incbackupctl	Optional	Include VPD settings when restoring from the external file specified by "--file".
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">--bmc, -b--bmc-cim-port, -p--bmc-username, -u--bmc-password, -w--check-trust, -C--config--node--nolog--never-check-trust, -N--output, -o	Optional	Refer to Table 3 "OneCLI global parameters" on page 2.

Notes:

- You could use the saved file got in the **save** command. If you create your own file and specify with the --file option, follow the file format. For more information, refer to "save command" on page 32.
- There may be a long list of settings in the outputs of **restore** command. Therefore, OneCLI puts the results including all saved settings in a file and shows the summary in the command shell.

Example of the restore command

```
OneCli.exe config restore --file saved.txt --bmc userid:password@host
```

batch command

Use the **batch** command to queue config operations without any knowledge of the scripting capabilities of the operating system that XClarity Essentials OneCLI is running on. When you enter the **config** commands in a batch file, the XClarity Essentials OneCLI config application individually reads and runs each **config** command.

batch command syntax

```
OneCli.exe config batch --file <batchfilename> [<options>]
```

The format in the batch file should be:

```
<command1> <command1 options>
```

```
<command2> <command2 options>
```

```
<command3> <command3 options>
```

Note: The `--output` or connection option is not required for the previous command in the batch file.

Table 26. *batch command specific parameters*

Parameter	Required/Optional	Notes
<code>--file</code>	Required	<ul style="list-style-type: none">The file name of the batch file, which has the config commands.XClarity Essentials OneCLI individually reads and runs each command.
<code>--kcs</code>	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none"><code>--bmc, -b</code><code>--bmc-cim-port, -p</code><code>--bmc-password, -w</code><code>--bmc-username, -u</code><code>--check-trust, -C</code><code>--config</code><code>--node</code><code>--nolog</code><code>--never-check-trust, -N</code><code>--output, -o</code>	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Notes:

- In batch mode, the **show** and **set** commands ignore the suppressed information. You can see the suppressed settings current value using **show**, and set the suppressed settings without an error.
- All of the commands in a batch file must target an individual system and not multiple systems. A batch file that contains commands that target multiple systems is not supported.
- The following example batch file contains the **set** and **show** commands. All of the **set** commands are sent to BMC at same time, and then all of the **show** commands are sent.

This is an example of `batchfile.txt`:

```
set IMM.Community_AccessType.1 Get
```

```
set IMM.Duplex1 Auto
```



```

set IMM.MTU1 1500

set IMM.SNMPv1Agent Enabled

set IMM.SNMPv3Agent Disabled

show IMM.SNMPv3Agent

set IMM.SNMPv3Agent Enabled

show IMM.SNMPv3Agent

```

Example of the batch command

```
OneCli.exe config batch --file batchfile.txt --bmc userid:password@host
```

Commands for certificate management

The topics in this section provide detailed information about how to use the config application and commands to manage certificates.

Table 27. Configuration commands for certificate management

Command	Description
generate	Generate a certificate.
export	Export a certificate to a local system.
import	Import a certificate from a local system to another system.
deletecert	Delete a certificate.

Notes:

- The commands in this table are used specifically for certificate management. The supported settings are certificate management settings.
- The supported setting list can be generated using **showvalues** using a value such as generate. The values after the * are for the supported certificate management settings:

```

IMM.SSH_SERVER_KEY=*generate
IMM.SSL_HTTPS_SERVER_CERT=*generate=import=export
IMM.SSL_HTTPS_SERVER_CSR=*generate=export
IMM.SSL_LDAP_CLIENT_CERT=*generate=import=export
IMM.SSL_LDAP_CLIENT_CSR=*generate=export
IMM.SSL_SERVER_DIRECTOR_CERT=*generate=import=export
IMM.SSL_SERVER_DIRECTOR_CSR=*generate=export
IMM.SSL_CLIENT_TRUSTED_CERT1=*import=export=deletecert
IMM.SSL_CLIENT_TRUSTED_CERT2=*import=export=deletecert
IMM.SSL_CLIENT_TRUSTED_CERT3=*import=export=deletecert

```

Using XClarity Essentials OneCLI for certificate management

XClarity Essentials OneCLI manages Certificate Authority (CA) and Certificate Sign Request (CSR) files on BMC-based systems using the **generate**, **import**, **export**, and **deletecert** commands.

Before you can manage a certificate on BMC, to ensure that the corresponding certificate server is disabled, complete these steps:

1. Verify that the BMC HTTPS Server Configuration for Web server is disabled using this command:OneCli.exe config show IMM.SSL_Server_Enable
2. If the server is enabled, disable BMC HTTPS Server Configuration for Web Server using this command:OneCli.exe config set IMM.SSL_Server_Enable Disabled

The BMC must be restarted before the selected value (enable / disable) takes effect. Use the command:
onecli misc rebootbmc.

3. The BMC must be restarted before the selected value (enable / disable) takes effect. Use the command:
onecli misc rebootbmc.

Before using SSL Client Certificate Management, disable SSL Client Configuration for the LDAP Client first:

- a. Verify that the SSL Client Configuration for LDAP Client is disabled using this command:OneCli.exe config show IMM.SSL_Client_Enable
- b. If the value is enabled, disable the BMC SSL Client Configuration for LDAP using this command:OneCli.exe config set IMM.SSL_Client_Enable Disabled

After completing the steps noted above, you can use XClarity Essentials OneCLI to manage certificates on BMC.

The following procedure provides an overview of how to use the XClarity Essentials OneCLI config application and commands to:

- View the status of certificate setting
- View the available commands for a setting
- Generate a Certificate Sign Request (CSR)
- Export a certificate sign request
- Generate a self-signed certificate
- Import a Certificate
- Delete a certificate

Getting the status of the certificate setting

To view the status of a certificate setting, use this command:

```
OneCli.exe config show IMM.SSL_HTTPS_SERVER_CERT
```

An example of output:

```
IMM.SSL_HTTPS_SERVER_CERT=Private Key and CA-signed cert installed, Private Key stored, CSR available for download.
```

Getting the available command for the setting

To view the available commands for a certificate setting, use this command:

OneCli.exe config showvalues IMM.SSL_HTTPS_SERVER_CSR

An example of output:

```
IMM.SSL_HTTPS_SERVER_CSR=*generate=export
```

IMM.SSL_HTTPS_SERVER_CSR is supported by the **generate** and **export** commands.

Generating a Certificate Sign Request (CSR)

To generate a Certificate Sign Request (CSR), use this command

```
OneCli.exe config generate IMM.SSL_HTTPS_SERVER_CSR --file template.xml
```

An xml file, such as `template.xml`, is required for the **generate** command and for all settings which support **generate**, except *SSH_SERVER_KEY*. For more information about the `template.xml`, see “The `template.xml` file” on page 42.

A certificate sign request must be signed by an independent certificate authority to be a certificate. You can use the config application to generate a Self-signed Certificate.

Generating a self-signed certificate

You can use the config application to generate a Self-signed Certificate. To generate a self-signed certificate, use this command:

```
OneCli.exe config generate IMM.SSL_HTTPS_SERVER_CERT --file template.xml
```

Exporting a certificate sign request

To export a certificate sign request, use this command:

```
config export IMM.SSL_HTTPS_SERVER_CSR --file tmp_csr.der
```

The `tmp_csr.der` file is saved in the current directory.

You can export a certificate or certificate sign request. If a certificate sign request is signed by an independent certificate authority, it is a CA-signed certificate.

Importing a certificate

To import a certificate, after completing the export a certificate sign request step, using independent certificate authority, sign the request in the `tmp_csr.der` file. You can only import the CA-signed certificate (which differs from the self-signed certificate) into the HTTPS Server Certificate Management.

The following two settings for SSL Client Certificate Management permit only CA-signed certificates to be imported:

- `SSL_LDAP_CLIENT_CERT`
- `SSL_LDAP_CLIENT_CSR`

These settings permit both self-signed and CA-signed certificates to be imported:

- `SSL_CLIENT_TRUSTED_CERT1`
- `SSL_CLIENT_TRUSTED_CERT2`

- `SSL_CLIENT_TRUSTED_CERT3`

If a certificate already exists, it must be deleted before importing another certificate.

For more detailed information about how to use the config applications and commands for certificate management, refer to the individual command topics in this section.

generate command

Use the **generate** command to generate a private key and public key pair with a self-signed certificate or a certificate sign request.

generate command syntax

```
OneCli.exe config generate <setting> --file <exportfilename> [<options>]
```

Table 28. generate command specific parameters

Parameter	Required/Optional	Notes
--setting	Required	Certificate management setting
--file	Required	<ul style="list-style-type: none">This is the file name of *generate file, using the format of <code>template.xml</code>.For more information about the <code>template.xml</code>, see “The <code>template.xml</code> file” on page 42.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">--bmc, -b--bmc-cim-port, -p--bmc-password, -w--bmc-username, -u--check-trust, -C--config--node--nolog--never-check-trust, -N--output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the generate command

```
OneCli.exe config generate IMM.SSL_HTTPS_SERVER_CERT --file template.xml --bmc userid:password@host
```

The template.xml file

Use the template file (template.xml), located in the OneCLI folder, as an example of the correct syntax to use with the **generate** command for certificate management. You can modify this file to generate a certificate.

This table provides a list of the template.xml file variables and their definitions.

Table 29. template.xml file variables

Variables	Definition
Country Name	The two-letter ISO abbreviation for your country.
State or Province Name	The state or province where your organization is located. This entry cannot be abbreviated.
Locality Name	The city where your organization is located.
Organization Name	The exact legal name of your organization. Do not abbreviate your organization name.
Common Name	A fully qualified domain name that resolves to the SSL VPN device. For example, if you intend to secure the URL <code>https://ssl.yourdomain.com</code> , then the common name of the certificate sign request should be <code>ssl.yourdomain.com</code> .
Name	This is an optional field for entering a contact name.
Email Address	This is an optional field for entering a contact email address.
Organization Unit Name	This is an optional field for the name of the unit in your organization.
Surname	This is an optional field for entering a surname of contact person.
givenName	This is an optional field for entering a given name of contact name.
Initials	This is an optional field for entering initials of contact name.
dnQualifier	This is an optional field for entering the domain name qualifier.
Challenge password	This is an optional attribute. If you specify a challenge password in the certificate sign request, you must know the challenge password if you want to revoke the certificate later.
unstructuredName	This is an optional field for entering the unstructured name for contact

template.xml

Note: The name and value fields cannot be blank. Optional items should be removed if they are not used to avoid potential failure.

```
<?xml version="1.0" encoding="utf-8"?>
<config version="2.1">
<new_key_and_self_signed_cert_info>
<item type="Required">
<vectorID>0001</vectorID>
<name>countryName</name>
<value minlen="2" maxlen="2">XX</value>
```

```
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>stateOrProvinceName</name>
<value minlen="1" maxlen="30">XXXX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>localityName</name>
<value minlen="1" maxlen="50">XXXX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>organizationName</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>commonName</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Name</name>
<value minlen="1" maxlen="60">XXXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
```

```
<name>emailAddress</name>
<value minlen="1" maxlen="60">XXXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>validityPeriod</name>
<value minlen="0" maxlen="2">XX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>organizationalUnitName</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Surname</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>givenName</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Initials</name>
<value minlen="0" maxlen="20">XXXX</value>
</item>
```



```
<item type="Optional">
<vectorID>0001</vectorID>
<name>dnQualifier</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
</new_key_and_self_signed_cert_info>
<new_key_and_cert_sign_req_info>
<item type="Required">
<vectorID>0001</vectorID>
<name>countryName</name>
<value minlen="2" maxlen="2">XX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>stateOrProvinceName</name>
<value minlen="1" maxlen="30">XXXX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>localityName</name>
<value minlen="1" maxlen="50">XXXX</value>
</item>
<item type="Required">
<vectorID>0001</vectorID>
<name>organizationName</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Required">
```

```
<vectorID>0001</vectorID>
<name>commonName</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Name</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>emailAddress</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>organizationalUnitName</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Surname</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>givenName</name>
<value minlen="0" maxlen="60">XXXX</value>
```

```
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>Initials</name>
<value minlen="0" maxlen="20">XXXX</value>
</item>
<item type="Optional">
<vectorID>0001</vectorID>
<name>dnQualifier</name>
<value minlen="0" maxlen="60">XXXX</value>
</item>
<item type="Optional">
<vectorID>0002</vectorID>
<name>challengePassword</name>
<value minlen="6" maxlen="30">XXXX</value>
</item>
<item type="Optional">
<vectorID>0002</vectorID>
<name>unstructuredName</name>
<value minlen="1" maxlen="60">XXXX</value>
</item>
</new_key_and_cert_sign_req_info>
</config>
```

export command

Use the **export** command to export a selected certificate or certificate sign request (CSR) file. The **export** command generates a binary file that is saved as the specified file path.

export command specific syntax

OneCli.exe config export <setting> --file <exportfilename> [<options>]

Table 30. export command specific parameters

Parameter	Required/Optional	Notes
--setting	Required	Certificate management setting
--file	Required	The file path to save the exported certificate.
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the export command

OneCli.exe config export IMM.SSL_HTTPS_SERVER_CERT --file temp.cert --bmc userid:password@host

import command

Use the **import** command to import a certificate into a BMC.

import command syntax

OneCli.exe config import <setting> --file <importfilename> [<options>]

Table 31. import command specific parameters

Parameter	Required/Optional	Notes
--setting	Required	Certificate management setting
--file	Required	Import file name
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the import command

OneCli.exe config import IMM.SSL_HTTPS_SERVER_CERT --file temp.cert --bmc userid:password@host

deletecert command

Use the **deletecert** command to delete a certificate on BMC.

deletecert command syntax

OneCli.exe config deletecert <setting> [<options>]

Table 32. *deletecert* command specific parameters

Parameter	Required/Optional	Notes
setting	Required	Certificate management setting
--kcs	Optional	Force to use IPMI over KCS local interface.
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --node• --nolog• --never-check-trust, -N• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the deletecert command

OneCli.exe config deletecert IMM.SSL_HTTPS_SERVER_CERT --bmc userid:password@host

Chapter 5. Inventory

The topics in this section describe how to use the Lenovo XClarity Essentials OneCLI inventory application and commands to collect system information for BMC-based systems.

This table lists the inventory application commands.

Table 33. Inventory application commands

Command	Description
formatlog	Translate the inventory output XML file into the HTML file.
getdevices	Obtain the inventory application supported devices list.
getinfor	Obtain devices inventory information.
upload	Uploads the XML files or other log files to a specified server or Lenovo service site.

formatlog command

Use the **formatlog** command to transform the inventory XML files to HTML files.

formatlog command syntax

OneCli.exe inventory formatlog [<options>]

Table 34. formatlog command specific parameters

Parameter	Required/Optional	Notes
--hldec	Optional	Generate UEFI hidden logs by parsing inventory XML file specified with "--srcdata". This is useful for trouble shooting.
--srcdata	Required	Specify the inventory XML result file.
<ul style="list-style-type: none">• --nolog• --output, -o	Optional	Refer to Table 3 "OneCLI global parameters" on page 2

Example of the formatlog command

This example formats the xxx.xml file to HTML file and save the results to specified output folder.

```
OneCli.exe inventory formatlog --srcdata xxx.xml --output d:\onecli\inventory
```

getdevices command

Use the **getdevices** command to obtain the supported inventory categories. Users can then use “getinfor –device” to collect data for any category of interest.

getdevices command syntax

OneCli.exe inventory getdevices <options>

Table 35. *getdevices* command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none">• --check-trust, -C• --never-check-trust, -N• --nolog• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the getdevices command

OneCli.exe inventory getdevices

This is the complete device list generated for Linux and Microsoft Windows systems, as noted. All items are case-sensitive.

- 1 - system_overview
- 2 - installed_applications (Windows only)
- 3 - installed_hotfixes (Windows only)
- 4 - installed_packages (Linux only)
- 5 - kernel_modules (Linux only)
- 6 - device_drivers (Windows only)
- 7 - system_services (Windows only)
- 8 - network_settings
- 9 - resource_utilization
- 10 - processes
- 11 - os_configuration
- 12 - hardware_inventory
- 13 - pci_information
- 14 - firmware_vpd
- 15 - bmc_configuration

- 16 - bmc_environmental
- 17 - light_path
- 18 - pci_adapters
- 19 - storage_devices
- 20 - ssd
- 21 - fod_key
- 22 - application_event (Windows only)
- 23 - var_log_boot_log (Linux only)
- 24 - var_log_mail_err (SUSE only)
- 25 - var_log_mail_warn (SUSE only)
- 26 - var_log_messages (Linux only)
- 27 - var_log_warn (SUSE only)
- 28 - var_log_cron (RHEL only)
- 29 - var_log_dmesg (RHEL only)
- 30 - var_log_secure (RHEL only)
- 31 - system_event (Windows only)
- 32 - security_event (Windows only)
- 33 - chassis_event_logs
- 34 - ipmi_event_logs
- 35 - execution_log
- 36 - system_settings

getinfor command

Use the **getinfor** command to obtain hardware and software information for the target system through in-band or out-of-band method. By default, the inventory results are saved to an XML file.

getinfor command syntax

OneCli.exe inventory getinfor [<options>]

Table 36. *getinfor* command specific parameters

Parameter	Required/Optional	Notes
--device	Optional	Default value: all Displays all of the supported inventory items. Device name separated by commas or space, such as: <code>system_overview, processes</code> Gets the inventory information for the specified items.
--ffdc	Optional	If specified, the inventory application will retrieve the BMC FFDC log.
--hldc	Optional	Collect the UEFI hidden logs.
--htmlreport	Optional	If specified, the output results will contain HTML file report.
--proxy	Optional	Use proxy to connect to upload server. The format is <code>user:password@host[:port]</code> . For IPv6 address, the format is <code>socks5://user:password@[IPv6]:port</code> .
--smm	Optional	If specified, the inventory application will only get the information for a remote SMM. The format is <code>user:password@IP</code> . For the IPv6 address, the format is <code>user:password@[IPv6]</code> .
--upload	Optional	This parameter can be specified with the following arguments: <code>lenovo</code> , <code>multitool</code> , and server address. If specified with <code>lenovo</code> , the format is: <code>--upload lenovo</code> . The inventory data is uploaded to Lenovo Upload Facility. Users should specify the case number and machine type. If specified with <code>multitool</code> , the format is: <code>--upload multitool</code> . The inventory data is uploaded to the Electronic Services Web portal. If specified with server address, the format is: <code>--upload server address</code> . The inventory data is uploaded to the target server. The supported protocols include: TFTP, FTP, and SFTP. If not specified, no inventory data will be uploaded.

Table 36. *getinfor* command specific parameters (continued)

Parameter	Required/Optional	Notes
--sftp	Optional	SFTP connection information. Format: user:password@IP[port][dir/]. The address is used to save FFDC logs for VMWare ESXi.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --node • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

inventory example

This is an example of the inventory application and the **getinfor** command using XClarity Essentials OneCLI.

```
OneCli.exe inventory getinfor --output d:\onecli\inventory --htmlreport --ffdc --upload multitool
```

upload command

Use the **upload** command to upload the XML files or other log files to Lenovo service or other remote server.

upload command syntax

OneCli.exe inventory upload [<options>]

Table 37. *upload command specific parameters*

Parameter	Required/Optional	Notes
--proxy	Optional	Use proxy to connect to upload server. The format is user:password@host[:port]. For IPv6 address, the format is socks5://user:password@[IPv6]:port.
--srcdata	Required	Used to identify the log file that will be uploaded.
--upload	Required	This parameter can be specified with the following arguments: lenovo, multitool, and server address. If sepcified with lenovo, the format is: --upload lenovo. The inventory data is uploaded to Lenovo Upload Facility. Users should specify the case number and machine type. If sepcified with multitool, the format is: --upload multitool. The inventory data is uploaded to the Electronic Services Web portal. If specified with server address, the format is: --upload server address. The inventory data is uploaded to the target server. The supported protocols include: TFTP, FTP, and SFTP. If not specified, no inventory data will be uploaded.
<ul style="list-style-type: none">• --check-trust, -C• --never-check-trust, -N• --nolog• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2

Example of the upload command

In this example, **--srcdata** is used to identify the log file name that is uploaded.

```
OneCli.exe inventory upload --srcdata xxx.xml --upload multitool
```

Chapter 6. Update

The topics in this section describe the following:

- How to use the OneCLI update application and commands to update firmware and device driver in IB mode for BMC-based system
- How to update firmware in OOB mode for BMC-based system
- How to update firmware for CMM-based components(CMM & I/O switch)
- How to update firmware remotely of the VMware ESXI OS for BMC-based system
- How to update firmware for SMM-based components.

This table lists the update application commands.

Table 38. Update application commands

Command	Description
acquire	Download firmware and device driver updates for the BMC-based system and firmware updates of CMM, SMM and I/O switch module.
compare	Compare versions of installed firmware and device driver with candidate updates, and generates a list of recommended updates.
flash	Apply updates of firmware and device drivers requiring upgrade, based on the result of the compare command.
multiflash	Remotely upgrade multiple BMC servers, and specify the BMC server information and configuration parameters.
query	Filter out the non-applicable updates
scan	Get installed firmware and device driver inventory information of a bmc-based system or installed CMM firmware and I/O switch module firmware or installed SMM firmware.

acquire command

Use the **acquire** command to download firmware and device driver updates for BMC-based system, CMM-based component, and SMM-based component from Lenovo or IBM support site.

acquire command syntax

```
Onecli.exe update acquire --mt <machine_type> [--ostype <operating_system>] [--scope <scope>]
[--includeid <includeids>] [--report] [--metaonly] [--type <type>] [--proxy <userid:password@host[:port]>]
[--dir <folder>] [--output <folder>] [<options>]
```

Table 39. *acquire* command specific parameters

Parameter	Required/Optional	Notes
--mt	Optional	Specify the machine type of target device. Lenovo server, chassis, and enclosure all have machine types.
--ostype	Optional	<p>Specify operating system deployed on the target system. Valid choices are win2008, win2012, win2012r2, win2016, rhel5, rhel6, rhel7, sles10, sles11, sles12, esxi5.0, esxi5.1, esxi5.5, esxi6.0, esxi6.5, platform and none.</p> <p>"none" is the default setting and is used for operating system independent updates, such as UEFI or BMC updates.</p> <p>"platform" represents a bundle of updates that are only used in remote update. These updates include firmware only, and are OS independent. When the ostype parameter is "platform", Onecli will acquire all packages required in update, including Maintenance Mode OS Bootstrap, Maintenance Mode OS RootFS, OneCLI, and platform UXSP.</p> <p>The --ostype parameter is not required for CMM, SMM or I/O module targets.</p>
--scope	Optional	<p>Specify the scope of update operations. Different scopes mean different operation strategies. Valid choices are:</p> <ul style="list-style-type: none"> • uxsp: operation strategy is to focus on UXSP packages and make bundle update. • latest: operation strategy is to help you to find and use latest updates. Even a particular package name is given by using "--includeid", OneCLI will still search whether there are later versions of the package and use the newest one if there are. • individual: operation strategy is to find and use the packages specified by the --includeid parameter. <p>For the CMM, SMM and I/O module devices, the --scope parameter can only be set to latest or individual.</p>
--dir	Optional	<p>Specify the path name of the directory that will be used by the command.</p> <p>If no "--dir", the current directory will be used.</p>

Table 39. *acquire* command specific parameters (continued)

Parameter	Required/Optional	Notes
--includeid	Optional	<p>Specify the target package ID for different commands. Usually the ID is the package file name without extension.</p> <p>For example:</p> <pre>Invgy_dd_sraidmr_7.700.20.00_sles12_x86-64</pre> <p>It is allowed to input multiple packages IDs using a comma-separated list.</p> <p>By default: none is included.</p> <p>If the --includeid parameter <i>is not</i> specified, all packages are downloaded.</p> <p>If the --includeid parameter <i>is</i> specified, only the listed packages are downloaded: if no packages are listed, none are downloaded.</p> <p>Note: individual with the --includeid parameter is only for acquiring individual SUP packages. It does not support to acquire UXSP xml.</p>
--report	Optional	<p>If the --report parameter is specified, the acquire command will only output the IDs of the packages to update without downloading the packages or their metadata.</p>
--metaonly	Optional	<p>If the --metaonly parameter is specified, the acquire command will only download the XML files specifying the metadata for the update packages without downloading the update packages payload.</p>
--proxy	Optional	<p>userid:password@host[:port] specifies the proxy information for connecting to the Lenovo Support Web site to download update packages or information.</p> <p>Note: Both IPv4 and IPv6 addresses are supported. Enclose IPv6 addresses in brackets. For example, [FE80::3BA7:94FF:FE07: CBD0]. If the IPv6 is LLA (Link Local IPV6), the format is [FE80::3BA7:94FF:FE07: CBD0%xxx]. Replace xxx with the name of the interface. You can find the service processor or the SFTP server (for the --sftp argument) through this name on the local network of the OS that the XClarity Essentials OneCLI runs.</p>
--type	Optional	<p>type specifies the type of package to download. Valid choices are:</p> <ul style="list-style-type: none"> fw dd (default) to download firmware and device drivers fw to download firmware dd to download device drivers <p>For the CMM and I/O module targets, only firmware can be downloaded.</p>
<ul style="list-style-type: none"> --output, -o --nolog 	Optional	<p>Refer to Table 3 “OneCLI global parameters” on page 2.</p>

Example of the acquire command

In this example, we are downloading (**update acquire** command) information (**--metaonly** argument) about the latest updates (**--scope latest** argument) for a machine type 8737 (**--mt 8737** argument), storing it in the “pkg” directory (**--dir .\pkg** argument) and storing the log file in the “output” directory (**--output .\output** argument).

```
Onecli.exe update acquire --scope latest --mt 8737 --metaonly --output .\output --dir .\pkg
```

Network requirement of the acquire command

OneCLI supports to acquire the updates for the IBM system and the Lenovo system.

- To acquire the updates for the IBM system from the IBM Web site, ensure that the firewall allows the following DNSes and ports. User can also obtain the URL from <https://www-03.ibm.com/services/projects/ecc/serviceProviderIBM.gzip>.

DNS	IP address	Port	Protocol
www.ibm.com	/	/	/
www-03.ibm.com	204.146.30.17	443 and 80	HTTP and HTTPS
eccgw01.boulder.ibm.com	207.25.252.197	443	HTTPS

- To acquire the updates for the Lenovo system from the Lenovo Web site, ensure that the firewall allows the following DNSes and ports. User can also obtain the URL from <https://support.lenovo.com/services/ContentService/SearchDrivers>.

DNS	Port	Protocol
support.lenovo.com	443 and 80	HTTP and HTTPS
download.lenovo.com	443 and 80	HTTPS

Notes: To use a proxy to run the **acquire** command, ensure that the proxy meets the following requirements:

- The proxy is accessible to one of the following DNS: www.ibm.com, www-03.ibm.com, eccgw01.boulder.ibm.com, support.lenovo.com, and download.lenovo.com.
- The proxy is set to “Use basic authentication”.
- The proxy is a non-terminating and forwarding proxy.

compare command

Use the **compare** command to compare the list of installed firmware and device drivers, generated by the **scan** command, to the available update list, generated by the **update** command, and recommend a set of updates to apply. The XML file generated by the **compare** command can be used by the **flash** command.

Users can specify XML files generated by previously run **scan** and **query** commands using the **--scanxml** and **--queryxml** parameters. The **compare** command also checks the prerequisite requirements for all update packages and list updates in their required order for the **flash** command.

compare command syntax

```
Onecli.exe update compare [--scanxml <filename>] [--noscan] [--backup] [--bmc <userid:password@host[:port]>]
```

`--cmm <userid:password@host[:port]>] [--smm <userid:password@host[:port]>] [--esxi <userid:password@host[:port]>]`

`--iobay <bay_number>] [--mt <machine type>] [ostype <operating_system> --osarch <architecture>] [--queryxml`

`<filename>] [--scope <scope>] [--type <type>] [--includeid <includeids>] [--forceid <forceids>] [--excludeid <excludeids>] [--dir <folder>] [--output <folder>] [<options>]`

Table 40. compare command specific parameters

Parameter	Required/Optional	Notes
<code>--scanxml</code>	Optional	<p>filename specifies a scan result file to control the compare command. If a scan result file is specified, the following command parameters cannot be used:</p> <ul style="list-style-type: none"> • <code>--noscan</code> • <code>--bmc</code> • <code>--cmm</code> • <code>--smm</code> • <code>--iobay</code> • <code>--mt</code> • <code>--ostype</code> • <code>--osarch</code> • <code>--config</code>
<code>--noscan</code>	Optional	<p>If the <code>--noscan</code> parameter is specified, the compare command obtains query results directly for comparison without using the scan results.</p> <p>If the <code>--noscan</code> parameter is specified, the following command parameters are not required:</p> <ul style="list-style-type: none"> • <code>--scanxml</code> • <code>--bmc</code> • <code>--cmm</code> • <code>--smm</code> <p>If the <code>--queryxml</code> parameter is <i>not</i> specified when using the <code>--noscan</code> parameter, you must specify the <code>--mt</code>, <code>--ostype</code>, and <code>--osarch</code> parameters.</p>
<code>--backup</code>	Optional	<p>If the <code>--backup</code> parameter is specified, the command compares backup BMC and UEFI firmware, instead of the default comparison of primary BMC and UEFI firmware.</p> <p>The <code>--backup</code> parameter is not used for CMM and I/O module targets.</p>
<code>--iobay</code>	Optional	<p>bay_number specifies the I/O module bay number. Valid values are 1, 2, 3, or 4.</p> <p>The <code>--iobay</code> parameter specifies an I/O module compare operation. When comparing an I/O module target, the <code>--cmm</code> parameter must also be specified.</p>

Table 40. compare command specific parameters (continued)

Parameter	Required/Optional	Notes
--mt	Optional	<p>Specify the machine type of target device. Lenovo's server, chassis and enclosure all have machine types.</p> <p>The --mt parameter is required only when using the --noscan parameter (the system is not automatically obtaining the machine-type information).</p> <p>For the I/O module target, the CMM machine type is specified.</p>
--ostype	Optional	<p>Specify operating system deployed on the target system. Valid choices are win2008, win2012, win2012r2, win2016, rhel5, rhel6, rhel7, sles10, sles11, sles12, esxi5.0, esxi5.1, esxi5.5, esxi6.0, esxi6.5, platform and none.</p> <p>"none" is the default setting and is used for operating system independent updates, such as UEFI or BMC updates.</p> <p>"platform" type represents a bundle of updates which are specially used for remote update. They include firmware only and are also OS independent.</p> <p>The --ostype parameter is not required for CMM, SMM or I/O module targets.</p> <p>The --ostype parameter is required only when using the --noscan parameter (the system is not automatically obtaining the operating system information).</p>
--osarch	Optional	<p>architecture specifies operating system architecture where you are running the XClarity Essentials OneCLI. Valid choices are x86, x64, and none.</p> <p>None is the default setting and is used for operating system independent operations, such as BMC & CMM firmware updates.</p> <p>The --osarch parameter is needed only when the user is unable to determine their operating system information. It is used with the --noscan parameter.</p> <p>The --osarch parameter is not used for CMM, SMM or I/O module targets.</p>

Table 40. compare command specific parameters (continued)

Parameter	Required/Optional	Notes
--queryxml	Optional	<p>filename specifies a query result file to control the compare command. If a query result file is specified, the following command parameters cannot be used:</p> <ul style="list-style-type: none"> • --mt • --includeid • --forceid • --dir • --ostype • --osarch • --scope • --type
--type	Optional	<p>type specifies the type of package to compare. Valid choices are:</p> <ul style="list-style-type: none"> • fw dd (default) to compare firmware and device drivers • fw to compare firmware • dd to compare device drivers <p>Packages are not compared for the CMM and I/O module targets.</p>
--scope	Optional	<p>Specify the scope of update operations. Different scopes mean different operation strategies. Valid choices are:</p> <ul style="list-style-type: none"> • uxsp: operation strategy is to focus on UXSP packages and make bundle update. • latest: operation strategy is to help you to find and use latest updates. Even a particular package name is given by using "--includeid", OneCLI will still search whether there are later versions of the package and use the newest one if there are. • individual: operation strategy is to find and use the packages specified by the --includeid parameter.

Table 40. compare command specific parameters (continued)

Parameter	Required/Optional	Notes
--includeid	Optional	<p>Specify the target package ID for different commands. Usually the ID is the package file name without extension.</p> <p>For example: Invgy_dd_sraidmr_7.700.20.00_sles12_x86-64</p> <p>It is allowed to input multiple packages IDs using a comma-separated list.</p> <p>By default: none is included.</p> <p>For the BMC target, if the --includeid parameter <i>is not</i> specified, only the packages specified by the --scope parameter are queried and compared.</p> <p>For the BMC target, if the --includeid parameter <i>is</i> specified, only the listed packages are queried and compared in addition to those specified by the --scope parameter: if no packages are listed, no additional packages are queried and compared.</p> <p>For the CMM, SMM and I/O module targets the --scope parameter is not used, so only those packages specified by the --includeid parameter are queried and compared.</p>
--forceid	Optional	<p>The ids can be a comma-separated list that specifies the package IDs which are usually the package file name without file extension for queries and comparison. You can also specify an argument of all to force query and comparison of all listed packages.</p> <p>For example: Invgy_dd_sraidmr_7.700.20.00_sles12_x86-64</p> <p>By default: none is included.</p> <p>Use the --forceid parameter to force firmware or device driver queries and comparison that support package downgrades and in-box to out-of-box device driver updates. It works in the following cases:</p> <ul style="list-style-type: none"> • Query and compare for downgrade packages. • Ignores the “never” tag in the package XML file. For example, when querying and comparing HBA updates for QLogic devices. • Forces out-of-box device driver updates to override in-box device drivers. • Ignores missing prerequisites, listing packages to install in all cases.
--dir	Optional	<p>folder specifies the path name location of the packages directory.</p> <p>If no directory is specified, the current directory is used for the compare command queries.</p>

Table 40. compare command specific parameters (continued)

Parameter	Required/Optional	Notes
--checkdevice	Optional	Scan dd of the physical exist device.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --cmm • --esxi • --nolog • --never-check-trust, -N • --output, -o • --smm 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the compare command

In this example, we are creating an update list (**update compare** command) of the latest updates (**--scope latest** argument) for a BMC that is accessed with a user ID of “userid”, a password of “password”, and an IP address of “host” (**--bmc userid:password@host** argument), storing it in the “.packages\” directory (**--dir .packages** argument) and storing the log file in the “.787502cn03e\output\” directory (**--output .787502cn03e\output** argument). In this example, the **compare** command performs its own scan and query functions, since no XML files are specified for the **--scanxml** and **--queryxml** parameters.

```
Onecli.exe update compare --scope latest --bmc userid:password@BMCIP --dir .packages\
--output .787502cn03e\output\
```

flash command

Use the **flash** command to deploy updates in sequence, from the list generated by the **compare** command to the command target. Results of the update flash operation are stored in an XML file. If errors occur during a CMM, SMM or I/O module or core firmware flash update, the **flash** command retrieves the FFDC logs from BMC, CMM or SMM.

- For In-Band (IB) mode, both firmware and device drivers are supported. An SFTP server does not need to be specified (**--sftp** parameter) in IB mode.
- For Remote Update (including Platform, OOB, BMU) mode:
 - Scan results include only firmware.
 - An SFTP server can be specified (**--sftp** parameter) when in OOB mode. Users can upload the package payload to the SFTP server manually, then specify the package location as part of the **--sftp** parameter. The XClarity Essentials OneCLI checks the SFTP folder and the local folder, as specified in the **compare** command results XML file. If both locations contain an update payload, the XClarity Essentials OneCLI checks if they are the same, using the SFTP payload file if they are the same and generating an error and exiting the command if they are not the same. If only the SFTP location has a payload, this payload is used. If only the local location has a payload, it is uploaded to the SFTP server and flashed (the **--uselocalimg** parameter must be specified).

Notes:

- User IDs and passwords containing colons (:) or the at symbol (@) are not supported by the XClarity Essentials OneCLI **flash** command.

- An SFTP is not required for OOB(Out-Of-Band) update on ThinkSystem.

flash command syntax

```
Onecli.exe update flash [--esxi <userid:password@host[:port]>] [--comparexml <filename>] [--nocompare
--includeid <ids>] [--includeid <includeids>] [--dir <folder>] [--backup] [--noreboot] [--output <folder>]
[--bmc <userid:password@host[:port]>] [--cmm <userid:password@host[:port]>] [--iobay <bay_number>]
[--sftp <userid:password@host[:port]>] [--uselocalimg] [--ffdc <userid:password@host[:port]>/ffdc/]
[<options>]
```

Table 41. flash command specific parameters

Parameter	Required/Optional	Notes
--comparexml	Optional	filename specifies an XML file (typically named compare.xml) containing comparison results to control the flash command. All items listed in the comparison file are flashed.
--nocompare	Optional	If the --includeid parameter is specified, the flash command will update firmware and device drivers without performing a comparison. The --includeid parameter must also be specified, listing the package IDs to update.
--includeid	Optional	Specify the target package ID for different commands. Usually the ID is the package file name without extension. For example: Invgy_dd_sraidmr_7.700.20.00_sles12_x86-64 It is allowed to input multiple packages IDs using a comma-separated list. By default: none is included.
--dir	Optional	folder specifies the path name location of the flash firmware package download directory. If no directory is specified, the current directory is used for downloads. The --dir parameter is not used when the --comparexml parameter is specified.
--backup	Optional	If the --backup parameter is specified, the command flashes the backup BMC and UEFI firmware, instead of the default flash update of the primary BMC and UEFI firmware. The --backup parameter is used only with the --nocompare parameter (no compare mode). The --backup parameter is not used for CMM and I/O module targets.

Table 41. flash command specific parameters (continued)

Parameter	Required/Optional	Notes
--noreboot	Optional	<p>By default, BMC will automatically restart and take effect after the update. However, if the --noreboot parameter is specified, the flashed BMC will <i>not</i> restart automatically after the update. To activate the new firmware, you should manually restart the BMC.</p> <p>When flashing a BMC, the --noreboot parameter can only be used with the primary BMC.</p> <p>The --noreboot parameter is not used for I/O module targets.</p>
--iobay	Optional	<p>bay_number specifies the I/O module bay number. Valid values are 1, 2, 3, or 4.</p> <p>The --iobay parameter specifies an I/O module scan operation. When scanning an I/O module target, the --cmm parameter must also be specified.</p>
--bmu	Optional	<p>This can only be added when --bmc and --sftp are specified, it is the BMU OOB update parameter.</p>
--checkdevice	Optional	<p>Scan dd of the physical exist device.</p>
--uselocalimg	Optional	<p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten by the local copy.</p> <p>The --uselocalimg parameter is only used when OneCLI runs in the remote update mode. In this case, an SFTP server might be used as a temporary file server for payload files.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
--ffdc	Optional	<p>userid:password@host[:port] specifies access information for the SFTP server. Both read and write access are required.</p> <p>If the --ffdc parameter is specified and there are update failures, the flash command will try to output the FFDC log file from the BMC or CMM (for I/O module updates only) to the location specified by the current --output parameter. The --ffdc parameter specifies the SFTP server to be used to be a temporary storage location for the FFDC log file. After the log file is downloaded, it is deleted from the SFTP server.</p> <p>If the --ffdc parameter is <i>not</i> used, XClarity Essentials OneCLI will use the same SFTP location that the --sftp parameter uses to specify the file payload location.</p>

Table 41. flash command specific parameters (continued)

Parameter	Required/Optional	Notes
--forceid	Optional	<p>Similar with --includeid. But it can add force tag for these updateids to enforce the downgrade. Besides the specified id, it also supports "all", which means it can add force tag for all the suggested flash packages.</p> <p>The ids can be a comma-separated list that specifies the package IDs which are usually the package file name without file extension to flash.</p> <p>For example: lnvgv_dd_sraidmr_7.700.20.00_sles12_x86-64</p> <p>By default: none is included.</p> <p>The force tag works on the following cases:</p> <ol style="list-style-type: none"> 1. Force to downgrade. 2. Force to install the package no matter the device is listed in the scan.xml or not. 3. Ignore "never" section tag in the package xml. For example, when querying HBA updates for QLogic. 4. Ignore the missing of prereq. Force to install the package. <p>There is no force tag for the flash packages by default.</p>
--platform	Optional	<p>Only be added when --bmc is specified. It is used to update the platform package for a remote server with normal OOB & BMU updates.</p>
--tftp	Optional	<p>tftp server is used for firmware temporary payload file server.</p> <p>By default, user needs to copy the payload to tftp manually. If there is no payload in tftp, the OneCLI still pass the address to SMM, and SMM will report error to OneCLI.</p> <p>If user specifies --uselocalimg parameter, OneCLI forces to copy the payload file to tftp. If tftp already contains payload before running OneCLI, OneCLI still copies it to overwrite it from local.</p>

Table 41. flash command specific parameters (continued)

Parameter	Required/Optional	Notes
--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
<ul style="list-style-type: none"> • --bmc, -b • --bmc-username, -u • --bmc-password, -w • --bmc-cim-port, -p • --check-trust, -C • --cmm • --config • --esxi • --nolog • --never-check-trust, -N • --output, -o • --smm 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the flash command

In this example, we are performing a flash update (**update flash** command) based on compare results stored in the “.\#VID:#PID\output\Onecli-update-compare.xml” file (**--comparexml .\output\Onecli-update-compare.xml** argument) for an I/O module in bay 2 (**--iobay 2** argument) that is accessed via a CMM with a user ID of “userid”, a password of “password”, an IP address of “host”, and a port number of “5989” (**--cmm userid:password@host[:5989]** argument), where the update package file is on a temporary SFTP server accessed with a user ID of “user”, a password/authentication string of “password;38:a8:21:16:cb:5d:0c:13:56:7c:2a:b9:f3:62:ed:17”, and an IP address of “host” (**--sftp user:password;38:a8:21:16:cb:5d:0c:13:56:7c:2a:b9:f3:62:ed:17@9.125.90.x** argument), and storing the log file in the “.\872102cn03e\output\” directory (**--output .\872102cn03e\output** argument).

```
Onecli.exe update flash --comparexml .\output\Onecli-update-compare.xml
```

```
--output .\872102cn03e\output\ --cmm userid:password@host[:5989]
```

```
--iobay 2
```

```
--sftp user:password;38:a8:21:16:cb:5d:0c:13:56:7c:2a:b9:f3:62:ed:17@9.125.90.x
```

multiflash command

Use the **multiflash** command to remotely upgrade multiple BMC servers, and specify the BMC server information and the configuration parameters by using a JSON configuration file.

multiflash command syntax

OneCli.exe update multiflash <--configfile <arg>> [--dir <arg>] [--username <arg>] [--password <arg>] [--sftp <arg>] [--output|-o <arg>] [--quiet|-q] [--help|-h]

Options

--configfile

Specify the JSON configuration file. The template file is available at Sample/multi_task_config.json in OneCLI binary.

Table 42. multiflash command specific parameters

Parameter	Required/Optional	Notes
--configfile	Required	Specify the JSON configuration file. The template file is available at Sample/multi_task_config.json in OneCLI binary.
--username	Optional	Specify the user name for connecting to the server, for example, BMC.
--password	Optional	Specify the password for connecting to the server, for example, BMC.
--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten by the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
--dir	Optional	<p>Specify the directory of the firmware package.</p> <p>If no directory is specified, use the current directory.</p>
--output, -o	Optional	Specify the output directory. By default, the output directory is saved in ./logs/.
--quiet, -q	Optional	This parameter answers “yes” for all questions, and decreases the outputs displayed on screen.
--help, -h	Optional	Specify the help information.

Example of the multiflash command

```
OneCLI update multiflash --configfile xxxconfig.json --sftp user:pass@ip/xx
```

query command

Use the **query** command to filter out the non-applicable updates. The output is an XML file that can be used as the input for **compare** command.

query command syntax

```
Onecli.exe update query --mt <machine_type> --ostype <operating_system> --osarch <architecture>
```

```
[--scope <scope>] [--type <type>] [--includeid <includeids>] [--forceid <forceids>]
```

```
[--dir <folder>] [--output <folder>] [<options>]
```

Table 43. query command specific parameters

Parameter	Required/Optional	Notes
--mt	Required	Specify the machine type of target device. Lenovo's server, chassis and enclosure all have machine types. For the I/O module target, the CMM machine type is specified.
--ostype	Required	Specify operating system deployed on the target system. Valid choices are win2008, win2012, win2012r2, win2016, rhel5, rhel6, rhel7, sles10, sles11, sles12, esxi5.0, esxi5.1, esxi5.5, esxi6.0, esxi6.5, platform and none. "none" is the default setting and is used for operating system independent updates, such as UEFI or BMC updates. "platform" type represents a bundle of updates which are specially used for remote update. They include firmware.
--osarch	Required	architecture specifies operating system architecture where you are running the XClarity Essentials OneCLI. Valid choices are x86, x64, and none. None is the default setting and is used for operating system independent operations, such as BMC & CMM firmware updates.
--type	Optional	type specifies the type of package to query. Valid choices are: <ul style="list-style-type: none">• fw dd (default) to query firmware and device drivers• fw to query firmware• dd to query device drivers Packages are not queried for the CMM and I/O module targets.

Table 43. query command specific parameters (continued)

Parameter	Required/Optional	Notes
--scope	Optional	<p>Specify the scope of update operations. Different scopes mean different operation strategies. Valid choices are:</p> <ul style="list-style-type: none"> • uxsp: operation strategy is to focus on UXSP packages and make bundle update. • latest: operation strategy is to help you to find and use latest updates. Even a particular package name is given by using "--includeid", OneCLI will still search whether there are later versions of the package and use the newest one if there are. • individual: operation strategy is to find and use the packages specified by the --includeid parameter. <p>For the CMM, SMM and I/O module devices, the --scope parameter can only be set to latest or individual.</p>
--includeid	Optional	<p>Specify the target package ID for different commands. Usually the ID is the package file name without extension.</p> <p>For example: lnvgv_dd_sraidmr_7.700.20.00_sles12_x86-64</p> <p>It is allowed to input multiple packages IDs using a comma-separated list.</p> <p>By default: none is included.</p> <p>If the --includeid parameter <i>is not</i> specified, only the packages specified by the --scope parameter are queried.</p> <p>If the --includeid parameter <i>is</i> specified, only the listed packages are queried in addition to those specified by the --scope parameter: if no packages are listed, no additional packages are queried.</p>
--forceid	Optional	<p>The ids can be a comma-separated list that specifies the package IDs which are usually the package file name without file extension for queries. You can also specify an argument of all to force queries that can downgrade all listed packages.</p> <p>For example: lnvgv_dd_sraidmr_7.700.20.00_sles12_x86-64</p> <p>By default: none is included.</p> <p>The --forceid parameter to force firmware or device driver queries to support package downgrade. It works in the following cases:</p> <ul style="list-style-type: none"> • Query for downgrade packages. • Forces query of packages not listed in the scan.xml file. • Ignores the "never" tag in the package XML file. For example, when querying HBA updates for QLogic. • Ignores missing prerequisites, listing packages to install in all cases.

Table 43. query command specific parameters (continued)

Parameter	Required/Optional	Notes
--dir	Optional	folder specifies the path name location of the firmware package query directory. If no directory is specified, the current directory is used for queries.
<ul style="list-style-type: none"> • --output, -o • --nolog 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the query command

In this example, we are building a list of firmware installed (**update query** command) in a CMM of machine type 8721 (--mt **8721** argument), where the XML file listing installed firmware is in the “.\ 872102cn03e\” directory (--dir **.\ 872102cn03e** argument) and storing the query result XML file in the “.\872102cn03e\output\” directory (--output **.\872102cn03e\output** argument).

```
Onecli.exe update query --mt 8721 --ostype none --osarch none --scope latest --dir.\ 872102cn03e\
--output .\872102cn03e\output\
```

scan command

Use the **scan** command to build a list of available firmware and device driver updates for the targeted device. The XML file generated with **scan** command can be used by the **compare** command.

- For Out-of-Band (OOB) mode, scan results include only firmware.
- For In-Band (IB) mode, scan results include both firmware and device drivers.

scan command syntax

```
Onecli.exe update scan [--bmc <userid:password@host[:port]>] [--esxi <userid:password@host[:port]>]
[--cmm <userid:password@host[:port]>][--smm <userid:password@host[:port]>] [--iobay <bay_number>]
[--output<folder>] [<options>]
```

Table 44. scan command specific parameters

Parameter	Required/Optional	Notes
--iobay	Optional	bay_number specifies the I/O module bay number. Valid values are 1, 2, 3, or 4. The --iobay parameter specifies an I/O module scan operation. When scanning an I/O module target, the --cmm parameter must also be specified.
--checkdevice	Optional	Scan dd of the physical exist device.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-username, -u • --bmc-password, -w • --bmc-cim-port, -p • --check-trust, -C • --config • --output, -o • --cmm • --esxi • --nolog • --never-check-trust, -N • --smm 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the scan command

In this example, we are building a list of firmware (**update scan** command) installed in a CMM that is accessed with a user ID of “userid”, a password of “password”, and an IP address of “host” (**--cmm userid: password@host** argument) storing the scan report XML file (using the default file name) in the “output” directory (**--output .\872102cn03e\output** argument).

```
Onecli.exe update scan --cmm userid:password@host --output .\872102cn03e\output\
```

Chapter 7. Miscellaneous

The topics in this section describe how to use the Lenovo XClarity Essentials OneCLI **miscellaneous** commands.

The following table list the **miscellaneous** commands supported by XClarity Essentials OneCLI.

Table 45. Miscellaneous (misc) commands

Commands	Description
ffdc	Collect the FFDC of BMC / ESXi / CMM / SMM.
fpush	Set and view the configurations of the front panel USB port.
logmgr	Manage BMC event logs.
ospower	Power on, power off, or restart host OS.
raid	Create, clear, and save the RAID configurations.
rebootbmc	Restart BMC.
rebootcmm	Restart CMM.
rebootiom	Restart I/O Module on the Flex chassis.
rebootsmm	Restart SMM.
reseatblade	Reseat the blades on the Flex chassis.
reseatcmm	Reseat CMM.
reseatswitch	Reseat the switch on the Flex chassis.
restorebmu	Restore the BMU status on BMC.
restoresmm	Restore the SMM update progress.
smmlan	Disable or enable SMM LAN.
switchcmm	Toggle active CMM.
syshealth	Query system health status.
usblan	Enable or disable USB LAN.

ffdc command

Use the **ffdc** command to collect the FFDC of BMC/ESXi/CMM/SMM.

ffdc command syntax

```
Onecli.exe [misc] ffdc [<options>]
```

Option

Usage

```
OneCli.exe [misc] ffdc [ [--bmc|-b <arg>] [--esxi|-e <arg>] ]  
 [--output|-o <arg>] [--check-trust|-C]  
 [--never-check-trust|-N] [--sftp <arg>]  
 [--bmc-username|-u <arg>] [--bmc-password|-w <arg>]
```

[--node|-n <int>] [--help|-h]

Table 46. *ffdc* command specific parameters

Parameter	Required/ Optional	Notes
<ul style="list-style-type: none">• --bmc, -b• --bmc-password, -w• --bmc-username, -u• --config• --check-trust, -C• --cmm• --esxi• --iobay• --never-check-trust, -N• --nolog• --output, -o• --smm	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the *ffdc* command

```
OneCli.exe misc ffdc --bmc userid:password@host
```

```
OneCli.exe misc ffdc --cmm userid:password@host --sftp root:password@host
```

```
OneCli.exe misc ffdc --smm userid:password@host --tftp host
```

fpusb commands

The topics in this section provide detailed information about how to use the *fpusb* commands to set and view the configurations of the front panel USB port.

Table 47. *fpusb* commands

Command	Description
set	Set the configurations of the front panel USB port.
status	View the configurations of the front panel USB port.

Notes:

- The front panel USB port does not support the following servers: ThinkSystem SD530, ThinkSystem SD650, System nx360 M5, System x240 M5 Compute Node, System x240 Compute Node, System x440 Compute Node, System x280/x480/x880 X6 Compute Node, System x3250 M6, System x3500 M5, System x3550 M5, System x3650 M5, System x3750 M4, System x3850 X6, and System x3950 X6.
- Before configuring the front panel USB port in the target server, select the **--bmc-username** option and the **--bmc-password** option to specify the SSH credentials for the BMC connection.

set command

Use the **set** command to set the configurations for the front panel USB port in the target server.

set command syntax

```
OneCli.exe [misc] fpusb set [command options]
```

Table 48. set command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc, -b • --bmc-password, -w • --bmc-username, -u • --config • --check-trust, -C • --never-check-trust, -N • --nolog • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.
--btn	Optional	Switch the owner by enabling or disabling ID button when the specified mode is shared.
--mode	Optional	Specify the mode for the front panel USB. The mode can be set as bmc, server and shared.
--owner	Optional	Set the preferred owner when the specified mode is shared. The values include: server, and bmc.
--timeout	Optional	Set the inactivity time-out for the fpush command of the BMC. The unit is minute.

Example of the set command

OneCli.exe fpush set --bmc userid:password@IP --mode shared --btn on

OneCli.exe fpush set --bmc-username userid --bmc-password password

--mode shared --timeout 30 --owner bmc

Notes:

- To set the owner, input the **status** command to check if the front panel USB port is in shared mode; if no, select the **--mode shared** option to set the front panel USB port to shared mode, and then select the owner.
- To set the inactivity time-out, input the **status** command to check if the front panel USB port is in shared mode and if BMC is the preferred owner; if no, select the **--mode shared** option to set the front panel USB port to shared mode, and select the **--owner bmc** option to set BMC as the preferred owner.

status command

Use the **status** command to view the configurations of the front panel USB port in the target server.

status command syntax

OneCli.exe [misc] fpush status [options] [connection options]

Table 49. status command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc, -b • --bmc-password, -w • --bmc-username, -u • --config • --check-trust, -C • --never-check-trust, -N • --nolog • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the status command

OneCli.exe fusb status --bmc userid:password@IP

OneCli.exe fusb status --bmc-username userid --bmc-password password

logmgr commands

Use the **logmgr** commands to obtain and clear BMC event logs. The **logmgr** commands support in-band and out-of-band mode.

logmgr command syntax

OneCli.exe [misc] logmgr <cmds> [<options>]

Table 50. logmgr commands and syntax examples

Command	Syntax example	Description
clearbmclog	OneCli.exe misc logmgr clearbmclog	<ul style="list-style-type: none"> • Clear the BMC event logs of the server. • Clear the remote BMC event logs by inputting: --bmc user:password@host:port • Can be run on the local host OS without specifying the options.
clearall	OneCli.exe misc logmgr clearall --bmc userid: password@host	<ul style="list-style-type: none"> • Clear the BMC event logs and the system event logs of the server. • Clear the remote BMC event logs and the system event logs by inputting: --bmc user:password@host:port • Can be run on the local host OS without specifying the options.
clearsel	OneCli.exe misc logmgr clearsel	<ul style="list-style-type: none"> • Clear the system event logs of the server. • Clear the remote BMC system event logs by inputting: --bmc user:password@host:port • Can be run on the local host OS without specifying the options.

Table 50. logmgr commands and syntax examples (continued)

Command	Syntax example	Description
showbmclog	OneCli.exe misc logmgr showbmclog --bmc userid: password@host	<ul style="list-style-type: none"> • Display the BMC event logs of the server. • Display the remote BMC event logs by inputting: --bmc user:password@host:port • Can be run on the local host OS without specifying the options.
showsel	OneCli.exe logmgr showsel --bmc userid:password@ host	<ul style="list-style-type: none"> • Display the system event logs of the server. • Display the remote BMC system event logs by inputting: --bmc user:password@host:port • Can be run on the local host OS without specifying the options.

Table 51. logmgr command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the logmgr command

OneCli.exe logmgr clearbmclog --bmc userid:password@host

ospower command

Use the **ospower** commands to power on, power off, and restart host OS,, and display the power status of the host server OS. The **ospower** commands support in-band mode and out-of-band mode.

ospower command syntax

OneCli.exe [misc] ospower <cmds> [<options>]

Table 52. *ospower* commands and examples

Command	Syntax example	Description
reboot	OneCli.exe ospower reboot --bmc userid: password@host	<ul style="list-style-type: none"> Restart the host server OS. Restart the remote host OS by inputting: --bmc user:password@host:port Restart only works if the current power state is on.
state	OneCli.exe misc ospower state --bmc userid: password@host	<ul style="list-style-type: none"> Check the host server OS power status. Check the power status of the remote host OS by inputting: --bmc user:password@host:port
turnoff	OneCli.exe ospower turnoff --bmc userid:password@ host	<ul style="list-style-type: none"> Turn off the host server OS. Turn off the remote host OS by inputting: --bmc user:password@host:port
turnon	OneCli.exe ospower turnon --bmc userid:password@ host	<ul style="list-style-type: none"> Turn on the host server OS. Turn on the remote host OS by inputting: --bmc user:password@host:port

Table 53. *ospower* command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> --bmc, -b --bmc-cim-port, -p --bmc-password, -w --bmc-username, -u --check-trust, -C --config --never-check-trust, -N --nolog --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the state command

OneCli.exe ospower state --bmc userid:passwordD@host

raid command

Use the **raid** command to create, clear, and save the raid configuration, check the drive information, convert the JBOD drives to the unconfigured JBOD drives, and convert the unconfigured good drives to the JBOD drives.

Notes:

- It is risky to change the raid configuration in the OS. Therefore, OneCLI only supports out-of-band mode when changing the raid configuration.
- From V2.4.0, OneCLI supports the raid configuration on M.2 SSD with the matching XCC level. The raid configuration on M.2 SSD supports the following command: **add**, **clear**, **save**, and **show**.

- From V2.5.0, OneCLI supports Software Raid configuration with Intel RSTe Software on Linux. The Software Raid configuration with Intel RSTe Software supports the following command: **show**, **add**, and **clear**.

raid command syntax

OneCli.exe [misc] raid <command> [<options>]

Commands

add

Create raid configuration

clear

Clear raid configuration

init

Fast initialize volumes

Note: This command can only be used in the ThinkSystem servers with XCC level versions released after October 2018.

makegood

Convert the JBOD drives to the unconfigured JBOD drives

makejbod

Convert the unconfigured good drives to the JBOD drives

Note: This command can only be used in the ThinkSystem servers.

save

Save raid configuration

show

Show the drive information to the controllers

Table 54. raid command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc, -b 	Required	Refer to Table 3 “OneCLI global parameters” on page 2.
<ul style="list-style-type: none"> • --check-trust, -C • --config • --never-check-trust, -N • --nolog • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.
--drive, -d	Optional	Specify target drive ID. The arguments can be grouped in multiple targets and separated by commas. If it is not specified, it means all.
--file, -f	Required	Specify the policy file of raid configuration.

Table 54. raid command specific parameters (continued)

--force	Optional	Force to create raid configuration when there is no user interaction.
--target, -t	Optional	Specify target controller ID. The arguments can be grouped in multiple targets and separated by commas. If it is not specified, it means all.

Template policy file

The following is the template policy file for Hardware Raid configuration. For the latest template policy file, refer to RAID_HW.ini in OneCLI binary.

```
# Sample template to create hardware RAID configuration and M.2 RAID configuration.
#
# USAGE NOTE
#   Hardware RAID and M.2 RAID can be remotely created and configured by OneCLI running in the local
#   (for out-of-band mode only).
#   One or more volumes can be created in hardware RAID, but only one volume can be created in M.2 RAID.
#
# To use this sample, uncomment and edit a block of example based on your needs.

# EXAMPLE
#   Create two simple RAID1 volumes for hardware RAID and one simple RAID0 volume for M.2 RAID.
#   For hardware RAID, create two RAID1 volumes, each RAID1 volume consumes 50% of the total volume capacity.
#   The actual usable volume capacity depends on the RAID level.
#   For M.2 RAID, create one RAID0 volume that consumes all volume capacity.
#[ctrl1-vol0]
#   disks=0,1
#   hot_spares=2
#   raid_level=1
#   vol_name=volume0
#   write_policy=0
#   read_policy=0
#   io_policy=0
#   access_policy=0
#   cache_policy=0
#   volume_size=50%
#   strip_size=64 KB
#   initialization=0
#[ctrl1-vol1]
#   disks=0,1
#   hot_spares=2
#   raid_level=1
#   vol_name=volume1
#   write_policy=1
#   read_policy=0
#   io_policy=1
#   access_policy=2
#   cache_policy=1
#   volume_size=50%
#   strip_size=128 KB
#   initialization=0
#[m.2]
#   raid_level=0
#   vol_name=m2vol
```



```

#     strip_size=64 KB
#
# SYNTAX EXPLANATION
#
# disks
#     [Required] Drive group in the new volume. Specify drive(s) index separated by ",",
#             supporting "rest"(case insensitive). Specify span(s) index separated by ":"
#             when RAID level is 1E, 10, 50, 60 or 00. (For example, 0,1:2,3)
#     [Format] disks=0,1
#
# hot_spares
#     [Optional] Drive group for hot spare , specify drive(s) index separated by ",".
#             If no value is specified, there will be no hot spare.
#     [Format] hot_spares=2
#
# raid_level
#     [Required][Hardware RAID creation] Values: 0, 1, 5, 1E, 6, 10, 50, 60, 00.
#     [Required][M.2 RAID creation] Values: 0, 1.
#     [Format] raid_level=1
#
# vol_name
#     [Required] Volume name.
#     [Format] vol_name=volume1
#
# write_policy
#     [Optional] Cache write policy. Values: 0-Write Through, 1-Always Write Back, 2-Write Back with BBU.
#             Default value 0.
#     [Format] write_policy=1
#
# read_policy
#     [Optional] Cache read policy.
#             In System X, values: 0-No Read Ahead, 1-Read Ahead, 2-Adaptive Read Ahead. Default value 0.
#             In ThinkSystem, values: 0-No Read Ahead, 1-Always Read Ahead. Default value 0.
#     [Format] read_policy=0
#
# io_policy
#     [Optional] Cache I/O policy. Values: 0-Direct I/O, 1-Cached I/O. Default value 0.
#     [Format] io_policy=1
#
# access_policy
#     [Optional] Access policy. Values: 0-Read Write, 2-Read Only, 3-Blocked. Default value 0.
#     [Format] access_policy=2
#
# cache_policy
#     [Optional] Disk cache policy. Values: 0-Unchanged, 1-Enable, 2-Disable. Default value 0.
#     [Format] cache_policy=1
#
# volume_size
#     [Optional] New volume size. Unit: MB / GB, supporting percentage.
#     [Format] volume_size=50%
#             volume_size=500 GB
#
# strip_size
#     [Optional][Hardware RAID creation] Strip Size. Unit: KB. Examples: 8 KB, 16 KB, 32 KB, 64 KB, 128 KB and so on.
#             Default value 128 KB.
#     [Required][M.2 RAID creation] Strip Size. Values: 32 KB, 64 KB.
#     [Format] strip_size=64 KB
#
# initialization
#     [Optional] Initialization for this volume. Values: 0-No initialization, 1-Quick initialization.
#             To run full initialization on System x servers use IMM or UEFI, on ThinkSystem servers

```

```

#           use XCC or LXPM, or use the vendor provided RAID setup utility tool in both cases.
#   [Format] initialization=0
#
# END OF FILE

```

The following is the template policy file for Software Raid configuration. For the latest template policy file, refer to RAID_SW.ini in OneCLI binary.

```

# Sample template to configure RAID volumes with Intel RSTe Software RAID.
#
# USAGE NOTE
#   Software RAID can be remotely created and configured by OneCLI running in the actual OS.
#   (for in-band mode only).
#   Only disk drives directly attached to the onboard SATA controller is supported.
#   If the disk count is sufficient, one container and up to two volumes of mixed RAID levels can be created.
#   Ensure that the proper Intel software RAID driver is installed in Linux, and the disks are visible as /dev/sd*.
#
#   To use this sample, uncomment and edit a block of example based on your needs.
#
# EXAMPLE 1
#   Create a container of two drives with a simple RAID1 volume that consumes all disks capacity.
#   Using all default parameters, no hot spare drive, default strip size of 64 KB.
#[md0]
# disks=/dev/sdb, /dev/sdc
# vol1_name=my_volume
# vol1_raid_level=1
#
# EXAMPLE 2
#   Create a container of three drives with one hot spare.
#   Create two volumes of RAID5 and RAID0 respectively with strip size of 128 KB.
#   The first volume consumes 50% of raw disk space (actual usable space depends on RAID level).
#   The remaining space is entirely consumed by the second volume, so the value does not need to be specified.
#[md0]
# disks=/dev/sd[bcd]
# vol_disk_count=3
# vol1_name=my_volume1
# vol1_raid_level=5
# vol1_capacity=50%
# vol1_strip_size=128 KB
# vol2_name=my_volume2
# vol2_raid_level=0
# vol2_strip_size=128 KB
#
# EXAMPLE 3
#   Create a container of four drives with two hot spare.
#   Create two volumes of RAID5.
#   The first volume consumes 300 GB of usable space, the remaining space is consumed by the second volume.
#[md0]
# disks=/dev/sd[cdeghi]
# vol_disk_count=5
# hot_spare=/dev/sdg
# vol1_name=OSVOLUME
# vol1_raid_level=5
# vol1_capacity=300
# vol2_name=DBVOLUME
# vol2_raid_level=5

# SYNTAX EXPLANATION
#
# disks

```

```

# [Required] Name the disks to assign to the container and hot spare using Linux nomenclature of /dev/sd*.
# [Format] disks=/dev/sdb, /dev/sdc, /dev/sdd, /dev/sde
#         disks=/dev/sd[bcde]
#         disks=/dev/sd[b-e]
#
# vol_disk_count
# [Optional] Number of disks used for volume data.
# [Format] vol1_disk_count=3
#         If the value is less than total disk count, the remaining disk(s) will be used for hot spare.
#
# hot_spare
# [Optional] Hot spare disk assignment. If no value is specified, the remaining disks will be used for hot spare.
# [Format] hot_spare=/dev/sdg
#
# vol1_name
# [Required] Name assigned to the first volume.
# [Format] vol1_name=volume1
#
# vol1_raid_level
# [Required] RAID level of the first volume.
# [Format] vol1_raid_level=1
#         Supported RAID levels: 0, 1, 5, 10. Each RAID level has a valid range of disk count.
#         RAID0 must have 2 to 8 disks, RAID1 must have two disks, RAID5 must have 3
#         to 8 disks, RAID10 must have 4 disks.
#
# vol1_capacity
# [Optional] Capacity of the first volume, in percentage (use %) or in gigabyte (use the value number)
# [Format] vol1_capacity=50%
#         vol1_capacity=300
#
# vol1_strip_size
# [Optional] Strip size of the first volume, in kilobyte.
# [Format] vol1_strip_size= 8 KB
#         Valid values are 8 KB, 16 KB, 32 KB, 64 KB, 128 KB. If not specified, default value is 64 KB.
#
# vol2_name
# [Optional] Name assigned to the second volume.
# [Format] vol2_name=volume2
#
# vol2_raid_level
# [Optional] RAID level of the second volume.
# [Format] vol2_raid_level=5
#         Supported RAID levels: 0, 1, 5, 10. Each RAID level has a valid range of disk count.
#         RAID0 must have 2 to 8 disks, RAID1 only supports 2 disks, RAID5 must have 3 to 8 disks,
#         RAID 10 only support 4 disks.
#
# vol2_strip_size
# [Optional] Strip size of the second volume, in kilobyte.
# [Format] vol2_strip_size=8 KB
#         Valid values are 8 KB, 16 KB, 32 KB, 64 KB, 128 KB. If not specified, default value is 64 KB.
#
# END OF FILE

```

Example of the raid command

OneCli.exe misc raid add --bmc userid:password@host--file raid.ini

rebootbmc command

Use the **rebootbmc** command to restart BMC. The **rebootbmc** command still works for backward compatibility, so the script solution will not destroy the **rebootimm** command specified in the scripts.

rebootbmc command syntax

OneCli.exe [misc] rebootbmc [--bmc <userid:password@host[:port]>][<options>]

Table 55. *rebootbmc* command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none">• --bmc, -b• --bmc-cim-port, -p• --bmc-password, -w• --bmc-username, -u• --check-trust, -C• --config• --never-check-trust, -N• --nolog• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the rebootbmc command

OneCli.exe misc rebootbmc --bmc userid:password@host[:port]

rebootcmm command

Use the **rebootcmm** command to restart CMM.

rebootcmm command syntax

OneCli.exe [misc] rebootcmm [--cmm <userid:password@host[:port]>] [<options>]

Table 56. *rebootcmm* command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none">• --check-trust, -C• --cmm• --never-check-trust, -N• --nolog• --output, -o	Required	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the rebootcmm command

OneCli.exe misc rebootcmm --cmm userid:password@host[:port]

rebootiom command

Use the **rebootcmm** command to restart I/O Module on the Flex chassis.

rebootiom command syntax

OneCli.exe [misc] rebootiom[--cmm <userid:password@host[:port]> --iobay <bay number> [<options>]

Table 57. rebootiom command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --check-trust, -C • --cmm • --iobay • --never-check-trust, -N • --nolog • --output, -o 	Required	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the rebootiom command

OneCli.exe misc rebootiom --cmm userid:password@host[:port]

--iobay 2

rebootismm command

Use the **rebootismm** command to restart SMM.

rebootismm command syntax

OneCli.exe [misc] rebootismm [--smm <userid:password@IP[:port]>]

Table 58. rebootismm command specific parameters

Parameter	Required/Optional	Notes
--smm	Required	Specify SMM IP and credential information.

Example of the rebootismm command

OneCli.exe misc rebootismm --smm userid:password@ host

reseatblade command

Use the **reseatblade** command to reseal the blades on the Flex chassis.

reseatblade command syntax

OneCli.exe [misc] reseatblade [--cmm <userid:password@IP[:port]>] --nodebay x

Table 59. reseatblade command specific parameters

Parameter	Required/Optional	Notes
--cmm	Required	Specify CMM IP and credential information.
--nodebay	Required	Specify the switch bay ID to be scanned.

Example of the reseatblade command

OneCli.exe misc reseatblade --cmm userid:password@host --nodebay 1

reseatcmm command

Use the **reseatcmm** command to reseal CMM.

reseatcmm command syntax

OneCli.exe [misc] reseatcmm [--cmm <userid:password@IP[:port]>

Table 60. *reseatcmm command specific parameters*

Parameter	Required/Optional	Notes
--cmm	Required	Specify CMM IP and credential information.
--standby	Optional	If the --standby parameter is specified, the reseatcmm command will reseal the standby CMM instead of the primary CMM.

Example of the reseatcmm command

OneCli.exe misc reseatcmm --cmm userid:password@host

reseatswitch command

Use the **reseatswitch** command to reseal the switch on the Flex chassis.

reseatswitch command syntax

OneCli.exe [misc] reseatswitch [--cmm <userid:password@IP[:port]>

Table 61. *reseatswitch command specific parameters*

Parameter	Required/Optional	Notes
--cmm	Required	Specify CMM IP and credential information.
--iobay	Required	Specify I/O bay number of the switch.

Example of the reseatswitch command

OneCli.exe misc reseatswitch --cmm userid:password@host --iobay x

restorebmu command

Use the **restorebmu** command to restore the BMU status on BMC.

restorebmu command syntax

OneCli.exe misc restorebmu --bmc <userid:password@IP[:port]>

Table 62. *restorebmu command specific parameters*

Parameter	Required/Optional	Notes
--bmc	Optional	Specify information of the target BMC.

Table 62. *restorebmu* command specific parameters (continued)

--node, -n	Optional	Specify the node index for in-band mode on the multi-node system.
--config	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the *restorebmu* command

OneCli.exe misc restorebmu --bmc userid:password@host

restoresmm command

Use the *restoresmm* command to restore the SMM update progress.

restoresmm command syntax

OneCli.exe [misc] restorebmu [--smm <userid:password@IP[:port]>]

Table 63. *restoresmm* command specific parameters

Parameter	Required/Optional	Notes
--smm	Required	Specify SMM IP and credential information.

Example of the *restoresmm* command

OneCli.exe misc restoresmm --smm userid:password@host

smmlan commands

Use the *smmlan* commands to enable or disable SMM LAN.

smmlan command syntax

OneCli.exe [misc] smmlan <command> [options]

Table 64. *smmlan* commands and syntax examples

Command	Syntax example	Description
disable	OneCli.exe misc smmlan disable	Disable the SMM LAN by following the XCC connection information about SMM.
enable	OneCli.exe misc smmlan enable	Enable the SMM LAN by following the XCC connection information about SMM.
query	OneCli.exe misc smmlan query	Query the SMM LAN status by following the XCC connection information about SMM.

Note: Only one of the above commands should be specified in a command line.

Table 65. smmlan command specific parameters

Parameter	Required/Optional	Notes
--bmc	Optional	Specify the target BMC information.
--config	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the smmlan command

```
OneCli.exe misc smmlan enable --bmc userid:password@host
```

switchcmm command

Use the **switchcmm** command to toggle active CMM.

switchcmm command syntax

```
OneCli.exe [misc] switchcmm [--cmm <userid:password@IP[:port]>
```

Table 66. switchcmm command specific parameters

Parameter	Required/Optional	Notes
--cmm	Required	Specify CMM IP and credential information.

Example of the switchcmm command

```
OneCli.exe misc switchcmm --cmm userid:password@host
```

syshealth command

Use the **syshealth** command to query the system health status. Only the ThinkSystem servers support this command.

syshealth command syntax

```
OneCli.exe [misc] syshealth <command>[options]
```


Table 67. *syshealth* command specific parameters

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --config • --check-trust, -C • --never-check-trust, -N • --nolog • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.
--device	Optional	<p>Specify the device to get the status.</p> <p>The supported parameters used with --device: system, processor, fan, dimm, power, and pci_adapter.</p> <p>If not specified, the system health summary containing errors and warning events will be displayed.</p>

Example of the *syshealth* command

OneCli.exe syshealth

OneCli.exe misc syshealth --bmc userid:password@host

OneCli.exe misc syshealth --device power

OneCli.exe misc syshealth --device power --bmc userid:password@host

usblan command

Use the **usblan** commands to enable or disable USB LAN in host OS.

usblan command syntax

Onecli.exe [misc] usblan <cmds> [<options>]

Table 68. *usblan commands and examples*

Com-mand	Syntax example	Output example	Description
disable	onecli.exe usblan disable	Succeed to disable BMC Lan over USB.	Disable all of the LAN-over-USB devices on the host OS side.
enable	onecli.exe usblan enable	Succeed to enable BMC Lan over USB.	Enable all of the LAN-over-USB devices on the host OS side.
query	onecli.exe usblan query	No /Device state /BMC IP /Host IP 0 /connected /host /host	Query all of the LAN-over-USB devices status on the host OS side. Its output statuses include: <ul style="list-style-type: none"> • disabled: LAN-over-USB interface is off • enabled: LAN-over-USB interface is on, but BMC IP is not reachable • connected: BMC IP is reachable

Note: Only one of the previous commands should be specified in a command line at the same time.

Table 69. *usblan command specific parameters*

Parameter	Required/Optional	Notes
<ul style="list-style-type: none"> • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --never-check-trust, -N • --nolog • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Chapter 8. Diagnosis

This section describes how to use the **diagnosis** command supported by Lenovo XClarity Essentials OneCLI.

The following table lists the **diagnosis** command supported.

Table 70. Diagnosis (diags) command

Command	Description
run	Run the diagnosis program of the remote server.

run command

Use the **run** command to run the diagnosis program of the remote server.

run command syntax

OneCli.exe [misc] diags run [options] [connection options]

Table 71. run command specific parameters

Parameter	Required/Optional	Notes
--bmc, -b	Required	Refer to Table 3 “OneCLI global parameters” on page 2.
<ul style="list-style-type: none">• --check-trust, -C• --config• --never-check-trust, -N• --nolog• --output, -o	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.
--item	Optional	Include hdd, hdd_full, mem, mem_full. If not specified, hdd and mem are the default parameters.
--force	Optional	If specified, it will run the diagnosis program without interaction.
--help	Optional	Specify the help information.

Example of the run command

```
OneCli.exe diags run --bmc userid:password@IP --item mem_full,hdd
```

Notes: Before running the diagnosis program, restart the remote server. The message “System reboot is required, confirm to continue (yes/no)” will be prompted. Do one of the following based on your needs:

- Input **yes** to run the diagnosis program.
- Input **no** to exit the diagnosis program.

Chapter 9. RDCLI commands

The topics in this section describe the remote disk CLI (RDCLI) for remote media mount tasks. This command only supports pre-ThinkSystem servers. For remote media mount against ThinkSystem, check sample commands explained in `remote_media_mount_for_thinksystem.sh` under folder **Sample** in OneCLI binary (zip for Windows and tgz for Linux)

The following tables lists supported RDCLI commands.

Table 72. RDCLI commands

Command	Description
rdmount	Mount CD/DVD drives, ISO image files, or USB key on a remote BMC-based.
rdumount	Unmount CD/DVD drives, ISO image files, or USB key mounted using rdmount.

rdmount

Use **rdmount** to mount CD/DVD drives, ISO image files, or USB key on a remote BMC-based system. The application authenticates with the BMC and functions as a file server to access the virtual disk. It can also query and return a list of drives that are already mounted. Virtual disks are unmounted using the **rdumount** command.

Note: After V2.4.0, the **rdmount** command and the **rdumount** command can be used in the ThinkSystem servers with the matching XCC level.

rdmount syntax

```
rdmount.exe <-s <ipaddress>> <-d <path>> <-l <user>> <-p <password>>
```

Options

- h** Displays help information.
- q** Queries the existing mounts and returns a list of 'tokens' that can be used by **rdumount** to unmount a virtual disk.
- v** Requests verbose output.

Table 73. *rdmount* parameters

Parameter	Required/Optional	Notes
-s	Required	Where <i><ipaddress></i> is the IP address or hostname of the remote BMC.
-d	Required	Where <i><path></i> is the image or optical drive directory path.
-l	Optional	Where <i><user></i> is an authorized user ID for the BMC.
-p	Optional	Where <i><password></i> is the authorized user's password for the BMC.

rdumount

Use **rdumount** to unmount CD/DVD drives, ISO image files, or USB key mounted using **rdmount**.

rdumount syntax

```
rdumount.exe <token>
```

Options

- h** Displays help information.

A *<token>* that identifies the drive to unmount must be specified.

You can run `rdmount.exe -q` to display a list of mounted drives and their tokens.

Chapter 10. The FoD key

The topics in this section describe how to use the XClarity Essentials OneCLI FoD key application commands.

For information about specific FoD key application commands, refer to the following sections:

- “Commands that acquire and install the FoD key” on page 99
- “Commands that generate, get and replace the FoD key in KMS” on page 101
- “Commands that install, uninstall, and export the FoD key, and report the FoD key information” on page 104

Commands that acquire and install the FoD key

The topics in this section provide detailed information about how to use the FoD key application and commands to acquire and install the FoD key.

Table 74. Command that acquires and installs the FoD key

Command	Description
acquire	Acquire the FoD key from Lenovo Web site and install the key to the target key repository.

acquire command

Use the **acquire** command to generate and acquire the FoD key from Lenovo Web site and install the key to the target key repository.

acquire command syntax

```
OneCli.exe [misc] fod acquire <--uid <uid>> <--auth <auth_code>> <--kmsid <kms_id>> <--mt <mt>>  
<--installin <mt_sn>>
```

```
[--all] [--dir <dir_name>] [--proxy <proxy_info>] [<options>]
```

Table 75. acquire command specific parameters

Parameter	Required/Optional	Notes
--uid	Required	Specify unique identifier information.
--auth	Required	Specify Lenovo authorization code.
--kmsid	Required	Specify Lenovo ID credential for Lenovo Web site interactive.
--mt	Required	Specify system machine type for system/option feature.
--installin	Required	System machine type and serial number of the target system.
--all	Optional	Get all the FoD keys for the specified system.
--dir	Optional	Specify the directory to save the downloaded key file. The default value is the current directory.

Table 75. *acquire* command specific parameters (continued)

--proxy	Optional	Use proxy to connect to Lenovo Web site. The format is user: password@host[:port]. For IPv6 address, the format is socks5://user: password@[IPv6]:port.
--node	Optional	Node index for inband case on a multi-node system.
--kcs	Optional	Force to use IPMI over KCS local interface.
--switch	Optional	SWITCH connection information. Format: user: password@IP: port
--tftp	Optional	TFTP server for snmp interface. Format: user: password@host: port
--community	Optional	Community for snmpv1v2. Supported value: public/private/ protect, default: public
--authproto	Optional	The parameter only for snmpv3, Protocol supported value: MD5/SHA, default: No auth. Format: --authproto MD5 or --authproto.
--privproto	Optional	The parameter only for snmpv3. Privacy protocol supported value: DES/AES, default: No privacy. Format: --privproto DES or --privproto.
--privpasswd	Optional	Privacy password.
--sftp	Optional	Only used for the remote update of the firmware temporary payload file in the server. If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy. By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.
<ul style="list-style-type: none"> • --bmc, -b • --bmc-username, -u • --bmc-password, -w • --bmc-cim-port, -p • --check-trust, -C • --config • --output, -o • --cmm • --nolog • --never-check-trust, -N 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the acquire command

```
OneCli.exe fod acquire --mt 2582 --uid xxx --auth xxx --kmsid userid:password
```

```
--bmc userid:password@host
```

Note: If the FoD key is already generated in KMS, the **acquire** command will report the failure in generating. Acquire and install the FoD key through the steps in the following section.

Commands that generate, get and replace the FoD key in KMS

The topics in this section provide detailed information about how to use the FoD key application and commands to generate, get and replace the FoD key in KMS.

Table 76. Commands that generate, get and replace the FoD key in KMS

Command	Description
generate	Generate the FoD key on Lenovo Web site.
get	Get the generated the FoD key from Lenovo Web site.
replace	Replace the FoD key on Lenovo Web site.
getsysinfo	Get the FoD supported system and feature information from Lenovo Web site.

generate command

Use the **generate** command to generate the FoD key on Lenovo Web site.

generate command syntax

```
OneCli.exe [misc] fod generate <--uid <uid>> <--auth <auth_code>> <--kmsid <kms_id>> <--mt <mt>>  
<--installin <mt_sn>>
```

```
[--proxy <proxy_info>] [<options>]
```

Table 77. generate command specific parameters

Parameter	Required/Optional	Notes
--uid	Required	Specify unique identifier information.
--auth	Required	Specify Lenovo authorization code.
--kmsid	Required	Specify Lenovo ID credential for Lenovo Web site interactive.
--mt	Required	Specify system machine type for system/option feature. Specify device code for IOM switch.
--installin	Required	System machine type and serial number of the target system. Install the FoD key.

Table 77. generate command specific parameters (continued)

--proxy	Optional	Use proxy to connect to Lenovo Web site. The format is user: password@host[:port]. For IPv6 address, the format is socks5://user: password@[IPv6]:port.
<ul style="list-style-type: none"> • --output, -o • --nolog • --check-trust, -C • --never-check-trust, -N 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the generate command

```
OneCli.exe fod generate --uid xxx --auth xxx --kmsid userid:password
--mt 7X02 --output purley --log 5
```

get command

Use the **get** command to get the generated FoD key from Lenovo Web site.

get command syntax

```
OneCli.exe [misc] fod get <--uid <uid>> <--kmsid <kms_id>> [--all] [--dir <dir_name>] [--proxy <proxy_info>]
[<options>]
```

Table 78. get command specific parameters

Parameter	Required/Optional	Notes
--uid	Required	Specify unique identifier information.
--kmsid	Required	Specify Lenovo ID credential for Lenovo Web site interactive.
--all	Optional	Get all the FoD keys for the specified system.
--dir	Optional	Specify the directory to save the downloaded key file. The default value is the current directory.
--proxy	Optional	Use proxy to connect to Lenovo Web site. The format is user: password@host[:port]. For IPv6 address, the format is socks5://user: password@[IPv6]:port.
<ul style="list-style-type: none"> • --output, -o • --nolog • --check-trust, -C • --never-check-trust, -N 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the get command

```
OneCli.exe fod get --uid xxx --kmsid userid:password --output get
```

replace command

Use the **replace** command to replace the FoD key for the specified system on Lenovo Web site.

replace command syntax

```
OneCli.exe [misc] fod replace <--featurecode <feature_code>> <--uid <uid>> <--olduid <old_uid>>  
<--kmsid<kms_id>>
```

```
[--installin <install_in>] [--dir <dir_name>] [--proxy <proxy_info>] [<options>]
```

Table 79. *replace command specific parameters*

Parameter	Required/Optional	Notes
--featurecode	Required	Specify the feature code of the FoD key to be replaced.
--uid	Required	Specify unique identifier information.
--olduid	Required	Specify the previous unique identifier information.
--kmsid	Required	Specify Lenovo ID credential for Lenovo Web site interactive.
--installin	Optional	System machine type and serial number of the target system. Install the FoD key.
--dir	Optional	Specify the directory to save the downloaded key file. The default value is the current directory.
--proxy	Optional	Use proxy to connect to Lenovo Web site. The format is user: password@host[:port]. For IPv6 address, the format is socks5://user:password@[IPv6]:port.
<ul style="list-style-type: none">• --output, -o• --nolog• --check-trust, -C• --never-check-trust, -N	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the replace command

```
OneCli.exe fodreplace --output replace--featurecode A1R0 --uidxxx--olduid xxx --kmsid userid:password  
  
--installin 9532
```

getsysinfo command

Use the **getsysinfo** command to get FoD supported system and feature information from Lenovo Web site and save them into the specified file.

getsysinfo command syntax

```
OneCli.exe [misc] fod getsysinfo <--kmsid <kms_id>> [--file <file_path>] [<options>]
```

Table 80. *getsysinfo* command specific parameters

Parameters	Required/Optional	Notes
--kmsid	Required	Specify Lenovo ID credential for Lenovo Web site interactive.
--file	Optional	Specify the file path to save the system information. If you specify a directory, the default file "lenovo_fod_system_info.txt" will be created in the specified directory. If not specified, the default directory will be the current directory.
--proxy	Optional	Use proxy to connect to Lenovo Web site. The format is user: password@host[:port]. For IPv6 address, the format is socks5://user:password@[IPv6]:port.
<ul style="list-style-type: none"> • --output, -o • --nolog • --check-trust, -C • --never-check-trust, -N 	Optional	Refer to Table 3 "OneCLI global parameters" on page 2.

Example of the getsysinfo command

OneCli.exe fod getsysinfo --file D:\getsysinfo\getsysinfo --kmsid userid:password

Commands that install, uninstall, and export the FoD key, and report the FoD key information

The topics in this section provide detailed information about how to use the FoD key application and commands to install, uninstall, and export the FoD key, and report the FoD key information.

Table 81. *Commands that install, uninstall, and export the FoD key, and report the FoD key information*

Command	Description
install	Install the target FoD key to the target key repository.
uninstall	Uninstall the FoD key from the target key repository.
export	Export the FoD key from the target key repository
report	Report the FoD key information from the target key repository

install command

Use the **install** command to install the target the FoD key to the target key repository.

install command syntax

OneCli.exe [misc] fod install <--keyfile <key_file>> [<options>]

Table 82. install command specific parameters

Parameter	Required/Optional	Notes
--keyfile	Required	Specify the FoD key file acquired from Lenovo Web site.
--node	Optional	Node index for inband case on a multi-node system.
--kcs	Optional	Force to use IPMI over KCS local interface.
--switch	Optional	SWITCH connection information. Format: user: password@IP: port
--tftp	Optional	TFTP server for snmp interface. Format: user: password@host: port
--community	Optional	Community for snmpv1v2. Supported value: public/private/ protect, default: public.
--authproto	Optional	The parameter only for snmpv3, Protocol supported value: MD5/SHA, default: No auth. Format: --authproto MD5 or --authproto.
--privproto	Optional	The parameter only for snmpv3. Privacy protocol supported value: DES/AES, default: No privacy. Format: --privproto DES or --privproto.
--privpasswd	Optional	Privacy password.
--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --cmm • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the install command

OneCli.exe fod install --keyfile OneCli-222232-20170620-102814\7.key --switch userid:password@host

--tftp host:xxxx --community private --authproto MD5 --privproto DES

uninstall command

Use the **uninstall** command to uninstall the FoD key from the target key repository.

uninstall command syntax

OneCli.exe [misc] fod uninstall <--keyid <key_id>> [<options>]

Table 83. *uninstall command specific parameters*

Parameter	Required/Optional	Notes
--keyid	Required	Specify the FoD key ID that can be acquired from command report. If the key ID is specified to "all", all the FoD keys in the target key repository will be uninstalled.
--node	Optional	Node index for inband case on a multi-node system.
--kcs	Optional	Force to use IPMI over KCS local interface.
--switch	Optional	SWITCH connection information. Format: user: password@IP: port
--tftp	Optional	TFTP server for snmp interface. Format: user: password@host: port
--community	Optional	Community for snmpv1v2. Supported value: public/private/ protect, default: public.
--authproto	Optional	The parameter only for snmpv3, Protocol supported value: MD5/SHA, default: No auth. Format: --authproto MD5 or --authproto.
--privproto	Optional	The parameter only for snmpv3. Privacy protocol supported value: DES/AES, default: No privacy. Format: --privproto DES or --privproto.
--privpasswd	Optional	Privacy password.

Table 83. *uninstall command specific parameters (continued)*

--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --cmm • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the uninstall command

OneCli.exe fod uninstall --keyid xxxxxx --output uninstall --bmc userid:password@host

export command

Use the **export** command to export the FoD key from the target key repository.

export command syntax

OneCli.exe [misc] fod export <--keyid <key_id>> [<options>]

Table 84. *export command specific parameters*

Parameter	Required/Optional	Notes
--keyid	Required	Specify the FoD key ID that can be acquired from command report. If the key ID is specified to “all”, all the FoD keys in the target key repository will be exported.
--dir	Optional	Download the key file to the <dir> location. The default value is the current folder.
--node	Optional	Node index for inband case on a multi-node system.
--kcs	Optional	Force to use IPMI over KCS local interface.
--switch	Optional	SWITCH connection information. Format: user: password@IP: port

Table 84. export command specific parameters (continued)

--tftp	Optional	TFTP server for snmp interface. Format: user: password@host: port
--community	Optional	Community for snmpv1v2. Supported value: public/private/ protect, default: public
--authproto	Optional	The parameter only for snmpv3, Protocol supported value: MD5/SHA, default: No auth. Format: --authproto MD5 or --authproto.
--privproto	Optional	The parameter only for snmpv3. Privacy protocol supported value: DES/AES, default: No privacy.Format: --privproto DES or --privproto.
--privpasswd	Optional	Privacy password.
--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --cmm • --nolog • --never-check-trust, -N • --output, -o • 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the export command

```
OneCli.exe fod export --keyid 8e347c0bd269cd57 --bmc userid:password@10.240.204.147 --output reportkey
```

report command

Use the **report** command to report the FoD key information from the target key repository.

report command syntax

```
OneCli.exe [misc] fod report [<options>]
```


Table 85. report command specific parameters

Parameter	Required/Optional	Notes
--node	Optional	Node index for inband case on a multi-node system.
--kcs	Optional	Force to use IPMI over KCS local interface.
--switch	Optional	SWITCH connection information. Format: user:password@IP: port
--tftp	Optional	TFTP server for snmp interface. Format: user:password@host: port
--community	Optional	Community for snmpv1v2. Supported value: public/private/ protect, default: public
--authproto	Optional	The parameter only for snmpv3, Protocol supported value: MD5/SHA, default: No auth. Format: --authproto MD5 or --authproto.
--privproto	Optional	The parameter only for snmpv3. Privacy protocol supported value: DES/AES, default: No privacy.Format: --privproto DES or --privproto.
--privpasswd	Optional	Privacy password.
--sftp	Optional	<p>Only used for the remote update of the firmware temporary payload file in the server.</p> <p>If the --uselocalimg parameter is specified, OneCLI will copy the firmware temporary payload file from the local folder to the SFTP server. If the SFTP server contains a firmware temporary payload file, this payload file will be overwritten with the local copy.</p> <p>By default, if the --uselocalimg parameter is not specified, OneCLI will check if the firmware temporary payload file is in the SFTP server. If yes, OneCLI will use the file on the SFTP server; if no, OneCLI will detect and upload the local file to the SFTP server.</p>
<ul style="list-style-type: none"> • --bmc, -b • --bmc-cim-port, -p • --bmc-password, -w • --bmc-username, -u • --check-trust, -C • --config • --cmm • --nolog • --never-check-trust, -N • --output, -o 	Optional	Refer to Table 3 “OneCLI global parameters” on page 2.

Example of the report command

OneCli.exe fod report --switch host --tftp host --community private

Chapter 11. Lenovo XClarity Essentials OneCLI scenarios

This topic provides information about useful Lenovo XClarity Essentials OneCLI scenarios.

Acquiring update packages for a target server

Pre-requisite: Refer to Network requirement of the acquire command.

Before applying updates to a target server, you need to get the latest update packages for that specific server. OneCLI provides the function to acquire the package.

Typically, you would run a single OneCLI command to acquire the latest UXSP (recommended update stack) from Lenovo site for the target server according to the machine type and operating systems of interest.

To acquire the latest UXSP to `c:\pkgs\`, which can then be updated/installed inside an RHEL7 installed on server `xxxx`, see the following sample command:

```
OneCli.exe update acquire --mt xxxx --ostype rhel7 --dir c:\pkgs
```

Note: You can acquire updates for an OS different from the one where OneCLI runs. For example, you can run OneCLI on Windows to acquire a UXSP for RHEL7

Updating a local server within host OS

When you have candidate update packages available inside the host OS of a server, only a single OneCLI command shall apply the applicable updates within the host OS for that server.

To apply the UXSP (available at `/tmp/pkgs/`) to a server installed with a SLES12 from within that SLES12, see the following sample command:

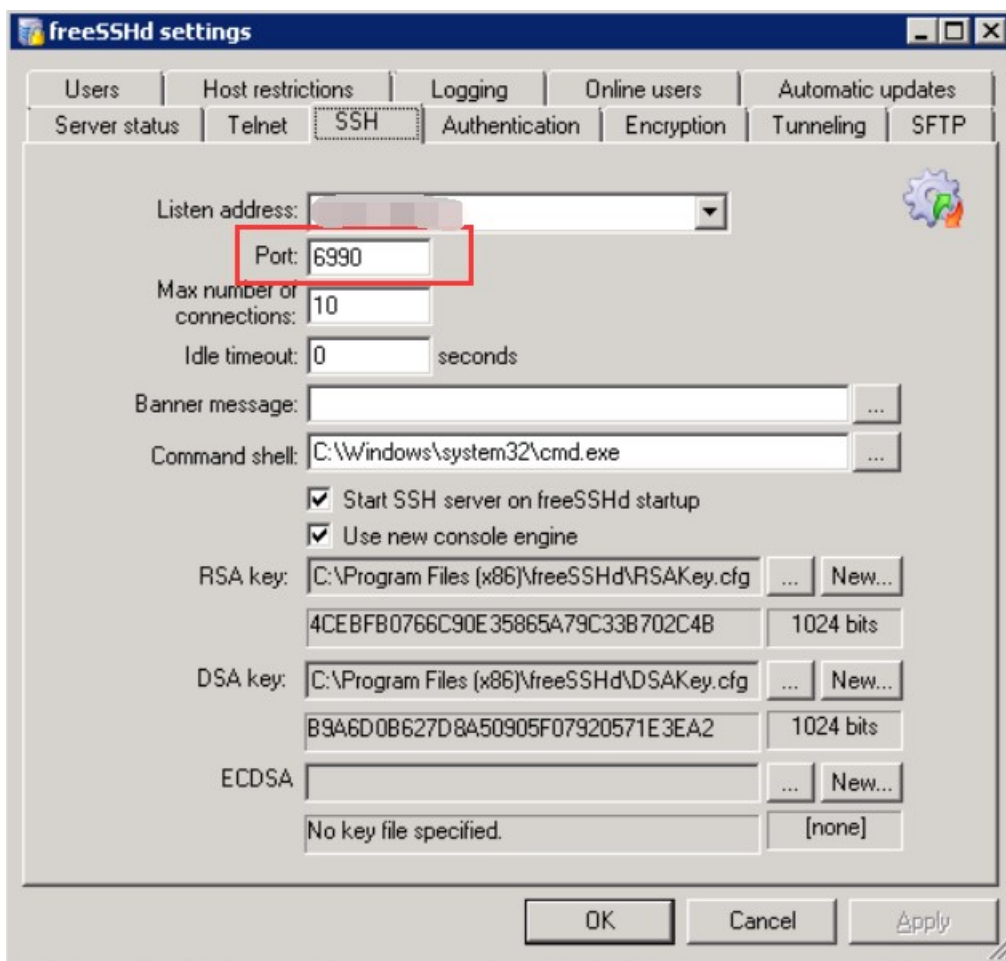
```
/OneCli update flash --dir /tmp/pkgs/
```

Updating a remote server in out of band mode

When you have candidate update packages available inside the host OS of a server, only a single OneCLI command is needed to apply the applicable updates remotely through BMC of the target server.

Pre-requisite:

1. An SFTP server is required in the non-ThinkSystem servers. This is available on any modern Linux distributions by default. You can use **freesshd** or other tools to set up an SFTP server on windows OS.
2. Ensure that the 6990 Port for the SFTP server is turned on.



3. Ensure that the SFTP user account has write access of the directory of the SFTP server (see the example on step 2: `--sftp user:password@host:6990`)

Steps:

1. Acquire all necessary files for platform update against the target server.
Sample command:
`OneCli.exe update acquire --ostype platform --mt xxxx --dir C:\pkg`
2. Flash the update packages in out-of-band mode to the target server.

Note: `--sftp` is not required for ThinkSystem.

Sample command:

```
OneCli.exe update flash --bmc userid:password@bmcip --sftp user:password@host/ --dir C:\pkg
--uselocalimg
```

Updating all platform component firmware for a remote server in out-of-band mode

Starting from ThinkSystem, most component firmware can be updated in out-of-band mode without operating the host OS. However, this function is not available in some components. To enable user to update all component firmware in out-of-band mode and on the server with ESXi OS, a new solution "platform update" is introduced.

Pre-requisite:

1. An SFTP server is required. This is available on any modern Linux distributions by default. User can use **freesshd** or other tool to set up an SFTP server on windows OS.
2. Ensure that SFTP user account have write access of the directory of the SFTP server (see the example on step 2: `--sftp user:password@host/`)
3. [Optional] If some applicable components do not support out-of-band update, you need to run OneCLI for Bare-Metal Update (see step 3). In this case, ensure that port 6990 is enabled for sftp/ssh:

To enable the port 6990 on Linux, do the following:

1. Open the config file `/etc/ssh/sshd_config`;
2. Add a line `Port 6990`. Pay attention that you might need to uncomment the default port line, otherwise the default 22 might not be able to work;
3. Run `service sshd restart` in the cmd console to restart the ssh service.

Steps:

1. Acquire all necessary files for platform update against the target server.

Sample command:

```
OneCli.exe update acquire --ostype platform --mt xxxx --dir C:\pkg
```

2. Flash the update packages in out-of-band mode to the target server with “`--platform`”.

Sample command:

```
OneCli.exe update flash --bmc userid:password@bmcip --sftp user:password@host:/ --dir C:\pkg --uselocalimg --platform
```

Remotely updating firmware for multiple BMC servers

From v2.5.0, OneCLI supports to remotely upgrade multiple BMC servers by running the **multiflash** command. Users can specify the BMC server information and the configuration parameters by using a JSON configuration file.

Pre-requisite:

Refer to “Updating all platform component firmware for a remote server in out-of-band mode” on page 112.

Steps:

1. Acquire all necessary files for the multiple BMC servers by running the following command:

```
OneCli.exe update acquire --ostype platform --mt xxxx,xxxx,xxxx --dir C:\pkg
```
2. Input the information of multiple BMC servers and the configuration parameters to a JSON configuration file.

Note: For the JSON configuration file sample, refer to `Sample/multi_task_config.json` in OneCLI binary or “JSON configuration file sample” on page 113.

3. Input the target server BMC password and the SFTP password to the following **multiflash** command in the interactive mode.

```
OneCLI update multiflash --configfile xxxconfig.json --sftp user:pass@ip/xx
```
4. Reflash the multiple server firmware in batch by running the **multiflash** command.

JSON configuration file sample

Following is the JSON configuration file sample for the **multiflash** command:

```

{
//Set the concurrency number, the max value is 50, if more than 50, use 50 as default
"parallel_number": 50,
//Set start task order by order or by random, 0 is for random; none zero is for order by order.
"parallel_order": 1,

// List of credentials to login to the servers BMC
"bmc_credential":
{
// Use an alias to designate a user account, then specify that alias in the "target_bmc" section.
// Such as: "alias_user1@192.168.100.222",
//           "alias_user1@192.168.100.233",
//           "alias_websrv1@websrv1.test.lenovo.com",
// If no alias precedes the BMC address then the "default_alias" is assumed by default.
"default_alias": "USERID",
"alias_user1": "USERID",
"alias_websrv1": "ADMIN"
},

"target_bmc": [
//By default use "default_user" from bmc_credential or will use the user specified which defined in bmc_credential
"192.168.1.99",
"alias_user1@192.168.1.100",
"[2002:97b:c2bb:830:42f2:1001:1001:[10ee-10ef]]"
// Target bmc address using format:
// "127.0.0.1:5989"
// "127.0.0.[1-5]"
// "127.0.[2-3].[1-2]"
// "127.0.0.1", "127.0.0.2:5989"
// "[2002:97b:c2bb:830:42f2:1001:1001:ab30]"
// "[2002:97b:c2bb:830:42f2:1001:1001:ab30]:5989"
// "[2002:97b:c2bb:830:42f2:[1001-1002]:1001:[1fe0-1fe1]]"
// "user2@www.host.name"
// "www.host.name:5988"
],
"sftp_credetial": "root",
"sftp_host": "192.168.1.121"
}

```

Collecting system inventory data remotely through BMC

To collect the system inventory data (including BMC FFDC) for troubleshooting, a single OneCLI command is required.

To generate HTML report of full inventory data of a server from a Windows OS remotely, see the following sample command:

```
OneCli.exe inventory getinfor --ffdc --htmlreport --bmc userid:password@host
```

Viewing and changing the setting value of a remote server through BMC

To view the current value of setting **IMM.SSH_Enable**, see the following sample command:

```
OneCli.exe config show IMM.SSH_Enable --bmc userid:password@host
```

To change the value of setting **IMM.SSH_Enable** to **Enabled**, see the following sample command:

```
OneCli.exe config set IMM.SSH_Enable Enabled --bmc userid:password@host
```

Collecting all system inventory data by double-clicking the OneCLI binary

Users can collect all inventory (including FFDC) on windows by double-clicking the OneCLI binary (the format is: *.exe file). The default output is: %SystemDrive%\Lenovo_Support.

Note: For Linux operating systems, the default output is: /var/log/Lenovo_Support.

Chapter 12. ASU, DSA, and UXSPi proxy tools

Lenovo XClarity Essentials OneCLI provides three proxy tools serving as the command line translator, which accepts ASU/DSA/UXSPi commands and then invokes corresponding OneCLI commands. The proxy tools are distributed together with OneCLI binary. They are `asu.exe`, `dsa.exe`, and `uxspi.exe`.

The topics in this section provide detailed information about how proxy tools maps ASU, DSA, and UXSPi command to XClarity Essentials OneCLI command.

ASU proxy tool

The ASU proxy tool is an executable binary that accepts ASU command syntax and invokes the corresponding OneCLI command.

ASU proxy tool syntax

```
asu.exe [command] [-parameter]
```

For more information about ASU, refer to:

<https://datacentersupport.lenovo.com/us/en/solutions/Invo-asu>

The following table lists commands and parameters used by the ASU proxy tool and the corresponding XClarity Essentials OneCLI commands and parameters.

Table 86. ASU commands and parameters

ASU Command	ASU parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
show	-n	show	node
	--host --user --password		--bmc user:pwd@host
	--group		The mapped result for <code>asu show --group BMC</code> is <code>OneCli show BMC</code> . The --group parameter is removed in the XClarity Essentials OneCLI command string.
showvalues	-n	showvalues	--node
	--host --user --password		--bmc user:pwd@host
	--group		The mapped result for <code>asu show --group BMC</code> is <code>OneCli show BMC</code> . The --group parameter is removed in the XClarity Essentials OneCLI command string.
showdefault	-n	showdefault	--node
	--host --user --password		--bmc user:pwd@host
	--group		The mapped result for <code>asu show --group BMC</code> is <code>OneCli show BMC</code> . The --group parameter is removed in the XClarity Essentials OneCLI command string.

Table 86. ASU commands and parameters (continued)

ASU Command	ASU parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
comparedefault	-n	comparedefault	--node
	--host --user --password		--bmc user:pwd@host
showgroups	-n	showgroups	--node
	--host --user --password		--bmc user:pwd@host
set	-n	set	--node
	--host --user --password		--bmc user:pwd@host
loaddefault	-n	loaddefault	--node
	--host --user --password		--bmc user:pwd@host
creatuuid	--host --user --password	creatuuid	--bmc user:pwd@host
delete	-n	delete	--node
	--host --user --password		--bmc user:pwd@host
save		save	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host
	--group		The mapped result for asu show --group BMC is OneCli show BMC. The --group parameter is removed in the XClarity Essentials OneCLI command string.
replicate		replicate	The --file parameter is added by default.
	--host --user --password		--bmc user:pwd@host
restore		restore	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host
batch		batch	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host
generate		generate	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host
export		export	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host

Table 86. ASU commands and parameters (continued)

ASU Command	ASU parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
import		import	The --file parameter is added by default.
	-n		--node
	--host --user --password		--bmc user:pwd@host
deletecert	-n	deletecert	--node
	--host --user --password		--bmc user:pwd@host
nodes	--host --user --password	nodes	--bmc user:pwd@host
help	-n	showdes	--node
	--host --user --password		--bmc user:pwd@host

Example of an ASU script using the --group parameter

```
asu.exe show --group GROUP1
```

Example of an ASU script using the --host parameter

```
asu.exe help all --host host --user userid --password password
```

In this example, the asu.exe **--host** parameter maps to:

```
OneCli.exe config showdes --bmc userid:password@host
```

DSA proxy tool

The DSA proxy tool is an executable binary that accepts DSA command syntax and invokes the corresponding OneCLI command.

DSA proxy tool syntax

```
dsa.exe [-parameter] [file]
```

For more information about DSA, refer to:

<https://datacentersupport.lenovo.com/us/en/solutions/Invo-dsa>

The DSA parameters table lists DSA parameters used by the DSA proxy tool and the corresponding XClarity Essentials OneCLI commands and parameters.

Table 87. DSA parameters

DSA parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
i	formatlog	srcdata
d	getinfor	output
diags		diags
disable-bmc-lan		disable-bmc-lan

Table 87. DSA parameters (continued)

DSA parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
no-bmc-lan		no-bmc-lan
h, ?, help		help
ipmi-lan		bmc
t		upload
upload		upload
v		htmlreport
text		Not supported
vmware-esxi		esxi
ffdc		ffdc
hldc		hldc
html		output
[--proxy-address=addr]		--proxy user:pwd@addr:port
[--proxy-port=port]		
[--proxy-user=user]		
[--proxy-password=pwd]		

Notes about the dsa command parameters

- The DSA **i** parameter maps to the XClarity Essentials OneCLI **formatlog** command.
- All other DSA parameters map to the XClarity Essentials OneCLI **getinfor** command.

The DSA script examples table provides examples of DSA scripts and the XClarity Essentials OneCLI commands and parameters they map to.

Table 88. DSA script examples

DSA script	XClarity Essentials OneCLI command and parameters
dsa.exe -i test_file -d C:\onecli\	OneCli inventory formatlog --srcdata test_file --output C:\onecli\
dsa.exe -upload --proxy-address=addr --proxy-port=port --proxy-user=user -proxy-password=pwd	OneCli inventory getinfor --output C:\Lenovo_Support\ --proxy user:pwd@addr:port --upload multitool
dsa.exe -v --ffdc	OneCli inventory getinfor --ffdc --htmlreport --output C:\Lenovo_Support\

Example of a DSA script using the -upload parameter

```
dsa.exe -upload --proxy-address=addr --proxy-port=port --proxy-user=user
- proxy-password=pwd
```

This is the output generated from this example:

Lenovo Dynamic System Analysis<C> Copyright Lenovo Corp. 2004-2015.

<c> Copyright IBM Corp. 2004-2015. All Rights Reserved.

Call command: OneCli inventory getinfor --output

C:\Lenovo_Support\ --proxy user:pwd@addr:port --upload multitool

UXSPi proxy tool

The UXSPi proxy tool is an executable binary that accepts UXSPi command syntax and invokes the corresponding OneCLI command.

UXSPi proxy tool syntax

uxspi.exe [command] [-parameter]

For more information about UXSPi, refer to:

<https://datacentersupport.lenovo.com/us/en/solutions/Invo-xpress>

The following table lists commands and parameters used by the UXSPi proxy tool and the corresponding XClarity Essentials OneCLI commands and parameters.

Table 89. UXSPi commands and parameters

UXSPi Command	UXSPi parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
acquire	--check -update	acquire	Not supported.
	-l UXSP-path, --local=UXSP-path		--dir UXSP-path
	m <i>type</i> , --machine-type= <i>type</i>		--mt <i>type</i>
	--meta-only		--metaonly
	-o <i>operating-system</i> , --os= <i>operating-system</i>		--ostype <i>operating-system</i>
	-L, --latest		--scope <i>latest</i>
	-i <i>update-id</i> , --id= <i>update-id</i>		--includeid <i>update-id</i> Note: Must be used with --scope individual.
	-r, --report		--report
	--proxy-address= <i>address</i>		--proxy <i>url</i>
	--proxy-port= <i>port</i>		
	--proxy-user= <i>user</i>		
	--proxy-password= <i>password</i>		
	--proxy-password-secure= <i>secure-password</i>		Not supported.
	--no-proxy		Empty
--preview-user= <i>user</i>	Not supported.		

Table 89. UXSPi commands and parameters (continued)

UXSPi Command	UXSPi parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
	--preview-password= <i>password</i>		Not supported.
	--preview-password-secure= <i>secure-password</i>		Not supported.
	--xml		--xml
	--vmware-esxi-update= <i>4.1/5.0</i>		Not supported.
	--include-software		Not supported.
compare	-F, --firmware	compare	--type fw
	-D, --drivers		--type dd
	--include-software		Not supported.
	-f update-ids, --force= <i>update-ids</i>		--forceid <i>update-ids</i>
	-s update-ids, --select= <i>update-ids/all/undetected</i>		Not supported.
	-l UXSP, --local=UXSP		-- dir UXSP
	-n, --new		Not supported.
	-e update-ids, --exclude= <i>update-ids</i>		--excludeid <i>update-ids</i>
	-i update-ids, --include= <i>update-ids</i>		--Includeid <i>update-ids</i>
	--ignore-undetected= <i>update-ids</i>		Not supported.
	-L, --latest		-- scope latest
	--remote= <i>remote_address</i>		Not supported.
	--remote-user= <i>user</i>		Not supported.
	--remote-password= <i>password</i>		Not supported.
	--remote-password-secure= <i>secure-password</i> New		Not supported.
	--remote-dir=directory		Not supported.
	--noinventory		Not supported.
	-o, --linuxoverride= <i>update-ids</i>		--forceid <i>update-ids</i> Note: B the -f and -o parameters in UXSPi map to --forceid.
	--nouxsp		Not supported.
	-r, --report		Not supported.
	--tui		Not supported.
	--timeout= <i>time</i>		Not supported.
	--xml		Not supported.
	--disable-imm-lan		Not supported.

Table 89. UXSPi commands and parameters (continued)

UXSPi Command	UXSPi parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
	--vmware-esxi= <i>url</i>		--esxi <i>url</i>
	--host= <i>IMM_IP_Address</i>		--bmc <i>url</i>
	--update-args="IMM: --user= <i>userid</i> --password= <i>pwd</i> ,UEFI:--backup"		
	--esxi-updatefile		Not supported.
	-m <i>type</i> , --machine-type= <i>type</i>		--mt <i>type</i>
	--ignore-mtos-check		Not supported.
update	-F, --firmware	update	--type fw
	-D, --drivers		--type dd
	--include-software		Not supported.
	-f <i>update-ids</i> , --force= <i>update-ids</i>		--forceid <i>update-ids</i>
	-s <i>update-ids</i> , --select= <i>update-ids/all/undetected</i>		Not supported.
	-l UXSP, --local=UXSP		-- dir UXSP
	-n, --new		Not supported.
	-e <i>update-ids</i> , --exclude= <i>update-ids</i>		--excludeid <i>update-ids</i>
	-i <i>update-ids</i> , --include= <i>update-ids</i>		--Includeid <i>update-ids</i>
	--ignore-undetected= <i>update-ids</i>		Not supported.
	-L, --latest		-- scope latest
	--remote= <i>remote_address</i>		Not supported.
	--remote-user= <i>user</i>		Not supported.
	--remote-password= <i>password</i>		Not supported.
	--remote-password-secure= <i>secure-password</i> New		Not supported.
	--remote-dir= <i>directory</i>		Not supported.
	--noinventory		Not supported.
	-o, --linuxoverride= <i>update-ids</i>		--forceid <i>update-ids</i> Note: B the -f and -o parameters in UXSPi map to --forceid.
	--nouxsp		Not supported.
	-r, --report		Not supported.
	--tui		Not supported.
	--timeout= <i>time</i>		Not supported.
	--xml		Not supported.

Table 89. UXSPi commands and parameters (continued)

UXSPi Command	UXSPi parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
	--disable-imm-lan		Not supported.
	--vmware-esxi= <i>url</i>		--esxi <i>url</i>
	--host= <i>IMM_IP_Address</i>		--bmc <i>url</i>
	--update-args="IMM: --user= <i>userid</i> --password= <i>pwd</i> ,UEFI:--backup"		
	--esxi-updatefile		Not supported.
	--ignore-req		--noreq
	--ignore-hwcheck		Not supported.
	-m <i>type</i> , --machine-type= <i>type</i>		--mt <i>type</i>
	--ignore-mtos-check		Not supported.
bc (Scan commands)	-s, --scan	bc (Scan commands)	scan
	--mm-address= <i>address</i>		--cmm <i>url</i>
	--mm-user= <i>user</i>		
	--mm-password= <i>password</i>		
	--mm-password-secure= <i>secure-password</i>		Not supported.
bc (CMM update commands)	-m --mm	bc (CMM update commands)	Not supported. UXSPi needs input update file names, while XClarity Essentials OneCLI needs input package IDs. The IDs and files names cannot match, so the proxy tool will not transfer these commands.
	--mm-address= <i>address</i>		
	--mm-user= <i>user</i>		
	--mm-password= <i>password</i>		
	--mm-password-secure= <i>secure-password</i>		
	--mm-file= <i>file1</i>		
	--mm-file2= <i>file2</i>		
--mm-force			
bc (I/O-module update commands)	-i, --io	bc (I/O-module update commands)	Not supported. UXSPi needs input update file names, while XClarity Essentials OneCLI needs input package IDs. The IDs and files names cannot match, so the proxy tool will not transfer these commands.
	--mm-address= <i>address</i>		
	--mm-user= <i>user</i>		
	--mm-password= <i>password</i>		
	--mm-password-secure= <i>secure-password</i>		
	--io-bay= <i>bayID</i>		
	--io-user= <i>user</i>		
	--io-password= <i>password</i>		
--io-password-secure= <i>secure-password</i>			

Table 89. UXSPi commands and parameters (continued)

UXSPi Command	UXSPi parameter	XClarity Essentials OneCLI command	XClarity Essentials OneCLI parameter
	--io-file= <i>file1</i>		
	--io-file2= <i>file2</i>		

Example of an UXSPi proxy

```
/uxspi up -u -l ./ -i elx-lnvgy_fw_fc_16a-lp16-11.0.270.24-1_linux_32-64 -L -e all
```

Where the translated command is:

```
/OneCli update flash --dir ./ --scope individual --includeid elx-lnvgy_fw_fc_16a-lp16-11.0.270.24-1_linux_32-64
```

Chapter 13. Troubleshooting and support

Use this section to troubleshoot and resolve problems with Lenovo XClarity Essentials OneCLI.

General limitations

XClarity Essentials OneCLI has the following known general limitations.

The `glibc.i686` and `glibc-locale` libraries are required to load shared libraries

If the `glibc.i686` and `glibc-locale` libraries are not installed, you might receive the following error when attempting to load a shared library: `OneCli error while load shared libraries: libstdc++.so.6: cannot open shared object: no such file or directory.`

XClarity Essentials OneCLI uses BMC Lan over USB which uses "169.254.95. xx" network by default

The default setting for BMC Lan-over-USB is "169.254.95.xx". If the "169.254.95.xx" network is used for another application, such as Oracle RAC, running OneCli will change the network route table, which can cause the other application to behave unexpectedly. In this case, set the IP address in the "BMC Ethernet over USB IP Settings" section of the BMC Web page to a non-conflict IP address so that OneCli will use this IP address to connect to BMC.

OneCLI might print warning message when Broadcom CIM provider v17.0.5 or older installed on a customized the VMware ESXi system

If you have a Broadcom CIM provider v17.0.5 or older installed on a customized the VMware ESXi system, you will see the following warning message in the log file: `You have a Broadcom CIM provider v17.0.5 or older installed in your system. Broadcom CIM Provider versions older than 17.0.5 is not recommended to use for Firmware Update. If you want to update Firmware, install the latest ESXi patch.`

ASU, DSA, and UXSPi proxy tool limitations

The limitations listed in this section are specific to the ASU, DSA, and UXSPi proxy tools.

XClarity Essentials OneCLI only supports calling ASU, DSA, and UXSPi proxy tool from the directory in which the XClarity Essentials OneCLI executable exists

Calling the XClarity Essentials OneCLI using the ASU, DSA, or UXSPi proxy tool only functions when called from the directory containing the OneCli executable. For example, if the OneCLI and ASU executables are both in the folder `/software/onecli/tmp`, the command will run when calling the proxy tool from the folder `/software/onecli/tmp # ./asu show --host host --user userid --password password`; however, the command will fail when calling it from another folder, such as `/software/onecli# ./tmp/asu show --host host --user userid --password password`.

Config limitations

The limitations listed in this section are specific to the config application.

It is recommended not to use OneCli config on configuration with LSI adapters

It is recommended not to use OneCli config on configuration with LSI adapters because it is difficult to do settings on LSI adapters and it may impact the RAID controller.

XClarity Essentials OneCLI shows failure to set BMC to shared mode but actually it succeeds

Using the XClarity Essentials OneCLI config command to set "BMC.SharedNicMode" to "SharedOption_1" results in the error message "The SET command execute failure;" however, the configuration change is successful and the network interface of the BMC is changed to shared mode.

XClarity Essentials OneCLI succeeds executing loaddefault but fails to show the setting on SLES 11 and SLES 12

When users run the XClarity Essentials OneCLI config command to load default values for all settings, the result shows that loaddefault executes, but fails to show the settings on SLES 11 and SLES 12.

Not valid configuration settings are not saved

Some initial values for settings are not valid as defined in the XML and are not saved.

Restarting the BMC for config values to take effect

For some settings to take effect, you might have to restart the BMC. You might also need to restart the BMC for any values that are set through the OneCLI config application and displayed in the BMC Web interface.

Some Flex System settings cannot be set with null string

For some Flex Systems, the IMM.IMMInfo_Contact, IMM.IMMInfo_Location, and IMMInfo_RoomId settings cannot be set with the value of *null string*.

Some settings might not match their default values

When using the **comparedefault** command, some settings might not match their default values, even though the **loaddefault** command was run before the **comparedefault** command.

OneCLI config might fail to get the set result

After the OneCLI config application sets some BMC network settings, it could cause a BMC connection section reset or an IP address change, resulting in the config application failing to get the set result.

OneCLI config needs a local user to connect to BMC on Flex System

Due to the security design, Flex System has two types of user accounts:

LDAP user (CMM user)

LDAP users are available for Web, CLI, and CIM interfaces.

local user (BMC user)

local users are available for IPMI and SNMPv3 interfaces

OneCLI config does not restore/replicate some settings from the saved file

When running command restore and replicate of OneCLI config, you could meet the following actions:

- Filter some settings to restore because the value is empty.
- Skip some settings for this type of command. For example, VPD settings for command restore.
- Ignore some settings which can't be found on the target system.

OneCLI does not translate 1/0 to True/False for suppress-if sentence in the output of command showvalues

A DC cycle is mandatory for any setting change (except those related to BMC/IMM) to take effect after user run OneCLI to change that setting.

Inventory limitations

The limitations listed in this section are specific to the inventory application.

The value of DIMM serial number shown by the XClarity Essentials OneCLI is inconsistent with the serial number shown by the BMC Web application (Retain tip 95884)

The DIMM serial number shown by XClarity Essentials OneCLI is not in the same byte order as the serial number shown by the BMC. For example, the DIMM serial number displays as 441B13BD on the BMC Web page, which corresponds to the 4 byte sequence 44 1B 13 BD, while in the XClarity Essentials OneCLI the DIMM serial number is displayed as BD131B44, with a byte sequence of BD 13 1B 44.

XClarity Essentials OneCLI shows the volumes' layout and status unknown on windows 2012 series OS

The XClarity Essentials OneCLI shows the volume layout and status as unknown for Windows 2012 series operating systems when the partition type is static. Since the XClarity Essentials OneCLI will attempt to read the LDM (logical disk management) data from the Windows operating system for these properties, and LDM was deprecated in favor of Storage Spaces for Windows 8 and Windows 2012, the XClarity Essentials OneCLI shows an unknown status for these two properties of a static disk.

Cache Enable information might be inaccurate

Information about Level 1, 2, 3 Cache Enable might be inaccurate

Common tables with instances from multiple data sources may have blank fields

If there is no data for a particular field, the field is blank. This situation is most often encountered in common tables containing instances from multiple data sources.

Dates fall outside the valid date range for XClarity Essentials OneCLI

When XClarity Essentials OneCLI collects dates and times that are before January 1, 1970, 00:00:00, or after January 19, 2038, 03:14:07, XClarity Essentials OneCLI reports these dates and times as January 1, 1970, 00:00:00. These dates fall outside the valid date range for XClarity Essentials OneCLI.

Extended collection times

If you encounter extended collection times, it might be helpful to disconnect external devices temporarily. For example, unplug fiber cables or additional USB devices where information about these devices is not essential to the data collection.

Intel Ethernet controller is displayed as Not Available

The description about the Intel Ethernet controller is displayed as Not Available on the Network Settings page under RHEL6.

Memory speed reported as Unknown in the Memory section of the Hardware Information report

XClarity Essentials OneCLI might report the memory speed as *Unknown* in the Memory section of the Hardware Information report, which is caused by the issues with SMBIOS support on some systems.

XClarity Essentials OneCLI is displayed as Unknown in the item PartitionSubType

XClarity Essentials OneCLI is displayed as Unknown in the item PartitionSubType in the Disk Information table on the Hardware Inventory page when the HDD is in the GUID Partition Table (GPT) format on UEFI systems.

QLogic utility limitation

Due to a QLogic utility limitation for QLogic 8 Gb FC Dual-port HBA, Option 42D0510, the QLogic information about the Hardware Inventory page is not collected on Red Hat Enterprise Linux 6 Update 2 (RHEL 6.2).

XClarity Essentials OneCLI displays the manufacturer of a SATA hard disk as ATA in the Physical Drive Information table

When an LSI RAID controller connects with a SATA hard disk, XClarity Essentials OneCLI displays the manufacturer of the hard disk as ATA in the Physical Drive Information table.

XClarity Essentials OneCLI shows incorrect core numbers for System x3850 X5 dual node configuration

On System x3850 X5 dual node configuration, XClarity Essentials OneCLI shows incorrect core numbers (always show one core) for processors on the second node (CPU5-8).

Upload through a proxy server on Windows shall meet some specific system configuration requirements

On a Windows operating system when trying to run the **upload** command or **getinfor** command with the **--upload** option through a proxy server by specifying **--proxy** option, turn off **check for server certificate revocation (requires restart)** from the **Tools → Internet Options → Advanced → Security** menu.

OneCLI does not show slot number for some PCI devices sometimes on Linux Operating systems

Route information in network settings, and video controllers and video heads in hardware inventory are absent on SLES 15.

The Init Configuration item is blank in inventory logs on SLES 12 and SLES 15.

If the HTML page is formatted from the XML report created by earlier versions of OneCLI, the Windows logs will not be displayed in the HTML page of OneCLI V2.3.0.

Update limitations

The limitations listed in this section are specific to the update application.

Notes:

- For update limitations relating to the Lenovo UpdateXpress System Pack Installer, see limitations listed in the UXSPi documentation at: <https://datacentersupport.lenovo.com/docs/LNVO-XPRSUG>
- To download packages from IBM Web site through proxy, ensure that the proxy server can access domain www.ibm.com and www-03.ibm.com for Windows operating systems and IP address 207.25.252.197 and 129.42.160.51 for Linux operating systems.

Specific command needed to install ESXi6.0u2, ESXi6.0U3, ESXi6.5

The ESXi6.0u2 software bundle must be installed using the following command:

```
esxcli software vib install --maintenance-mode -d file:///<dir>/<zip_file_name>
```

Where:

- <dir> is the directory where the CIM zip file is stored (for example, /var/tmp/)
- <zip_file_name> is the name of the zip file, using the form lenovo_extension_lnv-xxx-offline_bundle.zip

Note: After the installation is complete, restart ESXi when prompted.

After installing ESXi, system requires 15 minutes to initialize

To prevent XClarity Essentials OneCLI errors when first restarting a system after ESXi has been installed, wait approximately 15 minutes for the system to initialize before performing any operations.

All XClarity Essentials OneCLI paths must use standard English-language alphanumeric characters

All XClarity Essentials OneCLI paths specified for the --dir or --output parameters must use standard English-language alphanumeric characters: and must not include spaces, special characters, or non-English-language characters.

64-bit Linux requires 32-bit compatible libraries to update firmware

To update firmware with the XClarity Essentials OneCLI on 64-bit Linux operating systems, the 32-bit compatibility library (compat-libstdc++) must be installed. Use the following command to see if this library is installed:

```
rpm -qa grep compat-libstdc++-296
```

The XClarity Essentials OneCLI update function does not support tape drives

The update function does not support the tape device driver firmware scan, compare, or flash functions.

XClarity Essentials OneCLI does not support firmware updates for LAN-over-USB bridged network ports

The XClarity Essentials OneCLI does not support firmware updates for systems where LAN-over-USB ports are bridged by bridge network ports.

For example, on a SLES11 XEN system, there might be network ports, such as the br0 (bridge) port, eth0 (Ethernet controller) port, and usb0 (LAN-over-USB) port. If the usb0 port is bridged by the br0 port, the XClarity Essentials OneCLI is unable to flash any firmware on the system due because it is unable to establish a CIM connection when the usb0 port is bridged by the br0 port. To solve this problem, the usb0 port must be manually removed from the bridged devices list of br0. To edit the bridged devices List of br0 on SLES systems, run the yast2 command at a command prompt to display the Network Card Setup GUI window; then, select **Network Bridge br0** and click **Edit**. In the next configuration

window, uncheck the usb0 selection and save the configuration; then, restart the system to use the XClarity Essentials OneCLI to update the system firmware.

Some SND switches restart after firmware update

For SND switches that have multi-image updates, such as the CN4093 or EN2092 switches, the switch firmware shall be active after firmware update, causing the switch to restart automatically. The XClarity Essentials OneCLI "--noreboot" parameter will not prevent these switches from restarting after firmware upgrade.

User must verify presence of configuration file

The XClarity Essentials OneCLI uses a third-party library to parse the configuration file. Users must verify that the configuration file (global.config or IBM_systems_list.txt) is in the OneCLI binary file, that is in UTF-8 encoded format.

XClarity Essentials OneCLI does not restore USB LAN IP configuration

The XClarity Essentials OneCLI will not restore the USB LAN IP configuration (usb0 or usb1) after firmware update. The update process changes the USB LAN Device IP address to one that will connect to BMC, making the origin USB LAN IP address not valid.

XClarity Essentials OneCLI does not support the VMware ESXi 5.1.

XClarity Essentials OneCLI **openssl** command is not compatible with ESXi **openssl** command.

OneCLI OOB can only flash OOB enabled packages that now is indicated by pldmSupport or oobSupport tag in package xml for OOB enabled Adapters.

OneCLI cannot flash xfw of IMM2 system in a host OS when the ipmi service of the host is not available.

If "IMM.LanOverUsb" is set to "Disabled", OneCLI cannot update IB xfw because OneCLI flashes the xfw through USB LAN device.

OneCLI cannot compare matrox video driver.

ESXI 6.5: IMM is unresponsive after updating firmware by using OneCLI.

OneCLI cannot update the core firmware in host when the IP address in network conflicts with the local USB LAN IP (default IP: 169.254.95.118).

Fail to update flex switch or CMM firmware in OneCLI when the SFTP server password contains special characters.

OneCLI cannot compare Intel Driver Pack versions for the non-ThinkSystem servers.

Intel Driver Pack only releases the package for the ThinkSystem servers after 2017. Therefore, from V2.1.0, OneCLI only supports to compare the Intel Driver Pack versions for the ThinkSystem servers. However, Intel Driver Pack releases a build for the non-ThinkSystem servers in 2018.

If the server XCC firmware is not the latest version, OneCLI might fail to update the M.2 & NVMe Adapter firmware in host.

OneCLI cannot update the M.2 & NVMe Adapter firmware in host when there are conflicts between the network IP and the local USB LAN IP (default IP: 169.254.95.118).

Even the "mtrox-lnvgy_dd_video_4.11.0_rhel7_x86-64" driver package only supports RHEL7.3, this driver package will be displayed in RHEL7.4/RHEL7.5 of OneCLI.

The latest version of the "mtrox-lnvgy_dd_video_4.11.0_rhel7_x86-64" driver package is in the in-box driver of OS. However, users might still see this driver package in RHEL7.4/RHEL7.5. When users flash this driver package in RHEL7.4/RHEL7.5, a message will be displayed, showing that this driver package is in the latest version.

When HDD/SSD is connected to the RAID controller in the OOB mode, OneCLI does not support to scan or compare the HDD/SSD firmware.

OneCLI might delay displaying the firmware update progress.

If OneCLI frequently checks the firmware update progress, BMC will be busy. Now OneCLI supports to check the firmware update progress every 10 seconds. Therefore, the firmware update progress might not be displayed in real time. For example, when OneCLI shows that the progress of updating UEFI is 43%, the actual update progress might be 100%, and the system can be powered off.

Return codes

XClarity Essentials OneCLI issues a return code to indicate either successful execution of a command or to indicate that an error occurred while the program was running. A return code of zero indicates that the operation was successful, and a nonzero return code indicates an error.

To determine whether any errors occurred and when based on the associated timestamp, refer to one of the following log files:

- For Windows, review the `C:\Lenovo_Support\onecli.log` file.
- For Linux, review the `/var/log/Lenovo_Support/onecli.log` file.

The XClarity Essentials OneCLI return code tables provide a complete list of all return codes.

Table 90. XClarity Essentials OneCLI common return codes

Return code	Decimal base	Description
0x00	0	Success.
0x01	1	Generic failure.
0x03	3	Invalid application.
0x04	4	Invalid command.
0x05	5	Invalid parameter.
0x06	6	Local file does not exist.
0x07	7	Invalid file.
0x08	8	Failed to create directory.
0x09	9	Failed to open file.
0x0A	10	Failed to read file.
0x0B	11	Failed to write file.
0x0C	12	Authentication failed.
0x0D	13	Connection failed.
0x0E	14	Ping failed.
0x0F	15	Upload failed.
0x10	16	Download failed.
0x11	17	Internal error.
0x12	18	Time-out.
0x13	19	Failed to get XCC account through KCS.
0x14	20	You are running on an IBM system. Do not use proxy tool in onecli extract path when set the executable binary of legacy ToolsCenter path in global.config.
0x15	21	LAN-over-USB device is disabled on BMC side. Enable it manually.

Table 90. XClarity Essentials OneCLI common return codes (continued)

Return code	Decimal base	Description
0x16	22	The BMC default internal IP conflicts with external machine. Correct the problem, and try again.
0x17	23	Failed to restart host system.
0x18	24	Failed to restart BMC.
0x19	25	Platform error.
0x1a	26	<ul style="list-style-type: none"> For windows servers, LAN-over-USB device is not detected.. For linux servers, some tools are not installed, including lsub,lsmod,and modprobe.
0x1b	27	Failed to get driver information
0x1c	28	Failed to get machine type.
0x1e	30	Internal error of BMC.
0x1f	31	Failed to find applicable hardware component.
0x20	32	Failed to load LAN-over-USB device driver.
0x21	33	<p>For windows servers: Failed to run commands without root permission. Switch to root user and try again.</p> <p>For linux servers: Failed to run commands without administrator permission. Switch to administrator user and try again.</p>
<p>Notes: This table can be used with the following specific return codes based on your needs.</p> <ol style="list-style-type: none"> 1. See Table 91 “XClarity Essentials OneCLI Config-related Return Codes” on page 134 for specific configuration-related return codes. 2. See Table 92 “XClarity Essentials OneCLI Update-related Return Codes” on page 135 for specific update-related return codes. 3. See Table 93 “XClarity Essentials OneCLI FFDC-related Return Codes” on page 136 for specific FFDC-related return codes. 4. See Table 94 “XClarity Essentials OneCLI raid-related Return Codes” on page 136 for specific raid-related return codes. 5. See Table 95 “XClarity Essentials OneCLI diags-related Return Codes” on page 137 for specific diags-related return codes. 6. See Table 96 “XClarity Essentials OneCLI FoD-related Return Codes” on page 137 for specific FoD-related return codes. 		

Table 91. XClarity Essentials OneCLI Config-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7D	125	Failed to get information.
0x7C	124	Failed to set setting items.
0x7B	123	Failed to generate/export/import/delete certification.

Table 91. XClarity Essentials OneCLI Config-related Return Codes (continued)

Return code	Decimal base	Description
0x7A	122	Failed to reconnect to BMC after the command is executed successfully. You could try another method to check the result.
0x79	121	One or more commands are not valid in the batch file.
0x78	120	Failed to show the instance setting. The instance should be created at first.
0x77	119	Invalid value for set command.

Table 92. XClarity Essentials OneCLI Update-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7d	125	Skip updating this package.
0x7c	124	Update does not take effect after successful flash.
0x7b	123	Current BMC version does not support this package. Upgrade BMC to the latest version and try again.
0x7a	122	Failed to update because this package does not support current method.
0x79	121	Failed to update because this device does not support current method.
0x78	120	The candidate update is older than the allowed minimum version.
0x77	119	Current BMC setting disallows downgrade.
0x76	118	Device error.
0x75	117	Another update in progress.
0x74	116	Failed to prepare update environment.
0x73	115	BMC RDOC space not enough. Remove other mounted device from BMC RDOC.
0x72	114	Failed to set up BMU environment.
0x71	113	Failed to boot into Maintenance Mode OS.
0x70	112	Failed to acquire.
0x6f	111	Unsupported OS.
0x6e	110	Failed to get OS type by using the scan command.
0x6d	109	No package needs update.
0x6c	108	UXSPI does not support the current command run in the IBM system.
0x6b	107	Update blue not supported.
0x6a	106	Failed to run UXSPI. For more information about the error, see UXSPI logs.

Table 92. XClarity Essentials OneCLI Update-related Return Codes (continued)

Return code	Decimal base	Description
0x69	105	Failed to update flash because the error backup does not support the update.
0x68	104	Invalid or unsupported machine type.
0x67	103	Update error: Flash finished running, however multiple packages failed to be flashed. Check flash status xml for further information.
0x66	102	You are running on an IBM system. Ensure that UXSPI_PATH is set to the executable binary of UXSPI in global config.
0x65	101	Update error: Failed to generate common_result.xml.
0x64	100	Update not found.
0x63	99	No applicable update available in the Repository for the specified machine type or OS.
0x62	98	Failed to connect to the Repository.
0x61	97	Unrecoverable error.
0x60	96	Failed to download some update packages.

Table 93. XClarity Essentials OneCLI FFDC-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7D	125	Download SMM FFDC error: setup environment failed.
0x7C	124	Download SMM FFDC error: start dump failed.
0x7B	123	Download SMM FFDC error: query failed.
0x7A	122	Download SMM FFDC error: tar ffdc files failed.
0x79	121	Download SMM FFDC error: tftp server is not found.
0x78	120	FFDC log is uploaded to the specified FTP/TFTP server, but fails to download FFDC log from FTP/TFTP server.
0x77	119	Failed to get FFDC log.

Table 94. XClarity Essentials OneCLI raid-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7D	125	Ensure that the command of RAID configuration runs on the ThinkSystem server with the latest XCC firmware version.
0x7C	124	The target device does not exist.
0x7B	123	RAID config has no config to save.
0x7A	122	RAID config ini file error.

Table 94. XClarity Essentials OneCLI raid-related Return Codes (continued)

0x79	121	RAID config fails to operate.
0x78	120	There are no volumes. Add volumes at first.
0x77	119	The operation fails on some targets.
0x76	118	There are no controllers.
0x75	117	The operation fails on all targets.
0x74	116	RAID config does not support this command on M.2 SSD.
0x73	115	There are no disks of the target device.
0x72	114	Disk state error.
0x71	113	Current system does not support Intel RSTe software RAID.
0x70	112	There are no containers.

Table 95. XClarity Essentials OneCLI diags-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7D	125	Failed to trigger diags.
0x7C	124	Failed to get status of diags.
0x7B	123	Failed to get result file.

Table 96. XClarity Essentials OneCLI FoD-related Return Codes

Note: For the return codes not covered in the following table, refer to Table 90 “XClarity Essentials OneCLI common return codes” on page 133.

Return code	Decimal base	Description
0x7D	125	FoD key file is not valid.
0x7C	124	Specified machine type or serial number is not valid.
0x7B	123	FoD key file is not found.
0x7A	122	FoD key is not found from target key repository.
0x79	121	FoD key ID is not valid.
0x78	120	Active key exists in KMS Web site.
0x77	119	Authentication code does not exist.
0x76	118	Unique identifier is not valid.
0x75	117	Failed to Install the FoD key.
0x74	116	Failed to uninstall the FoD key.
0x73	115	Failed to export the FoD key.
0x72	114	Failed to report the FoD key.
0x71	113	Failed to get current tier.

Table 97. Mapping table of return codes between OneCLI V2.3.0 and OneCLI V2.4.0

V2.3.0		V2.4.0	
Return code/ decimal base	Description	Return code/ decimal base	Description
0x00/0	Success.	0x00/0	Success.
0x01/1	Invalid command.	0x04/4	Invalid command.
0x02/2	Generic failure.	0x01/1	Generic failure.
0x03/3	XML file is missing.	0x06/6	Local file does not exist.
0x04/4	Restart OS Failure.	0x17/23	Failed to restart host system.
0x05/5	Failed to connect.	0x0D/13	Failed to connect.
0x06/6	Platform error.	0x19/25	Function not supported on target system.
0x07/7	Input xml file format error.	0x07/7	The file is not valid.
0x08/8	OPEN DLL FAILURE.	0x11/17	Internal error.
0x09/9	GET NULL POINTER.	0x11/17	Internal error.
0x0A/10	NO INTERFACE FOUND.	0x11/17	Internal error.
0x0B/11	RETURN INVALID RESULT.	0x11/17	Internal error.
0x0C/12	Unknown exception.	0x01/1	Generic failure.
0x0D/13	Invalid parameter.	0x05/5	Invalid parameter.
0x0E/14	Local file does not exist.	0x06/6	Local file does not exist.
0x0F/15	Failed to create directory.	0x08/8	Failed to create directory.
0x10/16	Failed to read or write file.	0x09/9	Failed to open file.
0x11/17	Ping BMC failed.	0x0E/14	Ping failed.
0x12/18	Fail to get XCC account through KCS.	0x13/19	Fail to get XCC account through KCS.
0x13/19	<ul style="list-style-type: none"> BMC Lan Over USB device driver is not detected (for windows). Miss some tools, such as: lsusb, lsmod, and modprobe (for linux). 	0x1A/26	<ul style="list-style-type: none"> LAN-over-USB device is not detected. Make sure that RNDIS is correctly installed (for windows). LAN-over-USB device is not detected. Make sure that following tools are installed: lsusb, lsmod, and modprobe (for linux).
0x14/20	No package needs update.	0x6E/110	No package needs update.
0x15/21	You are running on a blue system. Do not use proxy uxspi in onecli extract path when set the executable binary of UXSPI path in global.config.	0x14/20	You are running on a blue system. Do not use proxy uxspi in onecli extract path when set the executable binary of UXSPI path in global.config.
0x16/22	Authentication with BMC failed.	0x0C/12	Authentication failed.
0x17/23	Authentication failed by FTP server.	0x0C/12	Authentication failed.
0x18/24	Fail to create directory or put file in FTP server: No such file or directory, or permission denied for the specified user name.	0x0F/15	Upload failed.

Table 97. Mapping table of return codes between OneCLI V2.3.0 and OneCLI V2.4.0 (continued)

0x19/25	LXCE has no enable permission. Enable BMC Lan Over USB device manually.	0x15/21	LAN-over-USB device is disabled on BMC side. Enable it manually.
0x1A/26	Fail to upload data to specified FTP server.	0x0F/15	Upload failed.
0x1B/27	Fail to connect through IPMI.	0x0D/13	Failed to connect.
0x1C/28	Ping CMM failed.	0x0E/14	Ping failed.
0x1D/29	Fail to get driver information.	0x01/1	Generic failure.
0x1E/30	Fail to get machine type.	0x01/1	Generic failure.
0x1F/31	Fail to get firmware information.	0x01/1	Generic failure.
0x20/32	Fail to read inventory XML.	0x0A/10	Failed to read file.
0x21/33	Fail to write inventory XML.	0x0B/11	Failed to write file.
0x22/34	Fail to write inventory HTML.	0x0B/11	Failed to write file.
0x23/35	UXSP xml do not exist. Check the UXSP package.	0x06/6	Local file does not exist.
0x24/36	Time-out.	0x12/18	Time-out.
0x60/96	Failed to run the command.	0x01/1	Generic failure.
0x61/97	Failed to get information.	0x7D/125	Failed to get information.
0x62/98	Failed to set the setting items.	0x7C/124	Failed to set the setting items.
0x63/99	Failed to open the file.	0x09/9	Failed to open file.
0x64/100	Failed to read the file.	0x0A/10	Failed to read file.
0x65/101	Failed to write the file.	0x0B/11	Failed to write file.
0x66/102	Failed to generate/export/import/delete certification.	0x7B/123	Failed to generate/export/import/delete certification.
0x67/103	Failed to reconnect to BMC after the command is executed successfully. You could try another method to check the result.	0x7A/122	Failed to reconnect to BMC after the command is executed successfully. You could try another method to check the result.
0x68/104	One or more commands are not valid in the batch file.	0x79/121	One or more commands are not valid in the batch file.
0x69/105	Failed to show the instance setting. The instance should be created at first.	0x78/120	Failed to show the instance setting. The instance should be created at first.
0x6A/106	Invalid value for set command.	0x77/119	Invalid value for set command.
0x40/64	Update error: Acquire command failed.	0x01/1	Generic failure.
0x41/65	Update error: Scan command failed.	0x01/1	Generic failure.
0x42/66	Update error: Query command failed.	0x01/1	Generic failure.
0x43/67	Update error: Compare command failed.	0x01/1	Generic failure.
0x44/68	Update error: Flash command failed.	0x01/1	Generic failure.

Table 97. Mapping table of return codes between OneCLI V2.3.0 and OneCLI V2.4.0 (continued)

0x45/69	Update error: File related error occurred, see log/xml for more information.	0x0B/11	Failed to write file.
0x46/70	Update error: CIM service fails. See log/xml for more information.	0x01/1	Generic failure.
0x47/71	Update error: There is something wrong with the device. See log/xml for more information.	0x78/120	Update error: There is something wrong with the device. See log/xml for more information.
0x48/72	Update error: Failed to generate common_result.xml.	0x0B/11	Failed to write file.
0x49/73	Could not get OS type using scan command.	0x6F/111	Failed to get OS type.
0x4A/74	Invalid/unsupported machine type.	0x68/104	No applicable update available on the repository for specified machine-type/ OS.
0x4B/75	Invalid/unsupported OS.	0x70/112	Current Operating System is not supported.
0x4C/76	Authentication failed, unable to validate userid/password.	0x0C/12	Authentication failed.
0x4D/77	Update error: Flash finished running, however multiple packages failed to be flashed. Check flash status xml for more information.	0x0B/11	Failed to write file.
0x4E/78	You are running on an IBM system. Make sure that UXSPI_PATH is set correctly to the executable binary of UXSPI in global.config.	0x72/114	You are running on an IBM system. Make sure that UXSPI_PATH is set correctly to the executable binary of UXSPI in global.config.
0x4F/79	You are running on an IBM system. But the current command is not supported in UXSPI.	0x6D/109	You are running against an IBM system, but the current command is not supported.
0x50/80	Update blue not supported.	0x6D/109	You are running against an IBM system, but the current command is not supported.
0x51/81	UXSPI does not run successfully, to trace error, see log relate to UXSPI.	0x11/17	Internal error.
0x52/82	Update module was not able to write to XML file.	0x0B/11	Failed to write file.
0x53/83	Update flash module failure: failed to run flash with ESXi. See log/xml for more detail information.	0x01/1	Generic failure.
0x54/84	Update flash module failure: failed to run flash with IOSwitch. See log/xml for more detail information.	0x01/1	Generic failure.
0x55/85	Update flash module failure: failed to run flash with CMM Update. See log/xml for more detail information.	0x01/1	Generic failure.
0x56/86	Update flash module failure: failed to run flash with OOB. See log/xml for more detail information.	0x01/1	Generic failure.

Table 97. Mapping table of return codes between OneCLI V2.3.0 and OneCLI V2.4.0 (continued)

0x57/87	Update flash module failure: Error occurred when running xFirmware for inband flash.	0x01/1	Generic failure.
0x58/88	Update flash module failure: Error occurred when running Option Update for inband flash.	0x01/1	Generic failure.
0x5A/90	Update flash failure: Error payload file does not exist.	0x07/7	Local file does not exist. (dynamic message)
0x5B/91	Update flash failure: Error backup does not support.	0x6C/108	Backup bank does not exist.
0x5C/92	The BMC default internal IP conflicts with external machine. Correct the problem, and try again.	0x16/22	The BMC default internal IP conflicts with external machine. Correct the problem, and try again.
0x5E/94	Update flash failure: current BMC does not support internal SFTP for this case.	0x7B/123	Current BMC version does not support this package. Upgrade BMC to the latest version, and try again.
0x5F/95	Update application fails to run.	0x01/1	Generic failure.
0xD0/208	Download SMM FFDC error: setup environment failed.	0x7D/125	Download SMM FFDC error: setup environment failed.
0xD1/209	Download SMM FFDC error: start dump failed.	0x7C/124	Download SMM FFDC error: start dump failed.
0xD2/210	Download SMM FFDC error: query failed.	0x7B/123	Download SMM FFDC error: query failed.
0xD3/211	Download SMM FFDC error: tar ffdc files failed.	0x7A/1222	Download SMM FFDC error: tar ffdc files failed.
0xD4/212	Download SMM FFDC error: upload path does not exist.	0x0F/15	Upload failed.
0xD5/213	Download SMM FFDC error: upload failed.	0x0F/15	Upload failed.
0xD6/214	Download SMM FFDC error: tftp server is not found.	0x79/121	Download SMM FFDC error: tftp server is not found.
0xD7/215	Download SMM FFDC error: time-out.	0x12/18	Time-out.
0xD8/216	Download SMM FFDC error: unknown error.	0x01/1	Generic failure.
0xD9/217	FFDC log is uploaded to the specified FTP/TFTP server, but fails to download FFDC log from FTP/TFTP server.	0x78/120	FFDC log is uploaded to the specified FTP/TFTP server, but fails to download FFDC log from FTP/TFTP server.
0xDA/218	Failed to get FFDC log.	0x77/119	Failed to get FFDC log.
0xB0/176	Raid config fails to operate.	0x7D/125	Raid config fails to operate.
0xB1/177	Raid config ini file error.	0x7C/124	Raid config ini file error.
0xB2/178	Raid config has no config to operate.	0x7B/123	Raid config has no config to operate.
0xB3/179	Raid config does not need make good.	0x7A/122	Raid config does not need make good.

Table 97. Mapping table of return codes between OneCLI V2.3.0 and OneCLI V2.4.0 (continued)

0xB4/180	Raid config does not need make jbod.	0x79/121	Raid config does not need make jbod.
0x34/52	Fail to trigger diags.	0x7D/18	Fail to trigger diags.
0x35/53	Fail to get status of diags.	0x7C/124	Fail to get status of diags.
0x36/54	Fail to get result file.	0x7B/123	Fail to get result file.
0x37/55	Diagnosis time-out.	0x12/18	Time-out.
0x80/128	Failed to run the command.	0x01/1	Generic failure.
0x81/129	The FoD key file is not valid.	0x7D/125	The FoD key file is not valid.
0x82/130	Specified machine type or serial number is not valid.	0x7C/124	Specified machine type or serial number is not valid.
0x83/131	The FoD key file is not found.	0x7B/123	The FoD key file is not found.
0x84/132	Authentication failed.	0x0C/12	Authentication failed.
0x85/133	The FoD key is not found from target key repository.	0x7A/122	The FoD key is not found from target key repository.
0x86/134	The FoD key ID is not valid.	0x79/121	The FoD key ID is not valid.
0x87/135	Active key exists in KMS Web site.	0x78/120	Active key exists in KMS Web site.
0x88/136	Authentication code does not exist.	0x77/119	Authentication code does not exist.
0x89/137	Unique identifier is not valid.	0x76/118	Unique identifier is not valid.
0x8A/138	Failed to install the FoD key.	0x75/117	Failed to Install the FoD key.
0x8B/139	Failed to uninstall the FoD key.	0x74/116	Failed to export the FoD key.
0x8C/140	Failed to export the FoD key.	0x73/115	Fail to export the FoD key.
0x8D/141	Failed to report the FoD key.	0x72/114	Failed to report the FoD key.
0x8E/142	Failed to get current tier.	0x71/113	Failed to get current tier.
0xA0/160	MODULEMANAGER_ERROR	Deprecated	
0xA1/161	MODULEMANAGER_NO_NEWER_UPDATE	Deprecated	
0xA2/162	MODULEMANAGER_XML_PARSE_ERROR	Deprecated	
0xA3/163	MODULEMANAGER_DOWNLOAD_ERROR	Deprecated	
0xA4/164	MODULEMANAGER_INCOMPATIBLE_ERROR	Deprecated	
0xA5/165	MODULEMANAGER_COPY_ERROR	Deprecated	
0xDD/221	Switch does not support EHCM or the CMM build is not supported to check EHCM.	0x76/118	Switch does not support EHCM or the CMM build is not supported to check EHCM.
0xDE/222	Check EHCM time-out because the EHCMState is busy or setting up.	0x12/18	Time-out.
0xDF/223	Reseat failed.	0x01/1	Generic failure.

Appendix A. Accessibility features for XClarity Essentials OneCLI

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products.

Lenovo and accessibility

See the [Lenovo Accessibility](#) Web site for more information about the commitment that Lenovo has to accessibility.

Accessibility

The following list includes the major accessibility features in Lenovo XClarity Essentials OneCLI:

- Can be operated using only the keyboard
- Communicates all information independent of color
- Supports the attachment of alternate output devices
- Provides online documentation in an accessible format

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

The command line interface (CLI) is controlled by the keyboard.

Linux	Windows	Action
Ctrl+C	Ctrl+C	Stop the running OneCLI.

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Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

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