

CLI Tools User's Guide for SPARC Servers



Part No: 821-2058-10
July 2010, Revision A

Copyright © 2010, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related software documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. UNIX is a registered trademark licensed through X/Open Company, Ltd.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Copyright © 2010, Oracle et/ou ses affiliés. Tous droits réservés.

Ce logiciel et la documentation qui l'accompagne sont protégés par les lois sur la propriété intellectuelle. Ils sont concédés sous licence et soumis à des restrictions d'utilisation et de divulgation. Sauf disposition de votre contrat de licence ou de la loi, vous ne pouvez pas copier, reproduire, traduire, diffuser, modifier, breveter, transmettre, distribuer, exposer, exécuter, publier ou afficher le logiciel, même partiellement, sous quelque forme et par quelque procédé que ce soit. Par ailleurs, il est interdit de procéder à toute ingénierie inverse du logiciel, de le désassembler ou de le décompiler, excepté à des fins d'interopérabilité avec des logiciels tiers ou tel que prescrit par la loi.

Les informations fournies dans ce document sont susceptibles de modification sans préavis. Par ailleurs, Oracle Corporation ne garantit pas qu'elles soient exemptes d'erreurs et vous invite, le cas échéant, à lui en faire part par écrit.

Si ce logiciel, ou la documentation qui l'accompagne, est concédé sous licence au Gouvernement des Etats-Unis, ou à toute entité qui délivre la licence de ce logiciel ou l'utilise pour le compte du Gouvernement des Etats-Unis, la notice suivante s'applique :

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

Ce logiciel ou matériel a été développé pour un usage général dans le cadre d'applications de gestion des informations. Ce logiciel ou matériel n'est pas conçu ni n'est destiné à être utilisé dans des applications à risque, notamment dans des applications pouvant causer des dommages corporels. Si vous utilisez ce logiciel ou matériel dans le cadre d'applications dangereuses, il est de votre responsabilité de prendre toutes les mesures de secours, de sauvegarde, de redondance et autres mesures nécessaires à son utilisation dans des conditions optimales de sécurité. Oracle Corporation et ses affiliés déclinent toute responsabilité quant aux dommages causés par l'utilisation de ce logiciel ou matériel pour ce type d'applications.

Oracle et Java sont des marques déposées d'Oracle Corporation et/ou de ses affiliés. Tout autre nom mentionné peut correspondre à des marques appartenant à d'autres propriétaires qu'Oracle.

AMD, Opteron, le logo AMD et le logo AMD Opteron sont des marques ou des marques déposées d'Advanced Micro Devices. Intel et Intel Xeon sont des marques ou des marques déposées d'Intel Corporation. Toutes les marques SPARC sont utilisées sous licence et sont des marques ou des marques déposées de SPARC International, Inc. UNIX est une marque déposée concédée sous licence par X/Open Company, Ltd.

Contents

- Preface5
 - About This Documentation (PDF and HTML)5
 - We Welcome Your Comments5
 - Change History5
- Installing fwupdate CLI Tool7
 - How to Install fwupdate7
- fwupdate Tool Command Syntax and Conventions9
 - CLI Tools Command Syntax9
 - CLI Tools Device-Naming Convention 10
- Using the fwupdateTool 13
 - fwupdate Command-Line Interface 14
 - list Subcommand 15
 - reset Subcommand 16
 - update Subcommand 17
 - Device-Naming Convention 18
 - Execution Summary 18
- Error Codes 21
 - Common Error Codes 21
 - fwupdate Error Codes 22

Preface

This document provides detailed information about how to install and use Hardware Management Pack and its components.

This preface describes related documentation, submitting feedback to Sun, and a document change history.

- “About This Documentation (PDF and HTML)” on page 5
- “We Welcome Your Comments” on page 5
- “Change History” on page 5

About This Documentation (PDF and HTML)

This documentation set is available in both PDF and HTML. The information is presented in topic-based format (similar to online help) and therefore does not include chapters, appendixes or section numbering.

We Welcome Your Comments

We are interested in improving its documentation and welcomes your comments and suggestions. To share your comments, go to <http://docs.sun.com> and click Feedback.

Change History

The following changes have been made to the documentation set.

- June 2010, initial publication.
- July 2010, CLI Tools User's Guide for SPARC Servers published

Installing fwupdate CLI Tool

The fwupdate tool is a utility that enables you to query, update, and validate the firmware of storage devices such as HBA, expanders, and disks on Sun x64 Enterprise servers. For x86 systems, fwupdate is a component of Sun Server CLI Tools (CLI Tools), which provides command-line interface tools that configure Sun servers. For Sun SPARC systems, currently only fwupdate tool is supported.

Solaris SUNWssm fwupdate consists of the following packages:

- Core libraries (Prerequisite packages to be installed first)
 - SUNWssm-storage-libs
 - SUNWssm-arclibs
 - SUNWssm-lsilibs
- SSM fwupdate CLI Tool
 - SUNWssm-fwupdate

You can download the Solaris SUNW-ssm packages with a single tar file named `sparc_ssm.tar.gz`.

See “[How to Install fwupdate](#)” on page 7 for instructions on downloading and installing the SUNW-ssm packages.

▼ How to Install fwupdate

- 1 Download the `sparc_ssm.tar.gz` file.
 - a. Navigate to <http://www.sun.com/systemmanagement/managementtools.jsp>.
 - b. Click on Download Sun Server Hardware Management 2.0 in the Sun Server Hardware Management Pack 2.0 section.
 - c. Select Solaris SPARC from the Platform drop-down menu.
 - d. Click the I agree... box.
 - e. Log into the Oracle download center.

f. Download `sparc_ssm.tar.gz`.

2 Unpack `sparc_ssm.tar.gz` using the following commands:

```
# gzip -d sparc_ssm.tar.gz
# tar xf sparc_ssm.tar
# cd ssm
# tar xf SUNWssm-storage-libs.tar
# tar xf SUNWssm-arclibs.tar
# tar xf SUNWssm-lsilibs.tar
# tar xf SUNWssm-fwupdate.tar
# cd solaris/sparc
```

3 If necessary, remove `SUNWssm` packages using the following command:

```
# pkgrm SUNWssm-storage-libs SUNWssm-arclibs SUNWssm-lsilibs SUNWssm-fwupdate
```

4 Install `fwupdate` `SUNWssm` packages, using the following commands:

```
# pkgadd -d ./SUNWssm-storage-libs.pkg
# pkgadd -d ./SUNWssm-arclibs.pkg
# pkgadd -d ./SUNWssm-lsilibs.pkg
# pkgadd -d ./SUNWssm-fwupdate.pkg
```

5 To show the version number for all `ssm` packages, use the following command:

```
# pkginfo -c sunssm -l
```

6 To make sure that the `fwupdate` application is installed properly, use the following command:

```
# fwupdate list all
```


fwupdate Tool Command Syntax and Conventions

This section describes the common meta syntax to be used by all storage management command-line interface (CLI) tools:

- [“CLI Tools Command Syntax” on page 9](#)
- [“CLI Tools Device-Naming Convention” on page 10](#)

CLI Tools Command Syntax

The CLI tools must conform to one of the following two command syntax formats:

- *command* [*option*]
- *command subcommand target* [*option*]

The following table describes the command fields.

Command Field	Description	Examples
<i>command</i>	The action that you want to perform. Consists of lower-case letters only.	fwupdate
<i>subcommand</i>	Further defines the task to be performed by the <i>command</i> . Generally used as verbs. Consists of lower-case letters, hyphens, or the underscore character. The subcommand is not required when the <code>--version</code> or <code>--help</code> option is used immediately following the command.	list, update, reset , expander-boot-record, sas_bridgefirmware
<i>target</i>	Describes the object or target that is being acted upon by the subcommand. Application specific.	all, disk, expander, bridge, controller

Command Field	Description	Examples
<i>option</i>	Modifies the command or subcommand and can be optional or mandatory depending on the command or subcommand. There are long and short options that have identical functionality and are provided for ease of use: <ul style="list-style-type: none">▪ Short-option is a hyphen followed by a single letter.▪ Long-option is two hyphens followed by a string.	-n or <i>--device_name</i> -f or <i>--filename</i> -r or <i>--reset</i>

The following table shows the options that apply to all CLI tools commands.

Short Option	Long Option	Description
-?	--help	Help—Displays help information.
-V	--version	Version—Displays the tool version.
-q	--quiet	Quiet—Suppresses informational message output and returns only error codes.

When using command options and its corresponding value or device name, you can use an equal sign (=) or a space as shown in the following examples:

- Using a command with spaces:
fwupdate list expander -n c1x0 -v
- Using a command with equal signs (=):
fwupdate list expander -n=c1x0 -v

See also:

- [“CLI Tools Device-Naming Convention” on page 10](#)

CLI Tools Device-Naming Convention

User-friendly, fully qualified device names are used with the CLI commands. The following table shows the single characters that represent all of the nodes that make up the device as follows.

Character	Description
c	Controller — The controller unique logical ID.
d	Disk — The physical disk logical ID name.

Character	Description
x	Expander — The unique expander logical ID name.
j	Chassis — The unique chassis logical ID name.

All integers used to represent the device are 0 based. Disks are represented by a logical ID name, assigned by the tool at initialization. The disks are sorted by expander and slot ID, to come up with a unique numerical identifier. The numbering is sequential.

Here are examples of device names:

- c1 — Controller 1
- c1d2 — Disk with a logical ID 2 on controller 1
- c2r1 — RAID 1 on controller 2

Multiple devices can be listed together in a comma-separated list, for example: dev1,dev2,dev3.

The following shows an implementation of the disk-naming scheme.

ID	Brand	Model	Chassis	Slot	Type	Media	Size (GB)	Firmware Revision
c1d0	SEAGATE	ST373455SSUN72G	0	0	sas	HDD	73	0791
c1d1	SEAGATE	ST35000N	0	1	sata	HDD	500	3AZQ
c1d2	SEAGATE	ST373455SSUN72G	0	2	sas	HDD	73	0B92
c1d3	SEAGATE	ST373455SSUN72G	0	3	sas	HDD	73	0B92
c1d4	SEAGATE	ST35000N	0	4	sata	HDD	500	3AZQ
c1d5	SEAGATE	ST35000N	0	5	sata	HDD	500	3AZQ
c1d6	SEAGATE	ST35000N	0	6	sata	HDD	500	3AZQ
c1d7	SEAGATE	ST373455SSUN72G	0	7	sas	HDD	73	0B92
c1d8	SEAGATE	ST373455SSUN72G	0	8	sas	HDD	73	0B92
c1d9	SEAGATE	ST373455SSUN72G	0	9	sas	HDD	73	0B92
c1d10	SEAGATE	ST35000N	0	10	sata	HDD	500	3AZQ
c1d11	SEAGATE	ST373455SSUN72G	0	11	sas	HDD	73	0B92
c1d12	SEAGATE	ST373455SSUN72G	0	12	sas	HDD	73	0B92
c1d13	SEAGATE	ST373455SSUN72G	0	13	sas	HDD	73	0B92
c1d14	SEAGATE	ST373455SSUN72G	0	14	sas	HDD	73	0B92
c1d15	SEAGATE	ST373455SSUN72G	0	15	sas	HDD	73	0B92
c1d16	SEAGATE	ST373455SSUN72G	0	16	sas	HDD	73	0B92
c1d17	SEAGATE	ST373455SSUN72G	0	17	sas	HDD	73	0B92
c1d18	SEAGATE	ST373455SSUN72G	0	18	sas	HDD	73	0B92
c1d19	SEAGATE	ST373455SSUN72G	0	19	sas	HDD	73	0B92
c1d20	SEAGATE	ST35000N	0	20	sata	HDD	500	3AZQ
c1d21	SEAGATE	ST35000N	0	21	sata	HDD	500	3AZQ
c1d22	SEAGATE	ST35000N	0	22	sata	HDD	500	3AZQ
c1d23	SEAGATE	ST35000N	0	23	sata	HDD	500	3AZQ

c1d24	SEAGATE	ST373455SSUN72G	1	0	sas	HDD	73	0791
c1d25	SEAGATE	ST35000N	1	1	sata	HDD	500	3AZQ
c1d26	SEAGATE	ST373455SSUN72G	1	3	sas	HDD	73	0791
c1d27	SEAGATE	ST35000N	1	4	sata	HDD	500	3AZQ
c1d28	SEAGATE	ST373455SSUN72G	1	5	sas	HDD	73	0791
c1d29	SEAGATE	ST35000N	1	6	sata	HDD	500	3AZQ
c1d30	SEAGATE	ST373455SSUN72G	1	7	sas	HDD	73	0791
c1d31	SEAGATE	ST373455SSUN72G	1	8	sas	HDD	73	0791
c1d32	SEAGATE	ST373455SSUN72G	1	9	sas	HDD	73	0791
c1d33	SEAGATE	ST373455SSUN72G	1	10	sas	HDD	73	0791
c1d34	SEAGATE	ST373455SSUN72G	1	11	sas	HDD	73	0791
c1d35	SEAGATE	ST35000N	1	12	sata	HDD	500	3AZQ
c1d36	SEAGATE	ST373455SSUN72G	1	13	sas	HDD	73	0791
c1d37	SEAGATE	ST373455SSUN72G	1	14	sas	HDD	73	0791
c1d38	SEAGATE	ST35000N	1	15	sata	HDD	500	3AZQ
c1d39	SEAGATE	ST373455SSUN72G	1	16	sas	HDD	73	0791
c1d40	SEAGATE	ST373455SSUN72G	1	17	sas	HDD	73	0791
c1d41	SEAGATE	ST35000N	1	18	sata	HDD	500	3AZQ
c1d42	SEAGATE	ST35000N	1	19	sata	HDD	500	3AZQ
c1d43	SEAGATE	ST35000N	1	20	sata	HDD	500	3AZQ
c1d44	SEAGATE	ST35000N	1	21	sata	HDD	500	3AZQ
c1d45	SEAGATE	ST35000N	1	22	sata	HDD	500	3AZQ
c1d46	SEAGATE	ST35000N	1	23	sata	HDD	500	3AZQ

See also:

- [“CLI Tools Command Syntax” on page 9](#)

Using the fwupdateTool

The fwupdate tool is one of the CLI components of the Sun Server Hardware Management Pack. fwupdate is a cross-OS utility that enables you to query, update, and validate the firmware of storage devices such as HBA, expanders, and disks on Sun servers. fwupdate is supported on Linux, the Solaris OS, and Windows for x86 servers and Solaris OS for SPARC servers.

The fwupdate tool updates a storage component's (SAS controller, SAS expander, disk drive, SAS bridge) firmware images when an update is made to that firmware. The tool displays the inventory of storage components that can be seen by a host and can show all of the available firmware versions.

The fwupdate tool uses a general-purpose cross-OS storage management library to access specific hardware information and provides exploration, monitoring, and configuration of on-board (local disks) and external storage resources (JBODs) connected to the host system.

The fwupdate CLI commands are run on the host machine and supports the target devices. fwupdate supports the following storage subsystems:

- Disk drives (spinning media and Flash drives)
- HBA and embedded storage controllers, SAS1 and SAS2
- LSI SAS expander devices, SAS1 and SAS2

This section covers the following topics:

- [“fwupdate Command-Line Interface” on page 14](#)
- [“list Subcommand” on page 15](#)
- [“reset Subcommand” on page 16](#)
- [“update Subcommand” on page 17](#)
- [“Device-Naming Convention” on page 18](#)
- [“Execution Summary” on page 18](#)

fwupdate Command-Line Interface

Command-line mode is designed to update a single component with a user-specified firmware file.

The following restrictions apply when using the fwupdate command:

- You must be in root permission level to run fwupdate commands on Unix-based platforms, or administrator permission level for Windows platforms.
- Only one device type can be upgraded per command-line execution.
- Only one file type and file may be specified by the command line.
- Components with multiple and different firmware files require a separate command-line execution to be upgraded.

Note – For Solaris, after hot-plugging any device, run the `devfsadm -C` command to reenumerate all of the system device nodes before running the fwupdate command.

When a command fails, it returns one of several failure codes listed in [“fwupdate Error Codes” on page 22](#).

Note – Default (noarg) behavior of the tool lists the help options. Incomplete command-line arguments result in an error, and context-sensitive help is displayed.

The following table shows the options that apply to all CLI tools commands including fwupdate.

Short Option	Long Option	Description
-?	--help	Displays help information.
-v	--version	Displays the tool version.
-q	--quiet	Suppresses informational message output and returns only error codes.

The tool uses the following syntax:

fwupdate *subcommand device_type option*

where *subcommand* is one of the options shown in the following table.

Subcommand	Description
list	Listing mode displays system data and helps select components for upgrade.
update	Update mode allows updating a single component based on command-line directives.
reset	Reset mode allows resetting of individual components.

The preceding subcommands have the options shown in the following table.

Subcommand	Description
- - ?	The help option provides context sensitive help for that subcommand. After every command or subcommand, can you type <code>- - ?</code> or <code>--help</code> to discover the additional available subcommands or options.
- - q	The quiet option outputs the mode with no prompting or stdout reporting. All output goes to a log file.
- - v	The version option prints version information of the tool.

See also:

- [“list Subcommand” on page 15](#)
- [“reset Subcommand” on page 16](#)
- [“update Subcommand” on page 17](#)

list Subcommand

The `list` command displays the version of firmware for all components. You can compare the listed version to the latest release to determine whether your device needs a firmware upgrade.

The `list` options are shown in the following table.

Short Option	Long Option	Description
- n	--device_name	These two subcommands are identical in function. These options must have a mandatory parameter to designate a single device to list. The <code>--device_name</code> option is the common-mapped device name.
- v	--verbose	These two subcommands are identical in function. Displays much more information about each component listed. Verbose is off by default.

The supported *device_type* for the `list` command are:

- all

- disk
- expander
- controller
- bridge

These targets represent all of the supported component types that can be upgraded by this tool. A master list can be created, stored, and printed to inform you about the available targets. Use the `all` option to discover all of the supported targets.

The following are `fwupdate list` command examples:

- **`fwupdate list disk`**
Executes a listing of all the disks on the system.
- **`fwupdate list expander -n c1x0 -v`**
Shows verbose information about the expander mapped to `c1x0`.

See also:

- [“reset Subcommand” on page 16](#)
- [“update Subcommand” on page 17](#)

reset Subcommand

After firmware for a device has been updated, the device might need to be reset. This requirement is different with each device; therefore, the reset functionality might be part of the update procedure or a separate function. To determine if your device requires a reset after a firmware upgrade, consult the release notes of your firmware.

The supported *device_types* for the `fwupdate reset` command are:

- all
- disk
- expander
- bridge
- controller

Options for the update subcommand are shown in the following table.

Short Option	Long Option	Description
-n	--device_name	A mandatory option, with a mandatory parameter, to designate a single device to show. <i>device_name</i> is the common-mapped device name.

The following is a `fwupdate reset` subcommand example. This example resets the disk mapped to `c2d2`.


```
# fwupdate reset disk -n c2d2
```

See also:

- [“list Subcommand” on page 15](#)
- [“update Subcommand” on page 17](#)

update Subcommand

The target set for the update command maps one target to one supported firmware image type that is supported by the tool.

The update subcommand supports the following targets:

- expander-firmware
- expander-boot-record
- expander-manufacturing_image
- expander-fpga
- expander-cpld
- disk-firmware
- sas-bridge-firmware
- controller-firmware
- controller-bios

Only one firmware image and one component can be specified per execution of this command.

Options for the update subcommand are shown in the following table.

Short Options	Long Option	Descriptions
-n	--device_name	A mandatory option, with a mandatory parameter, to designate the device to update. The name is the mapped name, which you can retrieve by using the list command.
-o	--filename filename	A mandatory option, with a mandatory parameter, designating the name of the firmware image file that is to be applied.
-r	--reset	Optional. If designated, the component that is updated is reset after a successful upgrade. This is provided so that reset mode does not have to be entered. If the update fails, the component is not reset.
-d	--dry-run	Optional. Checks all input, executes an available dry-run check command on the firmware and component, but makes no permanent changes.

The following are update command examples:

- fwupdate update disk-firmware -n cld1 -f diskfirmware.file

- `fwupdate update expander-fpga -n c1x2 -f expander.fpga -d -r`

See also:

- [“list Subcommand” on page 15](#)
- [“reset Subcommand” on page 16](#)

Device-Naming Convention

Device naming is shared with other CLI tools based on the storage library.

For a full description of the naming convention, see: [“CLI Tools Device-Naming Convention” on page 10](#).

Execution Summary

After the `fwupdate` tool is used to upgrade firmware, an execution summary provides information on whether or not the upgrade was successful. This information is also written to the log file.

The following are examples of the possible execution summary messages:

- Message printed after successful a dry-run/check function:
Check firmware successful for device: *device_name*
- The upgrade was successful, but no firmware version information is available for this component:
Upgrade of firmware for *device_name* succeeded. Version information was not available.
Consult your product release notes for information on how to verify the upgrade.
- Upgrade was successful:
Upgrade of *device_name* from *old_fw* to *new_fw* succeeded.
- The version number of the software did not change after a successful upgrade:
Upgrade of *device_name* from *old_fw* succeeded, but is not yet active.
This might mean that the machine needs to be reset, or other instructions need to be followed. Consult your product release notes for information on what needs to be done to update the version number.
- Upgrade failed:
Upgrade of *device_name* failed: *error_message*

Where:

- *device_name* is the logical name of the device that is being upgraded.
- *old_fw* is the old firmware version.
- *new_fw* is the new firmware version.
- *error_message* is the error message that explains why the firmware update did not succeed.

See also: [“fwupdate Command-Line Interface” on page 14](#)

Error Codes

This section covers the following topics:

- [“Common Error Codes” on page 21](#)
- [“fwupdate Error Codes” on page 22](#)

Common Error Codes

The following table shows the list of common command error codes for all CLI Tools. Each error code has a string associated with it. The error code is printed to the log file and to the stdout file.

Code Number	Error Description
0	OK.
1	Invalid option.
2	Invalid subcommand.
3	Subcommand not supported.
4	Invalid device format.
5	Cannot create XML file.
6	Cannot read XML file.
7	Cannot retrieve application data.
8	Internal error.
9	Insufficient memory.
10	Invalid boolean argument.
11	Option not supported.
12	Storage init failed.
13	Name too long.

Code Number	Error Description
14	Invalid string after subcommand.
15	XML filename required.
16	Invalid argument.
17	Failure writing XML file.
18	Device is busy, command cannot be completed.

fwupdate **Error Codes**

The following table shows the list of fwupdate command error codes. Each error code has a string associated with it. The error code is printed to the log file and to the stdout file.

Code Number	Error Description
200	Invalid device type.
201	Invalid image type.
202	Invalid device ID.
203	Reset failed.
204	Firmware check failed.
205	Firmware download failed.
206	Component mismatch.
207	No file name.
208	Invalid image file.
209	Cannot reset.
210	Reset mismatch.
211	No device specified.
212	Update canceled.

See also:

- [“Common Error Codes” on page 21](#)