

Dell S6010-ON Networking OS PowerSwitch User Guide

Home » Dell » Dell S6010-ON Networking OS PowerSwitch User Guide 12



S6010-ON Networking OS Power Switch
User Guide

Contents

- 1 S6010-ON Networking OS Power Switch
- **2 Document Revision History**
- 3 Supported Hardware
- **4 Supported Software**
- **5 Restrictions**
- **6 Documentation Corrections**
- 7 Deferred Issues
- 8 Fixed Issues
- 9 Known Issues
- 10 Upgrading the ONIE Package for the S6010-ON System
- 11 Upgrading the DIAG Package for the S6010-ON System
- 12 Installing Dell Networking OS on the S6010-ON using Install ONIE
- 13 Upgrade the S6010-ON Dell Networking OS Image and Boot Code using Dell Networking OS CLI
- 14 Upgrading the CPLD
- 15 Upgrading the CPLD Image
- 16 Uninstalling Dell Networking OS from the S6010-ON
- 17 Support Resources
- 18 Documents / Resources
 - 18.1 References

S6010-ON Networking OS Power Switch

Dell System S6010-ON 9.14(2.14) Release Notes

This document contains information on open and resolved caveats, and operational information specific to the Dell Networking OS software and the S6010-ON platform.

Current Release Version: 9.14(2.14)

Release Date: 2022-04-15

Previous Release Version: 9.14(2.12)

NOTE: This document may contain language that is not consistent with current guidelines of Dell Technologies. There are plans to update this document over subsequent releases to revise the language accordingly.

Incorrect behavior or unexpected caveats are listed as the Problem Report (PR) numbers within the appropriate sections.

For more information on hardware and software features, commands, and capabilities, refer to the Dell Networking website at: https://www.dellemc.com/networking.

Document Revision History

Table 1. Revision History

Date: 2022-04

Description: Initial release.

Supported Hardware

The following hardware is supported with this platform:

Hardware

S6010-ON chassis Thirty-two QSFP+ ports (40 Gbps) Two AC/DC PSUs Five fan subsystems



NOTE: If all the five fan trays are found to be empty or faulty, the system shuts down after one minute.

Supported Software

The following software is supported with this platform:

Software	Minimum Release Requirement
Dell Networking OS	9.14(2.14)
ONIE	3.26.1.0-3

New Dell Networking OS Version 9.14(2.14) Features

The following features are integrated into the Dell Networking 9.14.2 branch through this release: None.

Restrictions

You can use non-Dell qualified cables, adapters, and optics in a S6010-ON switch, but Dell Networking does not guarantee their performance as the S6010-ON does not support non-Dell qualified transceivers of 25G and above. If you insert a non-Dell qualified transceiver of 25G and above into a SFP28, QSFP+, or QSFP28 port, the switch places the interface in an error-disabled (operationally down) state and generates a syslog message, such as: \$S6010LC0640:8 \$IFAGT-2- RANSCEIVER_UNSUPPORTED_ERROR: Transceiver in slot 1 port 49 unrecognized, putting interface in operational-down state.

To verify the error-disabled status of an interface, enter any of the following show commands.

Dell# show inventory media

slot	port	Туре	Media	Serial Number	Dell Qualified
1	49	UNKNOWN	UNKNOWN	USC1D6J	No**
1	50	QSFP	40GBASE-LR4	UQ90CTB	No**
1	51	QSFP	40GBASE-SR4	7503835V009Y	Yes
1	52	QSFP	40GBASE-CR4	10190002	No
1	53	QSFP	40GBASE-SR4	FE2429470007	Yes
1	54	Media not present or accessible			

^{**} Interface is down(error disabled) as transceiver is not Dell Qualified
Dell# show interfaces forty Gig 1/49
forty GigE 1/49 is up, line protocol is down (error-disabled[Transceiver Unsupported])

- Prerequisite steps to upgrade the Dell Networking OS from earlier version to 9.14.2.0 or later:
 - 1. Uninstall the older version of the Open Automation (OA) package
 - 2. Upgrade the Dell Networking OS to 9.14.2.0 or later version
 - 3. Install the following OA packages from the respective upgraded version:
 - a. SmartScripts
 - b. Puppet
 - c. Open management infrastructure (OMI)
 - d. SNMP MIB

Prerequisite steps to downgrade the Dell Networking OS from 9.14.2.0 or later to the earlier version:

- 1. Uninstall the OA package of 9.14.2.0 or later version
- 2. Downgrade the Dell Networking OS to an earlier version
- 3. Install the respective OA package from an earlier version

For more information about installing, uninstalling and upgrading the Dell Networking OS and OA package, refer the respective Dell System Release Notes.

• f you downgrade the Dell Networking OS version from 9.14.2.14 to 9.11.0.0 or any older versions, the system displays the following error message even though there is no functional impact:

CDB boot error: C.cdb file format

Before downgrading, save the current configuration and then remove the CDB files (confd_cdb.tar.gz. version and confd_cdb.tar.gz). Tore move the files, use the following steps:

Dell EMC# write memory

Dell EMC# delete flash://confd_cdb.tar.gz.version

Dell EMC# delete flash://confd cdb.tar.gz

Dell EMC # reload

• While deploying the system in the normal-reload mode in BMP configuration, use the ip ssh server enable

command at the beginning of the startup configuration if the write memory command is used at the end of the configuration.

- REST API does not support AAA authentication.
- The following features are not available in the Dell Networking OS from version 9.7(0.0):
 - PIMECMP
 - Static IGMP join (ip imp static-group)
 - IGMP queried timeout configuration (ip imp queried-timeout)
 - IGMP group join limit (ip imp group join-limit)
- Half-Duplex mode is not supported.
- When FRRP is enabled in aVLT domain, no flavor of Spanning tree should concurrently be enabled on the nodes of that specific VLT domain. In essence FRRP and xSTP should not co-exist in aVLT environment.

Changes to Default Behavior and CL| Syntax

The following behavior and CLI changes are applicable to the S8010-ON switch with Dell Networking OS version 9.14(2.14):

None.

Documentation Corrections

This section describes the errors identified in the current release of the Dell Networking OS.

• The router bgp command allows you to configure only one L3 interface with an IPv4 address. The Configuration guide does not mention this limitation and will be corrected in the next release of the guide.

Deferred Issues

Issues that appear in this section were reported in Dell Networking OS version 9.14(2.0) as open, but have since been deferred.

Deferred caveats are those that are found to be invalid, not reproducible, or not scheduled for resolution. Deferred issues are reported using the following definitions.

Category	Description
PR#	Problem Report number that identifies the issue.
Severity	 81— Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process. 82 — Critical: An issue that renders the system or a major feature unusable, which can have a p ervasive impact on the system or network, and for which there is no work-around acceptable to t he customer. 83 — Major: An issue that affects the functionality of a major feature or negatively effects the net work for which there exists a work-around that is acceptable to the customer. 84 — Minor: A cosmetic issue or an issue in a minor feature with little or no network impact for w hich there might be a work-around.
Synopsis	Synopsis is the title or short description of the issue.
Release Not es	Release Notes description contains more detailed information about the issue.
Work around	Work around describes a mechanism for circumventing, avoiding, or recovering from the issue. I t might not be a permanent solution. Issues listed in the "Closed Caveats" section should not be present, and the work-around is unn ecessary, as the version of code for which this release note is documented has resolved the caveat.

Deferred S6010-ON 9.14(2.0) Software Issues

Issues that appear in this section were reported in Dell Networking OS version 9.14(2.0) as open, but have since been deferred.

Deferred caveats are those that are found to be invalid, not reproducible, or not scheduled for resolution.

The following issues have been deferred in the Dell Networking OS version 9.14(2.0): None.

Fixed Issues

Fixed issues are reported using the following definitions.

Category	Description
PR#	Problem Report number that identifies the issue.
Severity	 81— Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process. 82 — Critical: An issue that renders the system or a major feature unusable, which can have a p ervasive impact on the system or network, and for which there is no work-around acceptable to t he customer. 83 — Major: An issue that affects the functionality of a major feature or negatively effects the net work for which there exists a work-around that is acceptable to the customer. 84 — Minor: A cosmetic issue or an issue in a minor feature with little or no network impact for w hich there might be a work-around
Synopsis	Synopsis is the title or short description of the issue.
Release Not es	Release Notes description contains more detailed information about the issue.
Work around	Work around describes a mechanism for circumventing, avoiding, or recovering from the issue. I t might not be a permanent solution. Issues listed in the "Closed Caveats" section should not be present, and the work-around is unn ecessary, as the version of code for which this release note is documented has resolved the caveat.

Fixed S6010-ON 9.14(2.14) Software Issues

NOTE: Dell Networking OS 9.14(2.14) includes fixes for caveats addressed in the previous 9.14 releases. Refer to the respective release notes documentation for the list of caveats fixed in the earlier 9.14 releases. The following caveats have been fixed in Dell Networking OS version 9.14(2.14):

PR# 1701	PR# 170114		
Severity:	Sev 2		
Synopsis :	The switch experiences memory leaks when processing certain types of packets.		
Release Notes:	The switch experiences memory leaks when processing certain types of packets.		
Workaro und:	None		
PR# 170 232			
Severity:	Sev 2		
Synopsis :	The switch sends deprecated VRRP traps.		
Release Notes:	The switch sends deprecated VRRP traps		
Workaro und:	None		
PR# 170 301			
Severity:	Sev 3		
Synopsis :	The BN mod sqrt () function, which computes a modular square root, contains a bug that can cause it to loop forever for non-prime moduli (CVE-2022-0778).		
Release Notes:	The BN mod sqrt () function, which computes a modular square root, contains a bug that can cause it to loop forever for non-prime moduli (CVE-2022-0778).		
Workaro und:	None		

Known Issues

Known issues are reported using the following definitions.

Category	Description
Severity	 82 — Critical: An issue that renders the system or a major feature unusable, which can have a pervasive impact on the system or network, and for which there is no work-around accepta ble to the customer. 83 — Major: An issue that affects the functionality of a major feature or negatively effects the network for which there exists a work-around that is acceptable to the customer. 84 — Minor: A cosmetic issue or an issue in a minor feature with little or no network impact for which there might be a work-around.
Synopsis	Synopsis is the title or short description of the issue.
Release Notes	Release Notes description contains more detailed information about the issue.
Work around	Work around describes a mechanism for circumventing, avoiding, or recovering from the issue. It might not be a permanent solution. Issues listed in the "Closed Caveats" section should not be present, and the work-around is unnecessary, as the version of code for which this release note is documented has resolved the caveat.

Known S6010-ON 9.14(2.14) Software Issues

The following caveats are open in Dell Networking OS version 9.14(2.14): None

Upgrading the ONIE Package for the S6010-ON System

NOTE: The Dell Networking OS installer package, ONIE-FTOS-SI-ON-9.14.2.14.bin, is required for installing Dell Networking OS on S6000-ON that has only ONIE.

e Zero touch (dynamic): Copy the update ONIE installer for your system to the TFTP/HTTP server. Configure the DHCP options using the ONIE specifications shown at the following link: https://github.com/opencomputeproject/onie/wiki/

Design-Spec-SW-Updating-ONIE.

o Manual: Copy the image onto the TFTP/HTTP servers and boot ONIE. Update the ONIE using the onie-self-update command, then download and run an ONIE updater image (onie-updater-x86_64-dell_s6010_c2538-r0). The supported URL types are: HTTP, FTP, TFTP, and FILE.

To upgrade ONIE, perform the following steps:

1. Reboot the system. During the reboot process, the system displays the following message prompting you to press the Esc key in order to stop the auto-boot process:

Press Esc to stop autoboot ...5

Grub 2.02~beta2 (Dell EMC Inc)

Built by root at ubuntu on Mon_Feb

21 13:43:07_UTC_2022

S6010 Boot Flash Label 3.26.2.10 NetBoot Label 3.26.2.10

2. At this prompt message, press the Esc key. The following menu appears:

Grub 2.02~beta2 (Dell EMC Inc)

Built by root at ubuntu on Mon_Feb

21 13:43:07_UTC_2022

Dell EMC Networking 0S

Dell EMC-Boot Line Interface DIAG-OS

* ONIE

Use the and v keys to select which entry is highlighted.

Press enter to boot the selected 0S, 'f' to boot FTOS, 'b' to go to

BLI, 'o' to boot ONIE, 'd' to boot DIAG-0S, 'e' to edit the commands before booting or 'c' for a command-line.

3. From the menu, choose the ONIE option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The following menu appears:

GNU GRUB version 2.02~beta2+edalfe39l

ONIE: Install OS
ONIE: Rescue
ONIE: Uninstall 0S
*ONIE: Update ONIE

ONIE: Embed ONIE

EDA- DIAG

Use the and v keys to select which entry is highlighted.

Press enter to boot the selected 0S, 'e' to edit the commands before booting or 'c' for a command-line.

4. From this menu, choose the ONIE : Update ONIE option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The ONIE update mode is enabled and the ONIE prompt appears, as shown:

ONIE: ONIE Update Mode version: 3.26.1.0-3

Build Date: 2022-02-21T22:35-0700

Info: Mounting kernel filesystems... done.

Info: Mounting LABEL=ONIE-BOOT on /mnt/onie-boot

Info: Using ethO MAC address: 14:18:77:09:72:00

Info: Using ethl MAC address: 14:18:77:09:72:01

Info: eth0: Checking link... up.

Info: Trying DHCPvV4 on interface: eth

DHCPV4 on interface: ethos failed ONIE: Using default IPv4 addr: ethO:

192.168.3.10/255.255.255.0

Info: ethl: Checking link... down.

ONIE: ethl: link down. Skipping configuration.

ONIE: Failed to configure ethl interface

Starting: drop bear ssh daemon done.

starting: telnetted... done.

discover: ONIE update mode detected. Running updater.

starting: discover... done.

Please press Enter to activate this console. To check the install status inspect /var/log/onie.log.

Try this: tail -f /var/log/onie.log

** ONIE Update Mode Enabled **

ONIE:/# Info: ethO: Checking link... up. Info: Trying DHCPvV4 on interface: eth

ONIE:/#

ONIE:/#

5. At the ONIE prompt, to stop the ONIE discovery process, enter the following command:

ONIE:/# onie-discovery-stop

The ONIE discovery stops, as shown:

discover: ONIE update mode detected.

Stopping: discover... done.

ONIE:/#

6. Configure an interface and assign an IP address to that interface using the following command:

ONIE:/# ifconfig eth0 10.16.133.213/16

7. Enter the following command to upgrade ONIE:

ONIE:/# onie-self-update tftp://<tftp-server-address>/onie-updater-x86 64-s6010 c2538-r0

(i)

NOTE: You must copy the onie-updater-x86 64-s6010 c2538-r0 file to the /t ftpboot folder in the server.

ONIE is updated on the system, as shown:

```
discover: ONIE update mode detected.
Stopping: discover ... done.
ONIE: Executing installer: tftp://10.16.127.35/onie-updater-x86_64-s6010_c2538-r0
Verifying image checksum ... OK.
Preparing image archive ... OK.
ONIE: Version : 3.26.1.0-3
ONIE: Architecture : x86_64
ONIE: Machine : s6010_c2538
ONIE: Machine Rev : 0
ONIE: Config Version: 1
Installing ONIE on: /dev/sda
Rebooting...
ONIE: / # discover: ONIE update mode detected.
Stopping: discover...start-stop-daemon: warning: killing process 541: No such process
 done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 4:0:0:0:[sda] Synchronizing SCSI cache
Restarting system.
machine restart
BIOS (Dell EMC, Inc.) Boot Selector
S6010 3.26.0.0-4
32 port 40G QSFP
POST Configuration
  CPU Signature 406D8
  CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
  Microcode Revision 125
  Platform ID: 0x10041A48
  PMG_CST_CFG_CTL: 0x40006
  BBL CR CTL3: 0x7E2801FF
  Misc EN: 0x840081
  Gen PM Con1: 0x203808
  Therm Status: 0x884E0000
  POST Control=0xEA000303, Status=0xE6009F00
BIOS initializations...
```

CPGC Memtest PASS

To upgrade the DIAG package, use one of the following two processes:

Zero touch (dynamic): Copy the update ONIE installer for your system to the TFTP/HTTP server. Configure the
DHCP options using the ONIE specifications shown at the following link:
https://github.com/opencomputeproject/onie/wiki/

Design-Spec-SW-Updating-ONIE.

• Manual: Copy the image onto the TFTP/HTTP servers and boot ONIE. Update the ONIE using the onie-self-update command, then download and run an ONIE updater image (diag-installer-x86_64-s6010_c 2538-r0.bin). The supported URL types are: HTTP, FTP, TFTP, and FILE.

To upgrade DIAG, perform the following steps:

1. Reboot the system. During the reboot process, the system displays the following message prompting you to press the Esc key in order to stop the auto-boot process:

```
Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC Inc)
Built by root at ubuntu on Mon_Feb_21_13:43:07_UTC_2022
S6010 Boot Flash Label 3.26.2.10 NetBoot Label 3.26.2.10
```

2. At this prompt message, press the Esc key. The following menu appears:

3. From the menu, choose the ONIE option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The following menu appears:

before booting or "c' for a command-line.

4. From this menu, choose the ONIE: Install OS option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key

and press Enter.

The ONIE Installer mode is enabled and the ONIE prompt appears, as shown:

```
GRUB loading.
Version : 3.26.2.10
Build Date: 2022-02-21T18:15-0700
     1.932688] dummy-irq: no IRQ given. Use irq=N
     1.940430] esas2r: driver will not be loaded because no ATTO esas2r devices were
found
     1.982100] mtdoops: mtd device (mtddev=name/number) must be supplied
     3.090824] fmc_write_eeprom fake-design-for-testing-f001: fmc_write_eeprom: no
busid passed, refusing all cards
[ 3.105813] intel_rapl: driver does not support CPU family 6 model 77
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot
Info: Using bond0 MAC address: 14:18:77:09:72:00
Info: Using eth0 MAC address: 14:18:77:09:72:01
Info: Using eth1 MAC address: 14:18:77:09:72:02
Info: Using gretap0 MAC address: 14:18:77:09:72:03
Info: bond0: Checking link... down.
ONIE: bond0: link down. Skipping configuration.
Info: eth0: Checking link ...
ONIE: OS Install Mode ...
ONIE: / #
```

5. At the ONIE prompt, to stop the ONIE discovery process, enter the following command:

ONIE:/# onie-discovery-stop

The ONIE discovery stops, as shown:

```
ONIE:/ # onie-discovery-stop
discover: installer mode detected.
Stopping: discover... done.
ONIE:/ #
```

- 6. Configure an interface and assign an IP address to that interface using the following command:
 - ONIE:/#ifconfig eth0 ip-address/prefix
- 7. Enter the following command to upgrade DIAG on the S6010-ON system: onie-nos-install tftp://<tftp-server-adress>/tftpboot/diag-installer-x86 64-s6010 c 2538-r0.bin
 - **NOTE:** You must copy the diag-installer-x86_64-s6010_c 2538-r0.bin file to the /tftpboot foddering the server.

The DIAG is updated on the system, as shown:

```
Diag OS Installer Mode : UPDATE
EDA-DIAG dev is /dev/sda3
Mounted /dev/sda3 on /tmp/tmp.s2FebQ
Update mode: Copying rootfs.....
Preparing /dev/sda3 EDA-DIAG for rootfs install
untaring into /tmp/tmp.s2FebQ
rootfs copy done
Success: Support tarball created: /tmp/tmp.s2FebQ/onie-support.tar.bz2
INSTALLER DONE ...
Removing /tmp/tmp.OITwcP
ONIE: NOS install successful: tftp://10.16.127.35/diag-installer-x86 64-s6010 c2538-
r0.bin
ONIE: Rebooting ...
ONIE: / # discover: installer mode detected.
Stopping: discover...start-stop-daemon: warning: killing process 3051: No such process
done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
The system is going down NOW!
Sent SIGTERM to all processes
```

Installing Dell Networking OS on the S6010-ON using Install ONIE

NOTE: You will need the Dell Networking OS installer package, ONIE-FTOS-S6010-9.14.2.1 4. b i n to install the Dell Networking OS on your S6010-ON system that has only ONIE. To install the Dell Networking OS version 9.14(2.14) on a new S6010-ON device, perform the following steps:

1. Reboot the system. During the reboot process, the system displays the following message prompting you to press the Esc key in order to stop the auto-boot process:

```
Press Esc to stop autoboot ... 5

Grub 2.02~beta2 (Dell EMC Inc)

Built by root at ubuntu on Mon_Feb_21_13:43:07_UTC_2022

S6010 Boot Flash Label 3.26.2.10 NetBoot Label 3.26.2.10
```

2. At this prompt message, press the Esc key. The following menu appears:

3. From the menu, choose the O N I E option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The following menu appears:

4. From this menu, choose the ONIE: InstallOS option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The ONIE Installer mode is enabled and the ONIE prompt appears, as shown:

```
ONIE: OS Install Mode ...
Version : 3.26.1.0-3
Build Date: 2022-02-21T18:15-0700
     1.932721] dummy-irq: no IRQ given. Use irq=N
1.940473] esas2r: driver will not be loaded because no ATTO esas2r devices were
     1.968421] mtdoops: mtd device (mtddev=name/number) must be supplied
     3.074656] fmc_write_eeprom fake-design-for-testing-f001: fmc_write_eeprom: no
busid passed, refusing all cards
[ 3.089624] intel_rapl: driver does not support CPU family 6 model 77 Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot
Info: Using bond0 MAC address: 14:18:77:09:72:00
Info: Using eth0 MAC address: 14:18:77:09:72:01
Info: Using eth1 MAC address: 14:18:77:09:72:02
Info: Using gretap0 MAC address: 14:18:77:09:72:03
Info: bond0: Checking link... down.
ONIE: bondO: link down. Skipping configuration.
Info: eth0: Checking link...up.
Info: Trying DHCPv4 on interface: eth0
    50.826993] random: nonblocking pool is initialized
Warning: Unable to configure interface using DHCPv4: eth0
ONIE: Using default IPv4 addr: eth0: 192.168.3.10/24
ONIE: Using link-local IPv4 addr: eth0: 169.254.193.218/16
Info: eth1: Checking link ...
down.
ONIE: ethl: link down. Skipping configuration.
Info: gretap0: Checking link...
down.
ONIE: gretap0: link down. Skipping configuration.
ONIE: Failed to configure bond0 interface
ONIE: Failed to configure eth1 interface
ONIE: Failed to configure gretap0 interface
Starting: dropbear ssh daemon... done.
```

```
Starting: telnetd... done.
Installing for i386-pc platform.
/proc/devices: No entry for device-mapper found
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd12).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd12).
/proc/devices: No entry for device-mapper found
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd12).
/proc/devices: No entry for device-mapper found
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd12).
/proc/devices: No entry for device-mapper found
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, qpt7, bsd12).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd4).
grub-install: warning: Discarding improperly nested partition (hostdisk//dev/
sda, gpt7, bsd12).
Installation finished. No error reported.
discover: installer mode detected. Running installer.
Starting: discover... done.
Please press Enter to activate this console. To check the install status inspect
/var/log/onie.log.
Try this: tail -f /var/log/onie.log
** Installer Mode Enabled **
ONIE:/ #
ONIE: / #
```

5. At the ONIE prompt, to stop the ONIE discovery process, enter the following command:

ONIE: / # onie - discovery - stop

The ONIE discovery stops, as shown:

```
ONIE:/ # onie-discovery-stop
discover: installer mode detected.
Stopping: discover... done.
ONIE:/ #
```

6. Configure an interface and assign an IP address to that interface using the following command:

ONIE:/# ifconfig eth0 10.16.133.213/16

7. Enter the following command to begin the installation process:

ONIE:/# onie-nos-install tftp://<tftp-server-address>/ONIE-FTOS-S6010-9.14.2.14.bin

NOTE: You must copy the ONIE-FTOS-S6010-9.14.2.14.bin file to the /tftpboot folder in the server.

NOTE: After the Dell Networking OS installation completes, the system automatically reboots.

Following is the installation and boot log of Dell Networking OS:

```
ONIE:/ # onie-nos-install tftp://10.16.127.35/ONIE-FTOS-S6010-9.14.2.14.bin discover: installer mode detected. Stopping: discover... done.
```

```
Info: Fetching tftp://10.16.127.35/ONIE-FTOS-S6010-9.14.2.14.bin ...
ONIE-FTOS-S6010-9-14 100% | **
                                                                    105M 0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.35/ONIE-FTOS-S6010-9.14.2.14.bin
Verifying image checksum ... OK.
Preparing image archive from /var/tmp/installer ... Done.
Verifying Product Platform ..
Product Name : S6010-ON
Image Platform : FTOS-S60
                        : FTOS-S6010
Image File
                       : FTOS-S6010-9.14.2.14.bin
Image Compatibility : Verified
Verifying MAC Address...
MAC Address is Configured
Image Platform
                        : FTOS-S6010
Deleting Extra partitions... Done.
Creating New partitions... Done.
Creating Hybrid MBR... Done.
Mouting /dev/sda4,/dev/sda5 and /dev/sda6... mkfs.fat 3.0.26 (2022-02-21) mkfs.fat 3.0.26 (2022-02-21)
mkfs.fat 3.0.26 (2022-02-21)
mkfs.fat 3.0.26 (2022-02-21)
Done.
Installing GRUB on /dev/sda4...Done.
Copying Images... Done.
ONIE: NOS install successful: tftp://10.16.127.35/ONIE-FTOS-S6010-9.14.2.14.bin
ONIE: Rebooting ...
ONIE: / # discover: installer mode detected.
Stopping: discover...start-stop-daemon: warning: killing process 3045: No such process
 done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL to[ 353.152000] sd 4:0:0:0: [sda] Synchronizing SCSI cache [ 353.553722] reboot: Restarting system
  353.559160] reboot: machine restart
```

8. After the installation completes, the system displays the following DELL prompt:

DelIEMC#

Upgrade the S6010-ON Dell Networking OS Image and Boot Code using Dell Networking OS CLI

Bare Metal Provisioning

NOTE: If you are using Bare Metal Provisioning (BMP), see the Bare Metal Provisioning topic in the Dell Networking OS

Configuration Guide or the Open Automation Guide.

Manual Upgrade Procedure

Follow these steps carefully to upgrade your S6010-ON systems:

- 1. Dell Networking recommends that you back up your startup configuration and any important files and directories to an external media prior to upgrading the system.
- 2. Upgrade the Dell Networking OS in flash partition A: or B:

EXEC Privilege Mode

upgrade system [flash: | ftp: stack-unit <1-6> | tftp: | scp: | usbflash:] [A: | B:]

3. Verify that the Dell Networking OS has been upgraded correctly in the upgraded flash partition.

EXEC Privilege Mode show boot system stack-unit [1-6] | all]

```
DellEMC#show boot sys stack-unit all

Current system image information in the system:

Type Boot Type A B

stack-unit 1 FLASH BOOT 9.14(2.14)[boot] 9.14(2.12)

stack-unit 2 is not present.

stack-unit 3 is not present.

stack-unit 4 is not present.

stack-unit 5 is not present.

stack-unit 6 is not present.

DellEMC#
```

4. Upgrade the S6010-ON Boot Flash and Boot Selector images.

EXEC Privilege Mode

upgrade boot [all | bootflash-image | bootselector-image] stack-unit [1-6 | all] [booted | flash: | ftp: | scp: | tftp: | usbflash:

The Boot Flash and Boot Selector images can be upgraded together by selecting all in the command. If you want to upgrade Boot Flash image or Boot Selector image separately, use the bootless-image or the boots elector-image options separately. Use the booted option to upgrade the Boot flash and Boot Selector images to the image versions packed with the loaded Dell Networking OS image. You can find the Boot Flash and Boot Selector image versions packed with the loaded Dell Networking OS using the show os-version command in the EXEC PRIVILEGE mode. Dell #upgrade boot all stack-unit 1 booted

```
DellEMC#show os-version

RELEASE IMAGE INFORMATION:

Platform Version Size ReleaseTime
S-Series:S6010 9.14(2.14) 72268454 Feb 21 2022 08:40:03

TARGET IMAGE INFORMATION:

Type Version Target checksum runtime 9.14(2.14) Control Processor passed

BOOT IMAGE INFORMATION:

Type Version Target checksum boot flash 3.26.2.10 Control Processor passed

BOOTSEL IMAGE INFORMATION:

Type Version Target checksum boot selector 3.26.0.0-4 Control Processor passed

FPGA IMAGE INFORMATION:

Card FPGA Name Version Stack-unit 1 S6010-ON SYSTEM CPLD 12 stack-unit 1 S6010-ON MASTER CPLD 5 DellEMC#

DellEMC#Upgrade boot bootflash-image stack-unit 1 tftp: Address or name of remote host []: 10.16.127.35
```

```
Destination file name []: FTOS-S6010-9.14.2.14.bin
00:09:22 : Discarded 1 pkts. Expected block num : 51. Received block num: 50
Current Boot information in the system:
_____
 Card
                    BootFlash Current Version New Version
                   Boot Flash 3.26.2.7 3.26.2.10
 Unit1
   * Warning - Upgrading boot flash is inherently risky and should only *
   * be attempted when necessary. A failure at this upgrade may cause
    a board RMA. Proceed with caution !
Proceed upgrade Boot Flash image for stack-unit 1 [yes/no]: yes
Bootflash image upgrade for stack-unit 1 completed successfully.
DellEMC#
DellEMC#upgrade boot bootselector-image stack-unit 1 tftp:
Address or name of remote host []: 10.16.127.35
Destination file name []: FTOS-S6010-9.14.2.14.bin
00:12:07 : Discarded 1 pkts. Expected block num : 51. Received block num: 50
Current Boot information in the system:
BootSelector Current Version New Version
                Boot Selector 3.26.0.0-3 3.26.0.0-4
 Unit1
   * Warning - Upgrading boot selectors is inherently risky and should * only be attempted when necessary. A failure at this upgrade may *
   * cause a board RMA. Proceed with caution !
Proceed upgrade Boot Selector image for stack-unit 1 [yes/no]: yes
11111111111111111111
Bootselector image upgrade for stack-unit 1 completed successfully.
```

5. Change the Primary Boot Parameter of the S6010-ON to the upgraded partition A: or B:

CONFIGURATION Mode

boot system stack-unit 1 primary system: [A: | B: | tftp: | ftp:]

6. Save the configuration so that the configuration will be retained after a reload using write memory command.

EXEC Privilege Mode write memory

```
DellEMC#write memory
!
Feb 21 14:36:18: %STKUNIT1-M:CP %FILEMGR-5-FILESAVED: Copied running-config to startup-config in flash by default
DellEMC#
```

7. Reload the unit.

EXEC Privilege Mode

reload

```
Command : reload

Mode : EXEC PRIVILEGE

DellEMC#reload

Proceed with reload [confirm yes/no]: y
```

8. Verify that the ONIE has been upgraded to the Dell Networking OS version 9.14(2.14).

EXEC Privilege Mode

show version

```
DellEMC#show version
Dell EMC Real Time Operating System Software
Dell EMC Operating System Version: 2.0
Dell EMC Application Software Version: 9.14(2.14)
Copyright (c) 1999-2021 by Dell EMC Inc. All Rights Reserved.
Build Time: Mon Feb 21 11:00:02 2022
Build Path: /build/build02/SW/SRC
Dell EMC Networking OS uptime is 1 minute(s)

System image file is "system://A"

System Type: S6010-ON
Control Processor: Intel Rangeley with 3 Gbytes (3181780992 bytes) of memory, core(s)
4.

16G bytes of boot flash memory.

1 32-port TE/FG (S6010)
32 Forty GigabitEthernet/IEEE 802.3 interface(s)
DellEMC#
```

9. Verify that the ONIE has been upgraded to the latest Boot Flash and Boot Selector images.

EXEC Privilege Mode

show system stack-unit [1-6]

```
DellEMC#show system stack-unit 1
-- Unit 1 --
Unit Type
                        : Management Unit
                        : online
Status
Next Boot
                         : online
Required Type
                        : S6010-ON - 32-port TE/FG (S6010)
Current Type
                        : S6010-ON - 32-port TE/FG (S6010)
                         : 0
Master priority
Hardware Rev
                         : 2.0
Num Ports
                         : 128
Up Time
                         : 16 min, 17 sec
Dell EMC Networking OS Version: 9.14(2.14)
Jumbo Capable : yes
POE Capable
                         : no
FIPS Mode
                        : disabled
Boot Flash
                        : 3.26.2.10
Boot Selector
                         : 3.26.0.0-4
Memory Size
                        : 3177156608 bytes
                         : 28C
Temperature
Voltage
                         : ok
Serial Number
                        : NA
                        : 0YVCK0
: DG
Part Number
                                    Rev X01
Vendor Id
                        : 30102018
Date Code
Country Code
                        : TW
                        : TW-0YVCK0-28298-61J-0014
: X01
Piece Part ID
PPID Revision
Service Tag
                        : N/A
Expr Svc Code
                         : 0
                        : disabled
Auto Reboot
Burned In MAC
                        : 14:18:77:09:d9:80
No Of MACs
-- Power Supplies -- Unit Bay Status Type FanStatus FanSpeed InPwr AvgInPwr AvgInPwrStartTime
1 1 absent absent 0 0 N/A
1 2 up AC up 14752 61 54 02/21/2022-02:42
-- Fan Status --
Unit Bay TrayStatus Fan1
                           Speed
                  up 10780
up 10780
up 10780
up 10780
up 10780
    1 up
1
    2
         up
1
          up
    4
         up
1
1
    5
Speed in RPM
DellEMC#
```

Upgrading the CPLD

The S6010-ON system with Dell Networking OS Version 9.14(2.14) requires System CPLD revision 12, Master CPLD revision 12, and Slave CPLD revision 5.

Verify that a CPLD upgrade is required

Use the following command to identify the CPLD version:

```
DelleMC# show revision

-- Stack unit 1 -- S6010-ON SYSTEM CPLD : 12

S6010-ON MASTER CPLD : 12

S6010-ON SLAVE CPLD : 5
```

Use the following command to view the CPLD version that is associated with the Dell Networking OS image:

```
Dell#show os-version

RELEASE IMAGE INFORMATION:

Platform Version Size ReleaseTime
S-Series:S6010 9.14(2.14) 67659844 Feb 21 2022 11:26:55

TARGET IMAGE INFORMATION:

Type Version Target checksum passed

BOOT IMAGE INFORMATION:

Type Version Target checksum passed

BOOT IMAGE INFORMATION:

Type Version Target checksum passed

BOOTSEL IMAGE INFORMATION:

Type Version Target checksum passed

BOOTSEL IMAGE INFORMATION:

Type Version Target checksum passed

FPGA IMAGE INFORMATION:

Card FPGA Name Version Stack-unit 1 S6010-ON SYSTEM CPLD 12 stack-unit 1 S6010-ON MASTER CPLD 12 stack-unit 1 S6010-ON SLAVE CPLD 5

DellEMC#
```

Upgrading the CPLD Image

NOTE: The upgrade fpga-image stack-unit

1 booted command is hidden when using the FPGA Upgrade feature in the CLI. However, it is a supported command and will be accepted when entered as documented.

NOTE: Ensure that the BIOS version is 3.26.0.0-4. You can verify this version using show system stack-unit 1 command.

To upgrade the CPLD image on S68010-ON, follow these steps.

1. Upgrade the CPLD image.

EXEC Privilege Mode upgrade fpga-image stack-unit booted

```
DellEMC#upgrade fpga-image stack-unit 1 booted
Current information for the system:
 Card
                  Device Name Current Version
                                           New Version
______
     S6010-ON SYSTEM CPLD
S6010-ON MASTER CPLD
                                      12
12
Unit1
                                                   12
Unit1
            S6010-ON SLAVE CPLD
                                        5
Unit1
  * Warning - Upgrading FPGA is inherently risky and should
    only be attempted when necessary. A failure at this upgrade may
    cause a board RMA. Proceed with caution !
Upgrade image for stack-unit 1 [yes/no]: yes
FPGA upgrade in progress!!! Please do NOT power off the unit!!!
1111111111111111111111111111
Upgrade result :
_____
Unit 1 FPGA upgrade successful Unit 1. Please power cycle to take effect.
DellEMC#Feb 21 14:50:41: %S6010-ON:1 %DOWNLOAD-6-FPGA UPGRADE: stack-unit 1 fpga
upgrade success.
```

- 2. Power cycle the system physically. Switch off the system by unplugging the power chords from the REAR PSUs and wait until the PSU FAN-REAR STATUS LED is completely OFF.
 - NOTE: Do not switch on the system with PSU-REAR LED glowing AMBER.

You can alternatively power cycle the switch using the power-cycle stack-unit <1-6> command as follows:

```
DellEMC#power-cycle stack-unit 1
Proceed with power-cycle? Confirm [yes/no]:yes
```

3. The CPLD version can be verified using show revision command output:

EXEC Privilege Mode

show revision

```
DellEMC#show revision

-- Stack unit 1 -- S6010-ON SYSTEM CPLD : 12

S6010-ON MASTER CPLD : 12

S6010-ON SLAVE CPLD : 5
```

Uninstalling Dell Networking OS from the S6010-ON

To uninstall the Dell Networking OS version 9.14(2.14) from the S6010-ON device, perform the following steps:

1. Reboot the system. During the reboot process, the system displays the following message prompting you to press the Esc key in order to stop the auto-boot process:

```
Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC)
Built by root at ubuntu on Mon_Feb_21_13:43:07_UTC_2022
S6010 Boot Flash Label 3.26.2.10 NetBoot Label 3.26.2.10
```

2. At this prompt message, press the Esc key. The following menu appears:

3. From the menu, choose the ONIE option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The following menu appears:

4. From this menu, choose the ONIE: Uninstall OS option.

NOTE: To choose an option from the menu, highlight one of the options using the up or down arrow key and press Enter.

The uninstall process begins. Following is the log generated by the system while Dell Networking OS 9.14(2.14) uninstalls:

```
ONIE: OS Uninstall Mode ...

Version : 3.26.1.0-3

Build Date: 2022-02-21T18:15-0700

[ 1.932688] dummy-irq: no IRQ given. Use irq=N

[ 1.940433] esas2r: driver will not be loaded because no ATTO esas2r devices were found

[ 1.982134] mtdoops: mtd device (mtddev=name/number) must be supplied

[ 3.090944] fmc_write_eeprom fake-design-for-testing-f001: fmc_write_eeprom: no
```

```
busid passed, refusing all cards
[ 3.105962] intel_rapl: driver does not support CPU family 6 model 77
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot
Info: Using bond0 MAC address: 14:18:77:09:72:00
Info: Using eth0 MAC address: 14:18:77:09:72:01
Info: Using eth1 MAC address: 14:18:77:09:72:02
Info: Using gretap0 MAC address: 14:18:77:09:72:03
Info: bond0: Checking link... down.
ONIE: bond0: link down. Skipping configuration.
Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0
    50.851074] random: nonblocking pool is initialized
Warning: Unable to configure interface using DHCPv4: eth0
ONIE: Using default IPv4 addr: eth0: 192.168.3.10/24
ONIE: Using link-local IPv4 addr: eth0: 169.254.214.155/16
Info: eth1: Checking link... down.
ONIE: eth1: link down. Skipping configuration.
Info: gretap0: Checking link... down.
ONIE: gretap0: link down. Skipping configuration.
ONIE: Failed to configure bond0 interface
ONIE: Failed to configure ethl interface
ONIE: Failed to configure gretap0 interface
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: Uninstall mode detected. Running uninstaller.
Erasing internal mass storage device: /dev/sda4 (32MB)
  Percent complete: 100%
Erase complete.
Deleting partition 4 from /dev/sda
Erasing internal mass storage device: /dev/sda5 (500MB)
  Percent complete: 100%
Erase complete.
Deleting partition 5 from /dev/sda
Erasing internal mass storage device: /dev/sda6 (500MB)
  Percent complete: 100%
Erase complete.
Deleting partition 6 from /dev/sda
Erasing internal mass storage device: /dev/sda7 (13085MB)
  Percent complete: 100%
Erase complete.
Deleting partition 7 from /dev/sda
Installing for i386-pc platform.
/proc/devices: No entry for device-mapper found
Installation finished. No error reported.
Uninstall complete. Rebooting ...
discover: Uninstall mode detected. No discover stopped.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL to all processes
Requesting system reboot
  297.008151] sd 4:0:0:0: [sda] Synchronizing SCSI cache
   297.409957] reboot: Restarting system
[ 297.415391] reboot: machine restart
BIOS (Dell EMC, Inc.) Boot Selector
S6010 3.26.0.0-4
32 port 40G QSFP
POST Configuration
  CPU Signature 406D8
 CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
```

```
Microcode Revision 125
 Platform ID: 0x10041A48
 PMG_CST_CFG_CTL: 0x40006
BBL_CR_CTL3: 0x7E2801FF
 Misc EN: 0x840081
 Gen PM Con1: 0x203808
 Therm Status: 0x884D0000
 POST Control=0xEA000303, Status=0xE6009F00
BIOS initializations...
CPGC Memtest ..... PASS
 RTC Battery OK at last cold boot
 RTC date Monday 02/21/2022 15:40:49
POST SPD test ..... PASS
POST Lower DRAM Memory test
.... Perf cnt (curr, fixed): 0x1D6E66668,0x3ADCD28C8
POST Lower DRAM Memory test ..... PASS
POST Lower DRAM ECC check ..... PASS
```

5. After the uninstallation completes, the system displays the following ONIE prompt:

ONIE:/#

Support Resources

The following support resources are available for the S6010-ON system.

Documentation Resources

This document contains operational information specific to the SB010-ON system.

For information about using the S6010-ON, refer to the following documents at http://www.dell.com/support:

- Installing the S6010-ON System
- · Quick Start Guide
- Dell Networking Command Line Reference Guide for the S6010-ON System
- Dell Networking Configuration Guide for the S6010-ON System

For more information about hardware features and capabilities, refer to the Dell Networking website at https://www.dellemc.com/networking.

For more information about the open network installation environment (ONIE)-compatible third-party operating system, refer to http://onie.org.

Issues

Issues are unexpected or incorrect behavior and are listed in order of Problem Report (PR) number within the appropriate sections.

Finding Documentation

This document contains operational information specific to the SB010-ON system.

- For information about using the S6010-ON, refer to the documents at http://www.dell.com/support.
- For more information about hardware features and capabilities, refer to the Dell Networking website at https://www.dellemc.com/networking.
- For more information about the open network installation environment (ONIE)-compatible third-party operating system, refer to http://onie.org.

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

Go to www.dell.com/support.

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.



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Documents / Resources



Dell S6010-ON Networking OS PowerSwitch [pdf] User Guide

S6010-ON Networking OS PowerSwitch, S6010-ON, Networking OS PowerSwitch, OS PowerSwitch, PowerSwitch

References

- O Computers, Monitors & Technology Solutions | Dell USA
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