**Manuals+** — User Manuals Simplified.

# DELL Technologies S4048-ON EMC PowerSwitch User Guide

**Contents**

**DELL Technologies S4048-ON EMC PowerSwitch**

This document contains information on open and resolved caveats, and operational information specific to the Dell Networking OS software and the S4048-ON platform.

- **Current Release Version**: 9.14(2.20)

- **Release Date**: 2023-04-14
- **Previous Release Version**: 9.14(2.18)

**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, see the Dell Networking website at: **https://www.dellemc.com/networking**.

## Document Revision History

### Revision History

| Date | Description |
|------|-------------|
| 2023–04 | Initial release. |

### Supported Hardware
The following hardware is supported with this platform:

| Hardware |
|----------|
| S4048-ON chassis |
| Forty eight SFP+ ports (10 Gbps) |
| Six QSFP+ ports (40 Gbps) |
| Two AC/DC PSUs |
| Three fan subsystems |
| One MicroUSB serial console port |
| One universal serial bus (USB Type-A) port for additional file storage |
| Management Ethernet interface |
| RS-232 Serial interface |
| Dual core 1.7GHz Rangeley central processing unit (CPU) system |

**NOTE**: If all the three 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(2.20) |
| ONIE | |

**NOTE**: For information on non-Dell OS versions, refer the Release Notes for the Hardware Platform S4048–ON.

**New Dell Networking OS Version 9.14(2.20) Features**
The following features are integrated into the Dell Networking 9.14.2 branch through this release: None.

## Restrictions

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 9.14.2.0 version or later of the OA packages :
    1. **a**. SmartScripts
    2. **b**. Puppet
    3. **c**. Open management infrastructure (OMI)
    4. **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 9.14.2.0 or later version of the OA package
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. If you downgrade the Dell Networking OS version from 9.14.2.20 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). To remove the files, use the following steps

```
DellEMC#write memory
DellEMC#delete flash://confd_cdb.tar.gz.version
DellEMC#delete flash://confd_cdb.tar.gz
DellEMC#reload
```

- In a VXLAN scenario, hybrid port is not supported.
- 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:
    - PIM ECMP
    - Static IGMP join (ip igmp static-group)
    - IGMP querier timeout configuration (ip igmp querier-timeout)

- IGMP group join limit (ip igmp group join-limit)
- You can use the negotiation auto command to turn auto-negotiation on or off only on fiber interfaces operating at 1G speed.
- If you use a 1 G SFP, disable autonegotiation on both peer ends. If you do not disable autonegotiation, the link does not come up.
- If you use the interface range command to select multiple interfaces that are added to the management VRF, the ipv6 address command does not display the autoconfig option. You can configure the autoconfig command on individual interfaces.
- If you use the interface range command to select multiple interfaces that are added to the management VRF, the ipv6 nd command displays the following options but they do not take effect if you use them:
    - dns-server
    - hop-limit
    - managed-config-flag
    - max-ra-interval
    - mtu
    - other-config-flag
    - prefix
    - ra-guard
    - ra-lifetime
    - reachable-time
    - retrans-timer
    - suppress-ra
- When FRRP is enabled in a VLT 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 a VLT environment.
- Do not configure the vxlan-instance command on the port, which is configured with the portmode hybrid command. Do not configure the vxlan-instance enabled port as a member of VLAN, which does not have VXLAN-VNI configuration.

**Changes to Default Behavior and CLI Syntax**
The following behavior and CLI changes are applicable to the S4048–ON switch with Dell Networking OS version 9.14(2.20):

**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

- **S1 — Crash:** A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process.
    - **S2 — 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 acceptable to the customer.
    - **S3 — 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.
    - **S4 — 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.

**Deferred S4048–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
    - **S1 — Crash:** A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process.
    - **S2 — 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 acceptable to the customer.
    - **S3 — 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.
    - **S4 — 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.

**Fixed S4048–ON 9.14(2.20) Software Issues**

**NOTE**: Dell Networking OS 9.14(2.20) 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(2.20):

**PR# 170395**

- **Severity**: Sev 2
- **Synopsis**: In certain scenarios, MAC addresses previously learned are re-initialized to zero when some CAM table entries are modified resulting in ping failure.
- **Release Notes**: In certain scenarios, MAC addresses previously learned are re-initialized to zero when some CAM table entries are modified resulting in ping failure.
- **Workaround**: None

**Known Issues**
Known issues are reported using the following definitions.

**Category Description**

- PR# Problem Report number that identifies the issue.
- Severity
    - **S1 — Crash:** A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process.
    - **S2 — 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 acceptable to the customer.
    - **S3 — 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.
    - **S4 — 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 S4048–ON 9.14(2.20) Software Issues**
The following caveats are open in Dell Networking OS version 9.14(2.20): None

## Upgrading the sub-components

It is recommended to upgrade the sub-components in the following order and reload the switch where necessary, before proceeding with the next sub-component upgrade.

1. Upgrade the BIOS or Boot-selector – using the upgrade boot bootselector-image stack-unit 1 booted command.
2. Upgrade the GRUB or Bootflash – using the upgrade boot bootflash-image stack-unit 1 booted command.

3. Upgrade the CPLD – using the upgrade fpga-image system cpld stack-unit 1 booted command.

**Upgrade the BIOS or Boot Selector**
To upgrade the BIOS or Boot Selector from Dell Networking OS, perform the following steps:

1. Upgrade the S4048-ON Boot Selector image. EXEC Privilege Mode Dell Networking OS version 9.14(2.20) requires S4048-ON Boot Selector image version or higher. The booted option is used to upgrade the Boot Selector image to the image version packed with the loaded Dell Networking OS image. The Boot Selector image version packed with the loaded Dell Networking OS can be found using the show os-version command in EXEC Privilege mode.

```
DellEMC#upgrade boot bootselector-image stack-unit 1 booted

Current Boot information in the system:
=======================================================================
   Card                    BootSelector     Current Version     New Version
-----------------------------------------------------------------------
     Unit1                  Boot Selector    3.21.0.4


     ***********************************************************************
     *   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]: y

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Bootselector image upgrade for stack-unit 1 completed successfully.
DellEMC#
```

2. Reload the unit. EXEC Privilege Mode reload
3. Verify the Boot Selector image. EXEC Privilege Mode show system stack-unit <id>

```
DellEMC#show system stack-unit 1

--  Unit 1 --
Unit Type                    : Management Unit
Status                       : online
Next Boot                    : online
Required Type                : S4048-ON - 54-port TE/FG (SK-ON)
Current Type                 : S4048-ON - 54-port TE/FG (SK-ON)
Master priority              : 0
Hardware Rev                 : 1.0
Num Ports                    : 72
Up Time                      : 15 min, 26 sec
Dell EMC Networking OS Version : 9.14(2.20)
Jumbo Capable                : yes
POE Capable                  : no
FIPS Mode                    : disabled
Boot Flash                   : 3.21.2.9
Boot Selector                :

Memory Size                  : 2127560704 bytes
Temperature                  : 36C
Voltage                      : ok
```

**Upgrade the GRUB or Boot Flash**
To upgrade the GRUB or Boot Flash from Dell Networking OS, perform the following steps: Upgrade the S4048-ON Boot Flash image. EXEC Privilege Mode upgrade boot bootflash-image stack-unit [<id> | all] [booted | flash: | ftp: | scp: | tftp: | usbflash:]

```
DellEMC#upgrade boot bootflash-image stack-unit 1 booted

Current Boot information in the system:
=================================================================
  Card                    BootFlash    Current Version    New Version
-----------------------------------------------------------------
  Unit1                   Boot Flash         3.21.2.3         3.21.2.9

    ************************************************************************
    *  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]: y

!!!!!
Bootflash image upgrade for stack-unit 1 completed successfully.
DellEMC#
```

**Upgrade the CPLD**

The S4048-ON system with Dell Networking OS Version 9.14(2.20) requires System CPLD revision 15.2, Master CPLD revision 12, and Slave CPLD revision 5.

**NOTE**: If your CPLD revisions are higher than the ones shown here, DO NOT make any changes. If you have questions regarding the CPLD revision, contact technical support

**Verify that a CPLD upgrade is required**

Use the following command to identify the CPLD version

```
DellEMC#show revision

--  Stack unit 1  --
S4048-ON SYSTEM CPLD    : 15.2

S4048-ON MASTER CPLD    : 12

S4048-ON SLAVE CPLD     : 5

DellEMC#
```

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

```
DellEMC#show os-version

RELEASE IMAGE INFORMATION :
---------------------------------------------------------------------
      Platform          Version         Size            ReleaseTime
S-Series:SK-ON          9.14(2.20)    66927971    Nov 21 2022 00:43:07

TARGET IMAGE INFORMATION :
---------------------------------------------------------------------
         Type            Version                   Target      checksum
      runtime            9.14(2.20)           Control Processor    passed

BOOT IMAGE INFORMATION :
---------------------------------------------------------------------
         Type            Version                   Target      checksum
    boot flash           3.21.2.9             Control Processor    passed

BOOTSEL IMAGE INFORMATION :
---------------------------------------------------------------------
         Type            Version                   Target      checksum
boot selector
         Control Processor       passed

FPGA IMAGE INFORMATION :
---------------------------------------------------------------------
        Card                      FPGA Name      Version
stack-unit 1           S4048-ON SYSTEM CPLD         15.2
stack-unit 1           S4048-ON MASTER CPLD         12
stack-unit 1            S4048-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 . You can verify this version using show system stack-unit 1 command.

**To upgrade the CPLD image on S4048-ON, follow these steps:**

1.  Upgrade the CPLD image. EXEC Privilege Mode upgrade fpga-image stack-unit <id> booted

```
DellEMC#
DellEMC#upgrade fpga-image stack-unit 1 booted

Current information for the system:
=========================================================================
  Card                     Device Name    Current Version     New Version
-------------------------------------------------------------------------
  Unit1            S4048-ON SYSTEM CPLD              11              15.2
  Unit1            S4048-ON MASTER CPLD               9              12
  Unit1             S4048-ON SLAVE CPLD               4               5

    *********************************************************************
    *  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!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Upgrade result :
================
Unit 1 FPGA upgrade successful. Power cycle the Unit 1 to complete the upgrade.

DellEMC#00:22:35: %S4048-ON:1 %DOWNLOAD-6-FPGA_UPGRADE: stack-unit 1 fpga upgrade
success.

DellEMC#
```

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  --
S4048-ON SYSTEM CPLD    : 15.2

S4048-ON MASTER CPLD    : 12

S4048-ON SLAVE CPLD     : 5

DellEMC#
```

**NOTE**: Do not power off the system while FPGA upgrade is in progress. For any queries, contact technical support.

**Upgrading ONIE on the S4048-ON**

To upgrade the ONIE package you have installed, use one of the following two processes: zero touch (dynamic) update or manual update.

1. **Zero touch (dynamic):** Copy the updated ONIE installer and the DIAG 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-Image-Discovery**. S4048-ON image >>>> onie-updater-x86_64-dell_s4000_c2338-r0.

2. **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.The supported URL types are: HTTP, FTP, TFTP, and FILE. S4048-ON image >>>> onie-updater-x86_64-dell_s4000_c2338-r0.

3. UPGRADING ONIE ON AN EXISTING S4048–ON SYSTEM. The following example uses HTTP to upgrade ONIE.

```
ONIE:/ # onie-self-update tftp://10.16.127.35/onie-updater-x86_64-dell_s4000_c2338-r0.
Stopping: discover... done.
Info: Fetching tftp://10.16.127.35/onie-updater-x86_64-dell_s4000_c2338-r0. ...
onie-updater-x86_64- 100% |*****************************|  9021k  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.35/onie-updater-x86_64-dell_s4000_c2338-
r0.
Verifying image checksum ... OK.
Preparing image archive ... OK.
ONIE: Version        :
ONIE: Architecture   : x86_64
ONIE: Machine        : s4000_c2338
ONIE: Machine Rev    : 0
ONIE: Config Version: 1
Installing ONIE on: /dev/sda
Rebooting...
ONIE:/ # umount: can't remount rootfs read-only
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
```

4. Upgrade the DIAG installer package

```
ONIE:/ #
ONIE:/ # onie-nos-install tftp://10.16.127.143/diag-installer-x86_64-s4000_c2338-
r0.bin
Stopping: discover... done.
Info: Fetching tftp://10.16.127.143/diag-installer-x86_64-s4000_c2338-r0.bin ...
INSTALLER-DND-SK-1.0 100% |*******************************| 27143k  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.143/diag-installer-x86_64-s4000_c2338-
r0.bin
Verifying image checksum ... OK.
Preparing image archive from /installer ... Done.
Mounting /dev/sda3...Done.
Copying Images ...Done.
Installing Menu Entry ...Done
All Done
ONIE:/ # umount: can't remount rootfs read-only
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) Boot Selector
S4000
 (48-port SFP+ 10G/6-port QSFP 40G)


POST Configuration


POST Configuration
  CPU Signature 406D8
  CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
  Microcode Revision 125
  Platform ID: 0x10041838
  PMG_CST_CFG_CTL: 0x40006
  BBL_CR_CTL3: 0x7E2801FF
  Misc EN: 0x4000840081

   Gen PM Con1: 0x203808
   Therm Status: 0x8848000F
   POST Control=0xEA000303, Status=0xE6009700

 BIOS initializations...

 CPGC Memtest for Channel 0 .................. PASS

 ECC enabled: channel 0 MayCCTRL_DUNIT_REG=0x000200F3

 POST:
   RTC Battery OK at last cold boot
   RTC date  Monday 11/21/2022 23:34:05

 POST SPD test ............................. PASS

 POST Lower DRAM Memory test
 ....  Perf cnt (curr,fixed): 0x15A49BCF6,0x164D87D38

 POST Lower DRAM Memory test ................ PASS
 POST Lower DRAM ECC check ................... PASS
 DxE POST
 POST PCI test ............................. PASS
 POST NVRAM check .......................... PASS
 POST overall test results ................. PASS

 NVRAM at POST exit: 00 97 00 E6   03 03 00 EA
  Grub 1.99~rc1 (Dell EMC)
  Built by root at gbbdev-maa-01 on Mon_Nov_21_14:16:54_UTC_2022
  S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9
```

NOTE: For the latest diagnostics version, see the Dell S4048–Open Networking (ON) System Release Notes.

5. Upgrade the BIOS image using the BIOS image and Flashrom utility included with the diagnostic package.

```
ONIE:/ # tftp -g -r S4000-BIOS-x.x.x.x-16MB.bin 10.11.8.12S4000-BIOS-x.x.x.x. 100% |
*****************************| 8192k 0:00:00 ETA
ONIE:/ #
ONIE:/ #
ONIE:/ # flashrom -E -p internal

Erasing and writing flash chip... Erase/write done.
ONIE:/ # flashrom -w ./ S4000-BIOS-x.x.x.x-16MB.bin -p internal
Erasing and writing flash chip... Erase/write done.
Verifying flash... VERIFIED.
ONIE:/ #
```

**Upgrading the S4048-ON Dell Networking OS Image using the Dell Networking OS CLI**

**NOTE**: If you are upgrading from Dell Networking OS version 9.9(0.0P18) or earlier, you cannot directly upgrade to version 9.14(2.20) or above. Upgrade to version 9.10(0.0) or above first and then upgrade to the required version.

**Bare Metal Provisioning**
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 S4048-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:]

```
DellEMC#upgrade system tftp: a:
Address or name of remote host []: 10.16.127.143
Source file name []: FTOS-SK-9.14.2.20.bin
2d4h38m : Discarded 1 pkts. Expected block num : 51. Received block num: 50
2d4h38m : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!...
..............................................................
...........
66927711 bytes successfully copied
System image upgrade completed successfully.
DellEMC#Nov 21 08:47:44: %STKUNIT1-M:CP %DOWNLOAD-6-UPGRADE: Upgrade completed
successfully

DellEMC#
```

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]

```
Dell#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(2.20)[boot]             9.14(2.18)
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.
Dell#
```

4. Change the Primary Boot Parameter of the S4048-ON to the upgraded partition A: or B: CONFIGURATION Mode boot system stack-unit 1 primary system: [A: | B: | tftp: | ftp:]

5. 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
!
Nov 21 04:44:35: %STKUNIT1-M:CP %FILEMGR-5-FILESAVED: Copied running-config to
startup-config in flash by default

DellEMC#
```

6. Reload the unit. EXEC Privilege Mode reload

```
Command    : reload
Mode       : EXEC PRIVILEGE
DellEMC#reload

Proceed with reload [confirm yes/no]: y
Nov 21 10:20:04: %STKUNIT1-M:CP %CHMGR-5-RELOAD: User request to reload the chassis
syncing disks... done
```

7. Verify the S4048 ON has been upgraded to the Dell Networking OS version 9.14(2.20). 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(2.20)
Copyright (c) 1999-2021 by Dell Inc. All Rights Reserved.
Build Time: Mon Nov 21 10:20:04 2022
Build Path: /build/build02/SW/SRC
Dell EMC Networking OS uptime is 2 day(s), 17 hour(s), 45 minute(s)

System image file is "system://A"

System Type: S4048-ON
Control Processor: Intel Rangeley with 3 Gbytes (3201302528 bytes) of memory, core(s)
2.

8G bytes of boot flash memory.

  1 54-port TE/FG (SK-ON)
48 Ten GigabitEthernet/IEEE 802.3 interface(s)
  6 Forty GigabitEthernet/IEEE 802.3 interface(s)
```

## Installing Dell Networking OS on the S4048-ON using ONIE

**NOTE**: The Dell Networking OS installer package, ONIE-FTOS-SK-9.14.2.20.bin, is required for installing Dell
Networking OS on S4048-ON that has only ONIE.

**To install the Dell Networking OS version 9.14(2.20) on to the new S4048-ON device, perform the following
steps:**

1. Boot the system to the ONIE prompt.The following ONIE prompt appears: ONIE:/ #

2. Stop the ONIE discovery process using the following command: ONIE:/ # onie-discovery-stop The following
   message appears

```
Stopping: discover... done.
ONIE:/ #
```

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

```
ONIE:/ # ifconfig eth0 ip-address/prefix up
```

4. Enter the following command to begin the installation process

```
ONIE:/ # onie-nos-install tftp://10.16.127.35/ONIE-FTOS-SK-9.14.2.20.bin
```

**NOTE**: After the Dell Networking OS installation is complete, the system automatically reboots.

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

```
ONIE:/ #
ONIE:/ # onie-nos-install tftp://10.16.127.143/ONIE-FTOS-SK-9.14.2.20.bin
Stopping: discover... done.
Info: Fetching tftp://10.16.127.143/ONIE-FTOS-SK-9.14.2.20.bin ...
ONIE-FTOS-SK-9.14.2.20 100% |*******************************|   112M  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.143/ONIE-FTOS-SK-9.14.2.20.bin
Verifying image checksum ... OK.
Preparing image archive from /installer ... Done.
Verifying Product Platform...
Product Name           : S4048ON
Image Platform         : FTOS-SK
Image File             : FTOS-SK-9.14.2.20.bin
Image Compatibility    : Verified
Verifying MAC Address...
MAC Address is Configured
Image Platform         : FTOS-SK
Deleting Extra partitions... Done.
Creating New partitions... Done.
Creating Hybrid MBR... Done.
Mouting /dev/sda4,/dev/sda5 and /dev/sda6... Done.
Installing GRUB on /dev/sda4...Done.
Copying Images... Done.
ONIE:/ # umount: can't remount rootfs read-only
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) Boot Selector
 S4000
  (48-port SFP+ 10G/6-port QSFP 40G)


 POST Configuration


 POST Configuration
   CPU Signature 406D8
   CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
   Microcode Revision 125
   Platform ID: 0x10041838
   PMG_CST_CFG_CTL: 0x40006
   BBL_CR_CTL3: 0x7E2801FF
   Misc EN: 0x4000840081
   Gen PM Con1: 0x203808
   Therm Status: 0x8848000F
   POST Control=0xEA000303, Status=0xE6009700

 BIOS initializations...

 CPGC Memtest for Channel 0 .................. PASS

 ECC enabled: channel 0 MayCCTRL_DUNIT_REG=0x000200F3

 POST:
   RTC Battery OK at last cold boot
   RTC date  Monday 11/21/2022 9:21:08

 POST SPD test ............................... PASS

 POST Lower DRAM Memory test
 ....  Perf cnt (curr,fixed): 0x15A4A6B39,0x164D9BDB7

 POST Lower DRAM Memory test ................. PASS
 POST Lower DRAM ECC check ................... PASS
 DxE POST
 POST PCI test ............................... PASS
 POST NVRAM check ............................ PASS
 POST overall test results ................... PASS

 NVRAM at POST exit: 00 97 00 E6   03 03 00 EA
```

```
Version 2.17.1242. Copyright (C) 2021 American Megatrends, Inc.
BIOS Date: 11/21/2022 16:20:37 Ver: 0ACBZ018
Press <DEL> or <F2> to enter setup.
 Grub 1.99~rc1 (Dell EMC)
 Built by root at ubuntu on Mon_Nov_21_14:16:54_UTC_2022
 S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9



Press Esc to stop autoboot ... 0

Primary Boot  not Configured
```

5. After the installation completes, the system displays the following DELL prompt: DellEMC>


## Uninstalling Dell Networking OS from the S4048-ON

To uninstall the Dell Networking OS version 9.14(2.20) from the S4048-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:

```
Version 2.17.1245. Copyright (C) 2021 American Megatrends, Inc.
BIOS Date: 11/21/2022 16:20:37 Ver: 0ACBZ038
Press <DEL> or <F2> to enter setup.
 Grub 1.99~rc1 (Dell EMC)
 Built by root at ubuntu on Mon_Nov_21_14:16:54_UTC_2022
 S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9



Press Esc to stop autoboot ... 4
```

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

```
+-------------------------------------------------------------------------+
| Dell EMC Networking OS
| Dell EMC-Boot Line Interface
| DELL-DIAG
| ONIE

+-------------------------------------------------------------------------+
```

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

```
+--------------------------------------------------------------------------+
| ONIE: Install OS                                                         |
| ONIE: Rescue                                                            |
|*ONIE: Uninstall OS                                                      |
| ONIE: Update ONIE                                                       |
| ONIE: Embed ONIE                                                        |
| ONIE: Diag ONIE                                                         |
| DELL-DIAG                                                               |
+--------------------------------------------------------------------------+
```

4. From this menu, choose the ONIE : Uninstall OSoption.

   **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(2.20) uninstalls

```
ONIE: OS Uninstall Mode ...

Version :
Build Date: 2022-11-21T12:32-0700
Info: Mounting kernel filesystems... done.
Info: Mounting LABEL=ONIE-BOOT on /mnt/onie-boot ...
Info: Using eth0 MAC address: 34:17:eb:f2:04:c4
Info: Using eth1 MAC address: 34:17:eb:f2:04:c5
Info: eth0:  Checking link... up.
Info: Trying DHCPv4 on interface: eth0
DHCPv4 on interface: eth0 failedONIE: Using default IPv4 addr: eth0:
192.168.3.10/255.255.255.0
Info: eth1:  Checking link... down.
ONIE: eth1: link down.  Skipping configuration.
ONIE: Failed to configure eth1 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 (300MB)
  Percent complete: 100%
Erase complete.
Deleting partition 5 from /dev/sda
Erasing internal mass storage device: /dev/sda6 (300MB)
  Percent complete: 100%
Erase complete.
Deleting partition 6 from /dev/sda
Erasing internal mass storage device: /dev/sda7 (6578MB)
  Percent complete: 100%
Erase complete.
Deleting partition 7 from /dev/sda
Installing for i386-pc platform.
Installation finished. No error reported.
Uninstall complete.  Rebooting...
umount: can't remount rootfs read-only
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL to all processes
Requesting system reboot
sd 4:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart


BIOS (Dell EMC) Boot Selector
S4000
  (48-port SFP+ 10G/6-port QSFP 40G)


POST Configuration
  CPU Signature 406D8
  CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
  Microcode Revision 125
  POST Control=0xEA000303, Status=0xE6009700
  Platform ID: 10041836
  PMG_CST_CFG_CTL: 40006
  BBL_CR_CTL3: 7E2801FF
  Misc EN: 4000840081
  Gen PM Con1: 3008
  Therm Status: 8841000F

BIOS initializations...

CPGC Memtest for Channel 0 .................... PASS

ECC enabled: channel 0 MayCCTRL_DUNIT_REG=0x000200F3

POST:
```

```
    RTC Battery OK at last cold boot
    RTC date  Mon 11/21/2022 17:56:40

POST SPD test ............................... PASS

POST Lower DRAM Memory test
    Short memory cell test
    Perf cnt (curr/fixed): 321C074CD/32C553963

POST Lower DRAM Memory test ................ PASS
POST Lower DRAM ECC check .................. PASS
DxE POST
POST PCI test ............................... PASS
POST NVRAM check ............................ PASS
POST overall test results .................. PASS

NVRAM at POST exit: 00 97 00 E6   03 03 00 EA
```

5. After the installation completes, the system displays the following ONIE prompt: ONIE:/ #


**Support Resources**
The following support resources are available for the S4048–ON system.


**Documentation Resources**
This document contains operational information specific to the S4048–ON system. For information about using the S4048–ON, refer to the following documents at **http://www.dell.com/support**:


- Installing the S4048-ON System
- Quick Start Guide
- Dell Networking Command Line Reference Guide for the S4048-ON System
- Dell Networking Configuration Guide for the S4048-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 S4048–ON system.


- For information about using the S4048–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.

## Documents / Resources

**DELL Technologies S4048-ON EMC PowerSwitch** [pdf] User Guide
S4048-ON, S4048-ON EMC PowerSwitch, EMC PowerSwitch, PowerSwitch

## References

- **Computers, Monitors & Technology Solutions | Dell USA**
- **Support | Dell US**
- **Support | Dell US**
- **Dell Networking Solutions | Dell USA**
- **GitHub: Let's build from here · GitHub**
- **Dell Networking Solutions | Dell USA**

**Manuals+**,