DELLTechnologies

Dell EMC S4048–ON System Release Notes, OS Version 9.14(1.10)

This document contains information on open and resolved caveats, and operational information specific to the Dell EMC Networking OS software and the S4048-ON platform.
Current Release Version: 9.14(1.10)
Release Date: 2021-09-30
Previous Release Version: 9.14(1.9P4)

Topics:

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

Document Revision History

Table 1. Revision History

Date	Description
2021–09	Initial release.

Supported Hardware

The following hardware is supported with this platform:

Hardware
S4048-ON chassis

Hardware
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 EMC Networking OS	9.14(1.10)
ONIE	3.21.1.0-5

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

New Dell EMC Networking OS Version 9.14(1.10) Features

The following features have been added to the S4048-ON with Dell EMC Networking OS version 9.14(1.10):

None.

Restrictions

● If you downgrade the Dell EMC Networking OS version from 9.14(1.10) to 9.11(0.0) or any older version, 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.
- You can use non-Dell qualified cables, adapters, and optics in a S4048-ON switch, but Dell EMC Networking does not guarantee their performance as the S4048-ON does not support non-Dell qualified 40G transceivers. If you insert a non-Dell qualified 40G transceiver into a S4048-ON 40GbE port, the switch places the interface in an error-disabled (operationally down) state and generates a syslog message, such as: `%S4048LC0640:8 %IFAGT-2-TRANSCEIVER_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   Type        Media          Serial Number   DellQualified
---------------------------------------------------------------
   1     49   UNKNOWN     UNKNOWN        USC1D6J         No**
   1     50   QSFP        40GBASE-LR4    UQ90C7B         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 DellQualified

Dell# show interfaces fortyGigE 1/49
fortyGigE 1/49 is up, line protocol is down(error-disabled[Transceiver Unsupported])
...
```

- The following features are not available in the Dell EMC 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`)
- 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

Following default behavior and CLI syntax changes occurred during the Dell EMC Networking OS release:
- To enhance security, the default RSA key size has been changed to 2048 bits from 1024 bits from 9.14.1.10 onwards.

Documentation Corrections

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

None.

Deferred Issues

Issues that appear in this section were reported in Dell EMC Networking OS version 9.14(1.0) as open, but have since been deferred. Deferred issues 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 "Fixed Issues" 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 issue.

Deferred S4048–ON 9.14(1.0) Software Issues

Issues that appear in this section were reported in Dell EMC Networking OS version 9.14(1.0) 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 EMC Networking OS version 9.14(1.0):

None.

Fixed Issues

Fixed issues are reported using the following definitions.

Category	Description
PR#	Problem Report number that identifies the issue.

Category	Description
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.
	The work-around is unnecessary, as the version of code for which this release note is documented has resolved the issue.

Fixed S4048–ON 9.14(1.10) Software Issues

(i) **NOTE:** Dell EMC Networking OS 9.14(1.10) includes fixes for issues addressed in previous 9.14 releases. Refer to the respective release notes documentation for the list of issues fixed in earlier 9.14 releases.

The following issues are fixed in Dell EMC Networking OS version 9.14(1.10):

PR#170115

Severity:	Sev 3
Synopsis:	The switch may encounter an exception when an incorrect length field is specified in a TACACS packet.
Release Notes:	The switch may encounter an exception when an incorrect length field is specified in a TACACS packet.
Workaround:	None

PR#170159

Severity:	Sev 3
Synopsis:	SSH connections with Cipher Block Chaining (CBC) ciphers are vulnerable.
Release Notes:	SSH connections with Cipher Block Chaining (CBC) ciphers are vulnerable.
Workaround:	Configure a stronger Cipher/MAC/KEX setting using the `ip ssh server` command.

PR#170161

Severity:	Sev 2
Synopsis:	SSH connections may be vulnerable with switches running on a 1024 bit RSA key.

Release Notes:	SSH connections may be vulnerable with switches running on a 1024 bit RSA key.
Workaround:	Create a new 2048 bit RSA key using the `crypto key generate rsa` command.

PR#170206

Severity:	Sev 2
Synopsis:	Addressed OpenSSL CVE's: CVE-2021-3711 and CVE-2021-3712.
Release Notes:	The following CVEs have been addressed: ● CVE-2021-3711 ● CVE-2021-3712 The CVE database can be accessed here: https://cve.mitre.org/cve/search_cve_list.html.
Workaround:	None

PR#170211

Severity:	Sev 2
Synopsis:	When a switch with scaled VLANs is reloaded, traffic drop may occur due to a delay in VLAN programming.
Release Notes:	When a switch with scaled VLANs is reloaded, traffic drop may occur due to a delay in VLAN programming.
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 "Fixed Issues" 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 issue.

Known S4048−ON 9.14(1.10) Software Issues

The following issues are open in Dell EMC Networking OS version 9.14(1.10):

PR#169841

Severity:	Sev 2
Synopsis:	In certain scenarios, an MSDP learnt PIM TIB entry stays in `registering` state indefinitely.
Release Notes:	In certain scenarios, an MSDP learnt PIM TIB entry stays in `registering` state indefinitely.
Workaround:	Set the affected node as a non-designated router in the RPF neighbor interface.

S4048−ON Upgrade Procedures: Overview

To upgrade the Dell EMC Networking OS to the latest version on a S4048−ON switch, complete these steps:

● Upgrade the S4048−ON Dell EMC Networking OS Image
● Upgrade the Boot Flash and BIOS
● Upgrade the CPLD

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-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-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-s4000_c23
38-r0
Stopping: discover... done.
Info: Fetching tftp://10.16.127.35/onie-updater-x86_64-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-s4000_c2338-r0
Verifying image checksum ... OK.
Preparing image archive ... OK.
ONIE: Version       : 3.21.1.0-5
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 3.21.0.0-6
 (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 DECCCTRL_DUNIT_REG=0x000200F3

POST:
  RTC Battery OK at last cold boot
  RTC date Friday 09/24/2021 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 Fri_Sep_24_12:54:44_UTC_2021
 S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9
```

ⓘ **NOTE:** For the latest diagnostics version, see the *Dell EMC 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 EMC Networking OS Image using the Dell EMC Networking OS CLI

ⓘ **NOTE:** If you are upgrading from Dell EMC Networking OS version 9.9(0.0P18) or earlier, you cannot directly upgrade to version 9.14(1.10). Upgrade to version 9.10(0.0) or above first and then upgrade to the required version.

Bare Metal Provisioning

ⓘ **NOTE:** If you are using Bare Metal Provisioning (BMP), see the Bare Metal Provisioning topic in the Dell EMC Networking OS Configuration Guide or the Open Automation Guide.

Manual Upgrade Procedure

Follow these steps carefully to upgrade your S4048-ON systems:

1. Dell EMC 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 EMC Networking OS in flash partition A: or B:

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

   EXEC Privilege

```
DellEMC#upgrade system tftp: a:
Address or name of remote host []: 10.16.127.143
Source file name []: FTOS-SK-9.14.1.10.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#Sep 24 08:47:44: %STKUNIT1-M:CP %DOWNLOAD-6-UPGRADE: Upgrade completed
successfully

DellEMC#
```

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

   `show boot system stack-unit [1-6] | all]`

   EXEC Privilege

```
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(1.10)[boot]       9.14(1.9P4)
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. Change the Primary Boot Parameter of the S4048-ON to the upgraded partition A: or B:

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

   CONFIGURATION

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

   `write [memory]`

   EXEC PRIVILEGE

```
DellEMC#write memory
!
Sep 24 04:44:35: %STKUNIT1-M:CP %FILEMGR-5-FILESAVED: Copied running-config to
startup-config in flash by default

DellEMC#
```

6. Reload the unit

   `reload`

   EXEC PRIVILEGE

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

Proceed with reload [confirm yes/no]: y
Sep 24 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 EMC Networking OS version 9.14(1.10)

   `show version`

   EXEC PRIVILEGE

```
DellEMC#show version
Dell EMC Real Time Operating System Software
Dell EMC Operating System Version:  2.0
Dell EMC Application Software Version:  9.14(1.10)
Copyright (c) 1999-2021 by Dell Inc. All Rights Reserved.
Build Time: Fri Sep 24 10:20:04 2021
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 EMC Networking OS on the S4048-ON using ONIE

ⓘ **NOTE:** The Dell EMC Networking OS installer package, ONIE-FTOS-SK-9.14.1.10.bin, is required for installing Dell EMC Networking OS on S4048-ON that has only ONIE.

To install the Dell EMC Networking OS version 9.14(1.10) 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-9.14.1.10.bin
   ```

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

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

   ```
   ONIE:/ #
   ONIE:/ # onie-nos-install tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.bin
   Stopping: discover... done.
   Info: Fetching tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.bin ...
   ONIE-FTOS-SK-9.14.1.10 100% |*****************************|   112M  0:00:00 ETA
   ONIE: Executing installer: tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.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-9.14.1.10.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 3.21.0.0-6
     (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 DECCCTRL_DUNIT_REG=0x000200F3

POST:
  RTC Battery OK at last cold boot
  RTC date Friday 09/24/2021 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 2.16.1242. Copyright (C) 2020 American Megatrends, Inc.
BIOS Date: 09/24/2021 17:47:30 Ver: 0ACBZ018
Press <DEL> or <F2> to enter setup.
 Grub 1.99~rc1 (Dell EMC)
 Built by root at ubuntu on Fri_Sep_24_06:44:12_UTC_2021
 S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9



Press Esc to stop autoboot ... 0

Primary Boot  not Configured


Secondary Boot  not Configured

Booting DEFAULT configuration...

boot device                       : flash
file                              : systema (Dell EMC Networking OS system://A
Partition)
Image Product name FTOS-SK Match
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,
    2006, 2007, 2008, 2009, 2010
    The NetBSD Foundation, Inc.  All rights reserved.
Copyright (c) 1982, 1986, 1989, 1991, 1993
    The Regents of the University of California.  All rights reserved.


Dell EMC Networking OS Release 9.14(1.10)
 NetBSD 5.1_STABLE (S4000) #0: Fri Sep 24 17:13:27 PST 2021
```

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

```
DellEMC>
```

Upgrade the Boot Flash and BIOS from Dell EMC Networking OS

To upgrade the Boot Flash and BIOS from Dell EMC Networking OS, perform the following steps:

1. Upgrade the S4048-ON Boot Flash image.

   ```
   upgrade boot bootflash-image stack-unit [<id> | all] [booted | flash: | ftp: | scp: |
   tftp: | usbflash:]
   ```

   EXEC Privilege

   ```
   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#
   ```

2. Upgrade the S4048-ON Boot Selector image.

   ```
   upgrade boot bootselector-image stack-unit [<id> | all]
   ```

   EXEC Privilege

   Dell EMC Networking OS version 9.14(1.10) requires S4048-ON Boot Selector image version 3.21.0.0-6 or higher. The booted option is used to upgrade the Boot Selector image to the image version packed with the loaded Dell EMC Networking OS image. The Boot Selector image version packed with the loaded Dell EMC 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             3.21.0.0-6


       *******************************************************************
       *   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#
   ```

3. Reload the unit

   ```
   reload
   ```

   EXEC Privilege

4. Verify the Boot Selector image

   `show system stack-unit <id>`

   EXEC Privilege

```
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(1.10)
Jumbo Capable                 : yes
POE Capable                   : no
FIPS Mode                     : disabled
Boot Flash                    : 3.21.2.9
Boot Selector                 : 3.21.0.0-6

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

Upgrading the CPLD

The S4048-ON system with Dell EMC Networking OS Version 9.14(1.10) 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 EMC Networking OS image:

```
DellEMC#show os-version

RELEASE IMAGE INFORMATION :
---------------------------------------------------------------------
      Platform          Version        Size          ReleaseTime
S-Series:SK-ON        9.14(1.10)    66927971     Sep 24 2021 00:43:07


TARGET IMAGE INFORMATION :
---------------------------------------------------------------------
        Type          Version                  Target     checksum
      runtime         9.14(1.10)        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            3.21.0.0-6
       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

(i) **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.

(i) **NOTE:** Ensure that the BIOS version is 3.21.0.0-6 . 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.

   `upgrade fpga-image stack-unit <id> booted`

   EXEC Privilege

   ```
   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.

> (i) **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 :

   `show revision`

   EXEC PRIVILEGE

```
DellEMC#show revision

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

S4048-ON MASTER CPLD     : 12

S4048-ON SLAVE CPLD      : 5

DellEMC#
```

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

Uninstalling Dell EMC Networking OS on the S4048-ON

To uninstall Dell EMC Networking OS version 9.14(1.10) 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 2.16.1242. Copyright (C) 2020 American Megatrends, Inc.
BIOS Date: 09/24/2021 17:47:30 Ver: 0ACBZ018
Press <DEL> or <F2> to enter setup.
 Grub 1.99~rc1 (Dell EMC)
 Built by root at ubuntu on Fri_Sep_24_06:44:12_UTC_2021
 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.

   > (i) **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 OS** option.

   (i) **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 EMC Networking OS 9.14(1.10) uninstalls:

```
ONIE: OS Uninstall Mode ...

Version : 3.21.1.0-5
Build Date: 2021-09-24T12:32-0700
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 3.21.0.0-6
 (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 DECCCTRL_DUNIT_REG=0x000200F3

POST:
  RTC Battery OK at last cold boot
  RTC date Friday 09/24/2021 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:/ #
```

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

(i) **NOTE:** The Dell EMC Networking OS installer package, ONIE-FTOS-SK-9.14.1.10.bin, is required for installing Dell EMC Networking OS on S4048-ON that has only ONIE.

To install the Dell EMC Networking OS version 9.14(1.10) 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-9.14.1.10.bin
```

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

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

```
ONIE:/ #
ONIE:/ # onie-nos-install tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.bin
Stopping: discover... done.
Info: Fetching tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.bin ...
```

```
ONIE-FTOS-SK-9.14.1.10 100% |*****************************|   112M  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.143/ONIE-FTOS-SK-9.14.1.10.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-9.14.1.10.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.
Mounting /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 3.21.0.0-6
 (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 DECCCTRL_DUNIT_REG=0x000200F3

POST:
  RTC Battery OK at last cold boot
  RTC date Friday 09/24/2021 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 2.16.1242. Copyright (C) 2020 American Megatrends, Inc.
BIOS Date: 09/24/2021 17:47:30 Ver: 0ACBZ018
Press <DEL> or <F2> to enter setup.
 Grub 1.99~rc1 (Dell EMC)
 Built by root at ubuntu on Fri_Sep_24_06:44:12_UTC_2021
 S4000 Boot Flash Label 3.21.2.9 NetBoot Label 3.21.2.9


Press Esc to stop autoboot ... 0

Primary Boot  not Configured


Secondary Boot  not Configured

Booting DEFAULT configuration...

boot device                        : flash
file                               : systema (Dell EMC Networking OS system://A
Partition)
Image Product name FTOS-SK Match
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,
    2006, 2007, 2008, 2009, 2010
    The NetBSD Foundation, Inc.  All rights reserved.
Copyright (c) 1982, 1986, 1989, 1991, 1993
    The Regents of the University of California.  All rights reserved.


Dell EMC Networking OS Release 9.14(1.10)
 NetBSD 5.1_STABLE (S4000) #0: Fri Sep 24 17:13:27 PST 2021
```

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

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 EMC Networking Command Line Reference Guide for the S4048-ON System*
- *Dell EMC Networking Configuration Guide for the S4048-ON System*

For more information about hardware features and capabilities, refer to the Dell EMC 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 EMC 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 EMC

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

Dell EMC 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 EMC for sales, technical support, or customer service issues:

Go to www.dell.com/support.

Notes, cautions, and warnings

(i) **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.**