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Dell EMC System S3048–ON 9.14(2.9P1) Release Notes

This document contains information on open and resolved caveats, and operational information specific to the Dell EMC Networking OS software and the S3048-ON platform.
Current Release Version: 9.14(2.9P1)
Release Date: 2021-02-18
Previous Release Version: 9.14(2.9)

Topics:

ⓘ **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.

ⓘ **NOTE:** Customers can subscribe to caveat update reports or use the BugTrack search tool to read current information about open and closed software caveats. To subscribe or use BugTrack, visit iSupport at: https://www.force10networks.com/CSPortal20/BugTrack/SearchIssues.aspx. All Release Notes are available on the Software Center tab of iSupport. The link to the relevant Release Notes for each software version is next to the link for that version: https://www.force10networks.com/CSPortal20/Software/Downloads.aspx.

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

Document Revision History

Table 1. Revision History

Date	Description
2021-02	9.14.2.9P1 - Added Fixed Issues for the release.
2020–12	Initial release.

Supported Hardware

The following hardware is supported with this platform:

Hardware
S3048-ON chassis
Forty-eight 10/100/1000Base-T RJ-45 Ports
Four SFP+ optical ports (10 Gbps)
Management Port
USB 2.0 Port
Serial Console Port
Two AC PSUs
Three fan subsytems

ⓘ **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(2.9)
ONIE	3.24.1.0-4

ⓘ **NOTE:** For information on non-Dell OS versions, refer the *Release Notes for the Hardware Platform S3048−ON*.

New Dell EMC Networking OS Version 9.14(2.9) Features

The following features are integrated into the Dell EMC Networking 9.14.2 branch through this release:

None

Restrictions

- Prerequisite steps to upgrade the Dell EMC 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 EMC 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 EMC 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 EMC 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 EMC Networking OS and OA package, see the respective *Dell EMC System Release Notes*.

● If you downgrade the Dell EMC Networking OS version from 9.14.2.9 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
```

● 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 EMC Networking OS from version 9.7(0.0):
  ○ 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`)
● Half-Duplex mode is not supported.
● 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.

Changes to Default Behavior and CLI Syntax

The following behavior and CLI changes are applicable to the S3048–ON switch with Dell EMC Networking OS version 9.14(2.9):

None.

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(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.

Category	Description
	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 S3048−ON 9.14(2.0) Software Issues

Issues that appear in this section were reported in Dell EMC 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 EMC 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 S3048−ON 9.14(2.9P1) Software Issues

ⓘ **NOTE:** Dell EMC Networking OS 9.14(2.9P1) 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 are fixed in Dell EMC Networking OS version 9.14(2.9P1):

PR# 169575

Severity:	Sev 2
Synopsis:	In certain scenarios, port configuration does not take effect and you may see the `IFMGR-3-IFA_COMM_FAIL` syslog error.
Release Notes:	In certain scenarios, port configuration does not take effect and you may see the `IFMGR-3-IFA_COMM_FAIL` syslog error.
Workaround:	None

PR# 170018

Severity:	Sev 1
Synopsis:	Ethernet packet type 0x888e is not handled, leading to a memory leak.
Release Notes:	Ethernet packet type 0x888e is not handled, leading to a memory leak.
Workaround:	None

PR# 170024

Severity:	Sev 2
Synopsis:	On a fully scaled switch, with all ports fanned out, some ports fail to `OPER UP` after reload.
Release Notes:	On a fully scaled switch, with all ports fanned out, some ports fail to `OPER UP` after reload.
Workaround:	None

PR# 170041

Severity:	Sev 2
Synopsis:	In certain scenarios, in a VLT environment, the switch may encounter an exception during VLT failover.
Release Notes:	In certain scenarios, in a VLT environment, the switch may encounter an exception during VLT failover.
Workaround:	None

Fixed S3048–ON 9.14(2.9) Software Issues

ⓘ **NOTE:** Dell EMC Networking OS 9.14(2.9) 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 resolved in the Dell EMC Networking OS version 9.14(2.9):

PR# 169919

Severity:	Sev 3
Synopsis:	The switch may encounter a software exception due to invalid memory access on bootup.

| **Release Notes:** | The switch may encounter a software exception due to invalid memory access on bootup. |

Workaround: None

PR# 169921

Severity:	Sev 2
Synopsis:	Static routes are not restored when BFD is disabled at interface level.
Release Notes:	Static routes are not restored when BFD is disabled at interface level.

Workaround: None

PR# 169972

Severity:	Sev 2
Synopsis:	DHCPv6 `relay-reply` packet drops in the L2 VLAN when DHCPv6 relay is configured in the L3 VLAN.
Release Notes:	DHCPv6 `relay-reply` packet drops in the L2 VLAN when DHCPv6 relay is configured in the L3 VLAN.

Workaround: None

PR# 169984

Severity:	Sev 2
Synopsis:	The switch may encounter a software exception when running the `show ipv6 ospf database router` CLI command.
Release Notes:	The switch may encounter a software exception when running the `show ipv6 ospf database router` CLI command.

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.

Category	Description
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 S3048–ON 9.14(2.9) Software Issues

The latest information related to Open Caveats is available on support site through the BugTrack search tool.

(i) **NOTE:** You must have a user account to access the BugTrack tool.

To use the search tool:

1. Go the Main Customer Support page: https://www.force10networks.com/csportal20/Main/SupportMain.aspx.
2. Log in.
3. Click the BugTrack link, located in the Quick Links menu directly below the login bar.

   This takes you to the BugTrack search page: https://www.force10networks.com/csportal20/BugTrack/SearchIssues.aspx.

4. Enter for a specific PR or select an Dell EMC Networking OS version, platform, severity, or category to get a list of PRs.
5. Click the Search button.
6. Click the PR number to view specific PR details.

The PR (or PRs) appears on the page below the tool.

The following caveats are open in Dell EMC Networking OS version 9.14(2.9):

None.

Upgrading the sub-components

Ensure 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 EMC Networking OS, perform the following steps:

1. Upgrade the S3048-ON Boot Selector image.

   EXEC Privilege

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

   Dell EMC Networking OS version 9.14(2.9) requires S3048-ON Boot Selector image version 3.24.0.0-11. 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        3.24.0.0-9         3.24.0.0-11
   ```

```
      ********************************************************************
      *  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

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!00:02:33: %S3048-ON:1 %CHMGR-2-
FAN_SPEED_CHANGE: Fan speed changed to 52 % of the full speed
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Bootselector image upgrade for stack-unit 1 completed successfully.
DellEMC#
```

2. Reload the unit.

    EXEC Privilege

    reload

3. Verify the Boot Selector image.

    EXEC Privilege

    show system stack-unit <id>

```
DellEMC#show system stack-unit 1

--  Unit 1 --
Unit Type                    : Management Unit
Status                       : online
Next Boot                    : online
Required Type                : S3048-ON - 52-port GE/TE (SG-ON)
Current Type                 : S3048-ON - 52-port GE/TE (SG-ON)
Master priority              : 0
Hardware Rev                 : 0.0
Num Ports                    : 52
Up Time                      : 13 min, 15 sec
Dell EMC Networking OS Version : 9.14(2.9)
Jumbo Capable                : yes
POE Capable                  : no
FIPS Mode                    : disabled
Boot Flash                   : 3.24.2.9
Boot Selector                : 3.24.0.0-11

Memory Size                  : 2127654912 bytes
Temperature                  : 30C
Voltage                      : ok
Serial Number                : NA
Part Number                  : 0VCY6T    Rev A00
Vendor Id                    : NA
Date Code                    : NA
Country Code                 : NA
Piece Part ID                : CN-123456-DELLI-215-8989
PPID Revision                : A00
Service Tag                  : NA
Expr Svc Code                : NA
Auto Reboot                  : enabled
Burned In MAC                : 00:e0:ec:25:d9:50
No Of MACs                   : 3

--  Power Supplies  --
Unit   Bay   Status     Type   FanStatus   FanSpeed(rpm)
----------------------------------------------------
  1     1    up         AC     up          8032
  1     2    up         AC     up          8096

--  Fan  Status  --
Unit Bay   TrayStatus   Fan1    Speed
-----------------------------------
  1   1      up           up     7200
  1   2      up           up     7200
```

```
   1    3    up        up      7200

Speed in RPM

DellEMC#
```

Upgrade the GRUB or Boot Flash

To upgrade the GRUB or Boot Flash from Dell EMC Networking OS, perform the following steps:

1. Upgrade the S3048-ON Boot Flash image.

    EXEC Privilege

    ```
    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          3.24.2.3         3.24.2.9


        ********************************************************************
        *  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]: yes

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

Upgrade the CPLD

The S3048-ON system with Dell EMC Networking OS Version 9.14(2.9) requires System CPLD revision 10 and Module CPLD revision 9.

ⓘ **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  --
S3048-ON SYSTEM CPLD    : 10

S3048-ON MODULE CPLD    : 9

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:SG-ON        9.14(2.9)     65838348      Dec 10 2020 08:37:00
```

```
TARGET IMAGE INFORMATION :
------------------------------------------------------------------------
        Type            Version                   Target     checksum
     runtime         9.14(2.9)         Control Processor      passed

BOOT IMAGE INFORMATION :
------------------------------------------------------------------------
        Type            Version                   Target     checksum
   boot flash         3.24.2.9          Control Processor      passed

BOOTSEL IMAGE INFORMATION :
------------------------------------------------------------------------
        Type            Version                   Target     checksum
boot selector       3.24.0.0-11
      Control Processor        passed

FPGA IMAGE INFORMATION :
------------------------------------------------------------------------
         Card                      FPGA Name      Version
stack-unit 1            S3048-ON SYSTEM CPLD         10
stack-unit 1            S3048-ON MODULE CPLD          9
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 3.24.0.0-11. You can verify this version using **show system stack-unit 1** command.

To upgrade the CPLD image on S3048-ON, follow these steps.

1. Upgrade the CPLD image.

   EXEC Privilege

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

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

   Current information for the system:
   =========================================================================
     Card                     Device Name      Current Version      New Version
   -------------------------------------------------------------------------
     Unit1          S3048-ON SYSTEM CPLD                9                10
     Unit1          S3048-ON MODULE CPLD                7                 9

       **********************************************************************
       *  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#00:04:11: %S3048-ON:1 %DOWNLOAD-6-FPGA_UPGRADE: stack-unit 1 fpga upgrade
   success.

   DellEMC#
   ```

```
Need to power cycle the unit to complete the FPGA upgrade.
```

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 :

   EXEC Privilege

   `show revision`

   ```
   DellEMC#show revision

   --  Stack unit 1  --
   S3048-ON SYSTEM CPLD    : 10

   S3048-ON MODULE CPLD    : 9

   DellEMC#
   ```

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

Upgrading ONIE on the S3048-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 update 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: http://opencomputeproject.github.io/onie/docs/design-spec/updater.html

   ```
   S3048-ON image>>>> onie-updater-x86_64-s3000_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.

   ```
   S3048-ON image>>>> onie-updater-x86_64-s3000_c2338-r0
   ```

3. UPGRADING ONIE ON AN EXISTING S3048–ON SYSTEM.

   The following example uses HTTP to upgrade ONIE.

   ```
   ONIE:/ # onie-self-update tftp://10.16.127.35/onie-updater-x86_64-s3000_c23
   38-r0
   Stopping: discover... done.
   Info: Fetching tftp://10.16.127.35/onie-updater-x86_64-s3000_c2338-r0 ...
   onie-updater-x86_64- 100% |*******************************|  9021k  0:00:00 ETA
   ONIE: Executing installer: tftp://10.16.127.35/onie-updater-x86_64-s3000_c2338-r0
   Verifying image checksum ... OK.
   Preparing image archive ... OK.
   ONIE: Version       : 3.24.1.0-4
   ONIE: Architecture  : x86_64
   ONIE: Machine       : s3000_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 0:0:0:0: [sda] Synchronizing SCSI cache
   Restarting system.
   machine restart
   ```

4. Upgrade the DIAG installer package.

```
ONIE:/ # onie-nos-install tftp://10.16.127.35/INSTALLER-DND-SG-2.0.0.5.bin
Stopping: discover... done.
Info: Fetching tftp://10.16.127.35/INSTALLER-DND-SG-2.0.0.5.bin ...
INSTALLER-DND-SG-2.0 100% |*****************************| 27956k  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.35/INSTALLER-DND-SG-2.0.0.5.bin
Verifying image checksum ... OK.
Preparing image archive from /installer ... Done.
Mounting /dev/sda3...Done.
Copying Images ...Done.
Installing Menu Entry ...Done.
ONIE:/ # umount: can't remount rootfs read-only
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 0:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart
```

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

```
ONIE:/ #
ONIE:/ # tftp -g -r s3000-bios-3.24.0.0-11.bin 10.16.127.35
s3000-bios-3.24.0.0-11. 100% |*****************************|  8192k  0:00:00 ETA
ONIE:/ #
ONIE:/ # flashrom -E -p internal
Erasing and writing flash chip... Erase/write done.
ONIE:/ #
ONIE:/ #
ONIE:/ # flashrom -w s3000-bios-3.24.0.0-11.bin -p internal
Erasing and writing flash chip... Erase/write done.
Verifying flash... VERIFIED.
ONIE:/ #
ONIE:/ #
ONIE:/ # reboot
ONIE:/ # umount: can't remount rootfs read-only
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 0:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart



BIOS (Dell EMC Inc) Boot Selector
S3000 3.24.0.0-11
 (48-port 1G/4-port SFP+ 10G)

CPLD JTAG to normal mode...  done.
Resetting...
```

Installing Dell EMC Networking OS on the S3048-ON using ONIE

(i) **NOTE:** The Dell EMC Networking OS installer package, ONIE-FTOS-SG-ON-9.14.2.9.bin, is required for installing Dell EMC Networking OS on S3048-ON that has only ONIE.

To install the Dell EMC Networking OS version 9.14(2.9) on to the new S3048-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-SG-ON-9.14.2.9.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:/ # onie-nos-install tftp://10.16.127.35/ONIE-FTOS-SG-9.14.2.9.bin
Stopping: discover... done.
Info: Fetching tftp://10.16.127.35/ONIE-FTOS-SG-9.14.2.9.bin ...
ONIE-FTOS-SG-9.14.2.9 100% |*****************************| 95426k  0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.35/ONIE-FTOS-SG-
.2.7.bin
Verifying image checksum ... OK.
Preparing image archive from /installer ... Done.
Verifying Product Platform...
Image File           : ONIE-FTOS-SG-9.14.2.9.bin
Product Name         : S3048-ON
Platform Verified    : OK
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 0:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart


BIOS (Dell EMC) Boot Selector
S3000 3.24.0.0-11
 (48-port 1G/4-port SFP+ 10G)

CPLD JTAG to normal mode...  done.
Resetting...


POST Configuration
  CPU Signature 406D8
  CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
  Microcode Revision 125
  Platform ID: 0x1004183D
  PMG_CST_CFG_CTL: 0x40006
  BBL_CR_CTL3: 0x7E2801FF
  Misc EN: 0x4000840081
  Gen PM Con1: 0x1008
  Therm Status: 0x88490000
  POST Control=0xEA010303, Status=0xE6009601

BIOS initializations...

CPLD JTAG to normal mode...  done.

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  Thursday 12/10/2020 22:35:26

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

POST Lower DRAM Memory test
  Short memory cell test
  Perf cnt (curr,fixed): 0x21157AA35,0x31A008980

POST Lower DRAM Memory test ................. PASS
POST Lower DRAM ECC check ................... PASS


Dell DxE configurations...
Broadcom Preemphasis...
  Gen1=0x4, Gen2=0x43
  done.
NPU CDR...  ..  done.
SM Bus1 PHY...done

DxE POST
POST PCI test ............................... PASS
POST NVRAM check ............................ PASS
POST overall test results ........................ PASS



Version 2.16.1242. Copyright (C) 2020 American Megatrends, Inc.
BIOS Date: 12/10/2020 01:14:04 Ver: 0ACBZ018
Press DEL or F2 to enter setup.




Grub 1.99~rc1 (Dell EMC)
Built by root at ubuntu on Thu_Dec_10_14:42:47_UTC_2020
S3000ON Boot Flash Label 3.24.2.9 NetBoot Label 3.24.2.9


Press Esc to stop autoboot ... 0
```

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

   `DellEMC#`

Upgrading the S3048-ON Dell EMC Networking OS Image using the Dell EMC Networking OS CLI

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 S3048-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.

    ⓘ **NOTE:** If you are upgrading from Dell EMC Networking OS version 9.10.0.1P5 or earlier, you cannot directly upgrade to version 9.10.0.1P13 or above. Upgrade to version 9.10.0.1P8 first and then upgrade to the required version.

2. Upgrade the Dell EMC Networking OS in flash partition A: or B:

   EXEC Privilege

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

```
DellEMC#upgrade system tftp: a:
Address or name of remote host []: 10.16.127.35
Source file name []: FTOS-SG-9.14.2.9.bin
3d17h59m : Discarded 1 pkts. Expected block num : 62. Received block num: 61
3d17h59m : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!...............
................!
62620397 bytes successfully copied
System image upgrade completed successfully.
DellEMC#Dec 10 11:56:43: %STKUNIT1-M:CP %DOWNLOAD-6-UPGRADE: Upgrade completed
successfully
DellEMC#

DellEMC#upgrade system tftp: b:
Address or name of remote host []: 10.16.127.35
Source file name []: FTOS-SG-9.14.2.9.bin
3d18h2m : Discarded 1 pkts. Expected block num : 51. Received block num: 50
3d18h2m : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!...........
...........................!
62620397 bytes successfully copied
System image upgrade completed successfully.
DellEMC#Dec 10 12:00:33: %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.

   EXEC Privilege

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

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

   Current system image information in the system:
   ========================================================================
   Type          Boot Type        A                               B
   ------------------------------------------------------------------------
   stack-unit 1  DOWNLOAD BOOT    9.14(2.9)[boot]                 9.14(2.8)
   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#
   DellEMC#
   ```

4. Change the Primary Boot Parameter of the S3048-ON to the upgraded partition A: or B:

   CONFIGURATION

   ```
   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

   ```
   write memory
   ```

   ```
   DellEMC#write memory
   !
   Dec 10 18:58:59: %STKUNIT1-M:CP %FILEMGR-5-FILESAVED: Copied running-config to
   startup-config in flash by default

   DellEMC#
   ```

6. Reload the unit.

   EXEC Privilege

```
reload
```

```
Command      : reload
Mode         : EXEC PRIVILEGE
DellEMC#reload
Proceed with reload [confirm yes/no]: y
```

7. Verify the S3048 ON has been upgraded to the Dell EMC Networking OS version 9.14(2.9).

   EXEC Privilege

   ```
   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(2.9)
   Copyright (c) 1999-2020 by Dell EMC Inc. All Rights Reserved.
   Build Time: Thu Dec 10 10:20:04 2020
   Build Path: /build/build01/SW/SRC
   Dell EMC Networking OS uptime is 3 day(s), 21 hour(s), 3 minute(s)

   System image file is "system://A"

   System Type: S3048-ON
   Control Processor: Intel Rangeley with 2 Gbytes (2127654912 bytes) of memory, core(s)
   2.

   8G bytes of boot flash memory.

     1 52-port GE/TE (SG-ON)
    48 GigabitEthernet/IEEE 802.3 interface(s)
     4 Ten GigabitEthernet/IEEE 802.3 interface(s)
   DellEMC#
   ```

Uninstalling Dell EMC Networking OS on the S3048-ON

To uninstall the Dell EMC Networking OS version 9.14(2.9) from the S3048-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: 12/10/2020 01:14:04 15:25:58 Ver: 0ACBZ018

   Press DEL or F2  to enter setup.

    Grub 1.99~rc1 (Dell EMC)
    Built by root at ubuntu on Thu_Dec_10_14:42:47_UTC_2020
    S3000ON Boot Flash Label 3.24.2.9 NetBoot Label 3.24.2.9


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

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 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 9.14.2.9 uninstalls:

```
ONIE: OS Uninstall Mode ...
Version   : 3.24.1.0-4
Build Date: 2020-12-10T13:53-0700
Info: Mounting kernel filesystems... done.
Info: Mounting LABEL=ONIE-BOOT on /mnt/onie-boot ...
Info: Using eth0 MAC address: 00:85:13:53:99:10
Info: Using eth1 MAC address: 00:85:13:53:99:11
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/sda3 (300MB)
  Percent complete: 100%
Erase complete.
Deleting partition 3 from /dev/sda
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 0:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart


BIOS (Dell EMC) Boot Selector
S3000 3.24.0.0-11
```

```
  (48-port 1G/4-port SFP+ 10G)

CPLD JTAG to normal mode...  done.
Resetting...

POST Configuration
  CPU Signature 406D8
  CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
  Microcode Revision 125
  Platform ID: 0x1004183D
  PMG_CST_CFG_CTL: 0x40006
  BBL_CR_CTL3: 0x7E2801FF
  Misc EN: 0x4000840081
  Gen PM Con1: 0x1008
  Therm Status: 0x884B0000
  POST Control=0xEA010303, Status=0xE6009601

BIOS initializations...

CPLD JTAG to normal mode...  done.

BIOS initializations...

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

ECC enabled: channel 0 DECCCTRL_DUNIT_REG=0x000200F3
```

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

```
ONIE:/ #
```

Installing a Third Party Operating System

Apart from the Dell EMC Networking OS, you can also install a supported third party operating system on the S3048-ON system. For more information on installing a third party operating system, please check the ONIE documentation at https://github.com/opencomputeproject/onie/wiki/Quick-Start-Guidehttps://github.com/opencomputeproject/onie/wiki/Quick-Start-Guide and refer to the respective third party OS vendor's website for OS installation instructions.

Support Resources

The following support resources are available for the S3048–ON system.

Documentation Resources

This document contains operational information specific to the S3048–ON system.

For information about using the S3048–ON, refer to the following documents at http://www.dell.com/support:
- *Installing the S3048-ON System*
- *Quick Start Guide*
- *Dell EMC Networking Command Line Reference Guide for the S3048-ON System*
- *Dell EMC Networking Configuration Guide for the S3048-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.

> **ⓘ NOTE:** You can subscribe to issue update reports or use the BugTrack search tool to read current information about open and closed issues. To subscribe or use BugTrack, visit Dell EMC Support at: https://www.force10networks.com/CSPortal20/BugTrack/SearchIssues.aspx.

Finding Documentation

This document contains operational information specific to the S3048-ON switch.
- For information about using the S3048–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.**