

Dell EMC S5048F–ON System Release Notes, OS Version 9.14(1.10)

This document contains information about open and resolved caveats, and operational information specific to the Dell EMC Networking operating software (OS) and the S5048F-Open Networking (ON) platform.

Current Release Version: 9.14(1.10)

Release Date: 2021-09-30

Previous Release Version: 9.14(1.9P4)

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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.

Requirements

The following requirements apply to the S5048F-ON system.

Hardware Requirements

The following lists the Dell EMC S5048F-ON system hardware requirements:

- 1/10/25/40/50/100 GbE switch
- Forty-eight 1 GbE/10 GbE/25 GbE SFP28 ports
- Six 100 GbE QSFP28 ports (Each 100 GbE port can be fanned-out into 1x40 GbE, 2x50 GbE, 4x25 GbE, and 4x10 GbE)
- One MicroUSB-B console port
- One RJ-45 serial console port
- One USB Type-A port for more file storage
- On-board Rangeley central processing unit (CPU) system with 8GB DDR III RAM, 16GB iSLC mSATA SSD
- One 10/100/1000BaseT Ethernet management port
- Two hot-swappable redundant power supplies
- Four hot-swappable fan modules
- Standard 1U switch

The following lists the individual Dell EMC S5048F-ON system hardware components that are available to order:

- Fan with airflow from I/O side to PSU side
- Fan with airflow from PSU side to I/O side
- AC or DC power supply with airflow from I/O side to PSU side
- AC or DC power supply with airflow from PSU side to I/O side

NOTE: Fan modules and power supplies are field replaceable units.

NOTE: All fans and PSUs must have the same airflow direction. If you mix the airflow direction, the switch detects the discrepancy, issues an alarm, and may auto-shutdown to avoid heat damage to components. You must correct the mixed airflow direction.

Software Requirements

Table 2. Software Requirements

Software	Minimum Release Requirement
Dell EMC Networking OS	9.14(1.10)
ONIE	3.38.1.1-3
DIAG Installer	3.38.3.1-2
EDA Diags	3.38.4.1-2
ONIE Firmware Updater	3.38.5.1-0

NOTE: For information about non-Dell OS versions, see *Dell EMC S5048F-Open Networking (ON) System Release Notes*.

New Dell EMC Networking OS Version 9.14(1.10) Features

The following features have been added to the S5048F-ON with Dell EMC Networking OS version 9.14(1.10):

None.

Restrictions

- After you upgrade Dell EMC Networking OS to 9.14(1.10) from an earlier version and update the BIOS using the booted option, the system does not allow you to downgrade the BIOS to an earlier version. To run an earlier BIOS version, use FTP, TFTP, or SCP option from the current OS version.

```
DellEMC#upgrade boot bootselector-image stack-unit 1 tftp://10.16.127.7/FTOS-S5048F-ON-9.14.1.10.bin
Sep 24 09:32:03 : Discarded 1 pkts. Expected block num : 51. Received block num: 50
Sep 24 09:32:06 : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!.

Current Boot information in the system:
=====
Card                BootSelector      Current Version   New Version
-----
Unit1              Boot Selector    3.38.0.1-4       3.38.0.1-3

*****
* 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

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

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
```

- The following features are not available in Dell EMC Networking OS:
 - Protocol-independent multicast (PIM) equal cost multi path (ECMP)
 - Static Internet group management protocol (IGMP) join (ip igmp static-group)
 - IGMP querier timeout configuration (ip igmp querier-timeout)
 - IGMP group join limit (ip igmp group join-limit)
- When 1024 or more VNI profiles are configured, the system takes more time to load. Dell EMC recommends to restrict the VNI profiles to be less than 1000.
- 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.
- On the device, the 48 SFP28 ports are split into 12 port groups; each group constituting four continuous SFP28 ports. Within a port group, all four ports can run at 25G/10G/1G speed. The port group speed is determined by the first optic inserted in any one of the four ports. For example, if you insert an SFP+ in port 1/1, the port group speed is set to 1G/10G. If you insert a 25G optic in port 1/2, the system displays an error message and does not enable the 25G optic. The port group speed resets to the default speed of 25G when you remove the SFP+ from port 1/1.

Changes to the 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.
- If you configure an NTP server using a DNS hostname, the switch tries to resolve the name to an IP address instead of the hostname. If it succeeds, the system saves the command using the IP address instead of the hostname, to the `running-config`. If it fails, you see the following error message:

```
Error: Destination name lookup failed for host
<DNS hostname>
```

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 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	<p>S1 — Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process.</p> <p>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.</p> <p>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.</p> <p>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.</p>
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.

Category Description

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 S5048F–ON 9.14(1.0) Software Issues

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.

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

Fixed S5048F–ON 9.14(1.10) Software Issues

 **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 <code>ip ssh server</code> 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 <code>crypto key generate rsa</code> 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: <ul style="list-style-type: none"> • 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	<p>S1 — Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process.</p> <p>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.</p>

Category	Description
	<p>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.</p> <p>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.</p>
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	<p>Work around describes a mechanism for circumventing, avoiding, or recovering from the issue. It might not be a permanent solution.</p> <p>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.</p>

Known S5048F–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 <code>registering</code> state indefinitely.
Release Notes:	In certain scenarios, an MSDP learnt PIM TIB entry stays in <code>registering</code> state indefinitely.
Workaround:	Set the affected node as a non-designated router in the RPF neighbor interface.

Upgrading the ONIE Package for the S5048F-ON System

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

- Zero touch (dynamic): Copy the updated ONIE installer for your system to the TFTP/HTTP server. Configure the DHCP options using the ONIE specifications shown at the following link: <https://github.com/opencomputeproject/onie/wiki/Design-Spec-SW-Updating-ONIE>
- Manual: Copy the image onto the TFTP/HTTP servers and boot ONIE. Update the ONIE using the `onie-self-update` command, then download and run an ONIE updater image (`onie-updater-x86_64-dellemc_s5000_c2538-r0`). The supported URL types are: HTTP, FTP, TFTP, and FILE.

To upgrade ONIE, perform the following steps:

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

```
Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
S5048F Boot Flash Label 3.38.2.6 NetBoot Label 3.38.2.6
```

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

```
GNU Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
+-----+
| *DELL EMC Networking OS                               |
|  DELL EMC Networking OS-Boot Line Interface           |
```

```
| EDA-DIAG
| ONIE
|
|
|
+-----+

```

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, 'f' to boot FTOS, 'b' to go to
BLI, 'o' to boot ONIE, 'd' to boot DIAG-OS, 'e' to edit the commands
before booting or 'c' for a command-line.

3. From the menu, choose the ONIE option.

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

The following menu appears:

```
GNU Grub 2.02~beta2 (Dell EMC)
```

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

```

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, `e' to edit the commands
before booting or `c' for a command-line.

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

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

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

```
ONIE: ONIE Update Mode ...
Version : 3.38.1.1-3
Build Date: 2021-09-24T09:57-0700
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot ...
random: fsck urandom read with 10 bits of entropy available
Info: Mounting EFI System on /boot/efi ...
Info: Using eth0 MAC address: 34:17:eb:37:0e:00
Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0
Warning: Unable to configure interface using DHCPv4: eth0
random: nonblocking pool is initialized
ONIE:
```

```
Using link-local IPv4 addr: eth0: 169.254.229.154/16
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: ONIE update mode detected. Running updater.
Starting: discover... done.
```

```
Please press Enter to activate this console. Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0
```

```
Warning: Unable to configure interface using DHCPv4: eth0
ONIE: Using link-local IPv4 addr: eth0: 169.254.51.54/16
```

```
To check the install status inspect /var/log/onie.log.
```



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

```
** ONIE Update Mode Enabled **  
ONIE:/ #
```

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


```
ONIE:/ # onie-discovery-stop  
The ONIE discovery stops, as shown:
```

```
discover: ONIE update mode detected.  
Stopping: discover... done.  
ONIE:/ #
```

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

```
ONIE:/ # ifconfig eth0 10.16.129.131/16
```

7. Enter the following command to upgrade ONIE: `ONIE:/ # onie-self-update tftp://<tftp-server-address>/onie-updater-x86_64-dellemc_s5000_c2538-r0`.

 **NOTE:** You must copy the `onie-updater-x86_64-dellemc_s5000_c2538-r0` file to the `/tftpboot` folder in the server.

ONIE is updated on the system, as shown:

```
ONIE:/ # onie-self-update tftp://10.16.127.6/users/gk/5048F/onie-updater-x86_64-  
dellemc_s5000_c2538-r0  
discover: ONIE update mode detected.  
Stopping: discover... done.  
Info: Fetching tftp://10.16.127.6/users/gk/5048F/onie-updater-x86_64-  
dellemc_s5000_c2538-r0 ...  
users/gk/5048F/onie- 100% |*****| 11681k 0:00:00 ETA  
ONIE: Executing installer: tftp://10.16.127.6/users/gk/5048F/onie-updater-x86_64-  
dellemc_s5000_c2538-r0  
Verifying image checksum ... OK.  
Preparing image archive ... OK.  
ONIE: Version      : 3.38.1.1-3  
ONIE: Architecture : x86_64  
ONIE: Machine      : dellemc_s5000_c2538  
ONIE: Machine Rev  : 0  
ONIE: Config Version: 1  
Installing ONIE on: /dev/sda  
ONIE: Success: Firmware update URL: onie-updater-x86_64-dellemc_s5000_c2538-r0  
ONIE: Success: Firmware update version: 3.38.1.1-3  
ONIE: Rebooting...  
ONIE:/ # discover: ONIE update mode detected.  
Stopping: discover...start-stop-daemon: warning: killing process 2329: No such process  
done.  
Stopping: dropbear ssh daemon... done.  
Stopping: telnetd... done.  
Stopping: syslogd... done.  
Info: Unmounting kernel filesystems  
umount: can't umount /: Invalid argument  
The system is going down NOW!  
Sent SIGTERM to all processes  
Sent SIGKILL tosd 4:0:0:0: [sda] Synchronizing SCSI cache  
reboot: Restarting system  
reboot: machine restart  
  
BIOS Boot Selector for S5048F  
Primary BIOS Version 3.38.0.1-4  
  
SMF Version: MSS 1.4, FPGA 0.1  
Last POR=0x11, Reset Cause=0x44  
  
POST Configuration  
CPU Signature 406D8  
CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0  
Microcode Revision 125  
Platform ID: 0x10041A56  
PMG_CST_CFG_CTL: 0x40006  
BBL_CR_CTL3: 0x7E2801FF
```

```
Misc EN: 0x840081
Gen PM Con1: 0x3008
Therm Status: 0x88350000
POST Control=0xEA000303, Status=0xE6009F00
```

BIOS initializations...

CPGC Memtest PASS

Upgrading the DIAG Package for the S5048F-ON System

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

- Zero touch (dynamic): Copy the update ONIE installer for your system to the TFTP/HTTP server. Configure the DHCP options using the ONIE specifications shown at the following link: <https://github.com/opencomputeproject/onie/wiki/Design-Spec-SW-Updating-ONIE>.
 - Manual: Copy the image onto the TFTP/HTTP servers and boot ONIE. Update the ONIE using the `onie-self-update` command, then download and run an ONIE updater image (`diag-installer-x86_64-dell EMC_s5048f_c2538-r0-3.38.3.1-1-2021-09-24.bin`). The supported URL types are: HTTP, FTP, TFTP, and FILE.
- NOTE:** If Dell EMC Networking OS is already installed on the S5048F-ON system, before upgrading the DIAG package, you must first uninstall Dell EMC Networking OS. For more information on uninstalling Dell EMC Networking OS, see [Uninstalling Dell EMC Networking OS on the S5048F-ON](#).

To upgrade DIAG, perform the following steps:

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

```
Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
S5048F Boot Flash Label 3.38.2.6 NetBoot Label 3.38.2.6
```

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

```
GNU Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
+-----+
|*DELL EMC Networking OS
| DELL EMC Networking OS-Boot Line Interface
| EDA-DIAG
| ONIE
|
|
|
+-----+
Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, 'f' to boot FTOS, 'b' to go to
BLI, 'o' to boot ONIE, 'd' to boot DIAG-OS, 'e' to edit the commands
before booting or 'c' for a command-line.
```

3. From the menu, choose the ONIE option.

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

The following menu appears:

```
GNU Grub 2.02~beta2 (Dell EMC)
+-----+
|*ONIE: Install OS
| ONIE: Rescue
|
```

```
| ONIE: Uninstall OS |
| ONIE: Update ONIE |
| ONIE: Embed ONIE |
| |
+-----+

```

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, `e` to edit the commands before booting or `c` for a command-line.

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

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

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

```
ONIE: OS Install Mode ...
Version : 3.38.1.1-3
Build Date: 2021-09-24T09:57-0700
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot ...
random: fsck urandom read with 14 bits of entropy available
Info: Mounting EFI System on /boot/efi ...
Info: Using eth0 MAC address: 34:17:eb:37:2d:00
Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0
Warning: Unable to configure interface using DHCPv4: eth0
random: nonblocking pool is initialized
ONIE: Using link-local IPv4 addr: eth0: 169.254.47.74/16
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: installer mode detected. Running installer.
Starting: discover... done.

Please press Enter to activate this console. Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0

To check the install status inspect /var/log/onie.log.
Try this: tail -f /var/log/onie.log

** Installer Mode Enabled **
ONIE:/ #
ONIE:/ #
```

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

```
ONIE:/ # onie-discovery-stop
```

The ONIE discovery stops, as shown:

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

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

```
ONIE:/ # ifconfig eth0 10.16.129.131/16
```

- Enter the following command to upgrade DIAG on the S5048F-ON system:

```
onie-nos-install ftp://ftp:ftp@<ftp-server-address>/tftpboot/diag-installer-x86_64-
dellemc_s5048f_c2538-r0-3.38.3.1-1.bin
```

NOTE: You must copy the diag-installer-x86_64-dellemc_s5048f_c2538-r0-3.38.3.1-1.bin file to the /tftpboot folder in the server.

The DIAG is updated on the system, as shown:

```
ONIE:/ # onie-nos-install diag-installer-x86_64-dellemc_s5048f_c2538-r0-3.38.3.1-1.bin
discover: installer mode detected.
Stopping: discover... done.
ftp://ftp:ftp@10.11.227.233/tftpboot/diag-installer-x86_64-dellemc_s5048f_c2538-
```

```

r0-3.38.3.1-1.bin...
Connecting to 10.11.227.233 (10.11.227.233:21)
installer 100% |*****| 11681k 0:00:00 ETA
ONIE: Executing installer: ftp://ftp:ftp@10.11.227.233/tftpboot/diag-installer-
x86_64-dellemc_s5048f_c2538-r0-3.38.3.1-1.bin
Ignoring Verifying image checksum ... OK.
cur_dir / archive_path /var/tmp/installer tmp_dir /tmp/tmp.cdUSCg
Preparing image archive ...sed -e '1,/^\^exit_marker$/d' /var/tmp/installer
| tar xf - OK.
Diag-OS Installer: platform: x86_64-dellemc_s5048f_c2538-r0
Found EDA-DIAG partition at (/dev/sda3)
File /tmp/diag_os_install_mode exists, forcing install mode
Diag OS Installer Mode : INSTALL

```

```

Deleting partition at /dev/sda3...
Warning: The kernel is still using the old partition table.
The new table will be used at the next reboot.
The operation has completed successfully.
Creating new diag-os partition /dev/sda3 ...
Warning: The kernel is still using the old partition table.
The new table will be used at the next reboot.
The operation has completed successfully.

```

```

EDA-DIAG dev is /dev/sda3
mke2fs 1.42.13 (24-Sep-2021)
Discarding device blocks: done
Creating filesystem with 262144 4k blocks and 65536 inodes
Filesystem UUID: e5f809a8-6735-4c56-b5fc-64a7696a647b
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376

```

```

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

```

Created filesystem on /dev/sda3 with label EDA-DIAG

Mounted /dev/sda3 on /tmp/tmp.PBDdoU

```

Preparing /dev/sda3 EDA-DIAG for rootfs install
untaring into /tmp/tmp.PBDdoU

```

```

rootfs copy done
Success: Support tarball created: /tmp/tmp.PBDdoU/onie-support.tar.bz2
Updating diag-os ver in system-eeeprom
Diagos ver 3.38.3.1-2
Deleting TLV 0x2e: Diag Version
Adding TLV 0x2e: Diag Version
Programming passed.

```

TlvInfo Header:

```

    Id String:  TlvInfo
    Version:    1
    Total Length: 180

```

TLV Name	Code	Len	Value
Manufacture Date	0x25	19	09/24/2021 19:11:14
MAC Addresses	0x2A	2	256
Manufacturer	0x2B	5	CES00
Country Code	0x2C	2	CN
Vendor Name	0x2D	8	Dell EMC
Service Tag	0x2F	7	8VSRG02
Vendor Extension	0xFD	4	0x00 0x00 0x02 0xA2
Part Number	0x22	6	0797T2
Serial Number	0x23	20	CN0797T2CES0078G0003
Device Version	0x26	1	1
Label Revision	0x27	3	A00
Base MAC Address	0x24	6	34:17:EB:37:0E:00
Product Name	0x21	9	S5048F-ON
Platform Name	0x28	30	x86_64-dellemc_s5048f_c2538-r0
ONIE Version	0x29	10	3.38.1.1-3
Diag Version	0x2E	10	3.38.3.1-2

```

CRC-32          0xFE    4 0x6BAC6783
Checksum is valid.

Updating Grub Cfg /dev/sda3 EDA-DIAG

  ONIE uefi_uuid B60D-2BA8

INSTALLER DONE...
Removing /tmp/tmp.cdUSCg
ONIE: NOS install successful: diag-installer-x86_64-dellemc_s5048f_c2538-
r0-3.38.3.1-2.bin
ONIE: Rebooting...
ONIE:/ # discover: installer mode detected.
Stopping: discover...start-stop-daemon: warning: killing process 2638: No such process
done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
umount: can't umount /: Invalid argument
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 4:0:0:0: [sda] Synchronizing SCSI cache
reboot: Restarting system
reboot: machine restart

```

Installing Dell EMC Networking OS on the S5048F-ON using ONIE

NOTE: You will need the Dell EMC Networking OS installer package, ONIE-FTOS-S5048F-ON-9.14.1.10.bin to install the Dell EMC Networking OS on your S5048F-ON system that has only ONIE.

To install the Dell EMC Networking OS version 9.14(1.10) on a new S5048F-ON device, perform the following steps:

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

```

Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
S5048F Boot Flash Label 3.38.2.6 NetBoot Label 3.38.2.6

```

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

```

GNU Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
+-----+
|*DELL EMC Networking OS
| DELL EMC Networking OS-Boot Line Interface
| EDA-DIAG
| ONIE
|
|
|
+-----+

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, 'f' to boot FTOS, 'b' to go to
BLI, 'o' to boot ONIE, 'd' to boot DIAG-OS, 'e' to edit the commands
before booting or 'c' for a command-line.

```

3. From the menu, choose the ONIE option.

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

The following menu appears:

```
GNU Grub 2.02~beta2 (Dell EMC)

+-----+
|*ONIE: Install OS          |
| ONIE: Rescue              |
| ONIE: Uninstall OS       |
| ONIE: Update ONIE        |
| ONIE: Embed ONIE         |
|                           |
+-----+

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, `e' to edit the commands
before booting or `c' for a command-line.
```

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

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

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

```
ONIE: OS Install Mode ...
Version : 3.38.1.1-3
Build Date: 2021-07-24T09:57-0700
Info: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot ...
random: fsck urandom read with 14 bits of entropy available
Info: Mounting EFI System on /boot/efi ...
Info: Using eth0 MAC address: 34:17:eb:37:2d:00
Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0
Warning: Unable to configure interface using DHCPv4: eth0
random: nonblocking pool is initialized
ONIE: Using link-local IPv4 addr: eth0: 169.254.47.74/16
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: installer mode detected. Running installer.
Starting: discover... done.

Please press Enter to activate this console. Info: eth0: Checking link... up.
Info: Trying DHCPv4 on interface: eth0

To check the install status inspect /var/log/onie.log.
Try this: tail -f /var/log/onie.log

** Installer Mode Enabled **
ONIE:/ #
ONIE:/ # Warning: Unable to configure interface using DHCPv4: eth0
ONIE: Using link-local IPv4 addr: eth0: 169.254.168.149/16
```

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

```
ONIE:/ # onie-discovery-stop
```

The ONIE discovery stops, as shown:

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

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

```
ONIE:/ # ifconfig eth0 10.16.129.131/16
```

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

```
ONIE:/ # onie-nos-install tftp://<tftp-server-address>/ONIE-FTOS-S5048F-ON-9.14.1.10.bin
```

NOTE: You must copy the ONIE-FTOS-S5048F-ON-9.14.1.10.bin file to the /tftpboot folder in the server.

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

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

```
ONIE:/ # onie-nos-install tftp://10.16.127.6/users/admin/ONIE-FTOS-S5048F-ON-9.14.1.10.bin
discover: installer mode detected.
Stopping: discover... done.
Info: Fetching tftp://10.16.127.6/users/admin/ONIE-FTOS-S5048F-ON-9.14.1.10.bin ...
users/admin/ONI 100% |*****| 96983k 0:00:00 ETA
ONIE: Executing installer: tftp://10.16.127.6/users/admin/ONIE-FTOS-S5048F-ON-9.14.1.10.bin
Verifying image checksum ... OK.
Preparing image archive from /installer ... Done.
Verifying Product Platform...
Product Name      : S5048FON
Image Platform    : FTOS-S5048F-ON
Image File        : FTOS-S5048F-ON-9.14.1.10.bin
Image Compatibility : Verified
Verifying MAC Address...
MAC Address is Configured
Image Platform    : FTOS-S5048F-ON
Deleting Extra partitions... Done.
Creating New partitions... Done.
Creating Hybrid MBR... Done.
Mouting /dev/sda4,/dev/sda5 and /dev/sda6... mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
mkfs.fat 3.0.26 (2021-09-24)
Done.
Installing GRUB on /dev/sda4...Copying Images... Done.
ONIE: NOS install successful: tftp://10.16.127.6/users/admin/ONIE-FTOS-S5048F-ON-9.14.1.10.bin
ONIE: Rebooting...
ONIE:/ # discover: installer mode detected.
Stopping: discover...start-stop-daemon: warning: killing process 2638: No such process done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
umount: can't unmount /: Invalid argument
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL tosd 4:0:0:0: [sda] Synchronizing SCSI cache
reboot: Restarting system
reboot: machine restart

BIOS Boot Selector for S5048F
Primary BIOS Version 3.38.0.1-4

SMF Version: MSS 1.4, FPGA 0.1
Last POR=0x11, Reset Cause=0x55

POST Configuration
CPU Signature 406D8
CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
Microcode Revision 125
Platform ID: 0x10041A56
PMG_CST_CFG_CTL: 0x40006
```

```
BBL_CR_CTL3: 0x7E2801FF
Misc EN: 0x840081
Gen PM Con1: 0x3008
Therm Status: 0x88350000
POST Control=0xEA000303, Status=0xE6009F00
```

BIOS initializations...

CPGC Memtest PASS

POST:

```
RTC Battery OK at last cold boot
RTC date 09/24/2021 13:39:09
```

POST SPD test PASS

```
POST Lower DRAM Memory test
.... Perf cnt (curr, fixed): 0x4F1A57C3C, 0x9E34B3808
```

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

DxE POST

```
POST Upper DRAM Memory test
Short memory cell test
```

```
....
POST Upper DRAM Memory test ..... PASS
POST PCI test ..... PASS
POST NVRAM check ..... PASS
POST overall test results ..... PASS
```

NVRAM: 00 9F 00 E6 03 03 00 EA

```
Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
S5048F Boot Flash Label 3.38.2.6 NetBoot Label 3.38.2.6
```

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-S5048F-ON Match
WARNING: skipping large memory map entry: 0x100000000/0x140000000/0x1
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 (S5048) #0: Fri Sep 24 01:56:31 PDT 2021
Detecting hardware... (Version 1.4) ( A M I ALASKA)
apid 0 apid 2 apid 4 apid 6 apid 2done.
WARNING: 1 error while detecting hardware; check system log.
WARNING: CHECK AND RESET THE DATE!
route: writing to routing socket: File exists
Partitioning 15272mb flash ....Pass!
0xfacle000
```



```
Mounting /boot
```

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

Upgrading the CPLD

The S5048F-ON system with Dell EMC Networking OS Version 9.14(1.10) requires System complex programmable logic device (CPLD) 1 revision 1, CPLD2 revision 1, CPLD3 revision 1, CPLD4 revision 1, MSS FPGA revision 0.1, MSS IAP revision 1.4, and OOB-FPGA revision 1.0.

i **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 you need a CPLD upgrade

To identify the CPLD version, use the show revision command.

```
DellEMC#show revision

-- Stack unit 1 --
S5048F-ON CPLD 1      : 1.0
S5048F-ON CPLD 2      : 1.0
S5048F-ON CPLD 3      : 1.0
S5048F-ON CPLD 4      : 1.0
S5048F-ON MSS FPGA    : 0.1
S5048F-ON MSS IAP     : 1.4
S5048F-ON OOB-FPGA    : 1.0
```

To view the CPLD version that is associated with the Dell EMC Networking OS image, use the following command:

```
DellEMC#show os-version

RELEASE IMAGE INFORMATION :
-----
Platform          Version          Size          ReleaseTime
S-Series:S5048F-ON 9.14(1.10)      62789040     Sep 24 2021 13:53:48

TARGET IMAGE INFORMATION :
-----
Type              Version          Target          checksum
runtime           9.14(1.10)      Control Processor passed

BOOT IMAGE INFORMATION :
-----
Type              Version          Target          checksum
boot flash        3.38.2.6        Control Processor passed

BOOTSEL IMAGE INFORMATION :
-----
Type              Version          Target          checksum
boot selector     3.38.0.1-4      Control Processor passed

FPGA IMAGE INFORMATION :
-----
Card              FPGA Name        Version
stack-unit 1     S5048F-ON CPLD 1 1.0
stack-unit 1     S5048F-ON CPLD 2 1.0
```

```

stack-unit 1          S5048F-ON CPLD 3          1.0
stack-unit 1          S5048F-ON CPLD 4          1.0
stack-unit 1          S5048F-ON MSS FPGA          0.1
stack-unit 1          S5048F-ON MSS IAP          1.4
stack-unit 1          S5048F-ON OOB-FPGA          1.0
DellEMC#

```

Upgrading the CPLD Image

NOTE: The upgrade fpga-image system cpld stack-unit 1 booted command is hidden when using the feature in the CLI. However, it is a supported command.

To upgrade the CPLD image, follow these steps.

1. Shut down all of the interfaces on the system.

```

INTERFACE Mode
shutdown

```

2. Upgrade the CPLD image.

```

EXEC Privilege Mode
upgrade fpga-image system cpld stack-unit <id> booted

```

```

DellEMC#upgrade fpga-image system cpld stack-unit 1 booted

Current information for the system:
=====
Card                Device Name          Current Version      New Version
-----
Unit1               S5048F-ON CPLD 1    1.0                  1.0
Unit1               S5048F-ON CPLD 2    1.0                  1.0
Unit1               S5048F-ON CPLD 3    1.0                  1.0
Unit1               S5048F-ON CPLD 4    1.0                  1.0

*****
* 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 system 1 [yes/no]: yes

FPGA upgrade in progress!!! Please do NOT power off the unit!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Sep 24 16:16:54: %S5048F-ON:1 %DOWNLOAD-4-FPGA_UPGRADE: stack-unit 1 fpga upgrade
success.

Upgrade result :
=====
Unit 1 FPGA upgrade successful Unit 1. Please power cycle to take effect.

DellEMC#

```

3. 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 OFF.

NOTE: Do not switch on the system with the 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

```

- Verify the CPLD version using the `show revision` command output.

EXEC Privilege Mode

`show revision`

```
DellEMC#show revision

-- Stack unit 1 --
S5048F-ON CPLD 1      : 1.0

S5048F-ON CPLD 2      : 1.0

S5048F-ON CPLD 3      : 1.0

S5048F-ON CPLD 4      : 1.0

S5048F-ON MSS FPGA    : 0.1

S5048F-ON MSS IAP     : 1.4

S5048F-ON OOB-FPGA    : 1.0
```

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

Upgrading the SmartFusion Microcontroller Subsystem — SMF MSS-IAP

To upgrade the SmartFusion Microcontroller Subsystem — SMF MSS-IAP, follow these steps.

- Shut down all of the interfaces on the system.

INTERFACE Mode

`shutdown`

- Upgrade the SMF MSS-IAP image.

EXEC Privilege Mode

`upgrade mss-iap-image stack-unit <stack-unit-id> booted`

```
DellEMC#upgrade mss-iap-image stack-unit 1 booted

Current information for the system:
=====
Card                Device Name          Current Version      New Version
-----
CP                   S5048F-ON MSS IAP    1.4                  1.4

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

Warning - PSU and FANTRAYS Syslog messages may appear during SMF FPGA upgrade.
Please ignore these messages !!!

Upgrade image for stack-unit 1 [yes/no]: yes

SMF MSS upgrade in progress!!! Please do NOT power off the unit!!! Auto Reset will
happen at the end of Upgrade!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Upgrade result :
=====
UNIT1 SMF MSS upgrade successful UNIT1. will go for reboot to complete the upgrade.
```

```
DellEMC#Sep 24 13:45:16 %STKUNIT1-M:CP %DOWNLOAD-6-FPGA_UPGRADE: UNIT 1 fpga upgrade success.
```

After the SMF MSS-IAP upgrade is successfully completed, the system re-boots automatically.

3. After the system re-boots, wait for the Dell EMC prompt. Verify the MSS-IAP version using the `show revision` command output.

EXEC Privilege Mode

```
show revision
```

```
DellEMC#show revision

-- Stack unit 1 --
S5048F-ON CPLD 1      : 1.0
S5048F-ON CPLD 2      : 1.0
S5048F-ON CPLD 3      : 1.0
S5048F-ON CPLD 4      : 1.0
S5048F-ON MSS FPGA    : 0.1
S5048F-ON MSS IAP     : 1.4
S5048F-ON OOB-FPGA    : 1.0
DellEMC#
```

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

Upgrading the SmartFusion Microcontroller Subsystem — SMF MSS-FPGA

NOTE: Before upgrading the SmartFusion Microcontroller Subsystem SMF MSS-FPGA, you must first upgrade the SMF MSS-IAP.

To upgrade the SmartFusion Microcontroller Subsystem — SMF MSS-FPGA, follow these steps.

1. Shut down all of the interfaces on the system.

INTERFACE Mode

```
shutdown
```

2. Upgrade the SMF MSS-FPGA image.

EXEC Privilege Mode

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

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

Current information for the system:
=====
Card                Device Name          Current Version      New Version
-----
CP                   S5048F-ON MSS FPGA    0.1                  0.1

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

*****
* Warning - Please upgrade mss-iap-image to 1.4 version, before *
*****
```

```

* upgrading mss-fpga-image to 0.1 version. *
*****

Upgrade image for stack-unit 1 [yes/no]: yes

SMF FPGA upgrade in progress!!! Please do NOT power off the unit!!! Auto Reset will
happen at the end of Upgrade!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Upgrade result :
=====
UNIT1 SMF FPGA upgrade successful UNIT1. will go for reboot to complete the upgrade.

DellEMC#Sep 24 14:48:21 %STKUNIT1-M:CP %DOWNLOAD-6-FPGA_UPGRADE: UNIT 1 fpga upgrade
success.

```

NOTE: Upgrade takes approximately five minutes and the system may appear unresponsive or powered off. During this time, if you remove power from the system, you might need to return the unit to Dell for repair. For any queries, contact Technical Support.

- After the system re-boots, wait for the Dell EMC prompt. Verify the MSS FPGA version using the `show revision` command output.

EXEC Privilege Mode
`show revision`

```

DellEMC#show revision

-- Stack unit 1 --
S5048F-ON CPLD 1      : 1.0
S5048F-ON CPLD 2      : 1.0
S5048F-ON CPLD 3      : 1.0
S5048F-ON CPLD 4      : 1.0
S5048F-ON MSS FPGA    : 0.1
S5048F-ON MSS IAP     : 1.4
S5048F-ON OOB-FPGA    : 1.0
DellEMC#

```

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

Upgrading the OOB-FPGA

To upgrade the OOB-FPGA, follow these steps.

- Shut down all of the interfaces on the system.

INTERFACE Mode
`shutdown`

- Upgrade the OOB-FPGA image.

EXEC Privilege Mode
`upgrade fpga-image system fpga stack-unit <stack-unit-id> booted`

```

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

Current information for the system:
=====
Card                Device Name      Current Version  New Version

```

```

-----
CP                S5048F-ON OOB-FPGA                1.0                1.0

*****
* 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 system 1 [yes/no]: yes

OOB FPGA upgrade in progress!!! Please do NOT power off the unit!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Upgrade result :
=====
UNIT1 OOB FPGA upgrade successful UNIT1. Please power cycle to take effect.

```

To upgrade OOB-FPGA on the local region, use the upgrade `fpga-image system fpga stack-unit <stack-unit-id>` booted command.

Upgrading the S5048F-ON Dell EMC Networking OS Image using 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 S5048F-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://10.16.127.6/users/pr9/FTOS-S5048F-ON-9.14.1.10.bin A:
03:18:55 : Discarded 1 pkts. Expected block num : 51. Received block num: 50
03:18:58 : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
.....!
58994997 bytes successfully copied
System image upgrade completed successfully.
DellEMC#Sep 24 5 13:53:58 %STKUNIT1-M:CP %DOWNLOAD-6-UPGRADE: Upgrade completed
successfully
DellEMC#

DellEMC#upgrade system tftp://10.16.127.6/users/pr9/FTOS-S5048F-ON-9.14.1.10.bin B:
03:18:55 : Discarded 1 pkts. Expected block num : 51. Received block num: 50
03:18:58 : Discarded 1 pkts. Expected block num : 65. Received block num: 64
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
.....!
58994997 bytes successfully copied
System image upgrade completed successfully.
DellEMC#Sep 24 13:53:58 %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 system 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.
```

4. Change the Primary Boot Parameter of the S5048F-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 18:58:59: %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
```

7. Verify the S5048F-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 08:19:32 2021
Build Path: /build/build02/SW/SRC
Dell EMC Networking OS uptime is 1 minute(s)

System image file is "system://A"

System Type: S5048F-ON
Control Processor: Intel Rangeley with 3 Gbytes (3203256320 bytes) of memory, core(s)
4.

16G bytes of boot flash memory.

 1 54-port TE/TF/FO/FI/HU G (S5048F-ON)
48 Twenty Five GigabitEthernet/IEEE 802.3 interface(s)
 6 Hundred GigabitEthernet/IEEE 802.3 interface(s)
DellEMC#
```

Upgrade the Boot Selector and Boot Flash Images from Dell EMC Networking OS

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

1. Upgrade the S5048F-ON Boot Selector image.

EXEC Privilege Mode

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

To upgrade the Boot Selector image to the image version packed with the loaded Dell EMC Networking OS image, use the `booted` option. You can find the Boot Selector image version packed with the loaded Dell EMC Networking OS 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    3.38.0.1-3       3.38.0.1-4

*****
* 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]: yes

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

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       : S5048F-ON - 54-port TE/TF/FO/FI/HU G (S5048F-ON)
Current Type        : S5048F-ON - 54-port TE/TF/FO/FI/HU G (S5048F-ON)
Master priority     : NA
Hardware Rev        : A00
Num Ports           : 72
Up Time             : 57 min, 47 sec
Dell EMC Networking OS Version : 9.14(1.10)
Jumbo Capable       : yes
POE Capable         : no
FIPS Mode           : disabled
Boot Flash          : 3.38.2.6
Boot Selector       : 3.38.0.1-4
Memory Size         : 3203256320 bytes
Temperature         : 46C
Voltage             : ok
Serial Number       : NA
Part Number         : 082VTG      Rev A00
Vendor Id           : NA
Date Code           : NA
Country Code        : NA
Piece Part ID      : CN-082VTG-CES00-78I-0047
```



```

PPID Revision           : A00
Service Tag             : 8X2SG02
Expr Svc Code          : 194 143 288 34
Auto Reboot            : enabled
Burned In MAC          : 34:17:eb:37:2d:00
No Of MACs             : 3

-- Power Supplies --
Unit  Bay  Status  Type  FanStatus  FanSpeed  Power  AvgPower
AvgPowerStartTime
-----
-
  1    1    up     AC    up         26176    119   118   09/24/2021-13:59
  1    2    up     AC    up         26880    133   132   09/24/2021-13:59

-- Fan Status --
Unit  Bay  TrayStatus  Fan1  Speed  Fan2  Speed
-----
  1    1    up          up    21487  up    22215
  1    2    up          up    21254  up    22090
  1    3    up          up    21487  up    22090
  1    4    up          up    21254  up    21605

Speed in RPM

```

4. Upgrade the Dell EMC Networking OS GRUB.

EXEC Privilege Mode

upgrade boot bootflash-image stack-unit <stack-unit-id> booted

```

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

Current Boot information in the system:
=====
  Card                      BootFlash  Current Version  New Version
-----
  Unit1                    Boot Flash  3.38.2.4        3.38.2.6

*****
* Warning - Upgrading boot flash is inherently risky and should only *
* be attempted when necessary. A failure at this upgrade may cause *
* a board RMA. Proceed with caution !                               *
*****

Proceed upgrade Boot Flash image for stack-unit 1 [yes/no]: yes

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

```

5. Reload the unit

EXEC Privilege Mode

reload

6. Verify whether the upgrade is successful.

```

DellEMC#show system stack-unit 1

-- Unit 1 --
Unit Type           : Management Unit
Status              : online
Next Boot           : online
Required Type       : S5048F-ON - 54-port TE/TF/FO/FI/HU G (S5048F-ON)
Current Type        : S5048F-ON - 54-port TE/TF/FO/FI/HU G (S5048F-ON)
Master priority     : NA
Hardware Rev        : A00
Num Ports           : 72
Up Time             : 57 min, 47 sec
Dell EMC Networking OS Version : 9.14(1.10)
Jumbo Capable       : yes
POE Capable         : no

```

```

FIPS Mode : disabled
Boot Flash : 3.38.2.6
Boot Selector : 3.38.0.1-4
Memory Size : 3203256320 bytes
Temperature : 46C
Voltage : ok
Serial Number : NA
Part Number : 082VTG Rev A00
Vendor Id : NA
Date Code : NA
Country Code : NA
Piece Part ID : CN-082VTG-CES00-78I-0047
PPID Revision : A00
Service Tag : 8X2SG02
Expr Svc Code : 194 143 288 34
Auto Reboot : enabled
Burned In MAC : 34:17:eb:37:2d:00
No Of MACs : 3

```

```
-- Power Supplies --
```

Unit	Bay	Status	Type	FanStatus	FanSpeed	Power	AvgPower	AvgPowerStartTime
1	1	up	AC	up	26176	119	118	09/24/2021-13:59
1	2	up	AC	up	26880	133	132	09/24/2021-13:59

```
-- Fan Status --
```

Unit	Bay	TrayStatus	Fan1	Speed	Fan2	Speed
1	1	up	up	21487	up	22215
1	2	up	up	21254	up	22090
1	3	up	up	21487	up	22090
1	4	up	up	21254	up	21605

```
Speed in RPM
```

Uninstalling the Dell EMC Networking OS

To un-install the Dell EMC Networking OS version 9.14(1.10) from your S5048F-ON system, perform the following steps:

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

```

Press Esc to stop autoboot ... 5
Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
S5048F Boot Flash Label 3.38.2.6 NetBoot Label 3.38.2.6

```

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

```

GNU Grub 2.02~beta2 (Dell EMC)
Built by root at gbbdev-maa-01 on Fri_Sep_24_10:07:52_UTC_2021
+-----+
| *DELL EMC Networking OS
|  DELL EMC Networking OS-Boot Line Interface
|  EDA-DIAG
|  ONIE
|
|
|
|
+-----+
Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, 'f' to boot FTOS, 'b' to go to

```

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

- From the menu, choose the ONIE option.

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

The following menu appears:

```
GNU Grub 2.02~beta2 (Dell EMC)

+-----+
| ONIE: Install OS          |
| ONIE: Rescue             |
| *ONIE: Uninstall OS     |
| ONIE: Update ONIE       |
| ONIE: Embed ONIE        |
| EDA-DIAG                 |
|                           |
+-----+

Use the ^ and v keys to select which entry is highlighted.
Press enter to boot the selected OS, `e' to edit the commands
before booting or `c' for a command-line.
```

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

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

The uninstall process begins, as shown:

```
ONIE: OS Uninstall Mode ...
Version : 3.38.1.1-3
Build Date: 2021-09-24T16:00-0700
Info: Mounting kernel filesystems... done.
Info: Mounting LABEL=ONIE-BOOT on /mnt/onie-boot ...
Info: Using eth0 MAC address: 90:b1:1c:f4:23:56
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
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: Uninstall mode detected. Running uninstaller.
Erasing internal mass storage device: /dev/sda4 (32MB)
  Percent complete: 100%
Erase complete.
Deleting partition 4 from /dev/sda
Erasing internal mass storage device: /dev/sda5 (500MB)
  Percent complete: 100%
Erase complete.
Deleting partition 5 from /dev/sda
Erasing internal mass storage device: /dev/sda6 (500MB)
  Percent complete: 100%
Erase complete.
Deleting partition 6 from /dev/sda
Erasing internal mass storage device: /dev/sda7 (13085MB)
  Percent complete: 100%
Erase complete.
Deleting partition 7 from /dev/sda
Installing for i386-pc platform.
Installation finished. No error reported.
Uninstall complete. Rebooting...
discover: Uninstall mode detected. No discover stopped.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
```

```

The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL to all processes
Requesting system reboot
sd 4:0:0:0: [sda] Synchronizing SCSI cache
Restarting system.
machine restart

BIOS Boot Selector for S5048F
Primary BIOS Version 3.38.0.1-4

SMF Version: MSS 1.4, FPGA 0.1
Last POR=0x11, Reset Cause=0x44

POST Configuration
CPU Signature 406D8
CPU FamilyID=6, Model=4D, SteppingId=8, Processor=0
Microcode Revision 125
Platform ID: 0x10041A56
PMG_CST_CFG_CTL: 0x40006
BBL_CR_CTL3: 0x7E2801FF
Misc EN: 0x840081
Gen PM Con1: 0x3008
Therm Status: 0x88350000
POST Control=0xEA000303, Status=0xE6009F00

BIOS initializations...

CPGC Memtest ..... PASS

POST:
RTC Battery OK at last cold boot
RTC date 09/24/2021 13:39:09

POST SPD test ..... PASS

POST Lower DRAM Memory test
.... Perf cnt (curr, fixed): 0x4F1A57C3C, 0x9E34B3808

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

```

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

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 S5048F-ON system. For more information on installing a third party operating system, refer to the third party OS vendor's website for OS installation instructions.

Support Resources

The following support resources are available for the S5048F-ON system.

Documentation Resources

This document contains operational information specific to the S5048F-ON system.

For information about using the S5048F-ON, see the following documents at <http://www.dell.com/support>:

- *Installation Guide for the S5048F-ON System*
- *Getting Started Guide for the S5048F-ON System*
- *Dell EMC Open Networking (ON) Hardware Diagnostic Guide*

- *Dell EMC Networking Command Line Reference Guide for the S5048F-ON System*
- *Dell EMC Networking Configuration Guide for the S5048F-ON System*

For more information about hardware features and capabilities, see the Dell EMC Networking website at <https://www.dell.com/networking>.

For more information about the open network installation environment (ONIE)-compatible third-party operating system, see <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 S5048F-ON system.

- For information about using the S5048F-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.dell.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

 **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.