

Dell System S6000 9.14(2.11) Release Notes

This document contains information on open and resolved caveats, and operational information specific to the Dell Networking OS software and the S6000 platform.

Current Release Version: 9.14(2.11)

Release Date: 2021-11-25

Previous Release Version: 9.14(2.10)

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

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

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

Document Revision History

Table 1. Revision History

Date	Description
2021-11	Initial release.

New Dell Networking OS Version 9.14(2.11) Features

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

None

Changes to Default Behavior and CLI Syntax

- If you are upgrading from an earlier OS9 version to 9.14.2.x, ensure you first upgrade to version 9.13.0.0 before upgrading to the required version of 9.14.2.x to prevent any issues during the upgrade procedure.

Restrictions

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

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

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

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

- If you downgrade the Dell Networking OS version from 9.14.2.11 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:

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

- While deploying the system in the normal-reload mode in BMP configuration, use the `ip ssh server enable` command at the beginning of the startup configuration if the write memory command is used at the end of the configuration.
- REST API does not support AAA authentication.
- The following features are not available in the Dell Networking OS from version 9.7(0.0):
 - 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.

Supported Hardware

The following hardware is supported with this platform:

Hardware
S6000 chassis
32 40Gbps QSFP+ ports
2 AC/DC PSUs
3 fan subsystems

USB Error Messages

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

NOTE: The rear rack mounting bracket (SA-01-RMB-8) will fit only into racks with depths in the following ranges:

- 22.98 in. to 24.65 in.
- 27.86 in. to 30.34 in.

The following informational error message appear when a USB thumb drive is inserted or removed from the system. No action needs to be taken when these messages appear.

Internal Messages

```
Dell#
Dell# umass0 at uhub3 port 1 configuration 1 interface 0
umass0: vendor 0x0930 USB Flash Memory, rev 2.00/1.10, addr 3
umass0: using SCSI over Bulk-Only
scsibus0 at umass0: 2 targets, 1 lun per target
sd0 at scsibus0 target 0 lun 0: <, USB Flash Memory, PMAP> disk removable
Oct 18 15:17:42: %S6000:0 %KERN-2-INT: umass0 at uhub3 port 1 configuration 1 interface 0
Oct 18 15:17:42: %S6000:0 %KERN-2-INT: umass0: vendor 0x0930 USB Flash Memory, rev
2.00/1.10, addr 3
Oct 18 15:17:42: %S6000:0 %KERN-2-INT: umass0: using SCSI over Bulk-Only
Oct 18 15:17:42: %S6000:0 %KERN-2-INT: scsibus0 at umass0: 2 targets, 1 lun per target
Oct 18 15:17:42: %S6000:0 %KERN-2-INT: sd0 at scsibus0 target 0 lun 0: <, USB Flash
Memory, PMAP> disk removable
sd0: 3850 MB, 966 cyl, 255 head, 32 sec, 512 bytes/sect x 7884800 sectors
Oct 18 15:17:43: %S6000:0 %KERN-2-INT: sd0: 3850 MB, 966 cyl, 255 head, 32 sec, 512
bytes/sect x 7884800 sectors
Oct 18 15:17:47: %S6000:0 %POLLGR-2-USER_FLASH_STATE: USB flash disk inserted in
'usbflash:'
```

Removal Messages

```
Dell#
Dell#umass0: at uhub3 port 1 (addr 3) disconnected
sd0(umass0:0:0:0): generic HBA error
sd0: detached
scsibus0: detached
umass0: detached
Oct 18 15:17:36: %S6000:0 %KERN-2-INT: umass0: at uhub3 port 1 (addr 3) disconnected
Oct 18 15:17:36: %S6000:0 %KERN-2-INT: sd0(umass0:0:0:0): generic HBA error
Oct 18 15:17:36: %S6000:0 %KERN-2-INT: sd0: detached
Oct 18 15:17:36: %S6000:0 %KERN-2-INT: scsibus0: detached
Oct 18 15:17:36: %S6000:0 %KERN-2-INT: umass0: detached
Oct 18 15:17:37: %S6000:0 %POLLGR-2-USER_FLASH_STATE: USB flash disk removed from
'usbflash:'
```

S6000 Upgrade Procedures: Overview

To upgrade the Dell Networking OS to the latest version, complete these steps:

NOTE: When upgrading from an earlier version of OS9 (example: 9.10.0.1) to 9.14.2.x, first upgrade to 9.13.0.0 to prevent any issues during the upgrade procedure.

- Upgrading the S6000 Dell Networking OS Image and Boot Code
- Upgrading the CPLD
- VLT Upgrade Procedure

Upgrading the S6000 Dell Networking OS Image and Boot Code

The S6000 system is pre-loaded with default Dell Networking OS software.

NOTE: If you downgrade from Dell Networking OS version 9.14(2.11) to version 9.6(0.0) or any version prior to 9.6(0.0), any existing quad mode configuration on the following ports is removed: 4, 12, 20, 28, 100, 108, 116, and 124


```
show boot system stack-unit [0-5 | all]
```

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

Current system image information in the system:
=====
Type           Boot Type      A                      B
-----
stack-unit 0   FLASH BOOT      9.14 (2.11) [boot]     9.14 (2.10)
stack-unit 1   is not present.
stack-unit 2   is not present.
stack-unit 3   is not present.
stack-unit 4   is not present.
stack-unit 5   is not present.
```

5. Upgrade the S6000 Boot Flash and Boot Selector images.

EXEC Privilege Mode

```
upgrade boot [all | bootflash-image | bootselector-image] stack-unit [0-5 | all] [booted
| flash: | ftp: | scp: | tftp: | usbflash:]
```

Dell Networking OS version 9.14(2.11) requires S6000 Boot Flash image version 3.1.1.7 and Boot Selector image version 3.1.0.3. The Boot Flash and Boot Selector images can be upgraded together by selecting all in the command. If the user wishes to upgrade Boot Flash image or Boot Selector image separately, the options bootflash-image or bootselector-image needs to be given separately in the command. The booted option is used to upgrade the Boot flash and Boot Selector images to the image versions packed with the loaded Dell Networking OS image. The Boot Flash and Boot Selector image versions packed with the loaded Dell Networking OS can be found using the show os-version command in EXEC PRIVILEGE mode.

NOTE: The Boot Flash version packed in Dell Networking OS 9.14(2.11) for S6000 system is 3.1.1.7. Upgrade of Boot Flash to version 3.1.1.7 is not mandatory for proper functioning of the system.

```
Dell#upgrade boot bootflash-image stack-unit 0 ftp:

Address or name of remote host []: 10.16.127.35
Destination file name []: FTOS-SI-9.14.2.11.bin
User name to login remote host: ftpuser
Password to login remote host:

Current Boot information in the system:
=====
Card           BootFlash      Current Version      New Version
-----
Unit0          Boot Flash     3.1.1.4              3.1.1.7

*****
* 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 0 [yes/no]: yes

!!!!!!!
Bootflash image upgrade for stack-unit 0 completed successfully.

Dell#upgrade boot bootselector-image stack-unit 0 ftp:

Current Boot information in the system:
=====
Card           BootSelector    Current Version      New Version
-----
Unit0          Boot Selector   3.1.0.3              3.1.0.3

*****
* 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 0 [yes/no]: yes
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Bootselector image upgrade for stack-unit 0 completed successfully.
```

- 6.** Change the Primary Boot Parameter of the S6000 to the upgraded partition A: or B:

CONFIGURATION Mode

```
boot system stack-unit [0-5 | all] primary system: [A: | B: | tftp: | ftp:]
```

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

EXEC Privilege Mode

write memory

```
Dell#write memory
!00:22:59: %STKUNIT0-M:CP %FILEMGR-5-FILESAVED: Copied running-config to
startup-config in flash by default
Dell#
```

8. Reload the unit.

EXEC Privilege Mode

```
reload
```

```
Command      : reload
Mode         : EXEC PRIVILEGE
Dell#reload
Proceed with reload [confirm yes/no]: y
00:23:50: %STKUNIT0-M:CP %CHMGR-5-RELOAD: User request to reload the chassis
```

9. Verify the S6000 has been upgraded to the Dell Networking OS version 9.14(2.11).

EXEC Privilege Mode

```
show version
```

```
Dell#show version
Dell Real Time Operating System Software
Dell Operating System Version: 2.0
Dell Application Software Version: 9.14(2.11)
Copyright (c) 1999-2021 by Dell Inc. All Rights Reserved.
Build Time: Mon Oct 18 09:27:40 2021
Build Path: /build/build03/SW/SRC
Dell Networking OS uptime is 3 minute(s)

System image file is "system://A"

System Type: S6000
Control Processor: Intel Centerton with 3 Gbytes (3203911680 bytes) of memory,
core(s) 2.

16G bytes of boot flash memory.

 1 32-port TE/FG (SI)
28 Ten GigabitEthernet/IEEE 802.3 interface(s)
25 Forty GigabitEthernet/IEEE 802.3 interface(s)
```

10. Verify that the S6000 has been upgraded to the latest Boot Flash and Boot Selector images

EXEC Privilege Mode

```
show system stack-unit [0-5]
```

```
Dell#show system stack-unit 0

-- Unit 0 --
Unit Type           : Management Unit
Status              : online
Next Boot           : online
Required Type       : S6000 - 32-port TE/FG (SI)
Current Type        : S6000 - 32-port TE/FG (SI)
Master priority      : 0
Hardware Rev        : 4.0
```

```

Num Ports           : 128
Up Time             : 3 min, 24 sec
Dell Networking OS Version : 9.14(2.11)
Jumbo Capable       : yes
POE Capable         : no
FIPS Mode           : disabled
Boot Flash          : 3.1.1.7
Boot Selector       : 3.1.0.3
Memory Size         : 3203911680 bytes
Temperature         : 37C
Voltage             : ok
Serial Number       : NA
Part Number         : 08YWFG      Rev A00
Vendor Id           : DL
Date Code           : 10182021
Country Code        : CN
Piece Part ID       : CN-08YWFG-28298-398-0104
PPID Revision       : A00
Service Tag         : BX71VS1
Expr Svc Code       : 259 518 346 57
Auto Reboot         : enabled
Burned In MAC       : 90:b1:1c:f4:9c:c0
No Of MACs          : 3

```

```

-- Power Supplies --
Unit  Bay  Status      Type  FanStatus  FanSpeed (rpm)
-----
  0     0    up         AC     up        10368
  0     1   absent         absent      0

-- Fan Status --
Unit  Bay  TrayStatus  Fan0  Speed  Fan1  Speed
-----
  0     0    up         up    10031  up    10031
  0     1    up         up    10031  up    10031
  0     2    up         up    10134  up    10134

Speed in RPM

```

SMARTSCRIPTS

To uninstall and install new SMARTSCRIPTS packages after upgrading to Dell Networking OS, refer to the Open Automation Guide.

Upgrading the CPLD

The S6000 system with Dell Networking OS Version 9.14(2.11) requires System CPLD revision 10, Master CPLD revision 12, and Slave CPLD revision 10.

Verify that a CPLD upgrade is required

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.

Use the following command to identify the CPLD version:

```

Dell#show revision

-- Stack unit 0 --
S6000 SYSTEM CPLD      : 10

S6000 MASTER CPLD      : 12

S6000 SLAVE CPLD       : 10

```

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

```
Dell#show os-version

RELEASE IMAGE INFORMATION :
-----
Platform          Version          Size          ReleaseTime
S-Series:SI       9.14(2.11)      62072761     Oct 18 2021 09:48:25

TARGET IMAGE INFORMATION :
-----
Type              Version          Target          checksum
runtime           9.14(2.11)      Control Processor  passed

BOOT IMAGE INFORMATION :
-----
Type              Version          Target          checksum
boot flash        3.1.1.7          Control Processor  passed

BOOTSEL IMAGE INFORMATION :
-----
Type              Version          Target          checksum
boot selector     3.1.0.3          Control Processor  passed

FPGA IMAGE INFORMATION :
-----
Card              FPGA Name        Version
stack-unit 0     S6000 SYSTEM CPLD  10
stack-unit 0     S6000 MASTER CPLD  12
stack-unit 0     S6000 SLAVE CPLD   10
```

Upgrading the CPLD Image

- i** **NOTE:** The upgrade fpga-image stack-unit 0 booted command is hidden when using the FPGA Upgrade feature in the CLI. However, it is a supported command and will be accepted when entered as documented.
- i** **NOTE:** Ensure that the BIOS version is 3.1.0.3 or above. You can verify this version using the show system stack-unit 0 command.

To upgrade the CPLD image on S6000, follow these steps:

1. Upgrade the CPLD image.

EXEC Privilege Mode

upgrade fpga-image stack-unit <id> booted

```
Dell# upgrade fpga-image stack-unit 0 booted

Current information for the system:
=====
Card          Device Name        Current Version    New Version
-----
Unit0         S6000 SYSTEM CPLD   10                 10
Unit0         S6000 MASTER CPLD   12                 12
Unit0         S6000 SLAVE CPLD    10                 10

*****
* 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 0 [yes/no]: yes

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

```
Upgrade result :
=====
Unit 0 FPGA upgrade successful Unit 0. Please power cycle to take effect.
```

2. Power cycle the system physically. Switch off the system by unplugging the power chords from the REAR PSUs and wait until the PSU FAN-REAR STATUS LED is completely OFF.
 **NOTE:** Do not switch on the system with PSU-REAR LED glowing AMBER.
3. Switch on the system and wait for the Dell prompt. The CPLD version can be verified using the `show revision` command.

EXEC Privilege Mode

`show revision`

```
Dell#show revision

-- Stack unit 0 --
S6000 SYSTEM CPLD      : 10

S6000 MASTER CPLD      : 12

S6000 SLAVE CPLD       : 10
```

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

VLT Upgrade Procedure

Follow this procedure to upgrade the system from release 9.4(2.8) to the latest version in a VLT setup:

1. Upgrade the system-flash partition A or B with the new image on both VLT peers. On both the VLT peers, set Primary boot parameter to boot the system from upgraded system flash partition [A or B]. You can enter one of the following options: **flash** — Copies from flash file system (flash://filepath). **ftp** — Copies from remote file system (ftp://userid:password@hostip//filepath). **scp** — Copies from remote file system (scp://userid:password@hostip//filepath). **tftp** — Copies from remote file system (tftp://hostip/filepath).

EXEC Privilege Mode

`upgrade system [flash: | ftp: | scp: | tftp: | usbflash:] [A: | B:]`

2. Reload or power-cycle one of the VLT peers (For Example, Peer 2).

EXEC Privilege Mode

`reload` or `power cycle`

3. Wait for Peer 2 to come up; VLT adjacency will be established. (Peer 2 - new image and Peer 1 - old image).
4. Wait for the Peer 2 to bring up all VLT LAG ports. Use the command `show vlt detail` to confirm all VLT ports in the local chassis are active.

EXEC Privilege Mode

`show vlt detail`

5. Following upgrade, use the `write memory` command to save the running-config to memory.

EXEC Privilege Mode

`write memory`

6. Ensure both the nodes are now forwarding traffic.
7. When all VLT ports are active on the Peer 2, repeat steps 2 through 5 for the Peer 1.

Documentation Corrections

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

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

Deferred Issues

Issues that appear in this section were reported in Dell Networking OS version 9.14(2.0) as open, but have since been deferred. Deferred caveats are those that are found to be invalid, not reproducible, or not scheduled for resolution.

Deferred issues are reported using the following definitions.

Category	Description
PR#	Problem Report number that identifies the issue.
Severity	S1 — Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process. S2 — Critical: An issue that renders the system or a major feature unusable, which can have a pervasive impact on the system or network, and for which there is no work-around acceptable to the customer. S3 — Major: An issue that affects the functionality of a major feature or negatively effects the network for which there exists a work-around that is acceptable to the customer. S4 — Minor: A cosmetic issue or an issue in a minor feature with little or no network impact for which there might be a work-around.
Synopsis	Synopsis is the title or short description of the issue.
Release Notes	Release Notes description contains more detailed information about the issue.
Work around	Work around describes a mechanism for circumventing, avoiding, or recovering from the issue. It might not be a permanent solution. Issues listed in the “Closed Caveats” section should not be present, and the work-around is unnecessary, as the version of code for which this release note is documented has resolved the caveat.

Deferred S6000 9.14(2.0) Software Issues

Issues that appear in this section were reported in Dell Networking OS version 9.14(2.0) as open, but have since been deferred. Deferred caveats are those that are found to be invalid, not reproducible, or not scheduled for resolution.

The following issues have been deferred in the Dell Networking OS version 9.14(2.0):

None.

Fixed Issues

Fixed issues are reported using the following definitions.

Category	Description
PR#	Problem Report number that identifies the issue.
Severity	S1 — Crash: A software crash occurs in the kernel or a running process that requires a restart of AFM, the router, switch, or process. S2 — Critical: An issue that renders the system or a major feature unusable, which can have a pervasive impact on the system or network, and for which there is no work-around acceptable to the customer. S3 — Major: An issue that affects the functionality of a major feature or negatively effects the network for which there exists a work-around that is acceptable to the customer.

Category	Description
	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 S6000 9.14(2.11) Software Issues

 **NOTE:** Dell Networking OS 9.14(2.11) 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 Networking OS version 9.14(2.11):

PR# 170066

Severity:	Sev 3
Synopsis:	In certain scenarios, performing ssh to a switch may not work as expected.
Release Notes:	In certain scenarios, performing ssh to a switch may not work as expected.
Workaround:	None

PR# 170093

Severity:	Sev 3
Synopsis:	OpenSSH version 8.6p1 that is bundled with 9.14.2.11, fixes vulnerabilities reported by CVE-2020-12062 and CVE-2020-15778.
Release Notes:	OpenSSH version 8.6p1 that is bundled with 9.14.2.11, fixes vulnerabilities reported by CVE-2020-12062 and CVE-2020-15778.
Workaround:	None

PR# 170151

Severity:	Sev 2
Synopsis:	A memory leak and stacking protocol loop may be seen when more than two stack links are connected in a stack group.
Release Notes:	A memory leak and stacking protocol loop may be seen when more than two stack links are connected in a stack group.
Workaround:	None

PR# 170159

Severity:	Sev 3
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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# 170179	
Severity:	Sev 2
Synopsis:	In certain scenarios, the switch may encounter an exception when trying to ssh into it.
Release Notes:	In certain scenarios, the switch may encounter an exception when trying to ssh into it.
Workaround:	None
PR# 170198	
Severity:	Sev 2
Synopsis:	A BGP route added using the <code>network</code> command does not get deleted even when the contributing route is deleted.
Release Notes:	A BGP route added using the <code>network</code> command does not get deleted even when the contributing route is deleted.
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.

Category	Description
	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.

KnownS6000 9.14(2.11) Software Issues

The following caveats are open in Dell Networking OS version 9.14(2.11):

None

Support Resources

The following support resources are available for theS6000 system.

Documentation Resources

This document contains operational information specific to the S6000 system.

For information about using the S6000, refer to the following documents at <http://www.dell.com/support>:

- *Installing the S6000 System*
- *Quick Start Guide*
- *Dell Networking Command Line Reference Guide for the S6000 System*
- *Dell Networking Configuration Guide for the S6000 System*

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

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

Issues

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

Finding Documentation

This document contains operational information specific to the S6000 system.

- For information about using the S6000, refer to the documents at <http://www.dell.com/support>.
- For more information about hardware features and capabilities, refer to the Dell Networking website at <https://www.dellemc.com/networking>.
- For more information about the open network installation environment (ONIE)-compatible third-party operating system, refer to <http://onie.org>.

Contacting Dell

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

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

Go to www.dell.com/support.

Notes, cautions, and warnings

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

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

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