

Catalyst 9000 Switches booting to switch: prompt due to Stack 1+1 variable

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Introduction

This document describes a rare problem & solution about Catalyst 9000 Series Switches failing to boot normally and falling into bootloader (switch:) prompt.

Prerequisites

None.

Requirements

There are no specific requirements for this document.

Components Used

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Problem

Catalyst 9000 Series switches boot into bootloader prompt when stack 1+1 bit is set which means

the switch is configured for StackWise-Virtual. This can be identified by looking at error below when user tries to boot the switch from the bootloader prompt.

"Chassis 2 reloading, reason - Active/Standby selection failed in 1+1 Mode"

```
switch: boot
attempting to boot from [flash:packages.conf]

Located file packages.conf
#
#####
#####
Validate packages: SHA-1 hash:
calculated 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA
expected 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA

Both links down, not waiting for other switches
Switch number is 2

Chassis 2 reloading, reason - Active/standby selection failed in 1+1 Mode <<<<<<
Feb 19 20:06:55.572 FP0/0: %PMAN-5-EXITACTION: Process manager is exiting: reload fp action
requested
Feb 19 20:06:57

Initializing Hardware...

System Bootstrap, Version 16.6.1r [FC1], RELEASE SOFTWARE (P)
Compiled Sat 07/15/2017 8:31:57.39 by rel

Current image running:
Primary Rommon Image

Last reset cause: SoftwareReload
C9300-48U platform with 8388608 Kbytes of main memory

attempting to boot from [flash:packages.conf]

Located file packages.conf
#
#####
#####

Validate packages: SHA-1 hash:
calculated 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA
expected 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA
```

Another way to identify this problem is by looking at STACK 1+1 bootloader variable by using "set" command in bootloader mode. To get the switch in bootloader mode, press mode button while switch starts to boot up.

```
switch: set
ABNORMAL_RESET_COUNT=0
AUTOREBOOT_RESTORE=1
BOARDID=20569
BOOT=flash:packages.conf
BSI=0
MAC_ADDR=00:ab:cd:ef:01
```

```
MANUAL_BOOT=yes
MODEL_NUM=C9300-48UXM
MODEL_REVISION_NUM=D0
MOTHERBOARD_ASSEMBLY_NUM=73-17959-06
MOTHERBOARD_REVISION_NUM=A0
MOTHERBOARD_SERIAL_NUM=XXXXXXXXXXXX
RANDOM_NUM=1901228755
RET_2_RCALTS=
ROMMON_AUTOBOOT_ATTEMPT=3
STACK_1_1=2_0 <<<<<<
SWITCH_IGNORE_STARTUP_CFG=1
SWITCH_NUMBER=2
SYSTEM_SERIAL_NUM=XXXXXXXXXXXX
TEMPLATE=access
VERSION_ID=V01
```

switch:

Solution

Unset the Stack 1+1 variable. After this switch will be able to boot normally.

```
switch:unset STACK_1_1
```

```
switch: set
ABNORMAL_RESET_COUNT=0
AUTOREBOOT_RESTORE=1
BOARDID=20569
BOOT=flash:packages.conf
BSI=0
MAC_ADDR=00:ab:cd:ef:01
MANUAL_BOOT=yes
MODEL_NUM=C9300-48UXM
MODEL_REVISION_NUM=D0
MOTHERBOARD_ASSEMBLY_NUM=73-17959-06
MOTHERBOARD_REVISION_NUM=A0
MOTHERBOARD_SERIAL_NUM=XXXXXXXXXXXX
RANDOM_NUM=1901228755
RET_2_RCALTS=
ROMMON_AUTOBOOT_ATTEMPT=3
SWITCH_IGNORE_STARTUP_CFG=1
SWITCH_NUMBER=2
SYSTEM_SERIAL_NUM=XXXXXXXXXXXX
TEMPLATE=access
VERSION_ID=V01
```

switch:

Once Stack 1+1 bootloader variable is unset then issue the boot command so that switch can boot from the boot variable set on the switch.

```
switch: boot
attempting to boot from [flash:packages.conf]
```

```
Located file packages.conf
#
#####
#####
Validate packages: SHA-1 hash:
```

calculated 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA
expected 550C9730:667B2788:DD6F6B06:D0FFA819:01A315DA

Both links down, not waiting for other switches
Switch number is 2

Related Information

For information about Stack 1+1 mode please refer [1:1 Redundancy](#)