Catalyst 4500 Series Switches with VSS Password Recovery Procedure

Contents

Introduction

This document describes the password recovery procedure for Cisco Catalyst 4500 Series switches that run in Virtual Switching System (VSS) mode.

Prerequisites

Components Used

The information in this document is based on the Cisco Catalyst 4500 Series switches that run Supervisor Engine 7-E.

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.

Background Information

Password recovery on Cisco Catalyst 4500 Series switches that run VSS mode requires that you convert the switches to standalone mode, which must be done in order to bypass the startup configuration. If you do not convert the switches, you receive this error message:

```
********************* CAUTION ************************
*                                                    *
* Switch is booting up in VSS mode but               *
* startup-config is being ignored. Autoboot is       *
* disabled and now dropping into ROMMON.             *
*                                                    *
* Please configure the switch for not ignoring       *
* startup-config if it is needed to work in VSS Mode *
*                  OR                                *
* clear VS_SWITCH_NUMBER rommon variable to boot     *
* the switch in standalone mode.                     *
****************************************************** *Jul 29 12:25:59.403: %RF-5-RF_RELOAD:
Self Reload.
 Reason: Startup-config ignore not allowed in VSS mode
*Jul 29 12:25:59.568: %SYS-5-RELOAD:
 Reload requested by Platform redundancy manager. Reload Reason:
```

```
Startup-config ignore not allowed in VSS mode.Please stand by while
```

Press **Ctrl-C** after reload in order to break each chassis in rommon. Clear the VS_SWITCH_NUMBER rommon variable (rommon1 > unset VS_SWITCH_NUMBER) in order to boot the switch in standalone mode.

Password Recovery Procedure

After you convert the switches to standalone mode, you must perform the password recovery on both switches individually. The procedure described in this document begins with switch 1 in the VSS mode, and must be repeated for switch 2.

In order to perform a password recovery on Cisco Catalyst 4500 Series switches that run VSS mode, complete these steps:

1. If backed up previously, keep the **running-config** from VSS handy on an external file. This configuration can be used to reconfigure VSS after password recovery is complete (Step 10).
2. Reload the switch by disabling power to each chassis, and break into rommon: **<After each chassis is reloaded>**

```
      Restarting system.

 Type control-C to prevent autobooting.
 . .
 Autoboot cancelled..... please wait!!!

rommon 1 > [interrupt]

rommon 1 >set
 PS1=rommon ! >
 RommonVer=15.0(1r)SG1
 BOOT=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin,12;
 ConfigReg=0x2102
 DiagMonitorAction=Normal
 BootedFileName=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin
 VS_SWITCH_NUMBER=1
 ConsecPostPassedCnt=7
 RET_2_RTS=12:20:28 UTC Mon Jul 29 2013
 RET_2_RCALTS=1375100428
rommon 2 >
```

3. Configure the switch in order to ignore the startup configuration: `rommon 2 >confreg`

```
 Configuration Summary :
 => load rom after netboot fails
 => console baud: 9600
 => autoboot from: commands specified in 'BOOT' environment variable

 do you wish to change the configuration? y/n  [n]:  y
 enable  "diagnostic mode"? y/n  [n]:  n
 enable  "use net in IP bcast address"? y/n  [n]:
 disable "load rom after netboot fails"? y/n  [n]:
 enable  "use all zero broadcast"? y/n  [n]:
 enable  "break/abort has effect"? y/n  [n]:
 enable  "ignore system config info"? y/n  [n]:  y

 change console baud rate? y/n  [n]:

 change the boot characteristics? y/n  [n]:
```

```
 Configuration Summary :
 => load rom after netboot fails
 => ignore system config info
 => console baud: 9600
 => autoboot from: commands specified in 'BOOT' environment variable

 do you wish to save this configuration? y/n  [n]:  y
 You must reset or power cycle for new configuration to take effect
```

4. Verify that the **config-register** is changed: `rommon 3 >set`

```
 PS1=rommon ! >
 RommonVer=15.0(1r)SG1
 BOOT=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin,12;
 DiagMonitorAction=Normal
 BootedFileName=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin
 VS_SWITCH_NUMBER=1
 ConsecPostPassedCnt=7
 RET_2_RTS=12:20:28 UTC Mon Jul 29 2013
 RET_2_RCALTS=1375100428
 ConfigReg=0x2142
rommon 4 >
```

5. Enter the **clear swnum** command, which clears the virtual switch number and converts the switch to standalone mode: `rommon 4 >clear swnum`

```
rommon 5 >
rommon 5 >set
 PS1=rommon ! >
 RommonVer=15.0(1r)SG1
 BOOT=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin,12;
 DiagMonitorAction=Normal
 BootedFileName=bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin
 BootStatus=Failure
 ConsecPostPassedCnt=8
 ConfigReg=0x2142
 RET_2_RTS=12:25:59 UTC Mon Jul 29 2013
 RET_2_RCALTS=1375100759
```

6. Boot the switch with the desired image. The switch ignores the startup configuration, and creates a blank configuration: `rommon 6 >boot bootflash:cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin`

```
loading image

Checking digital signature
flash1:/USER/cat4500e-universalk9.SPA.03.04.00.SG.151-2.SG.bin:
 Digitally Signed Release Software with key version A

Rommon reg: 0x00004F80
Reset2Reg: 0x00000F00

Image load status: 0x00000000
#####
Snowtrooper 220 controller 0x04328B30..0x0450A0DF Size:0x0057B4C5 Program Done!
###############
Linux version 2.6.24.4.96.70.k10 (susingh@build-lnx-036)
 (gcc version 4.2.1 p7 (Cisco c4.2.1-p7)) #1 SMP Wed Dec 5 03:42:58 PST 2012
Starting System Services

diagsk10-post version 5.1.4.0
```

Press **Enter** in order to begin.

7. Configure a new password for the switch and parameters in order to convert the switch into VSS mode. Change the **config-register** in order to avoid a bypass of the configuration

again: `Switch#conf t`

```
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#username xxxx password xxxx
Switch(config)#enable secret xxxx
4k_vss(config)#config-register 0x2102
4k_vss(config)#
4k_vss(config)#switch virtual domain 100
4k_vss(config-vs-domain)#switch 1
4k_vss(config-vs-domain)#end
4k_vss#wr
Building configuration...
Compressed configuration from 2988 bytes to 1385 bytes
```

8. Convert the switch to VSS mode again: `4k_vss#switch convert mode virtual`

```
****************** CAUTION ******************
* No VSL port is configured or all VSL ports *
* are put in shutdown state.                 *
* This may cause Dual-Active mode of VSS.    *
*********************************************
This command will convert all interface names
to naming convention "interface-type switch-number/slot/port",
save the running config to startup-config and
reload the switch.
Do you want to proceed? [yes/no]: yes
Converting interface names
Building configuration...
Compressed configuration from 3113 bytes to 1424 bytes[OK]
Saving converted configuration to bootflash: ...
Destination filename [startup-config.converted_vs-20130729-130331]?
Please stand by while rebooting the system...
```

9. Repeat this procedure for the other switch, and configure it to join VSS mode as **switch 2**.
   Note: For additional information about how to configure switches in VSS mode, reference the **Configuring VSS** section of the Catalyst 4500 Series Switch Software Configuration Guide, Release IOS XE 3.4.0SG and IOS 15.1(2)SG.
10. Open the original **running-config** saved in step 1 in a text editor, and delete the old password from the configuration. Now it is safe to load this modified configuration on the switches. This ensures that the old, lost password is not reconfigured again.