Configurazione di uno switch Catalyst 9600

Sommario

Introduzione

In questo documento viene descritta la configurazione iniziale e la procedura di verifica per configurare lo switch Catalyst 9600.

Prerequisiti

Requisiti

Cisco raccomanda la conoscenza dei seguenti argomenti:

Verificare che lo chassis e il Supervisor siano installati come indicato nelle guide all'installazione.

- Guida all'installazione dello chassis
- Guida all'installazione del Supervisor

Componenti usati

Le informazioni di questo documento si basano sulle seguenti versioni software e hardware:

- Hardware: Catalyst 9600 Switch
- Software: Cisco IOS® XE 16.12.3a

Le informazioni discusse in questo documento fanno riferimento a dispositivi usati in uno specifico ambiente di emulazione. Su tutti i dispositivi menzionati nel documento la configurazione è stata ripristinata ai valori predefiniti. Se la rete è operativa, valutare attentamente eventuali conseguenze derivanti dall'uso dei comandi.

Premesse

Èpossibile avviare, configurare e verificare Catalyst 9600 in tre passaggi.

Visualizza
- Collegare la console
- Accendere il sistema
- Osserva messaggi della console
- Seleziona opzione della finestra di dialogo di configurazione

Configurazione
- Gestione dispositivi
- Nome host
- Orologio
- Salvare la configurazione

Verifica
- Versione e pacchetto software
- Hardware di sistema, alimentazione e così via.
- Connettività IP di gestione
- Integrità del sistema
- Ora

Visualizza

- Collegamento del PC alla console di Catalyst 9600 con RJ45 o USB
- Accendere il sistema
- Osserva la console stampa sullo schermo l'inizializzazione dell'hardware del sistema e altre informazioni

Avvio iniziale:

```
Initializing Hardware...
Initializing Hardware......
 System Bootstrap, Version 17.3.1r[FC2], RELEASE SOFTWARE (P)
Compiled 30-04-2020 12:00:00.00 by rel

Current ROMMON image : Primary Rommon Image

Last reset cause:LocalSoft
C9600-SUP-1 platform with 16777216 Kbytes of main memory

Preparing to autoboot. [Press Ctrl-C to interrupt]  0
boot: attempting to boot from [bootflash:packages.conf]
boot: reading file packages.conf
<truncated
################################################################################
 <truncated>

Base Ethernet MAC Address          : 6c:b2:ae:4a:70:c0
Motherboard Assembly Number        : 4C57
Motherboard Serial Number          : FXS230103TN
Model Revision Number              : V02
Motherboard Revision Number        : 3
Model Number                       : C9606R
System Serial Number               : FXS2302Q2EP
```

Attendere che venga visualizzata la finestra di **dialogo Configurazione di sistema**. Selezionare l'opzione **No** per accedere alla modalità di configurazione manuale e selezionare **Yes** (Sì) per

interrompere l'installazione automatica e accedere alla configurazione manuale semplice.

```
    --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no
Would you like to terminate autoinstall? [yes]: yes

Press RETURN to get started
*Nov 5 15:40:26.909: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to
down *Nov 5 15:40:26.909: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,
changed state to down
```

Configurazione

> **Nota:** Usare il comando **show running-config** in qualsiasi momento in modalità "abilitazione" per controllare i valori configurati.

Configurare la porta di gestione con un indirizzo IP della rete e abilitare la porta.

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface gigabitEthernet 0/0
Switch(config-if)#ip address 10.122.186.8 255.255.255.240
Switch(config-if)#no shutdown
```

Configurare una route statica per raggiungere il gateway predefinito per la rete di gestione, utilizzare l'IP e il gateway della rete.

```
Switch(config)#ip route vrf Mgmt-vrf 10.122.157.250 255.255.255.255 10.122.186.1
```

Configurare Line VTY, Virtual Terminal, per accedere tramite telnet e impostare una password a scelta.

```
Switch(config)#line vty 0 4
Switch(config-line)#password cisco
Switch(config-line)#login
```

Transport **input all** consente tutti i protocolli (es. ssh, telnet) per accedere al dispositivo tramite sessioni VTY.

```
Switch(config-line)#transport input all
Switch(config-line)#exit
```

Configurare la password in modalità utente per l'accesso alla console.

```
Switch(config)#line console 0
Switch(config-line)#password cisco
Switch(config-line)#login
Switch(config-line)#exit
```

Configurare una password per la modalità di abilitazione avanzata.

```
Switch(config)#enable secret cisco
```

Impostare l'orologio di sistema.

```
Switch(config)#clock timezone utc +5 30

*Nov 6 04:34:58.910: %SYS-6-CLOCKUPDATE: System clock has been updated from 10:05:58 utc Fri Nov
6 2020 to 10:04:58 utc Fri Nov 6 2020, configured from console by console.
*Nov 6 04:35:59.634: %SYS-5-CONFIG_I: Configured from console by console

Switch#clock set 04:30:00 6 Nov 2020

*Nov 5 23:00:00.000: %SYS-6-CLOCKUPDATE: System clock has been updated from 10:06:19 utc Fri Nov
6 2020 to 04:30:00 utc Fri Nov 6 2020, configured from console by console.
Nov 5 23:00:00.000: %PKI-6-AUTHORITATIVE_CLOCK: The system clock has been set.
```

Configurare il nome host per il sistema.

```
Switch(config)#hostname Catalyst-9600
```

Salvare la configurazione configurata finora nella configurazione di avvio.

```
Catalyst-9600#write memory
Building configuration...
[OK]
*Nov  5 16:11:46.061: %SYS-2-PRIVCFG_ENCRYPT: Successfully encrypted private config file
```

Verifica

Controllare la versione del software sul sistema, osservare il tempo di attività, i dettagli del sistema e così via.

```
Catalyst-9600#show version
Cisco IOS XE Software, Version 16.12.03a
Cisco IOS Software [Gibraltar], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 16.12.3a,
RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2020 by Cisco Systems, Inc.
Compiled Tue 28-Apr-20 09:37 by mcpre


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GPL code under the terms of GPL Version 2.0.  For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: IOS-XE ROMMON
BOOTLDR: System Bootstrap, Version 17.3.1r[FC2], RELEASE SOFTWARE (P)

Catalyst-9600 uptime is 36 minutes
Uptime for this control processor is 37 minutes
System returned to ROM by Reload Command
System image file is "bootflash:packages.conf"
Last reload reason: Reload Command
```

```
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
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to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.


Technology Package License Information:

------------------------------------------------------------------------------
Technology-package                                      Technology-package
Current                       Type                         Next reboot
------------------------------------------------------------------------------
network-advantage   Smart License                            network-advantage
dna-advantage            Subscription Smart License     dna-advantage
AIR License Level: AIR DNA Advantage
Next reload AIR license Level: AIR DNA Advantage


Smart Licensing Status: UNREGISTERED/EVAL MODE

cisco C9606R (X86) processor (revision V00) with 1867991K/6147K bytes of memory.
Processor board ID FXS2302Q2EP
1 Virtual Ethernet interface
24 Forty/Hundred Gigabit Ethernet interfaces
48 TwentyFive Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
16009160K bytes of physical memory.
11161600K bytes of Bootflash at bootflash:.
1638400K bytes of Crash Files at crashinfo:.
0K bytes of WebUI ODM Files at webui:.

Base Ethernet MAC Address          : 6c:b2:ae:4a:70:c0
Motherboard Assembly Number        : 4C57
Motherboard Serial Number          : FXS230103TN
Model Revision Number              : V02
Motherboard Revision Number        : 3
Model Number                       : C9606R
System Serial Number               : FXS2302Q2EP

Configuration register is 0x102
```

Controllare i pacchetti installati.

```
Catalyst-9600#show install summary
[ R0 R1 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
           C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
```

```
IMG   C    16.12.3a.0.4

----------------------------------------------------------------------------
Auto abort timer: inactive
----------------------------------------------------------------------------
```

Controllare il percorso per il VRF di gestione.

```
Switch#show ip route vrf Mgmt-vrf

Routing Table: Mgmt-vrf
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR

Gateway of last resort is not set

S*    0.0.0.0/0 [1/0] via 10.122.186.1                        <--- the default gateway
10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
S 10.122.157.250/32 [1/0] via 10.122.186.1
C 10.122.186.0/28 is directly connected, GigabitEthernet0/0
L 10.122.186.8/32 is directly connected, GigabitEthernet0/0
```

Verificare la raggiungibilità alla rete tramite il gateway predefinito.

```
Switch#ping vrf Mgmg-vrf 10.122.186.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.122.186.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms
Switch#
```

Controllare i moduli installati nel sistema.

```
Catalyst-9600#show module
Chassis Type: C9606R

Mod Ports Card Type                                  Model          Serial No.
---+-----+--------------------------------------+--------------+--------------
1   24   24-Port 40GE/12-Port 100GE                C9600-LC-24C     CAT2252L0PY
3   0    Supervisor 1 Module                       C9600-SUP-1      CAT2252L0SH
4   0    Supervisor 1 Module                       C9600-SUP-1      CAT2252L0SU
6   48   48-Port 10GE / 25GE                       C9600-LC-48YL    CAT2302L16G

Mod MAC addresses                     Hw   Fw           Sw                  Status
---+--------------------------------+----+------------+-------------------+--------
1   70B3.175A.7580 to 70B3.175A.75FF 0.10 17.3.1r[FC2]  16.12.03a          ok
3   70B3.175A.5680 to 70B3.175A.56FF 0.10 17.3.1r[FC2]  16.12.03a          ok
4   70B3.175A.5600 to 70B3.175A.567F 0.10 17.3.1r[FC2]  16.12.03a          ok
6   6C8B.D307.6680 to 6C8B.D307.66FF 0.10 17.3.1r[FC2]  16.12.03a          ok

Mod Redundancy Role     Operating Redundancy Mode Configured Redundancy Mode
---+------------------+-------------------------+---------------------------
```

```
3   Active              sso                     sso
4   Standby             sso                     sso

Chassis MAC address range: 64 addresses from 6cb2.ae4a.70c0 to 6cb2.ae4a.70ff
```

Verificare lo stato del sistema utilizzando i risultati POST (Power-on self-test) e diagnostici.

```
Catalyst-9600#show post
Stored system POST messages:

Switch C9606R
--------------

Thu Nov  5 15:34:27 2020 POST: Module: 6 Mac Loopback Begin
Thu Nov  5 15:34:27 2020 POST: Module: 6 Mac Loopback: loopback Test: End, Status Passed

Thu Nov  5 15:34:27 2020 POST: Module: 1 Mac Loopback Begin
Thu Nov  5 15:34:27 2020 POST: Module: 1 Mac Loopback: loopback Test: End, Status Passed

Catalyst-9600#show diagnostic result module all

Current bootup diagnostic level: minimal

module 1:   SerialNo : CAT2252L0PY

  Overall Diagnostic Result for module 1 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)

    1) TestGoldPktLoopback:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


    2) TestOBFL ------------------------> U
    3) TestThermal ---------------------> .
    4) TestPortTxMonitoring:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  .  U  .  U  U  U  U  U  U  U  U  U  U  .  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


module 3:   SerialNo : CAT2252L0SH

  Overall Diagnostic Result for module 3 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)

    1) TestOBFL ------------------------> U
    2) TestFantray ---------------------> .
```

```
    3) TestThermal ----------------------> .
    4) TestScratchRegister -------------> .


module 4:   SerialNo : CAT2252L0SU

  Overall Diagnostic Result for module 4 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)

    1) TestOBFL ------------------------> U
    2) TestFantray ---------------------> U
    3) TestThermal ----------------------> .
    4) TestScratchRegister -------------> U


module 6:   SerialNo : CAT2302L16G

  Overall Diagnostic Result for module 6 : PASS
  Diagnostic level at card bootup: minimal

  Test results: (. = Pass, F = Fail, U = Untested)

    1) TestGoldPktLoopback:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U


    2) TestOBFL ------------------------> U
    3) TestThermal ----------------------> .
    4) TestPortTxMonitoring:

   Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
   ------------------------------------------------------------------------------
         .  .  U  U  U  .  U  .  U  .  .  .  U  U  .  U  U  U  U  U  U  U  U  U

   Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
   ------------------------------------------------------------------------------
         U  U  .  U  U  U  U  U  U  U  U  U  U  U  .  U  .  U  U  U  U  .  .  U
```

Verificare che l'orologio sia impostato correttamente.

```
Catalyst-9600#show clock
*16:32:55.196 UTC Thu Nov 5 2020
```

Controllare gli alimentatori installati e il loro stato.

```
Catalyst-9600#show power detail
Power                                                          Fan States
Supply  Model No              Type  Capacity  Status         1     2
------  --------------------  ----  --------  -------------  -----------
PS1     C9600-PWR-2KWAC       ac    2000 W    active         good  good
```

```
PS4     C9600-PWR-2KWAC       ac    2000 W    active        good  good

PS Current Configuration Mode : none
PS Current Operating State    : none

Power supplies currently active    : 2
Power supplies currently available : 2

Power Summary          Maximum
 (in Watts)    Used    Available
-------------  ------  ---------
System Power   2800    3940
-------------  ------  ---------
Total          2800    3940


Power Budget Mode           : Dual Sup

                          Power                                    Out of  In
Mod  Model No             State     Budget  Instantaneous  Peak  Reset   Reset
---  -------------------  --------  ------  -------------  ----  ------  -----
1    C9600-LC-24C         accepted  300     0              0     300     10
3    C9600-SUP-1          accepted  950     0              0     950     202
4    C9600-SUP-1          accepted  950     0              0     950     202
6    C9600-LC-48YL        accepted  300     0              0     300     10
FM1  C9606-FAN            accepted  300     --             --    300     --
---  -------------------  --------  ------  -------------  ----  ------  -----
Total allocated power:           2800
Total required power: 2800
```

Informazioni correlate

- Per informazioni dettagliate sulle opzioni di configurazione, consultare la guida alla configurazione della gestione del sistema.
- **Documentazione e supporto tecnico – Cisco Systems**