示例配置：執行CatOS和Cisco IOS軟體的Catalyst交換器之間的EtherChannel

目錄

簡介

本文討論執行Catalyst OS(CatOS)的Catalyst 5500/5000交換器與執行Cisco IOS®軟體的Catalyst 6500/6000或Catalyst 4500/4000交換器之間的EtherChannel設定。EtherChannel將各個鏈路捆綁到單個邏輯鏈路中，從而在交換機或其他裝置之間提供更高的頻寬和冗餘。您可以將EtherChannel稱為快速EtherChannel(FEC)或Gigabit EtherChannel(GEC);這取決於用來形成EtherChannel的介面或連線埠的速度。此組態也適用於執行CatOS的Catalyst 4500/4000或6500/6000系列交換器，連線到執行Cisco IOS軟體的Catalyst 4500/4000或6500/6000系列交換器。

本文檔中的配置將兩台交換機的快速乙太網(FE)埠捆綁為一個FEC。本檔案使用術語「乙太通道」指代GEC、FEC、連線埠通道、通道和連線埠群組。

本檔案只會顯示交換器的組態檔，以及相關**show**指令範例的輸出。有關如何配置EtherChannel的詳細資訊，請參閱以下文檔：

- 設定EtherChannel（適用於執行Cisco IOS軟體的Catalyst 6500/6000交換器）
- 設定EtherChannel（適用於執行Cisco IOS軟體的Catalyst 4500/4000交換器）
- 示例配置：執行CatOS的Catalyst交換器之間的EtherChannel

必要條件

需求

在嘗試此設定之前，請確認您已對以下內容有基本瞭解：

- EtherChannel配置
- 使用指令行介面(CLI)設定Catalyst 6500/6000和Catalyst 5500/5000系列交換器

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 執行CatOS 6.4(8)軟體的Cisco Catalyst 5505交換器
- 執行Cisco IOS軟體版本12.1(20)E的Cisco Catalyst 6509交換器

註：有關 Catalyst交換機上的EtherChannel系統要求，請參閱在Catalyst交換機上實施EtherChannel的系統要求**。**

本文中的資訊是根據特定實驗室環境內的裝置所建立。所有裝置都以已清除（預設）的配置啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

慣例

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

背景理論

您可以無條件配置EtherChannel(通**道模式為on**)或通過自動協商。透過自動交涉設定時，交換器會與遠端交涉通道。為此，它使用Cisco專有埠聚合協定(PAgP)(使用**channel mode desirable**命令)或IEEE 802.3ad鏈路聚合控制協定(LACP)(使用**channel mode active**或**channel mode passive**命令)。在本檔案中，EtherChannel組態使用PAgP進行自動交涉。

所有運行CatOS系統軟體的Catalyst交換機都支援PAgP。執行Cisco IOS系統軟體的Catalyst 6500/6000或4500/4000系列交換器也支援PAgP。建議在支援PAgP的裝置之間建立EtherChannel的模式是理想模式。PAgP可防止兩台裝置之間的任何不正確配置。當連線裝置**不支援PAgP**並且需要無條件設定通道時，可以使用通道模式。可以在自動和期望通道模式下使用silent或non-silent關鍵字。Catalyst 6500/6000或4500/4000交換器預設在所有連線埠上啟用silent關鍵字。Catalyst 5500/5000系列交換器在銅纜連線埠上預設啟用silent關鍵字。對於所有光纖連線埠（FE和Gigabit乙太網路[GE]），5500/5000交換器預設啟用non-silent關鍵字。在Cisco交換機之間連線時，使用預設的silent或non-silent關鍵字。

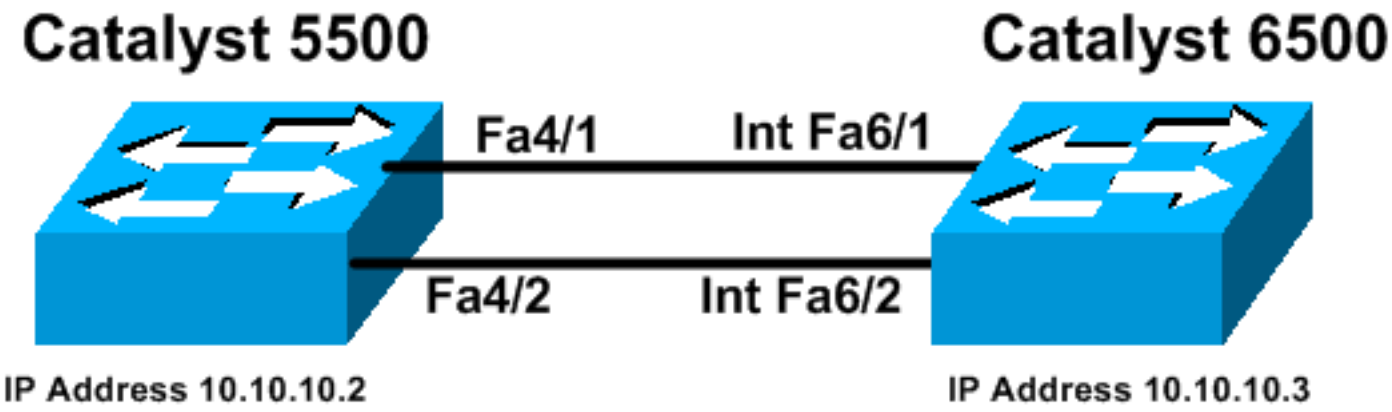
註：有關PAgP通道化模式和靜默/非靜默模式的其他資訊，請參閱*使用PAgP配置EtherChannel（推薦）***部分和**在運行CatOS系統軟體的Catalyst 4500/4000、5500/5000和6500/6000交換機之間配置EtherChannel**文檔的***Silent/Non-Silent Mode***部分。**

設定

本節提供用於設定本檔案中所述功能的資訊。

網路圖表

本檔案會使用以下網路設定：



指南

當活動鏈路聚合到EtherChannel中時，埠會暫時離開生成樹，然後作為單個邏輯埠連線回來。在生成樹重新收斂之前，網路流量會中斷。

如果出於其他考慮沒有使用PAgP或LACP等協定來配置EtherChannel，請確保兩端所需的引數相同。如果兩者不同，通道的一端會進入錯誤停用模式。若要將連線埠從錯誤停用模式中復原，請參閱以下內容：

- Cisco IOS 平台上的錯誤停用連接埠狀態復原
- 在 CatOS 平台上使處於錯誤停用的連接埠狀態復原
- 瞭解 EtherChannel 不一致偵測

組態

本檔案會使用以下設定：

- Catalyst 5500
- Catalyst 6500

注意：要驗證所配置的模組或交換機埠的功能，請對運行CatOS的交換機使用show port capabilities module命令。對於運行Cisco IOS軟體的交換機，請使用show interfaces capabilities 命令。

註：在配置中，輸出之間的註釋以藍色斜體*顯示*。

Catalyst 5500

```
cat5500 (enable) show config
This command shows non-default configurations only.
Use 'show config all' to show both default and non-
default configurations.
......
................
................
..

begin
!
```

```
# ***** NON-DEFAULT CONFIGURATION *****
!
!
# time: Wed Jan 28 2004, 09:39:55
!

# version 6.4(2)
!
# errordetection
set errordetection portcounter enable
!
# frame distribution method
set port channel all distribution mac both
!
# vtp
set vtp domain cisco
set vlan 1 name default type ethernet mtu 1500 said
100001 state active
set vlan 1002 name fddi-default type fddi mtu 1500 said
101002 state active
set vlan 1004 name fddinet-default type fddinet mtu 1500
said 101004 state
active stp ieee
set vlan 1005 name trnet-default type trbrf mtu 1500
said 101005 state
active stp ibm
set vlan 1003 name token-ring-default type trcrf mtu
1500 said 101003 state
active mode srb aremaxhop 7 stemaxhop 7 backupcrf off
!
# ip
!--- This is the IP address for management. set
interface sc0 1 10.10.10.2/255.255.255.0 10.10.10.255 !
# set boot command
set boot config-register 0x2102
set boot system flash bootflash:cat5000-supg.6-4-8.bin
!
# mls
set mls nde disable
!
# port channel

!--- Ports are assigned to admin-group 200.
Administrative groups !--- specify which ports can form
an EtherChannel together. An administrative group !---
can contain a maximum of eight ports. This admin-group
assignment happens !--- automatically with the
configuration of the port channel. You can also !---
assign it manually, as done in this example. However,
you do not need to assign !--- the admin-group manually.
Let the switch create !--- the admin-group
automatically. !--- Note: This configuration sets ports
4/1 through 4/4 !--- for port channel, but only
configures ports 4/1-2. This is !--- normal behavior.
You can use ports 4/3 and 4/4 for any other purpose.

set port channel 4/1-4 200
!
# default port status is enable
!
!
#module 1 : 0-port Supervisor III
!
#module 2 : 2-port MM MIC FDDI
```

```
!
#module 3 : 24-port 10/100BaseTX Ethernet
!
#module 4 : 12-port 10/100BaseTX Ethernet
!--- This enables port channeling with PAgP and
configures desirable silent mode. set port channel 4/1-2
mode desirable silent
!
#module 5 : 2-port MM OC-3 Dual-Phy ATM
!--- Output suppressed. end
```

如需設定中命令的詳細資訊，請參閱Catalyst 5000系列命令參考（6.3和6.4）。

Catalyst 6500

```
Cat6509# show running-config
Building configuration...

Current configuration : 3852 bytes
!
version 12.1
no service single-slot-reload-enable
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Cat6509
!
!
redundancy
 main-cpu
  auto-sync standard
ip subnet-zero
!
!
interface port-channel1
 no ip address

!--- This example has configured a Layer 2 (L2)
EtherChannel. !--- You can configure a Layer 3 (L3)
EtherChannel on the Catalyst !--- 6500/6000 switches
running Cisco IOS Software; however, this is not !---
the focus of this document. For details on the Layer 3
EtherChannel configuration, !--- refer to the document
Configuring EtherChannels.  switchport

!--- This command puts the interface in VLAN1, by
default. switchport mode access
!
interface FastEthernet6/1
no ip address
!--- On the Catalyst 6500/6000, you must issue the
switchport command once, !--- without any keywords, to
configure the interface as an L2 port. !--- By default,
all the ports are router ports (L3 ports). !--- On a
Catalyst 4500/4000 switch, all ports are L2 ports by
default. !--- You do not need an additional command.

switchport

!--- This command puts the interface in VLAN1, by
default.  switchport mode access
```

```
!--- The port is a member of channel group 1 with
autonegotiation !--- that uses PAgP and silent mode.
channel-group 1 mode desirable
!
interface FastEthernet6/2
 no ip address

!--- On the Catalyst 6500/6000, you must issue the
switchport command once, !--- without any keywords, to
configure the interface as a L2 port. !--- By default,
all the ports are router ports (L3 ports). !--- On a
Catalyst 4500/4000 switch, all ports are L2 ports by
default. !--- You do not need an additional command.

 switchport

!--- This command puts the interface in VLAN1, by
default. switchport mode access

!--- The port is a member of channel group 1 with
autonegotiation !--- that uses PAgP and silent mode.
channel-group 1 mode desirable
!
interface FastEthernet6/3
 no ip address
!
interface FastEthernet6/4
 no ip address
!
!--- Output suppressed. interface FastEthernet6/45 no ip
address shutdown ! interface FastEthernet6/46 no ip
address shutdown ! interface FastEthernet6/47 no ip
address shutdown ! interface FastEthernet6/48 no ip
address shutdown ! !--- This is the IP address for
management. ip address 10.10.10.3 255.255.255.0


!
ip classless
no ip http server
!
!
!
line con 0
line vty 0 4
!
end
Cat6509#
```

如需設定中命令的詳細資訊，請參閱Catalyst 5000系列命令參考（6.3和6.4）。

注意：如果將介面分配給不存在的VLAN，該介面將關閉，直到您在VLAN資料庫中建立VLAN。如需更多詳細資訊，請參閱設定VLAN的*建立或修改乙太網路VLAN*一節。

驗證

本節提供的資訊可用於確認您的組態是否正常運作。

Output Interpreter Tool (僅供註冊客戶使用)支援某些**show**命令，這允許您檢視show命令輸出的分

析。

要檢查CatOS交換機中的埠通道，請發出以下命令：

- show port capabilities *module*
- show port channel
- show port *module/port*
- show port channel info

若要檢查CatOS交換器中的跨距樹狀目錄通訊協定(STP)狀態，請發出以下命令：

- show spantree
- show spantree *vlan*
- show spantree *module/port*

若要檢查執行Cisco IOS軟體的Catalyst 6500/6000或Catalyst 4500/4000系列交換器中的連線埠通道，請發出以下命令：

- show interfaces capabilities
- show interfaces port-channel *port-channel interface number*
- show etherchannel summary
- show etherchannel port-channel

若要檢查執行Cisco IOS軟體的Catalyst 6500/6000或Catalyst 4500/4000系列交換器中的STP狀態，請發出以下命令：

- show spanning-tree detail
- show spanning-tree vlan *vlan number*

show命令輸出示例

Catalyst 5500交換器

- show port capabilities *module*

此命令驗證模組是否能夠進行通道化。它還告訴您可以捆綁哪組埠來形成EtherChannel。在本例中，您可以將兩個埠4/1-2或四個埠4/1-4分組以形成通道：

```
cat5500 (enable) show port capabilities 4
Model                   WS-X5203
Port                    4/1
Type                    10/100BaseTX
Speed                   auto,10,100
Duplex                  half,full
Trunk encap type        ISL
Trunk mode              on,off,desirable,auto,nonegotiate
Channel                 4/1-2,4/1-4
Broadcast suppression   pps(0-150000),percentage(0-100)
Flow control            no
Security                yes
Membership              static,dynamic
Fast start              yes
QOS scheduling          rx-(none),tx-(none)
CoS rewrite             no
ToS rewrite             no
```

```
Rewrite                   no
UDLD                      yes
AuxiliaryVlan             no
SPAN                      source,destination
!--- Output suppressed.
```

- show port channel

此命令以及show port命令會驗證連線埠通道的狀態。

```
cat5500 (enable) show port channel
Port  Status     Channel              Admin Ch
                 Mode                 Group Id
----- ---------- -------------------- ----- -----
4/1   connected  desirable silent       200   865
4/2   connected  desirable silent       200   865
----- ---------- -------------------- ----- -----

Port  Device-ID                       Port-ID                   Platform
----- ------------------------------ ------------------------- ----------------
4/1   Switch                         Fa6/1                     cisco Catalyst 6000
4/2   Switch                         Fa6/2                     cisco Catalyst 6000
----- ------------------------------ ------------------------- ----------------
cat5500 (enable)
```

- show port *module/port*

```
cat5500 (enable) show port 4/1
Port  Name               Status     Vlan       Level  Duplex Speed Type
----- ------------------ ---------- ---------- ------ ------ ----- ------------
4/1                      connected  1          normal a-full a-100 10/100BaseTX
!--- Output suppressed. Port Status Channel Admin Ch Mode Group Id ----- ---------- ------------
-------- ----- ----- 4/1   connected  desirable silent       200   865
4/2   connected  desirable silent       200   865
----- ---------- -------------------- ----- -----

!--- Output suppressed. cat5500 (enable) show port 4/2
Port  Name               Status     Vlan       Level  Duplex Speed Type
----- ------------------ ---------- ---------- ------ ------ ----- ------------
4/2                      connected  1          normal a-full a-100 10/100BaseTX

!--- Output suppressed. Port Status Channel Admin Ch Mode Group Id ----- ---------- ------------
-------- ----- ----- 4/1   connected  desirable silent       200   865
4/2   connected  desirable silent       200   865
----- ---------- -------------------- ----- -----

!--- Output suppressed.
```

- show port channel info

```
cat5500 (enable) show port channel info
Switch Frame Distribution Method: Mac both

Port  Status     Channel              Admin Channel Speed Duplex Vlan
                 mode                 group id
----- ---------- -------------------- ----- ------- ----- ------ ----
4/1   connected  desirable silent       200     865 a-100 a-full    1
4/2   connected  desirable silent       200     865 a-100 a-full    1
----- ---------- -------------------- ----- ------- ----- ------ ----

Port  ifIndex Oper-group Neighbor   Oper-Distribution PortSecurity/
                         Oper-group Method           Dynamic port
```

```
----- ------- ---------- ---------- ----------------- -------------
4/1   334               1 65537      Mac both
4/2   334               1 65537      Mac both
----- ------- ---------- ---------- ----------------- -------------

Port  Device-ID                      Port-ID                   Platform
----- ------------------------------ ------------------------- ----------------
4/1   Switch                         Fa6/1                     cisco Catalyst 6000
4/2   Switch                         Fa6/2                     cisco Catalyst 6000
----- ------------------------------ ------------------------- ----------------

!--- Output suppressed.
```

- show spantree

STP命令驗證通道中的所有埠是否分組在一起並處於轉發狀態。

```
cat5500 (enable) show spantree 1
VLAN 1
Spanning tree enabled
Spanning tree type          IEEE

Designated Root             00-30-40-a7-a4-00
Designated Root Priority    32768
Designated Root Cost        0
Designated Root Port        1/0
Root Max Age   20 sec    Hello Time 2  sec   Forward Delay 15 sec

Bridge ID MAC ADDR          00-30-40-a7-a4-00
Bridge ID Priority          32768
Bridge Max Age 20 sec    Hello Time 2  sec   Forward Delay 15 sec

Port                     Vlan Port-State    Cost  Priority Portfast   Channel_id
------------------------ ---- ------------- ----- -------- ---------- ----------
2/1-2                    1    not-connected    19       32 disabled   0
3/1                      1    not-connected   100       32 disabled   0
3/2                      1    not-connected   100       32 disabled   0
3/3                      1    not-connected   100       32 disabled   0
3/4                      1    not-connected   100       32 disabled   0
3/5                      1    not-connected   100       32 disabled   0
3/6                      1    not-connected   100       32 disabled   0
3/7                      1    not-connected   100       32 disabled   0
3/8                      1    not-connected   100       32 disabled   0
3/9                      1    not-connected   100       32 disabled   0
3/10                     1    not-connected   100       32 disabled   0
3/11                     1    not-connected   100       32 disabled   0
3/12                     1    not-connected   100       32 disabled   0
3/13                     1    not-connected   100       32 disabled   0
3/14                     1    not-connected   100       32 disabled   0
3/15                     1    not-connected   100       32 disabled   0
3/16                     1    not-connected   100       32 disabled   0
3/17                     1    not-connected   100       32 disabled   0
3/18                     1    not-connected   100       32 disabled   0
3/19                     1    not-connected   100       32 disabled   0
3/20                     1    not-connected   100       32 disabled   0
3/21                     1    not-connected   100       32 disabled   0
3/22                     1    not-connected   100       32 disabled   0
3/23                     1    not-connected   100       32 disabled   0
3/24                     1    not-connected   100       32 disabled   0
4/1-2                    1    forwarding       12       32 disabled   865
4/3                      1    forwarding       19       32 disabled   0
4/4                      1    forwarding       19       32 disabled   0
4/5                      1    not-connected   100       32 disabled   0
```

```
4/6                     1    not-connected   100       32 disabled   0
4/7                     1    not-connected   100       32 disabled   0
4/8                     1    not-connected   100       32 disabled   0
4/9                     1    not-connected   100       32 disabled   0
4/10                    1    not-connected   100       32 disabled   0
4/11                    1    not-connected   100       32 disabled   0
4/12                    1    not-connected   100       32 disabled   0
cat5500 (enable)
```

- show spantree *module/port*

```
cat5500 (enable) show spantree 4/1
Port                     Vlan Port-State    Cost  Priority Portfast   Channel_id
------------------------ ---- ------------- ----- -------- ---------- ----------
4/1-2                    1    forwarding       12       32 disabled   865
cat5500 (enable) show spantree 4/2
Port                     Vlan Port-State    Cost  Priority Portfast   Channel_id
------------------------ ---- ------------- ----- -------- ---------- ----------
4/1-2                    1    forwarding       12       32 disabled   865
cat5500 (enable)
```

註：連線埠4/1和4/2的show spantree *module/port* 的輸出顯示相同的結果。這是因為它們被組合在一個通道ID為865的通道中。

Catalyst 6500交換器

- show interfaces capabilities

此命令驗證模組是否能夠進行通道化。

```
Cat6509# show interfaces capabilities module 6
FastEthernet6/1
  Model:                 WS-X6348-RJ-45
  Type:                  10/100BaseTX
  Speed:                 10,100,auto
  Duplex:                half,full
  Trunk encap. type:     802.1Q,ISL
  Trunk mode:            on,off,desirable,nonegotiate
  Channel:               yes
  Broadcast suppression: percentage(0-100)
  Flowcontrol:           rx-(off,on),tx-(none)
  Membership:            static
  Fast Start:            yes
  QOS scheduling:        rx-(1q4t), tx-(2q2t)
  CoS rewrite:           yes
  ToS rewrite:           yes
  Inline power:          yes
  SPAN:                  source/destination
  UDLD                   yes
  Link Debounce:         yes
  Link Debounce Time:    no
FastEthernet6/2
  Model:                 WS-X6348-RJ-45
  Type:                  10/100BaseTX
  Speed:                 10,100,auto
  Duplex:                half,full
  Trunk encap. type:     802.1Q,ISL
  Trunk mode:            on,off,desirable,nonegotiate
  Channel:               yes
  Broadcast suppression: percentage(0-100)
  Flowcontrol:           rx-(off,on),tx-(none)
```

```
  Membership:            static
  Fast Start:            yes
  QOS scheduling:        rx-(1q4t), tx-(2q2t)
  CoS rewrite:           yes
  ToS rewrite:           yes
  Inline power:          yes
  SPAN:                  source/destination
  UDLD                   yes
  Link Debounce:         yes
  Link Debounce Time:    no
```

- **show interfaces port-channel** *port-channel interface number*

此命令檢查埠通道的狀態。它還會告訴您形成此通道的埠。

```
Cat6509# show interfaces port-channel 1
Port-channel1 is up, line protocol is up
  Hardware is EtherChannel, address is 0009.1267.27d9 (bia 0009.1267.27d9)
  MTU 1500 bytes, BW 200000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Full-duplex, 100Mb/s
input flow-control is off, output flow-control is off
Members in this channel: Fa6/1 Fa6/2
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/2000/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue :0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
     126880 packets input, 10173099 bytes, 0 no buffer
     Received 126758 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
     0 input packets with dribble condition detected
     6101 packets output, 1175124 bytes, 0 underruns
     0 output errors, 0 collisions, 2 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out
Cat6509#
```

- **show etherchannel summary**

此命令顯示每個通道組的一行摘要。在此輸出範例中，可以看到連線埠**Fa6/1**和**Fa6/2** 的標幟**P**。這表示這些連線埠形成了連線埠通道。

```
Cat6509# show etherchannel summary
Flags: D - down P - in port-channel
I - stand-alone s - suspended
H - Hot-standby (LACP only)
R - Layer3 S - Layer2
U - in use f - failed to allocate aggregator

u - unsuitable for bundling
Number of channel-groups in use: 1
Number of aggregators: 1

Group Port-channel Protocol Ports
--------- +----------------------+ ----------------+ --------------
1 Po1(SU) PAgP Fa6/1(P) Fa6/2(P)
```

- show etherchannel port-channel

此命令顯示埠通道資訊。

```
Cat6509# show etherchannel port-channel


Channel-group listing:
-----------------------

Group: 1
----------
Port-channels in the group:
----------------------

Port-channel: Po1
------------

Age of the Port-channel = 00d:00h:02m:25s
Logical slot/port = 14/1 Number of ports = 2
GC = 0x00010001 HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = PAgP

Ports in the Port-channel:

Index Load Port EC state No of bits
------+------+------+------------------+-----------
1 55 Fa6/1 Desirable-Sl 4
0 AA Fa6/2 Desirable-Sl 4

Time since last port bundled: 00d:00h:01m:03s Fa6/1
Time since last port Un-bundled: 00d:00h:01m:05s Fa6/1
```

- show spanning-tree detail

此命令驗證通道是否處於特定VLAN的轉送狀態。

```
Cat6509# show spanning-tree detail

VLAN1 is executing the IEEE compatible Spanning Tree protocol
  Bridge Identifier has priority 32768, address 00d0.029a.8001
  Configured hello time 2, max age 20, forward delay 15
  Current root has priority 32768, address 0030.40a7.a400
  Root port is 833 (Port-channel1), cost of root path is 12
  Topology change flag not set, detected flag not set
  Number of topology changes 0 last change occurred 00:23:59 ago
  Times:  hold 1, topology change 35, notification 2
          hello 2, max age 20, forward delay 15
  Timers: hello 0, topology change 0, notification 0, aging 300

Port 833 (Port-channel1) of VLAN1 is forwarding
   Port path cost 12, Port priority 128, Port Identifier 131.65.
   Designated root has priority 32768, address 0030.40a7.a400
   Designated bridge has priority 32768, address 0030.40a7.a400
   Designated port id is 131.97, designated path cost 0
   Timers: message age 2, forward delay 0, hold 0
   Number of transitions to forwarding state: 1
   BPDU: sent 1, received 718
```

- show spanning-tree vlan *vlan number*

此命令顯示VLAN1的生成樹資訊。

```
Cat6509# show spanning-tree vlan 1

VLAN0001
Spanning tree enabled protocol ieee
Root ID Priority 32768
Address 0030.40a7.a400
Cost 12
Port 833 (Port-channel1)
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32768
Address 00d0.029a.8001
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300

Interface Role Sts Cost Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1 Root FWD 12 128.833 P2p
```

通道模式下使用無條件的特殊考慮

思科建議對連線埠通道組態使用PAgP，如本檔案所述。如果由於任何原因而無條件配置EtherChannel(使用**channel mode on**)，則應建立埠通道。本節提供了操作步驟。如果建立埠通道，則可以避免配置過程中可能出現的STP問題。如果將一側配置為通道，而另一側成為通道，STP環路檢測可以禁用埠。

1. 若要將連線埠通道化的連線埠設定為CatOS交換器上的停用模式，請發出*set port disable module/port* 命令。
2. 在Cisco IOS交換機上建立埠通道（埠組），並將通道模式設定為on。
3. 在CatOS交換機上建立埠通道，並將通道模式設定為on。
4. 要在第一個CatOS交換機上重新啟用之前禁用的埠，請發出*set port enable module/port* 命令。

疑難排解

EtherChannel的效能問題

EtherChannel的效能問題是由多種情況導致的。常見原因包括負載均衡演算法不正確以及埠特定的物理層問題。

要更好地瞭解和配置負載均衡演算法，請參閱以下文檔：

- Catalyst 6500系列軟體組態設定指南8.6的瞭解EtherChannel訊框分佈運作原理一節。
- Catalyst 6500系列Cisco IOS軟體配置指南(12.2SX)的瞭解負載平衡部分。

有關如何解決物理層問題的資訊，請參閱疑難排解交換器連線埠和介面問題。

相關資訊

- 在執行CatOS系統軟體的Catalyst 4500/4000、5500/5000和6500/6000交換器之間設定EtherChannel

- 在 Catalyst 6500/6000 和 Catalyst 4500/4000 之間設定 LACP (802.3ad)
- 在Catalyst交換機上實施EtherChannel的系統要求
- Catalyst 6500系列交換器設定指南
- Catalyst 5000系列軟體組態設定指南（6.3和6.4）
- Catalyst 4000系列交換器設定指南
- Catalyst 5500系列交換器技術支援
- Catalyst 6500系列交換器技術支援
- EtherChannel技術支援頁面
- LAN 產品支援
- LAN 交換技術支援
- 技術支援 - Cisco Systems