

在執行CatOS的Catalyst 5000/6000交換器之間設定ISL中繼

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簡介

本檔案將提供執行Catalyst OS(CatOS)的Catalyst 5500和Catalyst 5000交換器之間的交換器間連結(ISL)上的組態範例。在此案例中，可以使用任何執行CatOS的Catalyst 5000或6000系列成員來取得相同的結果。

簡而言之，中繼是一種通過兩台裝置之間的點對點鏈路傳輸來自多個VLAN的流量的方式。乙太網中繼的實施方式有兩種：

- ISL (思科專有交換器間連結通訊協定)
- 802.1Q (IEEE標準)

本文檔將只顯示交換機的配置檔案以及相關示例show命令的輸出。有關如何在Catalyst交換機之間配置ISL中繼的詳細資訊，請參閱[在Catalyst 5500/5000和6500/6000系列交換機上配置ISL中繼](#)。

必要條件

需求

本文件沒有特定需求。

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 執行Catalyst OS 6.1(1)軟體的Catalyst 5500交換器
- 執行Catalyst OS 6.1(1)軟體的Catalyst 5000交換器

本文中的資訊是根據特定實驗室環境內的裝置所建立。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。已使用**clear config all**和**write erase**命令清除所有裝置上的配置，以確保它們具有預設配置。

慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

重要附註

運行CatOS的Catalyst 4000系列（包括Catalyst 2948G和Catalyst 2980G）僅支援802.1Q中繼，不支援ISL中繼。

Catalyst 6000系列成員上的任何乙太網埠都支援802.1Q和ISL封裝。

根據模組的不同，支援Catalyst 5000中繼的埠可能僅支援ISL封裝或ISL和802.1Q。驗證這一點的最佳方式是發出**show port capabilities**命令。中繼容量已明確說明。例如：

```
cat5000> show port capabilities 3
```

```
Model                WS-X5225R
Port                 3/1
Type                 10/100BaseTX
Speed                auto,10,100
Duplex                half,full
Trunk encap type    802.1Q,ISL
Trunk mode         on,off,desirable,auto,nonegotiate
Channel              3/1-2,3/1-4
Broadcast suppression percentage(0-100)
Flow control         receive-(off,on),send-(off,on)
Security              yes
Membership            static,dynamic
Fast start           yes
QOS scheduling        rx-(none),tx-(none)
CoS rewrite           yes
ToS rewrite           IP-Precedence
Rewrite               no
UDLD                  yes
AuxiliaryVlan        1..1000,1025..4094,untagged,dot1p,none
SPAN                  source,destination
```

確保中繼鏈路上的中繼模式匹配。如果鏈路的一端配置為ISL中繼，則鏈路的另一端也應配置為ISL；同樣，如果鏈路的一端配置為802.1Q，鏈路的另一端也應配置為802.1Q。

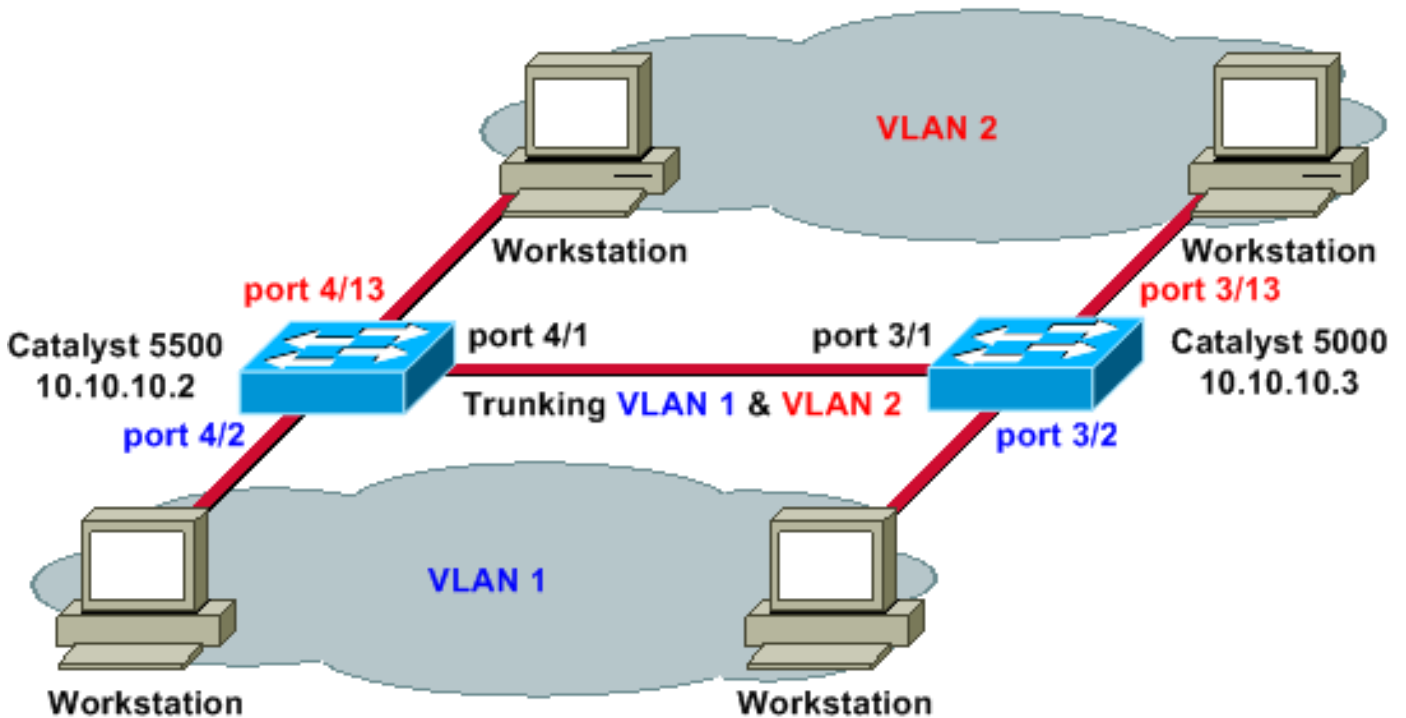
設定

本節提供用於設定本文件中所述功能的資訊。

注意：要查詢有關本文檔中使用的命令的其他資訊，請使用[命令查詢工具](#)([僅限註冊客戶](#))。

網路圖表

本檔案會使用以下網路設定：



組態

本檔案會使用以下設定：

- [Catalyst 5500](#)
- [Catalyst 5000](#)

Catalyst 5500

```
#version 6.1(1)
!
set option fddi-user-pri enabled
set password $2$q.J7$05n.pwx7aEC6NHWJfXadx1
set enablepass $2$o.h/$bAxfjJ4XUA/RMUHqBr1YQ0
!
#errordetection
set errordetection portcounter enable
!
#system
set system name cat5500
!
#frame distribution method
set port channel all distribution mac both
!
#vtp
!--- In this example, the VLAN Trunking Protocol (VTP)
mode is set to be transparent. !--- Depending on your
network, set the VTP mode accordingly. set vtp mode
transparent
!--- For details on VTP, refer to Configuring VTP. 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
2
set vlan 1003 name token-ring-default type trcrf mtu
1500 said 101003 state acti
ve mode srb aremaxhop 7 stemaxhop 7 backupcrf off
!
#ip
!--- IP address used 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 slot0:cat5000-sup3.6-1-1.bin
!
# default port status is enable
!
!
#module 1 empty
!
#module 2 : 2-port 1000BaseSX Supervisor
!
#module 3 empty
!
#module 4 : 24-port 10/100BaseTX Ethernet
!--- Ports 4/13-24 are assigned to VLAN 2. set vlan 2
4/13-24
!--- The ISL trunking mode is set to on. !--- Depending
on your network and requirements, set the trunking mode
accordingly. set trunk 4/1 on isl 1-1005
!--- For details on different trunking modes, refer to
!--- Configuring VLAN Trunks on Fast Ethernet and
Gigabit Ethernet Ports !--- Portfast has been enabled on
the ports connected to the workstations. set spantree
portfast 4/2-24 enable
!--- For details on why to enable portfast, refer to !--
- Using Portfast and Other Commands to Fix Workstation
Startup Connectivity Delays ! #module 5 empty ! #module
6 empty ! #module 7 empty ! #module 8 empty ! #module 9
empty ! #module 10 empty ! #module 11 empty ! #module 12
empty ! #module 13 empty end

```

Catalyst 5000

```

#Version 6.1(1)
!
set option fddi-user-pri enabled
set password $2$J75L$Ug4163kfeHTDcLJZ/L9es1
set enablepass $2$h/BN$i3S54iNvIXknFelh6gOve0
!
#errordetection
set errordetection portcounter enable
!
#system
set system name cat5000
!
#frame distribution method
set port channel all distribution Mac both
!
#vtp
!--- In this example, the VTP mode is set to be

```

```

transparent. !--- Depending on your network and
requirements, set the VTP mode accordingly. set vtp mode
transparent
!--- For details on VTP, refer to Configuring VTP. 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
2
set vlan 1003 name token-ring-default type trcrf mtu
1500 said 101003 state acti
ve mode srb aremaxhop 7 stemaxhop 7 backupcrf off
!
#ip
!--- IP address used for management. set interface sc0 1
10.10.10.3/255.255.255.0 10.10.10.255
!
#set boot command
set boot config-register 0x2102
set boot system flash slot0:cat5000-sup3.6-1-1.bin
!
# default port status is enable
!
!
#module 1 : 0-port Supervisor III
!
#module 2 : 12-port 10/100BaseTX Ethernet
!
#module 3 : 24-port 10/100BaseTX Ethernet
!--- Ports 3/13-24 have been assigned to VLAN 2. set
vlan 2 3/13-24
!--- The ISL trunking mode is set to on. !--- Depending
on your network and requirements, set the trunking mode
accordingly. set trunk 3/1 on isl 1-1005
!--- For details on different trunking modes, refer to
!--- Configuring VLAN Trunks on Fast Ethernet and
Gigabit Ethernet Ports !--- Portfast has been enabled on
the ports connected to the workstations. set spantree
portfast 3/2-24 enable
!--- For details on why to enable portfast, refer to !--
- Using Portfast and Other Commands to Fix Workstation
Startup Connectivity Delays !! #module 4 : 24-port
10/100BaseTX Ethernet ! #module 5 : 12-port 10BaseFL
Ethernet end

```

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](#)(僅限註冊客戶)支援某些show命令，特別是show tech-support，此工具可讓您檢視show命令輸出的分析。

[Catalyst 5500交換器](#)

show port capabilities module/port — 發出此命令以驗證連線埠是否可建立主幹。

```
cat5500> (enable) show port capabilities 4/1
```

```
Model                WS-X5234
Port                 4/1
Type                 10/100BaseTX
Speed                auto,10,100
Duplex               half,full
Trunk encap type     802.1Q,ISL
Trunk mode           on,off,desirable,auto,nonegotiate
Channel              4/1-2,4/1-4
Broadcast suppression percentage(0-100)
Flow control         receive-(off,on),send-(off,on)
Security             yes
Membership           static,dynamic
Fast start           yes
QOS scheduling       rx-(none),TX(1q4t)
COs rewrite          yes
ToS rewrite          IP-Precedence
Rewrite              no
UDLD                 yes
AuxiliaryVlan        1..1000,1025..4094,untagged,dot1p,none
SPAN                 source,destination
```

show port module/port — 發出此命令，以確定特定連線埠的狀態及其是否為主幹。

```
cat5500> (enable) show port 4/1
```

Port	Name	Status	Vlan	Level	Duplex	Speed	Type
4/1		connected	trunk	normal	a-full	a-100	10/100BaseTX

Port	AuxiliaryVlan	AuxVlan-Status
4/1	none	none

Port	Security Violation	Shutdown-Time	Age-Time	Max-Addr	Trap	IfIndex
4/1	disabled	shutdown	0	0	1 disabled	11

Port	Num-Addr	Secure-Src-Addr	Age-Left	Last-Src-Addr	Shutdown/Time-Left
4/1	0	-	-	-	-

!--- Output suppressed.

show trunk — 發出此命令以驗證中繼狀態和配置。

```
cat5500> (enable) show trunk
```

```
* - indicates vtp domain mismatch
Port      Mode      Encapsulation  Status      Native vlan
-----
4/1       on        isl            trunking    1
```

```
Port      Vlans allowed on trunk
-----
4/1       1-1005
```

```
Port      Vlans allowed and active in management domain
-----
4/1       1-2
```

```
Port      Vlans in spanning tree forwarding state and not pruned
```



```
-----
3/1 disabled shutdown          0          0          1 disabled    57
!--- Output suppressed.
```

show trunk — 發出此命令以驗證中繼狀態和配置。

```
cat5000> (enable) show trunk
```

```
* - indicates vtp domain mismatch
Port      Mode      Encapsulation  Status      Native vlan
-----
3/1      on        isl            trunking    1

Port      Vlans allowed on trunk
-----
3/1      1-1005

Port      Vlans allowed and active in management domain
-----
3/1      1-2

Port      Vlans in spanning tree forwarding state and not pruned
-----
3/1      1-2
```

show vtp domain — 發出此命令檢查VTP資訊。

```
cat5000> (enable) show vtp domain
```

```
Domain Name          Domain Index  VTP Version  Local Mode  Password
-----
                1                2                Transparent -

Vlan-count  Max-vlan-storage  Config Revision  Notifications
-----
6            1023              0                disabled

Last Updater  V2 Mode  Pruning  PruneEligible on Vlans
-----
10.10.10.3    disabled disabled 2-1000
```

[疑難排解](#)

目前尚無適用於此組態的具體疑難排解資訊。

[相關資訊](#)

- [LAN 產品支援頁面](#)
- [LAN 交換支援頁面](#)
- [技術支援與文件 - Cisco Systems](#)