

# 在运行 CatOS 系统软件的 Catalyst 5500/5000 和 6500/6000 交换机上使用内部路由器 ( 第三层卡 ) 配置 VLAN 间路由

## 目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[网络图](#)

[一般配置任务](#)

[配置 VLAN 间路由](#)

[常见问题：VLAN接口显示down/down](#)

[检查配置](#)

[附录](#)

[Supervisor Engine模块配置](#)

[RSM配置](#)

[相关信息](#)

## 简介

本文提供基本信息关于怎样给在Catalyst交换机(运行Catalyst OS [CatOS]系统软件)的配置VLAN间路由使用内部路由器(第3层[L3]卡/模块)。期限内部路由器是指这些L3卡/模块在Catalyst 5500/5000和6500/6000交换机：

- 在Catalyst 6500/6000系列交换机的多层交换机特性卡(MSFC)
- 在Catalyst 6500/6000系列交换机的MSFC2
- 路由交换机特性卡在Catalyst 5500/5000系列交换机
- 路由交换模块(RSM)在Catalyst 5500/5000系列交换机

有一个支持的L3卡的所有Catalyst 5500/5000或Catalyst 6500/6000系列交换机运行CatOS可能用于本文得到同样结果。

## 先决条件

### 要求

本文档的读者应掌握以下这些主题的相关知识：

**注意：** 使用L3服务模块(WS-X4232-L3)，本文如何不讨论对在Catalyst 4500/4000交换机的配置

VLAN间路由。关于那些详细信息，参考这些文档：

- [配置安装和配置注释VLAN间路由部分的模块Catalyst 4000第3层服务模块的](#)
- [Catalyst 4000 系列 \(WS-X4232-L3\) 上路由器模块的配置与概述](#)

## 使用的组件

本文档中的信息基于以下软件和硬件版本：

- 有RSM的Catalyst 5500交换机
- Supervisor Engine模块(WS-X5530)该运行CatOS 6.1(1)软件
- RSM (WS-X5302)该运行Cisco IOS软件版本12.0(5)W5(12)

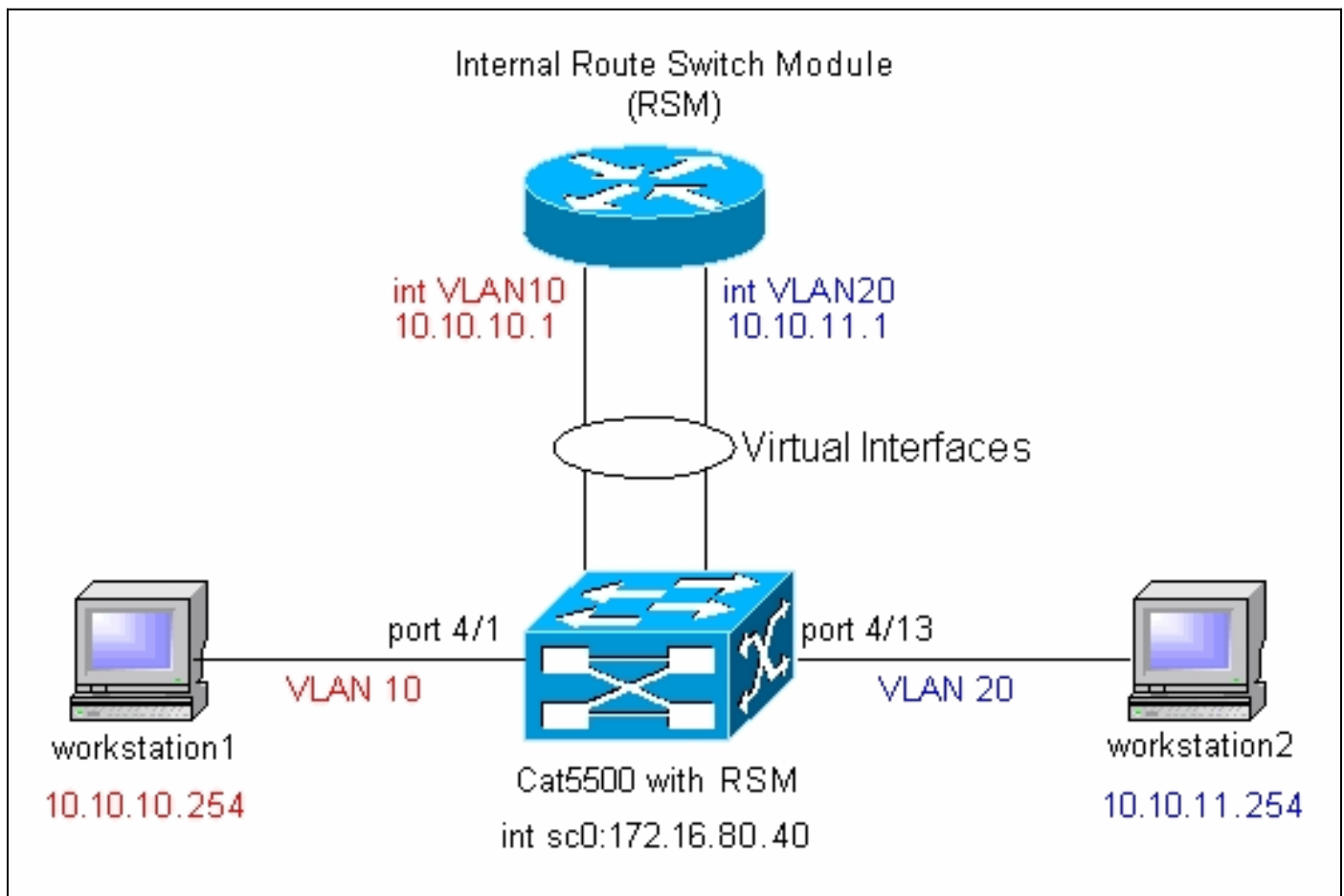
用clear config all和write erase命令清除所有设备的配置，以保证它们有一个默认配置。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## 规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## 网络图



**注意：**除非在本文，询问如此执行请勿连接workstation1和workstation2。本文指出客户报告的常见问题，当他们配置VLAN间路由或多个VLAN在路由模块时建立接口。请参阅[常见问题：VLAN接口](#)

[显示down/down](#)部分关于详细信息。

## 一般配置任务

此部分提供在本文执行主要配置任务的摘要：

- 配置管理的交换机
- 创建在交换机的VLAN
- 添加端口到配置的VLAN
- 配置管理的内部路由器
- 配置VLAN间路由
- 检查配置

## 配置 VLAN 间路由

完成这些步骤对在Catalyst交换机的配置VLAN间路由：

1. 访问Supervisor引擎的控制台端口。如果有与访问的困难对控制台，参考这些文档：[Catalyst 5500/5000系列交换机—连接控制台端口的一个终端Catalyst交换机的](#)。Catalyst 6500/6000系列交换机—[连接连接终端对Catalyst交换机的控制台端口](#)和[连接连接调制解调器的调制解调器部分的一个终端的部分对Catalyst交换机的控制台端口](#)
2. 配置基本管理的交换机。请使用此一组命令配置管理的Catalyst交换机：

```
Console> enable) set system name Cat5500
```

```
!--- Configure the system name. System name set. Cat5500> (enable) set interface sc0 172.16.80.40 255.255.255.0
```

```
!--- Configure the IP address. Interface sc0 IP address and netmask set. Cat5500> (enable) set ip route 0.0.0.0 172.16.80.1
```

```
!--- Configure the default gateway. 注意：如果要管理在路由器的另一侧的交换机，您需要配置在交换机的默认网关，因为交换机不参加IP路由并且不了解网络的L3拓扑。您能也使用 set ip route default 172.16.80.1命令配置默认网关而不是使用set ip route 0.0.0.0 172.16.80.1命令。
```
3. 配置VLAN所需数量在交换机的。根据[网络图](#)，您需要配置两新的VLAN (VLAN10和VLAN 20)在交换机。在您能创建新的VLAN前，交换机必须在VLAN中继协议(VTP)服务器模式或VTP透明模式。如果交换机为VTP服务器，则在添加任何VLAN之前必须定义VTP域名。这必须定义不管交换机编号在网络的(一个或许多)和不管您是否使用VTP传播VLAN到在网络的其它交换机。关于VTP的更多信息，参考本文：[了解和配置 VLAN 中继协议 \(VTP\)](#)在交换机的默认VTP配置是：

```
Cat5500> (enable) show vtp domain
```

Domain Name	Domain Index	VTP Version	Local Mode	Password
-----	-----	-----	-----	-----
	1	2	server	-

Vlan-count	Max-vlan-storage	Config Revision	Notifications
-----	-----	-----	-----
5	1023	0	disabled

Last Updater	V2 Mode	Pruning	PruneEligible on Vlans
-----	-----	-----	-----

```
0.0.0.0 disabled disabled 2-1000 请使用set vtp命令设置域名和模式： Cat5500> (enable) set vtp domain mode transparent
```

```
VTP domain modified
```

```
!--- Set the VTP mode. Cat5500> (enable) set vtp domain cisco
```

```
VTP domain cisco modified
```

*!--- Set the VTP domain name.* **注意：**在示例中，VTP模式设置透明。根据您的网络，相应地设置VTP模式。透明模式在实验室里选择避免受其他交换机的影响和避免影响其他交换机。

#### 4. 通过发出show vtp domain命令验证VTP配置：Cat5500> (enable) show vtp domain

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

Vlan-count Max-vlan-storage Config Revision Notifications
-----
5           1023           0           disabled

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

#### 5. 创建在交换机的VLAN。默认情况下，只有在交换机的一个VLAN，已命名VLAN 1。VLAN1也呼叫默认VLAN。默认情况下所有端口属于此VLAN。此VLAN不可能重命名或删除。要创建VLAN，请使用set vlan命令：Cat5500> (enable) set vlan

```
Usage: set vlan <mod/port>
      (An example of mod/port is 1/1,2/1-12,3/1-2,4/1-12)
      set vlan [name ] [type ] [state ]
              [said ] [mtu ] [ring ]
              [decring ]
              [bridge ] [parent ]
              [mode ] [stp ]
              [translation ] [backupcrf <off/on>]
              [aremaxhop ] [stemaxhop ]
      (name = 1..32 characters, state = (active, suspend)
      type = (ethernet, fddi, fddinet, trcrf, trbrf)
      said = 1..4294967294, mtu = 576..18190
      hex_ring_number = 0x1..0xffff, decimal_ring_number = 1..4095
      bridge_number = 0x1..0xf, parent = 2..1005, mode = (srt, srb)
      stp = (ieee, ibm, auto), translation = 1..1005
      hopcount = 1..13)
```

##### Set vlan commands:

```
-----
set vlan                Set vlan information
set vlan mapping        Map an 802.1Q vlan to an Ethernet vlan
set vlan              Vlan number(s)
```

```
Cat5500> (enable) set vlan 10
```

```
!--- Create VLAN 10. VTP advertisements transmitting temporarily stopped and will resume after the command finishes. Vlan 10 configuration successful Cat5500> (enable) set vlan 20
```

```
!--- Create VLAN 20. VTP advertisements transmitting temporarily stopped and will resume after the command finishes. Vlan 20 configuration successful Cat5500> (enable) set vlan 10
```

```
4/1-12
```

```
!--- Add ports to VLAN 10. VLAN 10 modified. VLAN 1 modified. VLAN Mod/Ports ----
```

```
----- 10 4/1-12 Cat5500> (enable) set vlan 20 4/13-20
```

```
!--- Add ports to VLAN 20. VLAN 20 modified. VLAN 1 modified. VLAN Mod/Ports ----
```

```
----- 20 4/13-20 Cat5500> (enable) show vlan
```

```
VLAN Name                Status      IfIndex Mod/Ports, Vlans
-----
1    default                active      443     1/1-2
                                           3/1-3
                                           4/21-24
                                           11/1-48
                                           12/1-2

10   VLAN0010                active      448     4/1-12
20   VLAN0020                active      449     4/13-20
1002 fddi-default            active      444
1003 token-ring-default    active      447
1004 fddinet-default        active      445
1005 trnet-default          active      446
```

VLAN	Type	SAID	MTU	Parent	RingNo	BrdgNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	trcrf	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	-	-	0	0
1005	trbrf	101005	1500	-	-	-	ibm	-	0	0

!--- Output suppressed.

6. 在连接到工作站或服务器的端口的Configure Spanning-Tree Protocol (STP) Portfast。发出以下命令启用STP Portfast功能：Cat5500> (enable) **set spantree portfast 4/1-20 enable**

Warning: Spantree port fast start should only be enabled on ports connected to a single host. Connecting hubs, concentrators, switches, bridges, etc. to a fast start port can cause temporary spanning tree loops. Use with caution.

Spantree ports 4/1-20 fast start enabled.

**注意：**此步骤可选，但是良好的做法启用在连接到正常工作站或服务器的端口的STP Portfast。关于在启用Portfast，为什么的详细信息参考本文：[使用 PortFast 和其他命令解决工作站启动连接延迟问题](#)

7. 配置在路由模块的一个VLAN接口之间您希望对路由流量的其中每一的VLAN在。通过发出 **session module-**命令访问路由模块，其中 *module-*是路由模块查找的slot。在示例中，RSM在 slot 7查找，如显示此处：Cat5500> (enable) **show module 7**

Mod	Slot	Ports	Module-Type	Model	Sub	Status
7	7	1	Route Switch	WS-X5302	no	ok

Mod	Module-Name	Serial-Num
7		00006591991

Mod	MAC-Address(es)	Hw	Fw	Sw
7	00-e0-1e-91-b5-08 to 00-e0-1e-91-b5-09	4.5	20.20	12.0(5)W5(12)

Cat5500> (enable) **session 7**

Trying Router-7...

Connected to Router-7.

Escape character is '^]'.  
Router>

8. 配置enable (event)和远程登录密码在路由模块。再次，此步骤可选，但是远程登录密码要求，如果设法访问路由模块直接地有Telnet的和不通过Supervisor引擎。请使用此一组合命令配置在路由模块的密码：Router> **enable**

Router# **configure terminal**

!--- Enter the global configuration mode. Enter configuration commands, one per line. End with CNTL/Z. Router(config)# **enable password cisco**

!--- Set enable password. Router(config)# **line vty 0 4**

Router(config-line)# **login**

Router(config-line)# **password cisco**

!--- Set Telnet password. Router(config-line)# **end**

Router#

05:22:40: %SYS-5-CONFIG\_I: Configured from console by vty0 (127.0.0.2)

Router#

9. 创建两个VLAN接口，分配IP地址到那些VLAN接口，并且启用在模块的路由。**注意：**此步骤

为配置InterVLAN路由是关键。注意：在路由模块上，VLAN接口是虚拟接口，但是他们配置作为物理接口。发出从特权EXEC模式的此一组合命令：

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
!--- Configure interface VLAN 1 and assign it an IP address. !--- An interface VLAN 1 is
configured for management purposes only !--- so that you can establish a Telnet session or
ping the switch !--- from the workstation. Router(config)# interface vlan 1
Router(config-if)# no shutdown
Router(config-if)# ip address 172.16.80.79 255.255.255.0
Router(config-if)# exit
!--- Configure interface VLAN 10 and assign it an IP address. Router(config)# interface
vlan 10
Router(config-if)# no shutdown
Router(config-if)# ip address 10.10.10.1 255.255.255.0
Router(config-if)# exit
!--- Configure interface VLAN 20 and assign it an IP address. Router(config)# interface
vlan 20
Router(config-if)# ip address 10.10.11.1 255.255.255.0
Router(config-if)# no shutdown
Router(config)# ip routing
!--- Enable routing protocol on the module. !--- The following two commands are optional;
!--- they are only used if you have multiple routers in your network. !--- Depending on
your network, you may want to use a different routing protocol. Router(config)# router rip
Router(config-router)# network 10.0.0.0
Router(config-router)# network 172.16.0.0
```

```
Router(config-router)# Ctrl-Z
```

```
Router#
```

```
07:05:17: %SYS-5-CONFIG_I: Configured from console by vty0 (127.0.0.2)
```

```
Router# write memory
```

```
!--- Save the configuration. Building configuration... Router#这时，根据网络图，在VLAN中间配置完成。
```

10. 返回到Supervisor Engine模块通过发出exit命令在Router-提示符：Router# exit

```
Cat5500> (enable
```

## 常见问题：VLAN接口显示down/down

此部分说明客户遇到的常见问题，当他们设法配置在Catalyst 5500/5000或Catalyst 6500/6000系列路由模块时(RSM、MSFC，RSFC)的VLAN接口。

客户报告他们不能ping某些或所有在路由模块的配置的VLAN接口。并且，他们的状态没有显示，因为up/up，当他们发出show interface vlan vlan-命令。他们确保他们配置在那些接口的未关闭。显示的唯一VLAN接口，up/up是VLAN1。

在这种情况下，如果一些或所有您的VLAN接口不是显示up/up，您应该检查的第一件事是否有交换机的任何激活的端口有问题的VLAN的。

**重要说明：**在路由模块的一个VLAN接口只up/up，如果有至少一个端口分配到在交换机的该VLAN (除路由器接口之外)，并且该端口连接。作为中继配置的端口也满足此VLAN up/up要求。如果此情况没有符合，路由器接口不出来。

在[Network Diagram部分](#)，您被警告不连接工作站到Catalyst 5500交换机。这时，如果发出此一组合命令，您注意仅interface VLAN 1是显示up/up，并且另外两个发生故障：

```
Router# show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
-----------	------------	-----	--------	--------	----------

```

Vlan1          172.16.80.79    YES manual up      up
Vlan10         10.10.10.1     YES manual down    down
Vlan20         10.10.11.1     YES manual down    down

```

```
Router# show interface vlan 1
```

```
Vlan1 is up, line protocol is up
```

```
Hardware is Cat5k Virtual Ethernet, address is 0010.f6a9.9800 (bia 0010.f6a9.9800)
```

```
Internet address is 172.16.80.79/24
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
```

```
Encapsulation ARPA, loopback not set
```

```
ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input 00:00:00, output 00:00:02, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Queueing strategy: fifo
```

```
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
```

```
5 minute input rate 0 bits/sec, 1 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec !--- Output suppressed. Router# show interface
```

```
vlan 10
```

```
Vlan10 is down, line protocol is down
```

```
Hardware is Cat5k Virtual Ethernet, address is 0010.f6a9.9800 (bia 0010.f6a9.9800)
```

```
Internet address is 10.10.10.1/24
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
```

```
Encapsulation ARPA, loopback not set
```

```
ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input 00:00:01, output 00:25:48, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Queueing strategy: fifo
```

```
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
```

```
5 minute input rate 0 bits/sec, 0 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec !--- Output suppressed. Router# show interface
```

```
vlan 20
```

```
Vlan20 is down, line protocol is down
```

```
Hardware is Cat5k Virtual Ethernet, address is 0010.f6a9.9800 (bia 0010.f6a9.9800)
```

```
Internet address is 10.10.11.1/24
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
```

```
Encapsulation ARPA, loopback not set
```

```
ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input 00:00:01, output 00:01:04, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Queueing strategy: fifo
```

```
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
```

```
5 minute input rate 2000 bits/sec, 2 packets/sec
```

```
5 minute output rate 1000 bits/sec, 2 packets/sec !--- Output suppressed. Router#
```

Interface VLAN 1 up/up, 虽然在交换机, 您没有VLAN1的任何已连接和激活的端口。您有一个激活的端口/接口在VLAN1, sc0接口在Supervisor模块。默认情况下, sc0接口是VLAN成员1.问题此 on命令交换机(Supervisor引擎)检查sc0接口配置:

```
Cat5500> (enable) show interface
```

```
sl0: flags=51 <UP ,POINTOPOINT ,RUNNING>
```

```
slip 0.0.0.0 dest 0.0.0.0
```

```
sc0: flags=63 <UP ,BROADCAST ,RUNNING>
```

```
vlan 1 inet 172.16.80.40 netmask 255.255.255.0 broadcast 172.16.80.255
```

```
Cat5500> (enable)
```

这时, 请连接在端口4/1的在端口4/13的workstation1和workstation2。发出show port 4/1和show port 4/13命令在交换机肯定这些端口显示状态如连接:

```
Cat5500> (enable) show port 4/1
```

```
Port Name Status Vlan Level Duplex Speed Type
```

```
-----
```

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

```
!--- Output suppressed. Cat5500> (enable) show port 4/13
```

```
Port Name Status Vlan Level Duplex Speed Type
```

```
-----
4/13                connected 20          normal a-full a-100 10/100BaseTX
```

```
!--- Output suppressed. Cat5500> (enable)
```

现在，对路由模块的登录和检查接口VLAN10和VLAN 20状态。您应该看到他们如up/up。发出此一组命令检查VLAN接口的状况在路由模块的：

```
Cat5500> (enable) session 7
Trying Router-7...
Connected to Router-7.
Escape character is '^]'.
```

```
User Access Verification
```

```
Password:
```

```
!--- Enter the password; in this case, it is cisco. Router> enable
```

```
Password:
```

```
!--- Enter the password; in this case, it is cisco. Router# show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	172.16.80.79	YES	manual	up	up
Vlan10	10.10.10.1	YES	manual	up	up
Vlan20	10.10.11.1	YES	manual	up	up

```
Router# show interface vlan 10
```

```
Vlan10 is up, line protocol is up
```

```
Hardware is Cat5k Virtual Ethernet, address is 0010.f6a9.9800 (bia 0010.f6a9.9800)
```

```
Internet address is 10.10.10.1/24
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
```

```
Encapsulation ARPA, loopback not set
```

```
ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input 00:00:01, output 00:46:14, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Queueing strategy: fifo
```

```
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
```

```
5 minute input rate 0 bits/sec, 0 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec !--- Output suppressed. Router# show interface
```

```
vlan 20
```

```
Vlan20 is up, line protocol is up
```

```
Hardware is Cat5k Virtual Ethernet, address is 0010.f6a9.9800 (bia 0010.f6a9.9800)
```

```
Internet address is 10.10.11.1/24
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
```

```
Encapsulation ARPA, loopback not set
```

```
ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input 00:00:00, output 00:00:56, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Queueing strategy: fifo
```

```
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
```

```
5 minute input rate 2000 bits/sec, 5 packets/sec
```

```
5 minute output rate 2000 bits/sec, 2 packets/sec !--- Output suppressed. Router# exit
```

```
Cat5500> (enable)
```

## 检查配置

几ping测试可以被执行验证在本文解释的配置。在此部分，您使用workstation2 ping workstation1、sc0接口在交换机和VLAN接口在路由模块。

**注意：**请务必您设置在您的工作站的默认网关是在路由模块的VLAN接口。根据[网络图](#)，在workstation1的默认网关设置作为10.10.10.1和作为workstation2的10.10.11.1。



## 测试 1 : Ping从Workstation2到Workstation1

```
C:\> ipconfig
```

```
!--- This command is used to check the IP configuration on the !--- Windows 2000 workstation.  
Use the appropriate commands on the workstations !--- that you use. Windows 2000 IP  
Configuration Ethernet adapter Local Area Connection: Connection-specific DNS Suffix . : IP  
Address. . . . . : 10.10.11.254  
Subnet Mask . . . . . : 255.255.255.0  
Default Gateway . . . . . : 10.10.11.1
```

```
C:\> ping 10.10.10.254
```

```
Pinging 10.10.10.254 with 32 bytes of data:
```

```
Reply from 10.10.10.254: bytes=32 time=10ms TTL=31  
Reply from 10.10.10.254: bytes=32 time<10ms TTL=31  
Reply from 10.10.10.254: bytes=32 time<10ms TTL=31  
Reply from 10.10.10.254: bytes=32 time<10ms TTL=31
```

```
Ping statistics for 10.10.10.254:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 10ms, Average = 2ms
```

## 测试 2 : 从Workstation2的Ping到在Supervisor引擎的sc0接口

```
C:\> ping 172.16.80.40
```

```
Pinging 172.16.80.40 with 32 bytes of data:
```

```
Reply from 172.16.80.40: bytes=32 time<10ms TTL=59  
Reply from 172.16.80.40: bytes=32 time<10ms TTL=59  
Reply from 172.16.80.40: bytes=32 time<10ms TTL=59  
Reply from 172.16.80.40: bytes=32 time<10ms TTL=59
```

```
Ping statistics for 172.16.80.40:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

## 测试3 : Ping从Workstation2到在路由模块的Interface VLAN 1

```
C:\> ping 172.16.80.79
```

```
Pinging 172.16.80.79 with 32 bytes of data:
```

```
Reply from 172.16.80.79: bytes=32 time<10ms TTL=255  
Reply from 172.16.80.79: bytes=32 time<10ms TTL=255  
Reply from 172.16.80.79: bytes=32 time<10ms TTL=255  
Reply from 172.16.80.79: bytes=32 time<10ms TTL=255
```

```
Ping statistics for 172.16.80.79:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

## 测试4 : 从建立接口在路由模块的VLAN10的Workstation2的Ping

```
C:\> ping 10.10.10.1
```

```
Pinging 10.10.10.1 with 32 bytes of data:
```

```
Reply from 10.10.10.1: bytes=32 time<10ms TTL=255
```

```
Reply from 10.10.10.1: bytes=32 time<10ms TTL=255
Reply from 10.10.10.1: bytes=32 time<10ms TTL=255
Reply from 10.10.10.1: bytes=32 time<10ms TTL=255
```

**Ping statistics for 10.10.10.1:**

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

## Test5 : 从建立接口在路由模块的VLAN 20的Workstation2的Ping

```
C:\> ping 10.10.11.1
```

```
Pinging 10.10.11.1 with 32 bytes of data:
```

```
Reply from 10.10.11.1: bytes=32 time<10ms TTL=255
Reply from 10.10.11.1: bytes=32 time<10ms TTL=255
Reply from 10.10.11.1: bytes=32 time<10ms TTL=255
Reply from 10.10.11.1: bytes=32 time<10ms TTL=255
```

**Ping statistics for 10.10.11.1:**

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

## 附录

## Supervisor Engine模块配置

```
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: Tue Apr 10 2001, 09:09:54
!
#version 6.1(1)
!
set option fddi-user-pri enabled
set password $2$lx7B$WipkVnLnbyIfrBSqD2SN9.
set enablepass $2$6/eK$I3lDb2nnP7Fc9JKF3XwRW/
set prompt Cat5500>
!
#errordetection
set errordetection portcounter enable
!
#system
set system name Cat5500
!
#frame distribution method
set port channel all distribution mac both
!
#vtp
set vtp domain cisco
set vtp mode transparent
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 10,20
set vlan 1003 name token-ring-default type trcrf mtu 1500 said 101003 state active
mode srb aremaxhop 7 stemaxhop 7 backupcrf off
!
#ip
set interface sc0 1 172.16.80.40/255.255.255.0 172.16.80.255

set ip route 0.0.0.0/0.0.0.0 172.16.80.79
!
#set boot command
set boot config-register 0x2102
clear boot system all
!
# default port status is enable
!
!
#module 1 : 2-port 1000BaseSX Supervisor
!
#module 2 : 4-port 10/100BaseTX Supervisor
!
#module 3 : 3-port 1000BaseX Ethernet
!
#module 4 : 24-port 10/100BaseTX Ethernet
set vlan 10 4/1-12
set vlan 20 4/13-20
set spantree portfast 4/1-20 enable
!
#module 5 : 2-port MM OC-3 Dual-Phy ATM
!
#module 6 empty
!
#module 7 : 1-port Route Switch
!
#module 8 empty
!
#module 9 empty
!
#module 10 empty
!
#module 11 : 48-port 10BaseT Ethernet
!
#module 12 : 2-port MM MIC FDDI
!
#module 13 empty
end
Cat5500> (enable)
```

## [RSM配置](#)

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

Current configuration:

```
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router
!
enable password cisco
!
```

```
ip subnet-zero
ip cef
!
!
process-max-time 200
!
interface Vlan1
  ip address 172.16.80.79 255.255.255.0
  no ip directed-broadcast
!
interface Vlan10
  ip address 10.10.10.1 255.255.255.0
  no ip directed-broadcast
!
interface Vlan20
  ip address 10.10.11.1 255.255.255.0
  no ip directed-broadcast
!
ip classless
!
!
line con 0
  transport input none
line aux 0
line vty 0 4
  password cisco
  login
!
end
```

Router#

## [相关信息](#)

- [Catalyst 4000 系列 \(WS-X4232-L3\) 上路由器模块的配置与概述](#)
- [使用 PortFast 和其他命令解决工作站启动连接延迟问题](#)
- [LAN 产品支持页](#)
- [LAN 交换技术支持页](#)
- [技术支持 - Cisco Systems](#)