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

本文档提供有关如何使用内部路由器（第3层[L3]卡/模块）在Catalyst交换机（运行Catalyst OS [CatOS]系统软件）上配置VLAN间路由的基本信息。 术语内部路由器是指Catalyst 5500/5000和 6500/6000交换机上的以下L3卡/模块：

- Catalyst 6500/6000系列交换机上的多层交换功能卡(MSFC)
- Catalyst 6500/6000系列交换机上的MSFC2
- Catalyst 5500/5000系列交换机上的路由交换功能卡(RSFC)
- Catalyst 5500/5000系列交换机上的路由交换模块(RSM)

本文档中可能已使用任何运行CatOS且带有支持的L3卡的Catalyst 5500/5000或Catalyst 6500/6000系列交换机，以获得相同的结果。

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：本文档不讨论如何使用L3服务模块(WS-X4232-L3)在Catalyst 4500/4000交换机上配置

VLAN间路由。 有关这些详细信息，请参阅以下文档：

- *为Catalyst 4000第3层服务模*块的安装和配置说明中的"配置VLAN间路由模块"部分
- 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：

- 带RSM的Catalyst 5500交换机
- 运行CatOS 6.1(1)软件的Supervisor引擎模块(WS-X5530)
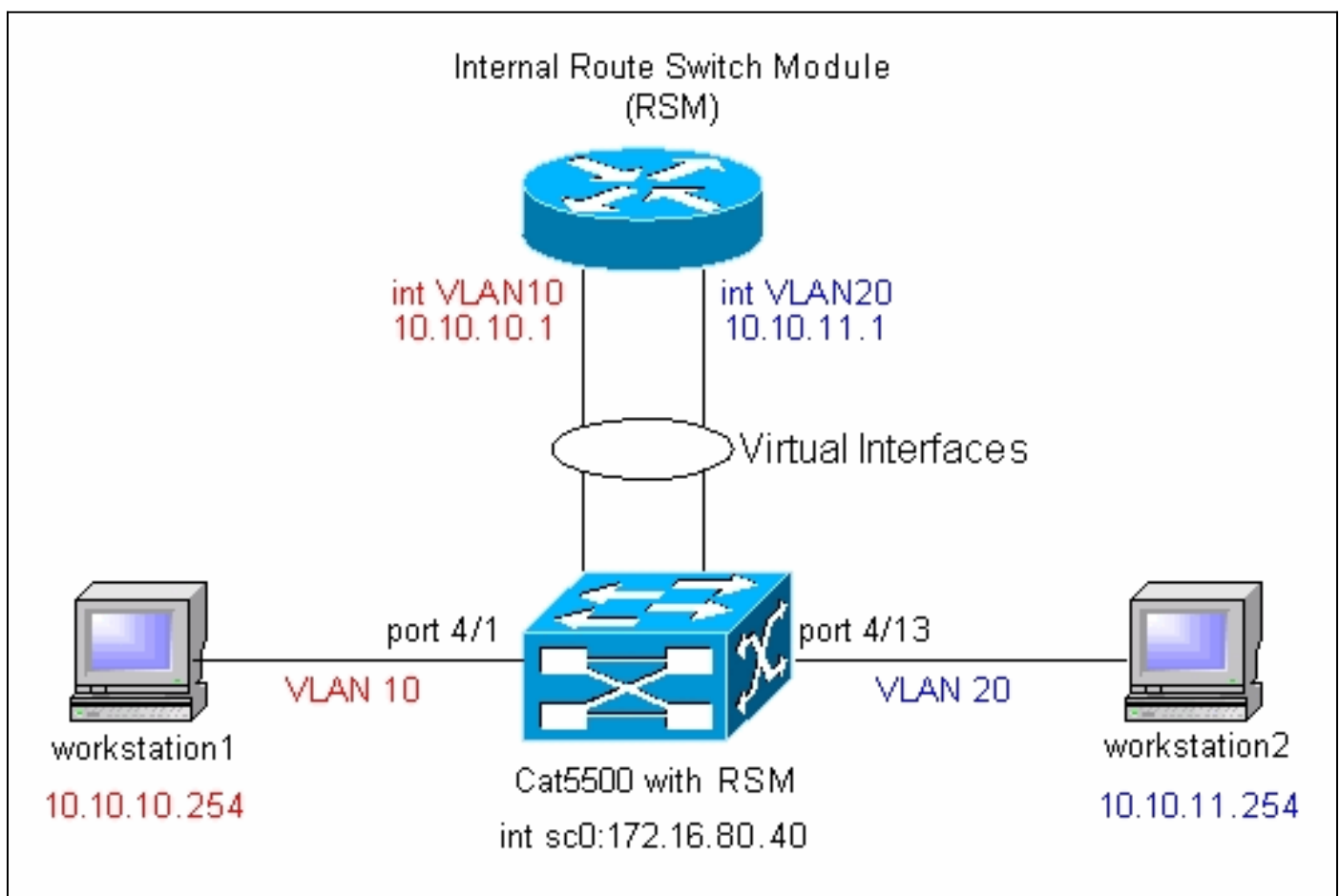- 运行Cisco IOS®软件版本12.0(5)W5(12)的RSM(WS-X5302)

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

有关文件规则的更多信息请参见"Cisco技术提示规则"。

网络图

注意：除非在本文档中要求您连接工作站1和工作站2，否则请勿连接工作站1和工作站2。本文指出客户在路由器模块上配置VLAN间路由或多个VLAN接口时报告的一个常见问题。请参阅常见问题

：VLAN接口显示down/down部分以了解详细信息。

一般配置任务

本节提供本文档中执行的主要配置任务的摘要：

- 配置交换机以进行管理
- 在交换机上创建VLAN
- 将端口添加到已配置的VLAN
- 配置内部路由器以进行管理
- 配置 VLAN 间路由
- 检查配置

配置 VLAN 间路由

完成以下步骤以在Catalyst交换机上配置VLAN间路由：

1. 访问Supervisor引擎的控制台端口。如果访问控制台时遇到困难，请参阅以下文档：对于 Catalyst 5500/5000系列交换机 — 将终端连接到Catalyst交换机上的控制台端口。对于 Catalyst 6500/6000系列交换机 — 将终端连接到Catalyst交换机上的控制台端口和将调制解调 器连接到Catalyst交换机上的控制台端口的"连接终端"部分

2. 配置交换机进行基本管理。使用以下命令集配置Catalyst交换机以进行管理：
   ```
   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：如果要管理位于路由器另一端的交换机，则需要在交换机上配置默认网关，因为交换机 不参与IP路由，因此不知道网络的第3层拓扑。您也可以使用**set ip route default 172.16.80.1**命令来配置默认网关，而不是使用**set ip route 0.0.0.0 172.16.80.1**命令。

3. 在交换机上配置所需的VLAN数量。根据网络图，您需要在交换机上配置两个新VLAN（VLAN 10和VLAN 20）。在创建新VLAN之前，交换机必须处于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。无 论网络中的交换机数量（一台或多台）如何，也无论您是否使用VTP将VLAN传播到网络中的 其它交换机，都必须定义此设置。有关VTP的详细信息，请参阅本文档：了解和配置 VLAN 中 继协议 (VTP)交换机上的默认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
   ```
   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： 在本例中，VTP模式设置为透明。根据您的网络，相应地设置VTP模式。选择透明模式是为了避免受到其他交换机的影响，并避免影响实验中的其他交换机。

4. 发出show vtp domain命令检验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. 在交换机上创建VLAN。默认情况下，交换机上只有一个VLAN，名为VLAN 1。VLAN 1也称为默认VLAN。默认情况下，所有端口都属于此VLAN。此VLAN无法重命名或删除。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..0xfff, 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上配置生成树协议(STP)PortFast。发出以下命令以启用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：此步骤是可选的，但在连接到常规工作站或服务器的端口上启用STP PortFast是一种好做法。有关为什么启用PortFast的详细信息，请参阅本文档：使用 PortFast 和其他命令解决工作站启动连接延迟问题

7. 在路由器模块上为要路由流量的每个VLAN配置VLAN接口。通过发出session module#命**令访问路**由器模块，其中module#是路由器模块所在的插槽。在示例中，RSM位于插槽7中，如下所示：

```
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. 在路由器模块上配置使能口令和Telnet口令。同样，此步骤是可选的，但如果您尝试通过Telnet直接访问路由器模块，而不是通过Supervisor引擎访问，则需要Telnet密码。使用以下

命令集在路由器模块上配置口令：

```
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，为这些VLAN接口分配IP地址，并在模块上启用路由。**注意：此步骤是配置VLAN间路由的关键。注意：在路由器模块上，VLAN接口是虚拟接口，但它们被配置为物理接口。在特权执行模式下发出以下命令集：**

```
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#
```

此时，根据网络图,VLAN间配置已完成。

10. 在Router#提示符下发出exit**命令**，返Supervisor擎模块：

```
Router# exit
Cat5500> (enable
```

常见问题：VLAN接口显示down/down

本节介绍客户在尝试在Catalyst 5500/5000或Catalyst 6500/6000系列路由器模块(RSM、MSFC、RSFC)上配置VLAN接口时遇到的常见问题。

客户报告他们无法ping通路由器模块上的部分或全部已配置VLAN接口。此外，当它们发出show interface vlan vlan#命令时，它们的状态不**会显示为**_up/up_状态。他们已确保在这些接口上**配置了**no shutdown。唯一显示为up/up的VLAN接口是VLAN 1。

在这种情况下，如果某些或所有VLAN接口未显示/显示，您首先应检查交换机上是否存在针对相关

VLAN的活动端口。

重要说明：只有在交换机（路由器接口除外）上至少有一个端口分配给该VLAN，并且该端口已连接时，路由器模块上的VLAN接口才处于up/up状态。配置为中继的端口也满足此VLAN打开/打开要求。如果不满足此条件，则路由器接口不会打开。

在网络图部分，系统警告您不要将工作站连接到Catalyst 5500交换机。此时，如果发出此组命令，您会注意到只有接口VLAN 1显示up/up，而另外两个则显示down:

```
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#
```

接口VLAN 1处于up/up状态，但在交换机上，VLAN 1中没有任何连接和活动端口。VLAN 1中有活动端口/接口，即Supervisor模块上的sc0接口。默认情况下，sc0接口是VLAN 1的成员。在交换机（Supervisor引擎）上发出以下命令以检查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)
```

此时，将端口4/1上的workstation1连接到端口4/13上的workstation2。在交换机上发出show port 4/1和show port 4/13命令，确保这些端口显示连接状态：

```
Cat5500> (enable) show port 4/1
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，登录路由器模块并检查接口VLAN 10和VLAN 20的状态。您应该会看到它们处于up/up状态。发出以下命令集，检查路由器模块上VLAN接口的状态：

```
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

可以执行多次ping测试以验证本文档中介绍的配置。在本节中，您使用workstation2对workstation1、交换机的sc0接口和路由器模块的VLAN接口执行ping操作。

注意：确保已将工作站上的默认网关设置为路由器模块上的VLAN接口。根据网络图，工作站1的默认网关设置为**10.10.10.1**,**工作站2的默认网关设置为10.10.11.1**。

测试 1：从工作站2 ping工作站1

```
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 ping Supervisor引擎上的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：从Workstation2 ping路由器模块上的接口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Workstation2 ping路由器模块上的接口VLAN 10

```
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
```

测试5：从Workstation2 ping路由器模块上的接口VLAN 20

```
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
```

Appendix

Supervisor引擎模块配置

```
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