

```
R4#
R4#
R4#show running-config
Building configuration...

Current configuration : 2829 bytes
!
! Last configuration change at 16:16:56 UTC Thu Jun 10 2010
! NVRAM config last updated at 16:16:57 UTC Thu Jun 10 2010
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R4
!
boot-start-marker
boot system flash:c1841-advipservicesk9-mz.124-25b.bin
boot-end-marker
!
no logging console
enable secret 5 $1$/jV1$vYpms8yDHgGeGsdSbjts//
!
no aaa new-model
ip cef
!
```

```
R4#term len 0
R4#
R4#show running-config
Building configuration...

Current configuration : 2829 bytes
!
! Last configuration change at 16:16:56 UTC Thu Jun 10 2010
! NVRAM config last updated at 16:16:57 UTC Thu Jun 10 2010
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service timestamps debug datetime msec
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no service password-encryption
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hostname R4
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boot-start-marker
boot system flash:c1841-advipservicesk9-mz.124-25b.bin
boot-end-marker
!
no logging console
enable secret 5 $1$/jV1$vYpms8yDHgGeGsdSbjts//
!
no aaa new-model
ip cef
```

```
!  
!  
no ip dhcp use vrf connected  
ip dhcp excluded-address 10.2.1.1 10.2.1.3  
ip dhcp excluded-address 10.2.1.254  
!  
ip dhcp pool VLAN10  
    network 10.2.1.0 255.255.255.0  
    default-router 10.2.1.254  
    domain-name netlearning.com.mx  
    dns-server 209.65.200.243  
!  
!  
ip multicast-routing  
ip auth-proxy max-nodata-conns 3  
ip admission max-nodata-conns 3  
!  
ipv6 unicast-routing  
!  
!  
!  
!  
ip ftp username netlearning  
ip ftp password netpass  
!  
!  
!  
interface Tunnel34  
    no ip address  
    ipv6 address 2026::34:2/122  
    ipv6 enable  
    ipv6 ospf 6 area 34  
    tunnel source Serial10/1/0.34  
    tunnel destination 10.1.1.9  
    tunnel mode ipv6ip  
!  
interface Tunnel46  
    no ip address  
    ipv6 address 2026::2:1/122  
    ipv6 enable  
    ipv6 rip RIPNG enable  
    tunnel source 10.1.4.5  
    tunnel destination 10.1.4.6  
!  
interface FastEthernet0/0  
    ip address 10.1.4.5 255.255.255.252  
    ip pim sparse-dense-mode  
    duplex auto  
    speed auto  
!  
interface FastEthernet0/1  
    ip address 10.1.4.9 255.255.255.252  
    ip pim sparse-dense-mode
```

```
duplex auto
speed auto
!
interface Serial0/0/0
no ip address
clock rate 56000
!
interface Serial0/0/1
no ip address
clock rate 56000
!
interface Serial0/1/0
no ip address
encapsulation frame-relay
!
interface Serial0/1/0.34 point-to-point
ip address 10.1.1.10 255.255.255.252
ip pim sparse-dense-mode
frame-relay interface-dlci 403
!
router eigrp 10
redistribute ospf 1 metric 10000 100 255 1 1500
network 10.1.4.5 0.0.0.0
network 10.1.4.9 0.0.0.0
metric weights 0 1 1 1 1 1
no auto-summary
eigrp router-id 4.4.4.4
!
router ospf 1
router-id 4.4.4.4
log-adjacency-changes
area 34 nssa
redistribute eigrp 10 subnets
network 10.1.1.10 0.0.0.0 area 34
!
ip forward-protocol nd
ip route 0.0.0.0 0.0.0.0 192.168.20.1
!
!
ip http server
no ip http secure-server
!
ip access-list standard DENY_10
deny 10.0.0.0 0.255.255.255
permit any
ip access-list standard DENY_ALL
deny any
ip access-list standard PERMIT_10
permit 10.0.0.0 0.255.255.255
ip access-list standard PERMIT_ALL
permit any
!
ipv6 router ospf 6
router-id 4.4.4.4
```

```
log-adjacency-changes
redistribute connected
redistribute rip RIPNG
!
ipv6 router rip RIPNG
redistribute connected metric 5
redistribute ospf 6 metric 15
!
!
!
!
control-plane
!
!
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  exec-timeout 0 0
  no login
!
scheduler allocate 20000 1000
ntp clock-period 17177742
ntp server 10.1.1.1
end
```

R4#

```
R4#ping 209.65.200.241
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 209.65.200.241, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 224/226/228
```

```
ms
```

```
R4#
```

```
R4#ping 209.65.200.226
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 209.65.200.226, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 224/226/228
```

```
ms
```

```
R4#
```

```
R4#ping 209.65.200.225
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 209.65.200.225, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/196  
ms  
R4#
```

```
R4#ping 10.1.1.1
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.1, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/196  
ms  
R4#
```

```
R4#ping 10.1.1.2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/129/132  
ms
```

```
R4#
```



```
R4#ping 10.1.1.5
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.5, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/131/136  
ms
```

```
R4#
```

```
R4#ping 10.1.1.6
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.6, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/65/68 ms
```

```
R4#
```

```
R4#ping 10.1.1.9
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.9, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/66/68 ms
```

```
R4#
```

```
R4#ping 10.1.1.10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.10, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/136  
ms
```

```
R4#
```

```
R4#ping 10.1.4.10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.10, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.1.4.9
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.9, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms
```

```
R4#
```

```
R4#ping 10.1.4.6
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.6, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.1.4.5
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.5, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
```

```
R4#
```

```
R4#ping 10.2.1.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.1, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.2.2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.2.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```



```
R4#ping 10.2.1.254
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.254, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.4.14
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.4.14, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.4.13
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.4.13, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.1.2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.2, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.2.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.2.1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
R4#
```

```
R4#ping 10.2.1.4
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.4, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
```

```
R4#
```

```
R4#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	10.1.4.5	YES	NVRAM	up
FastEthernet0/1	10.1.4.9	YES	NVRAM	up
Serial0/0/0	unassigned	YES	NVRAM	down
Serial0/0/1	unassigned	YES	NVRAM	down
Serial0/1/0	unassigned	YES	NVRAM	up
Serial0/1/0.34	10.1.1.10	YES	NVRAM	up
Tunnel34	unassigned	YES	NVRAM	up
Tunnel46	unassigned	YES	NVRAM	up

```
R4#
```

```
R4#show ip route
```

```
Codes: 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
```

```
       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
```

```
       o - ODR, P - periodic downloaded static route
```

```
Gateway of last resort is 10.1.1.9 to network 0.0.0.0
```

```
    10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
```

```
D      10.2.4.12/30 [90/120] via 10.1.4.10, 00:38:52, FastEthernet0/1  
        [90/120] via 10.1.4.6, 00:38:52, FastEthernet0/0
```

```
C      10.1.1.8/30 is directly connected, Serial0/1/0.34
```

```
C      10.1.4.8/30 is directly connected, FastEthernet0/1
```

```
D      10.2.1.0/24 [90/111] via 10.1.4.10, 00:38:18, FastEthernet0/1  
        [90/111] via 10.1.4.6, 00:38:18, FastEthernet0/0
```

```
D      10.2.2.0/24 [90/111] via 10.1.4.10, 00:38:20, FastEthernet0/1  
        [90/111] via 10.1.4.6, 00:38:20, FastEthernet0/0
```

```
C      10.1.4.4/30 is directly connected, FastEthernet0/0
```

```
O*IA 0.0.0.0/0 [110/65] via 10.1.1.9, 00:34:46, Serial0/1/0.34
```

```
R4#
```


19	0	10	0	0.00%	0.00%	0.00%	0	Serial
Backgroun								
20	0	1	0	0.00%	0.00%	0.00%	0	RO Notify
Timers								
21	0	2	0	0.00%	0.00%	0.00%	0	SMART
22	0	2463	0	0.00%	0.00%	0.00%	0	GraphIt
23	0	2	0	0.00%	0.00%	0.00%	0	Dialer
event								
24	0	1	0	0.00%	0.00%	0.00%	0	SERIAL
A'detect								
25	0	2	0	0.00%	0.00%	0.00%	0	XML Proxy
Client								
26	832	617	1348	0.00%	0.13%	0.14%	0	Exec
27	0	1	0	0.00%	0.00%	0.00%	0	Inode
Table Dest								
28	0	1	0	0.00%	0.00%	0.00%	0	Critical
Bkgnd								
29	8	2550	3	0.00%	0.00%	0.00%	0	Net
Background								
30	4	2	2000	0.00%	0.00%	0.00%	0	IDB Work
31	0	218	0	0.00%	0.00%	0.00%	0	Logger
32	0	2460	0	0.00%	0.00%	0.00%	0	TTY
Background								
33	52	2468	21	0.08%	0.01%	0.00%	0	Per-Second
Jobs								
34	0	1	0	0.00%	0.00%	0.00%	0	AggMgr
Process								
35	0	1	0	0.00%	0.00%	0.00%	0	Token
Daemon								
36	0	1	0	0.00%	0.00%	0.00%	0	Transport
Port A								
37	0	2	0	0.00%	0.00%	0.00%	0	ESWPPM
38	0	2	0	0.00%	0.00%	0.00%	0	Eswilp
Storm Con								
39	256	4	64000	0.00%	0.00%	0.00%	0	USB
Startup								
40	0	1	0	0.00%	0.00%	0.00%	0	
dev_device_inser								
41	0	1	0	0.00%	0.00%	0.00%	0	
dev_device_remov								
42	0	2	0	0.00%	0.00%	0.00%	0	SM Monitor
43	0	1	0	0.00%	0.00%	0.00%	0	IGMP
Snooping Pr								
44	0	1	0	0.00%	0.00%	0.00%	0	IGMP
Snooping Re								
45	0	1	0	0.00%	0.00%	0.00%	0	Platform
Compact								
46	0	84	0	0.00%	0.00%	0.00%	0	Call
Management								
47	4	2464	1	0.00%	0.00%	0.00%	0	PI MATM
Aging Pr								
48	0	2	0	0.00%	0.00%	0.00%	0	DTP
Protocol								
49	0	2	0	0.00%	0.00%	0.00%	0	dot1x

81	0	2	0	0.00%	0.00%	0.00%	0	L2MM
82	0	1	0	0.00%	0.00%	0.00%	0	MRD
83	0	1	0	0.00%	0.00%	0.00%	0	IGMPSN
84	0	1	0	0.00%	0.00%	0.00%	0	IP
Traceroute								
85	0	2	0	0.00%	0.00%	0.00%	0	RLM groups
Proce								
86	0	1	0	0.00%	0.00%	0.00%	0	SNMP
Timers								
87	0	2	0	0.00%	0.00%	0.00%	0	SCTP Main
Proces								
88	0	1	0	0.00%	0.00%	0.00%	0	IUA Main
Process								
89	0	2469	0	0.00%	0.00%	0.00%	0	RUDPV1
Main Proc								
90	0	1	0	0.00%	0.00%	0.00%	0	bsm_timers
91	0	2472	0	0.00%	0.00%	0.00%	0	
bsm_xmt_proc								
92	0	1	0	0.00%	0.00%	0.00%	0	CES Client
SVC R								
93	0	1	0	0.00%	0.00%	0.00%	0	TCP Timer
94	0	1	0	0.00%	0.00%	0.00%	0	TCP
Protocols								
95	0	1	0	0.00%	0.00%	0.00%	0	COPS
96	0	2	0	0.00%	0.00%	0.00%	0	Dialer
Forwarder								
97	0	42	0	0.00%	0.00%	0.00%	0	IP Cache
Ager								
98	4	43	93	0.00%	0.00%	0.00%	0	Adj
Manager								
99	4	2	2000	0.00%	0.00%	0.00%	0	ATM OAM
Input								
100	0	2	0	0.00%	0.00%	0.00%	0	ATM OAM
TIMER								
101	0	10	0	0.00%	0.00%	0.00%	0	HTTP CORE
102	0	1	0	0.00%	0.00%	0.00%	0	RARP Input
103	0	1	0	0.00%	0.00%	0.00%	0	PAD InCall
104	0	2	0	0.00%	0.00%	0.00%	0	X.25
Background								
105	0	2	0	0.00%	0.00%	0.00%	0	PPP Bind
106	0	2	0	0.00%	0.00%	0.00%	0	PPP SSS
107	8	24697	0	0.08%	0.03%	0.02%	0	RBSCP
Background								
108	0	495	0	0.00%	0.00%	0.00%	0	L2F
management d								
109	0	1	0	0.00%	0.00%	0.00%	0	Inspect
Timer								
110	0	259	0	0.00%	0.00%	0.00%	0	OSPFv3-6
Hello								
111	0	9	0	0.00%	0.00%	0.00%	0	
Authentication P								
112	0	1	0	0.00%	0.00%	0.00%	0	Auth-proxy
AAA B								
113	0	1	0	0.00%	0.00%	0.00%	0	IPS Timer

146	0	1	0	0.00%	0.00%	0.00%	0	PM
Callback								
147	0	1	0	0.00%	0.00%	0.00%	0	DATA
Transfer Pr								
148	0	1	0	0.00%	0.00%	0.00%	0	DATA
Collector								
149	0	2	0	0.00%	0.00%	0.00%	0	AAA SEND
STOP EV								
150	4	3	1333	0.00%	0.00%	0.00%	0	EEM ED CLI
151	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
Counter								
152	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
Interface								
153	0	3	0	0.00%	0.00%	0.00%	0	EEM ED
IOSWD								
154	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
Memory-th								
155	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
None								
156	0	2	0	0.00%	0.00%	0.00%	0	EM ED OIR
157	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
SNMP								
158	0	44	0	0.00%	0.00%	0.00%	0	EEM ED
Timer								
159	0	511	0	0.00%	0.00%	0.00%	0	EEM Server
160	0	249	0	0.00%	0.00%	0.00%	0	RMON
Recycle Pro								
161	0	2	0	0.00%	0.00%	0.00%	0	RMON
Deferred Se								
162	0	1	0	0.00%	0.00%	0.00%	0	Syslog
Traps								
163	8	2	4000	0.00%	0.00%	0.00%	0	VLAN
Manager								
164	0	21	0	0.00%	0.00%	0.00%	0	DHCPD
Timer								
165	0	2	0	0.00%	0.00%	0.00%	0	EEM Policy
Direc								
166	4	112	35	0.00%	0.00%	0.00%	0	Syslog
167	0	1	0	0.00%	0.00%	0.00%	0	VPDN Scal
168	0	42	0	0.00%	0.00%	0.00%	0	DHCPD
Database								
169	0	1	0	0.00%	0.00%	0.00%	0	Net Input
170	0	497	0	0.00%	0.00%	0.00%	0	Compute
load avg								
171	656	42	15619	0.00%	0.02%	0.00%	0	Per-minute
Jobs								
172	0	86	0	0.00%	0.00%	0.00%	0	CEF
Scanner								
173	0	1	0	0.00%	0.00%	0.00%	0	tHUB
175	12	15	800	0.00%	0.00%	0.00%	0	DHCPD
Receive								
176	748	2231	335	0.00%	0.00%	0.00%	0	IPv6 Input
177	0	142	0	0.00%	0.00%	0.00%	0	IPv6 IDB
178	0	10	0	0.00%	0.00%	0.00%	0	IPv6 ND

179	4	9921	0	0.00%	0.02%	0.00%	0	MLD
180	4	2472	1	0.00%	0.00%	0.00%	0	OSPFv3-6
Router								
181	4	302	13	0.00%	0.00%	0.00%	0	IPv6 RIP
182	12	2499	4	0.00%	0.04%	0.05%	0	IGMP Input
183	0	24772	0	0.08%	0.03%	0.02%	0	Mwheel
Process								
184	84	3088	27	0.00%	0.03%	0.02%	0	PIM
Process								
185	324	468	692	0.00%	0.00%	0.00%	0	FR LMI
186	28	24773	1	0.08%	0.03%	0.02%	0	FR
Broadcast Out								
187	0	249	0	0.00%	0.00%	0.00%	0	compute
load per								
188	0	48	0	0.00%	0.00%	0.00%	0	FR ARP
189	0	42	0	0.00%	0.00%	0.00%	0	FR
FRAGMENTATION								
190	0	124	0	0.00%	0.00%	0.00%	0	FR TUNNEL
191	0	1	0	0.00%	0.00%	0.00%	0	FRF9
manager								
192	0	1	0	0.00%	0.00%	0.00%	0	FRF9 timed
event								
194	12	2535	4	0.00%	0.00%	0.00%	0	NTP
195	0	24	0	0.00%	0.00%	0.00%	0	IP-EIGRP
Router								
196	172	1618	106	0.00%	0.00%	0.00%	0	IP-EIGRP:
PDM								
197	32	2522	12	0.00%	0.00%	0.00%	0	OSPF-1
Router								
198	108	2205	48	0.00%	0.00%	0.00%	0	IP-EIGRP:
HELLO								
R4#								

R4#show interfaces

FastEthernet0/0 is up, line protocol is up

Hardware is Gt96k FE, address is 0019.5578.1cb2 (bia 0019.5578.1cb2)

Internet address is 10.1.4.5/30

MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

Keepalive set (10 sec)

Full-duplex, 100Mb/s, 100BaseTX/FX

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

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

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0

Queueing strategy: fifo

Output queue: 0/40 (size/max)

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

5 minute output rate 0 bits/sec, 0 packets/sec

5426 packets input, 566213 bytes

Received 691 broadcasts, 0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored

0 watchdog

0 input packets with dribble condition detected

3457 packets output, 406086 bytes, 0 underruns

0 output errors, 0 collisions, 4 interface resets

0 unknown protocol drops

0 babbles, 0 late collision, 0 deferred

0 lost carrier, 0 no carrier

0 output buffer failures, 0 output buffers swapped out

FastEthernet0/1 is up, line protocol is up

Hardware is Gt96k FE, address is 0019.5578.1cb3 (bia 0019.5578.1cb3)

Internet address is 10.1.4.9/30

MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

Keepalive set (10 sec)

Full-duplex, 100Mb/s, 100BaseTX/FX

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

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

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (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, 1 packets/sec
  882 packets input, 90041 bytes
    Received 659 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog
    0 input packets with dribble condition detected
  3388 packets output, 264131 bytes, 0 underruns
    0 output errors, 0 collisions, 5 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
Serial0/0/0 is down, line protocol is down
  Hardware is GT96K Serial
  MTU 1500 bytes, BW 128 Kbit/sec, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 0/0/32 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
    Available Bandwidth 96 kilobits/sec
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 5 interface resets
    0 unknown protocol drops
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions
    DCD=up DSR=up DTR=down RTS=down CTS=up

Serial0/0/1 is down, line protocol is down
  Hardware is GT96K Serial
  MTU 1500 bytes, BW 128 Kbit/sec, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 0/0/32 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
```


Available Bandwidth 96 kilobits/sec
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 5 interface resets
0 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
DCD=up DSR=up DTR=down RTS=down CTS=up

Serial0/1/0 is up, line protocol is up
Hardware is GT96K Serial
MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation FRAME-RELAY, loopback not set
Keepalive set (10 sec)
LMI enq sent 232, LMI stat recvd 233, LMI upd recvd 0, DTE LMI up
LMI enq recvd 0, LMI stat sent 0, LMI upd sent 0
LMI DLCI 1023 LMI type is CISCO frame relay DTE
FR SVC disabled, LAPF state down
Broadcast queue 0/64, broadcasts sent/dropped 404/0, interface
broadcasts 362
Last input 00:00:07, output 00:00:06, output hang never
Last clearing of "show interface" counters 00:41:29
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/4/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Available Bandwidth 1158 kilobits/sec
5 minute input rate 0 bits/sec, 1 packets/sec
5 minute output rate 0 bits/sec, 1 packets/sec
3491 packets input, 255121 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
3607 packets output, 261306 bytes, 0 underruns
0 output errors, 0 collisions, 5 interface resets
0 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
76 carrier transitions
DCD=up DSR=up DTR=up RTS=up CTS=up

Serial0/1/0.34 is up, line protocol is up
Hardware is GT96K Serial
Internet address is 10.1.1.10/30
MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation FRAME-RELAY
Last clearing of "show interface" counters never
Tunnel34 is up, line protocol is up
Hardware is Tunnel

```
MTU 1514 bytes, BW 9 Kbit/sec, DLY 500000 usec,  
    reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation TUNNEL, loopback not set  
Keepalive not set  
Tunnel source 10.1.1.10 (Serial0/1/0.34), destination 10.1.1.9  
Tunnel protocol/transport IPv6/IP  
Tunnel TTL 255  
Fast tunneling enabled  
Tunnel transmit bandwidth 8000 (kbps)  
Tunnel receive bandwidth 8000 (kbps)  
Last input 00:33:49, output 00:00:00, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 4  
Queueing strategy: fifo  
Output queue: 0/0 (size/max)  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
    56 packets input, 7516 bytes, 0 no buffer  
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles  
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort  
    296 packets output, 29652 bytes, 0 underruns  
    0 output errors, 0 collisions, 0 interface resets  
    0 unknown protocol drops  
    0 output buffer failures, 0 output buffers swapped out  
Tunnel46 is up, line protocol is up  
Hardware is Tunnel  
MTU 1514 bytes, BW 9 Kbit/sec, DLY 500000 usec,  
    reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation TUNNEL, loopback not set  
Keepalive not set  
Tunnel source 10.1.4.5, destination 10.1.4.6  
Tunnel protocol/transport GRE/IP  
    Key disabled, sequencing disabled  
    Checksumming of packets disabled  
Tunnel TTL 255  
Fast tunneling enabled  
Tunnel transmit bandwidth 8000 (kbps)  
Tunnel receive bandwidth 8000 (kbps)  
Last input 00:00:12, output 00:00:16, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 24  
Queueing strategy: fifo  
Output queue: 0/0 (size/max)  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
    2135 packets input, 263820 bytes, 0 no buffer  
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles  
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort  
    2124 packets output, 262736 bytes, 0 underruns  
    0 output errors, 0 collisions, 0 interface resets  
    0 unknown protocol drops  
    0 output buffer failures, 0 output buffers swapped out
```

R4#

```
R4#show cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port
ID					
R3	Ser 0/1/0.34	136	R S I	2811	Ser
0/2/0.34					
DSW1	Fas 0/0	151	R S I	WS-C3550-	Fas
0/1					
DSW2	Fas 0/1	135	R S I	WS-C3550-	Fas
0/1					
R4#					

```
R4#show cdp neighbors detail
```

```
-----
```

```
Device ID: R3  
Entry address(es):  
  IP address: 10.1.1.9  
Platform: Cisco 2811, Capabilities: Router Switch IGMP  
Interface: Serial0/1/0.34, Port ID (outgoing port): Serial0/2/0.34  
Holdtime : 128 sec
```

```
Version :  
Cisco IOS Software, 2800 Software (C2800NM-ADVIPSERVICESK9-M), Version  
12.4(22)T2, RELEASE SOFTWARE (fc4)  
Technical Support: http://www.cisco.com/techsupport  
Copyright (c) 1986-2009 by Cisco Systems, Inc.  
Compiled Fri 19-Jun-09 15:34 by prod_rel_team
```

```
advertisement version: 2  
VTP Management Domain: ''
```

```
-----
```

```
Device ID: DSW1  
Entry address(es):  
  IP address: 10.1.4.6  
Platform: Cisco WS-C3550-24, Capabilities: Router Switch IGMP
```

Interface: FastEthernet0/0, Port ID (outgoing port): FastEthernet0/1
Holdtime : 143 sec

Version :

Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version
12.2(44)SE6, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2

Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFF010221FF0000000000000000DBDE36E00FF0000

VTP Management Domain: 'netlearning'

Duplex: full

Device ID: DSW2

Entry address(es):

IP address: 10.1.4.10

Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP

Interface: FastEthernet0/1, Port ID (outgoing port): FastEthernet0/1

Holdtime : 127 sec

Version :

Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version
12.2(44)SE6, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2

Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFF010221FF0000000000000000BFD20BA00FF0000

VTP Management Domain: 'netlearning'

Duplex: full

R4#

```
R4#show frame-relay map
Serial0/1/0.34 (up): point-to-point dlci, dlci 403(0x193,0x6430),
broadcast
        status defined, active
R4#
```

```
R4#show ip interface
FastEthernet0/0 is up, line protocol is up
  Internet address is 10.1.4.5/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
  IP fast switching on the same interface is disabled
  IP Flow switching is disabled
  IP CEF switching is enabled
  IP CEF Fast switching turbo vector
  IP multicast fast switching is enabled
  IP multicast distributed fast switching is disabled
  IP route-cache flags are Fast, CEF
  Router Discovery is disabled
  IP output packet accounting is disabled
  IP access violation accounting is disabled
  TCP/IP header compression is disabled
  RTP/IP header compression is disabled
  Policy routing is disabled
  Network address translation is disabled
  BGP Policy Mapping is disabled
  WCCP Redirect outbound is disabled
  WCCP Redirect inbound is disabled
  WCCP Redirect exclude is disabled
FastEthernet0/1 is up, line protocol is up
  Internet address is 10.1.4.9/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
```

```
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
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IP fast switching is enabled
IP fast switching on the same interface is disabled
IP Flow switching is disabled
IP CEF switching is enabled
IP CEF Fast switching turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Serial0/0/0 is down, line protocol is down
  Internet protocol processing disabled
Serial0/0/1 is down, line protocol is down
  Internet protocol processing disabled
Serial0/1/0 is up, line protocol is up
  Internet protocol processing disabled
Serial0/1/0.34 is up, line protocol is up
  Internet address is 10.1.1.10/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.5
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
```



```
IP fast switching on the same interface is enabled
IP Flow switching is disabled
IP CEF switching is enabled
IP CEF Fast switching turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Tunnel34 is up, line protocol is up
  Internet protocol processing disabled
Tunnel46 is up, line protocol is up
  Internet protocol processing disabled
R4#
```

```

R4#show ip cef
Prefix          Next Hop          Interface
0.0.0.0/0       10.1.1.9         Serial0/1/0.34
0.0.0.0/8       drop
0.0.0.0/32      receive
10.1.1.8/30     attached         Serial0/1/0.34
10.1.1.8/32     receive
10.1.1.10/32    receive
10.1.1.11/32    receive
10.1.4.4/30     attached         FastEthernet0/0
10.1.4.4/32     receive
10.1.4.5/32     receive
10.1.4.6/32     10.1.4.6         FastEthernet0/0
10.1.4.7/32     receive
10.1.4.8/30     attached         FastEthernet0/1
10.1.4.8/32     receive
10.1.4.9/32     receive
10.1.4.10/32    10.1.4.10        FastEthernet0/1
10.1.4.11/32    receive
10.2.1.0/24     10.1.4.10        FastEthernet0/1
                  10.1.4.6         FastEthernet0/0
10.2.2.0/24     10.1.4.10        FastEthernet0/1
                  10.1.4.6         FastEthernet0/0
10.2.4.12/30    10.1.4.10        FastEthernet0/1
                  10.1.4.6         FastEthernet0/0
127.0.0.0/8    drop
224.0.0.0/4     0.0.0.0
224.0.0.0/24    receive
240.0.0.0/4     drop
255.255.255.255/32 receive
R4#

```

```
R4#show tcp statistics
Rcvd: 0 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      0 packets (0 bytes) in sequence
      0 dup packets (0 bytes)
      0 partially dup packets (0 bytes)
      0 out-of-order packets (0 bytes)
      0 packets (0 bytes) with data after window
      0 packets after close
      0 window probe packets, 0 window update packets
      0 dup ack packets, 0 ack packets with unsend data
      0 ack packets (0 bytes)
Sent: 0 Total, 0 urgent packets
      0 control packets (including 0 retransmitted)
      0 data packets (0 bytes)
      0 data packets (0 bytes) retransmitted
      0 data packets (0 bytes) fastretransmitted
      0 ack only packets (0 delayed)
      0 window probe packets, 0 window update packets
0 Connections initiated, 0 connections accepted, 0 connections
established
0 Connections closed (including 0 dropped, 0 embryonic dropped)
0 Total rxmt timeout, 0 connections dropped in rxmt timeout
0 Keepalive timeout, 0 keepalive probe, 0 Connections dropped in
keepalive
R4#
```

```

R4#show ip protocols
Routing Protocol is "eigrp 10"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP metric weight K1=1, K2=1, K3=1, K4=1, K5=1
  EIGRP maximum hopcount 100
  EIGRP maximum metric variance 1
  Redistributing: eigrp 10, ospf 1
  EIGRP NSF-aware route hold timer is 240s
  Automatic network summarization is not in effect
  Maximum path: 4
  Routing for Networks:
    10.1.4.5/32
    10.1.4.9/32
  Routing Information Sources:
    Gateway         Distance      Last Update
    10.1.4.10        90           00:39:53
    10.1.4.6         90           00:39:53
  Distance: internal 90 external 170

Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 4.4.4.4
  It is an autonomous system boundary router
  Redistributing External Routes from,

```

```
eigrp 10, includes subnets in redistribution
Number of areas in this router is 1. 0 normal 0 stub 1 nssa
Maximum path: 4
Routing for Networks:
  10.1.1.10 0.0.0.0 area 34
Reference bandwidth unit is 100 mbps
Routing Information Sources:
  Gateway          Distance      Last Update
  3.3.3.3           110           00:36:21
Distance: (default is 110)
```

R4#

```
R4#show access-lists
Standard IP access list DENY_10
  10 deny  10.0.0.0, wildcard bits 0.255.255.255
  20 permit any
Standard IP access list DENY_ALL
  10 deny  any
```

```
Standard IP access list PERMIT_10
  10 permit 10.0.0.0, wildcard bits 0.255.255.255
Standard IP access list PERMIT_ALL
  10 permit any
R4#
```

```
R4#show ip route eigrp
  10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       10.2.4.12/30 [90/120] via 10.1.4.10, 00:40:46, FastEthernet0/1
        [90/120] via 10.1.4.6, 00:40:46, FastEthernet0/0
D       10.2.1.0/24 [90/111] via 10.1.4.10, 00:40:12, FastEthernet0/1
        [90/111] via 10.1.4.6, 00:40:12, FastEthernet0/0
D       10.2.2.0/24 [90/111] via 10.1.4.10, 00:40:14, FastEthernet0/1
        [90/111] via 10.1.4.6, 00:40:14, FastEthernet0/0
R4#
```

```

R4#show ip eigrp neighbors
IP-EIGRP neighbors for process 10
H   Address                Interface      Hold Uptime    SRTT    RTO   Q
Seq                                     (sec)         (ms)         Cnt

Num
1   10.1.4.10                Fa0/1         12 00:41:05    1     200   0
88
0   10.1.4.6                  Fa0/0         10 00:41:39    1     200   0
96
R4#

```

```
R4#show ip eigrp interfaces
```

```
IP-EIGRP interfaces for process 10
```

	Xmit Queue	Mean	Pacing Time	Multicast	
Pending					
Interface	Peers	Un/Reliable	SRTT	Un/Reliable	Flow Timer
Routes					
Fa0/0	1	0/0	1	0/1	50
0					
Fa0/1	1	0/0	1	0/1	50
0					

```
R4#
```



```
R4#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address
Interface				
3.3.3.3	0	FULL/ -	00:00:39	10.1.1.9
Serial0/1/0.34				

```
R4#
```

```
R4#show ip ospf interface
Serial0/1/0.34 is up, line protocol is up
  Internet Address 10.1.1.10/30, Area 34
  Process ID 1, Router ID 4.4.4.4, Network Type POINT_TO_POINT, Cost: 64
  Transmit Delay is 1 sec, State POINT_TO_POINT
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    oob-resync timeout 40
    Hello due in 00:00:01
  Supports Link-local Signaling (LLS)
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 5, maximum is 5
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 3.3.3.3
  Suppress hello for 0 neighbor(s)
R4#
```

R4#show ip ospf database

OSPF Router with ID (4.4.4.4) (Process ID 1)

Router Link States (Area 34)

Link ID count	ADV Router	Age	Seq#	Checksum	Link
3.3.3.3	3.3.3.3	287	0x8000000E	0x00CE71	2
4.4.4.4	4.4.4.4	341	0x80000010	0x0067D2	2

Summary Net Link States (Area 34)

Link ID	ADV Router	Age	Seq#	Checksum
0.0.0.0	3.3.3.3	287	0x80000002	0x00DC4C

Type-7 AS External Link States (Area 34)

Link ID	ADV Router	Age	Seq#	Checksum	Tag
10.1.4.4	4.4.4.4	341	0x80000005	0x00F16A	0
10.1.4.8	4.4.4.4	341	0x80000005	0x00C98E	0
10.2.1.0	4.4.4.4	341	0x80000003	0x00451C	0
10.2.2.0	4.4.4.4	341	0x80000003	0x003A26	0
10.2.4.12	4.4.4.4	341	0x80000003	0x0099BB	0

R4#

```
R4#show ip route ospf
O*IA 0.0.0.0/0 [110/65] via 10.1.1.9, 00:37:33, Serial0/1/0.34
R4#
```

```
R4#show ip dhcp binding
Bindings from all pools not associated with VRF:
```

IP address	Client-ID/ Hardware address/ User name	Lease expiration	Type
10.2.1.4 Automatic R4#	0100.1c23.8edb.bc	Jun 08 2010 07:29 PM	

```
R4#show ip dhcp conflict
IP address      Detection method  Detection time    VRF
R4#
```

R4#show ip dhcp pool

Pool VLAN10 :

Utilization mark (high/low) : 100 / 0
Subnet size (first/next) : 0 / 0
Total addresses : 254
Leased addresses : 1
Pending event : none

1 subnet is currently in the pool :

Current index	IP address range	Leased
addresses		
10.2.1.5	10.2.1.1 - 10.2.1.254	1

R4#

R4#

R4#show ipv6 interface brief

FastEthernet0/0 [up/up]
FastEthernet0/1 [up/up]
Serial0/0/0 [down/down]
Serial0/0/1 [down/down]
Serial0/1/0 [up/up]
Serial0/1/0.34 [up/up]
Tunnel34 [up/up]
 FE80::A01:10A
 2026::34:2
Tunnel46 [up/up]
 FE80::219:55FF:FE78:1CB2

```
2026::2:1  
R4#
```

```
R4#ping ipv6 2026::12:1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::12:1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 204/205/208  
ms
```

```
R4#
```

```
R4#ping ipv6 2026::12:2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::12:2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 140/142/144  
ms
```

```
R4#
```



```
R4#ping ipv6 2026::1:1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::1:1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 140/141/144  
ms
```

```
R4#
```

```
R4#ping ipv6 2026::1:2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::1:2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 76/76/80 ms
```

```
R4#
```

```
R4#ping ipv6 2026::34:1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::34:1, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 76/77/80 ms  
R4#
```

```
R4#ping ipv6 2026::34:2
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 2026::34:2, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms  
R4#
```

```
R4#ping ipv6 2026::2:1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::2:1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/4 ms
```

```
R4#
```

```
R4#ping ipv6 2026::2:2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::2:2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/2/4 ms
```

```
R4#
```

```
R4#ping ipv6 2026::3:1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::3:1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/1/4 ms
```

```
R4#
```

```
R4#ping ipv6 2026::3:2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 2026::3:2, timeout is 2 seconds:
```

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 0/2/4 ms
R4#

R4#show ipv6 route

IPv6 Routing Table - 9 entries

Codes: C - Connected, L - Local, S - Static, R - RIP, B - BGP

U - Per-user Static route

I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary

O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext 1, OE2 - OSPF ext

2

ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2

OI 2026::1:0/122 [110/11175]

via FE80::A01:109, Tunnel134

C 2026::2:0/122 [0/0]

via ::, Tunnel46

L 2026::2:1/128 [0/0]

via ::, Tunnel46

R 2026::3:0/122 [120/2]

```
    via FE80::20D:BDFE:FEE3:6E00, Tunnel146
OI  2026::12:0/122 [110/11239]
    via FE80::A01:109, Tunnel134
C   2026::34:0/122 [0/0]
    via ::, Tunnel134
L   2026::34:2/128 [0/0]
    via ::, Tunnel134
L   FE80::/10 [0/0]
    via ::, Null0
L   FF00::/8 [0/0]
    via ::, Null0
R4#
```

```
R4#show ipv6 ospf
Routing Process "ospfv3 6" with ID 4.4.4.4
It is an autonomous system boundary router
Redistributing External Routes from,
connected
rip
```


SPF schedule delay 5 secs, Hold time between two SPFs 10 secs
Minimum LSA interval 5 secs. Minimum LSA arrival 1 secs
LSA group pacing timer 240 secs
Interface flood pacing timer 33 msec
Retransmission pacing timer 66 msec
Number of external LSA 2. Checksum Sum 0x011724
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Reference bandwidth unit is 100 mbps

Area 34

Number of interfaces in this area is 1
SPF algorithm executed 3 times
Number of LSA 8. Checksum Sum 0x03820C
Number of DCbitless LSA 0
Number of indication LSA 0
Number of DoNotAge LSA 0
Flood list length 0

R4#

```
R4#show ipv6 ospf interface
Tunnel34 is up, line protocol is up
  Link Local Address FE80::A01:10A, Interface ID 13
  Area 34, Process ID 6, Instance ID 0, Router ID 4.4.4.4
  Network Type POINT_TO_POINT, Cost: 11111
  Transmit Delay is 1 sec, State POINT_TO_POINT,
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:01
  Index 1/1/1, flood queue length 0
  Next 0x0(0)/0x0(0)/0x0(0)
  Last flood scan length is 5, maximum is 5
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 10.1.1.9
  Suppress hello for 0 neighbor(s)
R4#
```

```
R4#show ipv6 ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Interface ID
Interface 10.1.1.9 Tunnel34 R4#	1	FULL/ -	00:00:31	18

```
R4#show ipv6 rip RIPNG
RIP process "RIPNG", port 521, multicast-group FF02::9, pid 181
  Administrative distance is 120. Maximum paths is 16
  Updates every 30 seconds, expire after 180
  Holddown lasts 0 seconds, garbage collect after 120
  Split horizon is on; poison reverse is off
  Default routes are not generated
  Periodic updates 240, trigger updates 2
Interfaces:
  Tunnel46
Redistribution:
  Redistributing protocol connected with metric 5
  Redistributing protocol ospf 6 with metric 15
```

R4#

R4#

