

```
R1#
R1#show running-config
Building configuration...
```

```
Current configuration : 2616 bytes
!
! No configuration change since last restart
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R1
!
boot-start-marker
boot-end-marker
!
logging message-counter syslog
no logging console
enable secret 5 $1$aKZT$R06SAsRilNacGlsvRsdUg0
!
no aaa new-model
!
dot11 syslog
ip source-route
!
!
ip cef
!
!
ip multicast-routing
ipv6 unicast-routing
ipv6 cef
!
multilink bundle-name authenticated
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
```

```
!  
!  
!  
!  
!  
voice-card 0  
!  
!  
!  
!  
!  
archive  
  log config  
  hidekeys  
!  
!  
!  
!  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/0/0  
  no ip address  
  shutdown  
  no fair-queue  
  clock rate 2000000  
!  
interface Serial0/0/1  
  no ip address  
  shutdown  
!  
interface Serial0/1/0  
  no ip address  
  shutdown  
  clock rate 2000000  
!  
interface Serial0/2/0  
  no ip address  
  encapsulation frame-relay  
!
```

```
interface Serial0/2/0.12 point-to-point
 ip address 10.1.1.1 255.255.255.252
 ip pim sparse-dense-mode
 ip nat inside
 ip virtual-reassembly
 snmp trap link-status
 ipv6 address 2026::12:1/122
 ipv6 enable
 ipv6 ospf 6 area 12
 frame-relay interface-dlci 102
!
interface Serial0/3/0
 ip address 209.65.200.225 255.255.255.252
 ip nat outside
 ip virtual-reassembly
 clock rate 56000
!
router ospf 1
 router-id 10.1.1.1
 log-adjacency-changes
 redistribute connected subnets
 redistribute static subnets
 redistribute bgp 65001 subnets
 network 10.1.1.1 0.0.0.0 area 12
!
router bgp 65001
 no synchronization
 bgp router-id 1.1.1.1
 bgp log-neighbor-changes
 neighbor 209.65.200.226 remote-as 65002
 no auto-summary
!
ip forward-protocol nd
ip http server
no ip http secure-server
!
!
ip nat inside source list 10 interface Serial0/3/0 overload
!
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
!
access-list 10 permit 10.0.0.0 0.255.255.255
ipv6 router ospf 6
 router-id 1.1.1.1
 log-adjacency-changes
!
```

```
!  
!  
!  
!  
!  
!  
!  
control-plane  
!  
!  
!  
ccm-manager fax protocol cisco  
!  
mgcp fax t38 ecm  
mgcp behavior g729-variants static-pt  
!  
!  
!  
!  
!  
line con 0  
  exec-timeout 0 0  
  logging synchronous  
line aux 0  
line vty 0 4  
  password cisco  
  login  
!  
scheduler allocate 20000 1000  
ntp master 5  
ntp peer 10.1.1.2  
ntp peer 10.1.4.6  
ntp peer 10.1.1.6  
ntp peer 10.1.4.10  
ntp peer 10.1.1.10  
ntp peer 10.2.4.13  
ntp peer 10.2.4.14  
end
```

R1#

```
R1#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 = 32/34/40 ms
```

```
R1#
```

```
R1#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 = 32/32/36 ms
```

```
R1#
```

```
R1#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 = 64/64/68 ms
```

```
R1#
```

```
R1#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 = 128/130/132  
ms
```

```
R1#
```



```
R1#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 = 64/73/104 ms
```

```
R1#
```

R1#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 = 64/68/76 ms

R1#

R1#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 = 128/130/132
ms

R1#

R1#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 = 128/130/132
ms

R1#

R1#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 = 192/195/196
ms

R1#

R1#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 = 192/194/196
ms
R1#

R1#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 = 192/195/196
ms
R1#

R1#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 = 192/194/196
ms
R1#

R1#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 = 192/195/196
ms

R1#

R1#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 = 192/195/196
ms

R1#

R1#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 = 192/195/196
ms

R1#

R1#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 = 192/196/200
ms

R1#

```
R1#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 = 192/194/196  
ms
```

```
R1#
```

```
R1#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 = 192/195/196  
ms
```

```
R1#
```

```
R1#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 = 192/196/204  
ms
```

```
R1#
```

```
R1#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 = 192/195/196  
ms
```

```
R1#
```

```
R1#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 0 percent (0/5)
```

```
R1#
```


R1#show ip interface brief

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	NVRAM	administratively
down down				
FastEthernet0/1	unassigned	YES	NVRAM	administratively
down down				
Serial0/0/0	unassigned	YES	NVRAM	administratively
down down				
Serial0/0/1	unassigned	YES	NVRAM	administratively
down down				
Serial0/1/0	unassigned	YES	NVRAM	administratively
down down				
Serial0/2/0	unassigned	YES	NVRAM	up
up				
Serial0/2/0.12	10.1.1.1	YES	NVRAM	up
up				
Serial0/3/0	209.65.200.225	YES	NVRAM	up
up				
NVIO	unassigned	YES	unset	administratively
down down				

R1#

R1#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 not set

```

      209.65.200.0/24 is variably subnetted, 2 subnets, 2 masks
B       209.65.200.240/29 [20/0] via 209.65.200.226, 00:19:44
C       209.65.200.224/30 is directly connected, Serial0/3/0
      10.0.0.0/8 is variably subnetted, 8 subnets, 2 masks
O E2    10.2.4.12/30 [110/20] via 10.1.1.2, 00:16:23, Serial0/2/0.12
O IA    10.1.1.8/30 [110/192] via 10.1.1.2, 00:16:38, Serial0/2/0.12
O E2    10.1.4.8/30 [110/20] via 10.1.1.2, 00:16:23, Serial0/2/0.12
O E2    10.2.1.0/24 [110/20] via 10.1.1.2, 00:16:23, Serial0/2/0.12
O E2    10.2.2.0/24 [110/20] via 10.1.1.2, 00:16:24, Serial0/2/0.12
C       10.1.1.0/30 is directly connected, Serial0/2/0.12
O E2    10.1.4.4/30 [110/20] via 10.1.1.2, 00:16:24, Serial0/2/0.12
O IA    10.1.1.4/30 [110/128] via 10.1.1.2, 00:16:40, Serial0/2/0.12
R1#
```

R1#show processes cpu

CPU utilization for five seconds: 2%/0%; one minute: 2%; five minutes: 1%

PID	Runtime (ms)	Invoked	uSecs	5Sec	1Min	5Min	TTY	Process
1	28	81	345	0.00%	0.00%	0.00%	0	Chunk
Manager								
2	4	252	15	0.00%	0.04%	0.02%	0	Load Meter
3	1200	663	1809	0.00%	0.18%	0.18%	0	Exec
4	0	1	0	0.00%	0.00%	0.00%	0	EDDRI_MAIN
5	1760	149	11812	1.03%	0.18%	0.12%	0	Check
heaps								
6	0	1	0	0.00%	0.00%	0.00%	0	Pool
Manager								
7	0	2	0	0.00%	0.00%	0.00%	0	Timers

8	0	1	0	0.00%	0.00%	0.00%	0	License
Client N								
9	0	1225	0	0.00%	0.00%	0.00%	0	BGP
Scheduler								
10	0	22	0	0.00%	0.00%	0.00%	0	IPC
Dynamic Cach								
11	0	1	0	0.00%	0.00%	0.00%	0	IPC Zone
Manager								
12	0	1272	0	0.00%	0.00%	0.00%	0	IPC
Periodic Tim								
13	0	1272	0	0.00%	0.00%	0.00%	0	IPC
Deferred Por								
14	0	1	0	0.00%	0.00%	0.00%	0	IPC Seat
Manager								
15	0	1	0	0.00%	0.00%	0.00%	0	IPC
BackPressure								
16	0	1	0	0.00%	0.00%	0.00%	0	OIR
Handler								
17	0	1	0	0.00%	0.00%	0.00%	0	Crash
writer								
18	4	43	93	0.00%	0.00%	0.00%	0	
Environmental mo								
19	0	1	0	0.00%	0.00%	0.00%	0	ARP Input
20	0	1331	0	0.08%	0.00%	0.00%	0	ARP
Background								
21	0	2	0	0.00%	0.00%	0.00%	0	ATM Idle
Timer								
22	0	2	0	0.00%	0.00%	0.00%	0	AAA high-
capacit								
23	0	1	0	0.00%	0.00%	0.00%	0	
AAA_SERVER_DEADT								
24	0	1	0	0.00%	0.00%	0.00%	0	Policy
Manager								
25	0	7	0	0.00%	0.00%	0.00%	0	DDR Timers
26	4	2	2000	0.00%	0.00%	0.00%	0	Entity MIB
API								
27	20	34	588	0.00%	0.00%	0.00%	0	EEM ED
Syslog								
28	0	382	0	0.00%	0.00%	0.00%	0	HC Counter
Timer								
29	0	6	0	0.00%	0.00%	0.00%	0	Serial
Backgroun								
30	0	1	0	0.00%	0.00%	0.00%	0	RO Notify
Timers								
31	0	1	0	0.00%	0.00%	0.00%	0	RMI RM
Notify Wa								
32	0	2	0	0.00%	0.00%	0.00%	0	SMART
33	0	1259	0	0.00%	0.00%	0.00%	0	GraphIt
34	4	2	2000	0.00%	0.00%	0.00%	0	Dialer
event								
35	0	1	0	0.00%	0.00%	0.00%	0	SERIAL
A'detect								
36	0	2	0	0.00%	0.00%	0.00%	0	XML Proxy
Client								

37	0	1	0	0.00%	0.00%	0.00%	0 Critical
Bkgnd							
38	28	553	50	0.00%	0.00%	0.00%	0 Net
Background							
39	0	2	0	0.00%	0.00%	0.00%	0 IDB Work
40	0	31	0	0.00%	0.00%	0.00%	0 Logger
41	0	1256	0	0.00%	0.00%	0.00%	0 TTY
Background							
42	0	1276	0	0.08%	0.02%	0.00%	0 Per-Second
Jobs							
43	0	85	0	0.00%	0.00%	0.00%	0 c2800
Periodic							
44	0	1	0	0.00%	0.00%	0.00%	0 Inode
Table Dest							
45	0	1	0	0.00%	0.00%	0.00%	0 IKE HA Mgr
46	0	1	0	0.00%	0.00%	0.00%	0 IPSEC HA
Mgr							
47	8	4	2000	0.00%	0.00%	0.00%	0 rf task
48	16	133	120	0.00%	0.00%	0.00%	0 Net Input
49	0	254	0	0.00%	0.00%	0.00%	0 Compute
load avg							
50	504	22	22909	0.00%	0.03%	0.00%	0 Per-minute
Jobs							
51	0	1	0	0.00%	0.00%	0.00%	0 AggMgr
Process							
52	0	1	0	0.00%	0.00%	0.00%	0 Token
Daemon							
53	0	1	0	0.00%	0.00%	0.00%	0 Transport
Port A							
54	0	1	0	0.00%	0.00%	0.00%	0
dev_device_inser							
55	0	1	0	0.00%	0.00%	0.00%	0
dev_device_remov							
56	0	1	0	0.00%	0.00%	0.00%	0
sal_dpc_process							
57	0	1	0	0.00%	0.00%	0.00%	0 ARL Table
Manage							
58	0	2	0	0.00%	0.00%	0.00%	0 ESWPPM
59	0	2	0	0.00%	0.00%	0.00%	0 Eswilp
Storm Con							
60	0	2	0	0.00%	0.00%	0.00%	0 ESWILPPM
61	0	2	0	0.00%	0.00%	0.00%	0 Eswilp
Storm Con							
62	0	5047	0	0.00%	0.00%	0.00%	0 Netclock
Backgro							
63	0	2	0	0.00%	0.00%	0.00%	0 SM Monitor
64	0	2	0	0.00%	0.00%	0.00%	0 Bryce I2C
CMD Qu							
65	276	4	69000	0.00%	0.00%	0.00%	0 USB
Startup							
66	0	213	0	0.00%	0.00%	0.00%	0 mxt5100
67	4	2	2000	0.00%	0.00%	0.00%	0 VNM DSPRM
MAIN							

68	0	1	0	0.00%	0.00%	0.00%	0	DSPFARM
DSP READ								
69	0	2	0	0.00%	0.00%	0.00%	0	FLEX DNLD
MAIN								
70	0	1	0	0.00%	0.00%	0.00%	0	HDV
background								
71	0	2	0	0.00%	0.00%	0.00%	0	VMI
Background								
72	0	1	0	0.00%	0.00%	0.00%	0	
RF_INTERDEV_DELA								
73	0	1	0	0.00%	0.00%	0.00%	0	
RF_INTERDEV_SCTP								
74	48	67	716	0.00%	0.00%	0.00%	0	BGP I/O
75	0	1264	0	0.00%	0.00%	0.00%	0	Ether-
Switch RBC								
76	0	1	0	0.00%	0.00%	0.00%	0	IGMP
Snooping Pr								
77	0	1	0	0.00%	0.00%	0.00%	0	IGMP
Snooping Re								
78	0	44	0	0.00%	0.00%	0.00%	0	Call
Management								
79	0	1	0	0.00%	0.00%	0.00%	0	AAL2CPS
TIMER_CU								
80	0	1	0	0.00%	0.00%	0.00%	0	CES Line
Conditi								
81	0	1	0	0.00%	0.00%	0.00%	0	
CF_INTERDEV_SCTP								
82	4	1	4000	0.00%	0.00%	0.00%	0	Async
write proc								
83	0	1	0	0.00%	0.00%	0.00%	0	Async
write proc								
84	0	1	0	0.00%	0.00%	0.00%	0	Async
write proc								
85	0	1	0	0.00%	0.00%	0.00%	0	Async
write proc								
86	0	22	0	0.00%	0.00%	0.00%	0	DFS flush
period								
87	0	2	0	0.00%	0.00%	0.00%	0	Dot1x Mgr
Proces								
88	0	1	0	0.00%	0.00%	0.00%	0	MAB
Framework								
89	0	1	0	0.00%	0.00%	0.00%	0	EAP
Framework								
90	0	2	0	0.00%	0.00%	0.00%	0	DTP
Protocol								
91	0	1264	0	0.00%	0.00%	0.00%	0	PI MATM
Aging Pr								
92	0	128	0	0.00%	0.00%	0.00%	0	EtherChnl
93	0	2	0	0.00%	0.00%	0.00%	0	Ethernet
CFM								
94	0	1234	0	0.00%	0.00%	0.00%	0	Ethernet
Timer C								
95	0	1279	0	0.00%	0.00%	0.00%	0	linktest

96	0	2	0	0.00%	0.00%	0.00%	0	Dot11 Mgmt
& Ass								
97	0	2	0	0.00%	0.00%	0.00%	0	Dot11 aaa
proces								
98	0	22	0	0.00%	0.00%	0.00%	0	pmkid
99	0	2	0	0.00%	0.00%	0.00%	0	Dot11 auth
Dot1x								
100	0	1	0	0.00%	0.00%	0.00%	0	Dot11 Mac
Auth								
101	0	2	0	0.00%	0.00%	0.00%	0	AAA
Dictionary R								
102	0	2	0	0.00%	0.00%	0.00%	0	AAA Server
103	0	1	0	0.00%	0.00%	0.00%	0	AAA ACCT
Proc								
104	0	1	0	0.00%	0.00%	0.00%	0	ACCT
Periodic Pr								
105	20	194	103	0.00%	0.00%	0.00%	0	CDP
Protocol								
106	4	2	2000	0.00%	0.00%	0.00%	0	Ethernet
OAM Pro								
107	0	2	0	0.00%	0.00%	0.00%	0	CEF
switching ba								
108	0	2	0	0.00%	0.00%	0.00%	0	ADJ
resolve proc								
109	0	1	0	0.00%	0.00%	0.00%	0	IP ARP
Adjacency								
110	4	1	4000	0.00%	0.00%	0.00%	0	IP ARP
Retry Age								
111	224	592	378	0.07%	0.01%	0.00%	0	IP Input
112	0	1	0	0.00%	0.00%	0.00%	0	ICMP event
handl								
113	0	4	0	0.00%	0.00%	0.00%	0	TurboACL
114	0	2	0	0.00%	0.00%	0.00%	0	TurboACL
chunk								
115	0	1	0	0.00%	0.00%	0.00%	0	IPv6 Echo
event								
116	0	1	0	0.00%	0.00%	0.00%	0	LSP Tunnel
FRR								
117	0	1	0	0.00%	0.00%	0.00%	0	MPLS Auto-
Tunnel								
118	0	5	0	0.00%	0.00%	0.00%	0	MOP
Protocols								
119	4	3	1333	0.00%	0.00%	0.00%	0	PPP Hooks
120	0	3	0	0.00%	0.00%	0.00%	0	Collection
proce								
121	0	1	0	0.00%	0.00%	0.00%	0	SSS
Manager								
122	0	1	0	0.00%	0.00%	0.00%	0	SSS
Feature Mana								
123	0	1	0	0.00%	0.00%	0.00%	0	SSS
Feature Time								
124	0	2	0	0.00%	0.00%	0.00%	0	Spanning
Tree								

125	0	1	0	0.00%	0.00%	0.00%	0 X.25
Encaps Mana							
126	0	14	0	0.00%	0.00%	0.00%	0 SSM
connection m							
127	0	1	0	0.00%	0.00%	0.00%	0 AC Switch
128	0	5	0	0.00%	0.00%	0.00%	0
Authentication P							
129	0	1	0	0.00%	0.00%	0.00%	0 Auth-proxy
AAA B							
130	100	2	50000	0.00%	0.00%	0.00%	0 EAPoUDP
Process							
131	0	2	0	0.00%	0.00%	0.00%	0 IP Host
Track Pr							
132	0	2	0	0.00%	0.00%	0.00%	0 KRB5 AAA
133	0	2	0	0.00%	0.00%	0.00%	0 Ethernet
LMI							
134	0	2	0	0.00%	0.00%	0.00%	0 PPP IP
Route							
135	0	2	0	0.00%	0.00%	0.00%	0 PPP IPCP
136	12	65	184	0.00%	0.00%	0.00%	0 IP
Background							
137	24	12	2000	0.00%	0.00%	0.00%	0 IP RIB
Update							
138	0	2	0	0.00%	0.00%	0.00%	0 Dot1x
Supplicant							
139	0	2	0	0.00%	0.00%	0.00%	0 Dot1x
Supplicant							
140	0	2	0	0.00%	0.00%	0.00%	0 Dot1x
Supplicant							
141	0	1	0	0.00%	0.00%	0.00%	0 Asy FS
Helper							
142	0	22	0	0.00%	0.00%	0.00%	0 Licensing
Auto U							
143	0	1	0	0.00%	0.00%	0.00%	0 Socket
Timers							
144	0	24	0	0.00%	0.00%	0.00%	0 CEF
background p							
145	12	1462	8	0.00%	0.01%	0.00%	0 CEF: IPv4
proces							
146	4	6	666	0.00%	0.00%	0.00%	0 ADJ
background							
147	4	2	2000	0.00%	0.00%	0.00%	0 L2MM
148	0	1	0	0.00%	0.00%	0.00%	0 MRD
149	0	1	0	0.00%	0.00%	0.00%	0 IGMPSN
150	0	1	0	0.00%	0.00%	0.00%	0 L2X Data
Daemon							
151	0	1368	0	0.00%	0.01%	0.00%	0 TCP Timer
152	0	1	0	0.00%	0.00%	0.00%	0 TCP
Protocols							
153	0	6	0	0.00%	0.00%	0.00%	0 HTTP CORE
154	0	1	0	0.00%	0.00%	0.00%	0 IP
Traceroute							
155	0	2	0	0.00%	0.00%	0.00%	0 RLM groups
Proce							

156	0	2	0	0.00%	0.00%	0.00%	0 PPPoE Flow
Contr							
157	0	1	0	0.00%	0.00%	0.00%	0 SNMP
Timers							
158	0	2	0	0.00%	0.00%	0.00%	0 SCTP Main
Proces							
159	0	1	0	0.00%	0.00%	0.00%	0 IUA Main
Process							
160	0	1271	0	0.00%	0.00%	0.00%	0 RUDPV1
Main Proc							
161	0	1	0	0.00%	0.00%	0.00%	0 bsm_timers
162	0	1285	0	0.00%	0.00%	0.00%	0
bsm_xmt_proc							
163	0	1	0	0.00%	0.00%	0.00%	0 CES Client
SVC R							
164	4	1	4000	0.00%	0.00%	0.00%	0 COPS
165	0	2	0	0.00%	0.00%	0.00%	0 Dialer
Forwarder							
166	0	3	0	0.00%	0.00%	0.00%	0 Flow
Exporter Ti							
167	0	2	0	0.00%	0.00%	0.00%	0 ATM OAM
Input							
168	0	2	0	0.00%	0.00%	0.00%	0 ATM OAM
TIMER							
169	0	1	0	0.00%	0.00%	0.00%	0 RARP Input
170	0	1	0	0.00%	0.00%	0.00%	0 LAPB
Process							
171	0	1	0	0.00%	0.00%	0.00%	0 IPv6
Inspect Tim							
172	0	2	0	0.00%	0.00%	0.00%	0 LFDp Input
Proc							
173	0	1	0	0.00%	0.00%	0.00%	0 PAD InCall
174	0	2	0	0.00%	0.00%	0.00%	0 X.25
Background							
175	0	2	0	0.00%	0.00%	0.00%	0 PPP Bind
176	0	2	0	0.00%	0.00%	0.00%	0 PPP SSS
177	0	1	0	0.00%	0.00%	0.00%	0 MQC Flow
Event B							
178	16	317488	0	0.71%	0.74%	0.72%	0 HQF Shaper
Backg							
179	4	12688	0	0.00%	0.03%	0.02%	0 RBSCP
Background							
180	0	1	0	0.00%	0.00%	0.00%	0 VPDN call
manage							
181	0	1	0	0.00%	0.00%	0.00%	0 CHKPT
EXAMPLE							
182	0	1	0	0.00%	0.00%	0.00%	0 CHKPT
DevTest							
183	0	1	0	0.00%	0.00%	0.00%	0 IPS
Process							
184	4	2	2000	0.00%	0.00%	0.00%	0 IPS Auto
Update							
185	0	2	0	0.00%	0.00%	0.00%	0 SDEE
Management							

186	0	2484	0	0.00%	0.00%	0.00%	0	Inspect
process								
187	272	85	3200	0.00%	0.03%	0.00%	0	BGP
Scanner								
188	4	2484	1	0.00%	0.00%	0.00%	0	FW DP
Inspect pr								
189	0	2484	0	0.00%	0.00%	0.00%	0	CCE DP
URLF cach								
190	0	2	0	0.00%	0.00%	0.00%	0	URL filter
proc								
191	0	1	0	0.00%	0.00%	0.00%	0	Select
Timers								
192	32	2	16000	0.00%	0.00%	0.00%	0	HTTP
Process								
193	0	2	0	0.00%	0.00%	0.00%	0	CIFS API
Process								
194	0	2	0	0.00%	0.00%	0.00%	0	CIFS Proxy
Proce								
195	8	3	2666	0.00%	0.00%	0.00%	0	Crypto HW
Proc								
196	0	53	0	0.00%	0.00%	0.00%	0	
CRM_CALL_UPDATE_								
197	116	2	58000	0.00%	0.00%	0.00%	0	
CCVPM_HDSPRM								
198	0	4	0	0.00%	0.00%	0.00%	0	HDA DSPRM
MAIN								
199	4	2	2000	0.00%	0.00%	0.00%	0	STUN_APP
200	0	1	0	0.00%	0.00%	0.00%	0	STUN_TEST
201	0	1	0	0.00%	0.00%	0.00%	0	BGP Event
202	0	2	0	0.00%	0.00%	0.00%	0	AAA Cached
Serve								
203	4	2	2000	0.00%	0.00%	0.00%	0	ENABLE AAA
204	0	1	0	0.00%	0.00%	0.00%	0	EM
Background Pr								
205	0	1	0	0.00%	0.00%	0.00%	0	Key chain
liveke								
206	0	2	0	0.00%	0.00%	0.00%	0	LINE AAA
207	0	2	0	0.00%	0.00%	0.00%	0	LOCAL AAA
208	0	4	0	0.00%	0.00%	0.00%	0	MPLS Auto
Mesh P								
209	0	2	0	0.00%	0.00%	0.00%	0	TPLUS
210	0	2	0	0.00%	0.00%	0.00%	0	VSP_MGR
211	0	1	0	0.00%	0.00%	0.00%	0	
FW_TEST_TRP								
212	0	1	0	0.00%	0.00%	0.00%	0	EPM MAIN
PROCESS								
213	4	3	1333	0.00%	0.00%	0.00%	0	Crypto WUI
214	0	2	0	0.00%	0.00%	0.00%	0	Crypto
Support								
215	0	1	0	0.00%	0.00%	0.00%	0	IPSECV6 PS
Proc								
216	0	1	0	0.00%	0.00%	0.00%	0	CCVPM_HTSP
217	0	2	0	0.00%	0.00%	0.00%	0	
VPM MWI BACKGROU								

218	0	1	0	0.00%	0.00%	0.00%	0	CCVPM_R2
219	0	1	0	0.00%	0.00%	0.00%	0	EPHONE MWI
Refre								
220	0	2	0	0.00%	0.00%	0.00%	0	FB/KS Log
HouseK								
221	0	2	0	0.00%	0.00%	0.00%	0	EPHONE MWI
BG Pr								
222	0	1	0	0.00%	0.00%	0.00%	0	Skinny HW
confer								
223	4	475	8	0.07%	0.00%	0.00%	0	FLEX DSPRM
MAIN								
224	0	473	0	0.00%	0.00%	0.00%	0	FLEX DSP
KEEPALI								
225	0	44	0	0.00%	0.00%	0.00%	0	VOICE REG
BG Pro								
226	0	1	0	0.00%	0.00%	0.00%	0	Presence
Process								
227	0	1	0	0.00%	0.00%	0.00%	0	CCSWVOICE
228	28	275	101	0.00%	0.00%	0.00%	0	OSPF-1
Hello								
229	0	1	0	0.00%	0.00%	0.00%	0	http
client proc								
231	4	1	4000	0.00%	0.00%	0.00%	0	
QOS_MODULE_MAIN								
232	0	1	0	0.00%	0.00%	0.00%	0	
RPMS_PROC_MAIN								
233	0	1	0	0.00%	0.00%	0.00%	0	VoIP AAA
234	0	2	0	0.00%	0.00%	0.00%	0	Dialog
Manager								
235	4	3	1333	0.00%	0.00%	0.00%	0	crypto
engine pr								
236	0	4	0	0.00%	0.00%	0.00%	0	Crypto CA
237	0	1	0	0.00%	0.00%	0.00%	0	Crypto
PKI-CRL								
238	0	1	0	0.00%	0.00%	0.00%	0	encrypt
proc								
239	0	2	0	0.00%	0.00%	0.00%	0	crypto sw
pk pro								
240	0	1	0	0.00%	0.00%	0.00%	0	Crypto INT
241	4	3	1333	0.00%	0.00%	0.00%	0	Crypto IKE
Dispa								
242	0	3	0	0.00%	0.00%	0.00%	0	Crypto
IKMP								
243	0	1	0	0.00%	0.00%	0.00%	0	IPSEC
manual key								
244	212	67	3164	0.00%	0.00%	0.00%	0	IPSEC key
engine								
245	0	2	0	0.00%	0.00%	0.00%	0	CRYPTO QoS
proce								
246	0	4	0	0.00%	0.00%	0.00%	0	Crypto ACL
247	0	1	0	0.00%	0.00%	0.00%	0	Crypto PAS
Proc								
248	0	1	0	0.00%	0.00%	0.00%	0	GDOI GM
Process								

249	0	1	0	0.00%	0.00%	0.00%	0 UNICAST
REKEY							
250	0	1	0	0.00%	0.00%	0.00%	0 UNICAST
REKEY AC							
251	0	1294	0	0.00%	0.00%	0.00%	0 Crypto
Device Up							
252	0	2	0	0.00%	0.00%	0.00%	0 Multi-ISA
Event							
253	0	1	0	0.00%	0.00%	0.00%	0 Multi-ISA
Cleanu							
254	0	1	0	0.00%	0.00%	0.00%	0 PM
Callback							
255	0	1	0	0.00%	0.00%	0.00%	0 Licensing
MIB pr							
256	0	6462	0	0.00%	0.01%	0.00%	0 Atheros
LED Ctro							
257	0	2	0	0.00%	0.00%	0.00%	0 Control-
plane ho							
258	0	1	0	0.00%	0.00%	0.00%	0 DATA
Transfer Pr							
259	0	1	0	0.00%	0.00%	0.00%	0 DATA
Collector							
260	0	2	0	0.00%	0.00%	0.00%	0 AAA SEND
STOP EV							
261	8	2	4000	0.00%	0.00%	0.00%	0 EEM ED
Resource							
262	0	2	0	0.00%	0.00%	0.00%	0 EEM ED
Routing							
263	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
Track							
264	0	129	0	0.00%	0.00%	0.00%	0 RMON
Recycle Pro							
265	0	2	0	0.00%	0.00%	0.00%	0 RMON
Deferred Se							
266	0	1	0	0.00%	0.00%	0.00%	0 Syslog
Traps							
267	0	41	0	0.00%	0.00%	0.00%	0 Crypto
cTCP proc							
268	8	2	4000	0.00%	0.00%	0.00%	0 VLAN
Manager							
269	20	246	81	0.00%	0.00%	0.00%	0 OSPFv3-6
Hello							
270	0	1	0	0.00%	0.00%	0.00%	0 chkpt
message ha							
271	0	1276	0	0.00%	0.00%	0.00%	0 trunk
conditioni							
272	0	1	0	0.00%	0.00%	0.00%	0 trunk
conditioni							
273	0	1296	0	0.00%	0.00%	0.00%	0 CME
Extension Mo							
274	0	1	0	0.00%	0.00%	0.00%	0 IP SLAs
Ethernet							
275	8	220	36	0.00%	0.00%	0.00%	0 EEM Server

276	0	2	0	0.00%	0.00%	0.00%	0 EEM Policy
Direc							
277	0	3	0	0.00%	0.00%	0.00%	0 EEM ED CLI
278	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
Counter							
279	0	3	0	0.00%	0.00%	0.00%	0 EM ED GOLD
280	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
Interface							
281	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
IOSWD							
282	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
Ipsla							
283	8	3	2666	0.00%	0.00%	0.00%	0 EEM ED
None							
284	0	2	0	0.00%	0.00%	0.00%	0 EEM ED Nf
285	0	3	0	0.00%	0.00%	0.00%	0 EEM ED OIR
286	0	3	0	0.00%	0.00%	0.00%	0 EEM ED RF
287	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
SNMP							
288	0	2	0	0.00%	0.00%	0.00%	0 EEM ED
SNMP Noti							
289	0	34	0	0.00%	0.00%	0.00%	0 EEM ED
Timer							
290	4	3	1333	0.00%	0.00%	0.00%	0 EEM ED
Test							
291	0	3	0	0.00%	0.00%	0.00%	0 EEM ED
Config							
292	0	3	0	0.00%	0.00%	0.00%	0 EEM ED Env
293	4	17	235	0.00%	0.00%	0.00%	0 Syslog
294	0	1	0	0.00%	0.00%	0.00%	0 VPDN Test
295	0	3	0	0.00%	0.00%	0.00%	0 EEM ED RPC
296	0	2	0	0.00%	0.00%	0.00%	0 Key Proc
297	0	1	0	0.00%	0.00%	0.00%	0 tHUB
299	4	22	181	0.00%	0.00%	0.00%	0 IPv6 RIB
Event H							
300	4	647	6	0.00%	0.00%	0.00%	0 CEF: IPv6
proces							
301	156	233	669	0.00%	0.00%	0.00%	0 FR LMI
302	24	28	857	0.00%	0.00%	0.00%	0 FR PVC
event man							
303	0	12894	0	0.00%	0.03%	0.01%	0 FR
Broadcast Out							
304	0	24	0	0.00%	0.00%	0.00%	0 FR ARP
305	0	22	0	0.00%	0.00%	0.00%	0 FR
FRAGMENTATION							
306	0	65	0	0.00%	0.00%	0.00%	0 FR TUNNEL
307	0	1	0	0.00%	0.00%	0.00%	0 FRF9
manager							
308	0	1	0	0.00%	0.00%	0.00%	0 FRF9 timed
event							
309	0	130	0	0.00%	0.00%	0.00%	0 compute
load per							
310	0	1288	0	0.00%	0.00%	0.00%	0 IGMP Input

311	16	25667	0	0.07%	0.14%	0.15%	0	PIM
Process								
312	0	12901	0	0.07%	0.03%	0.02%	0	Mwheel
Process								
313	4	2508	1	0.00%	0.00%	0.00%	0	IP NAT
Ager								
314	0	1	0	0.00%	0.00%	0.00%	0	IP NAT
WLAN								
315	0	1	0	0.00%	0.00%	0.00%	0	IP VFR
proc								
316	4	71	56	0.00%	0.00%	0.00%	0	IPv6 IDB
317	24	158	151	0.00%	0.00%	0.00%	0	IPv6 Input
318	0	7	0	0.00%	0.00%	0.00%	0	IPv6 ND
319	0	1	0	0.00%	0.00%	0.00%	0	IPv6
Address								
320	8	5150	1	0.00%	0.02%	0.00%	0	MLD
321	20	1312	15	0.00%	0.00%	0.00%	0	OSPFv3-6
Router								
322	0	2	0	0.00%	0.00%	0.00%	0	
cpf_process_msg_								
323	0	1	0	0.00%	0.00%	0.00%	0	TCP
Listener								
324	80	1405	56	0.00%	0.02%	0.01%	0	NTP
326	4	1	4000	0.00%	0.00%	0.00%	0	LICENSE
AGENT								
327	40	1334	29	0.00%	0.00%	0.00%	0	OSPF-1
Router								
328	52	192	270	0.00%	0.00%	0.00%	0	BGP Router
329	0	1	0	0.00%	0.00%	0.00%	0	
cpf_process_tpQ								
R1#								

```
R1#show interfaces
FastEthernet0/0 is administratively down, line protocol is down
  Hardware is MV96340 Ethernet, address is 001d.70a0.c690 (bia
001d.70a0.c690)
  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)
  Auto-duplex, Auto Speed, 100BaseTX/FX
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (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, 0 packets/sec
    0 packets input, 0 bytes
    Received 0 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
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 0 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 administratively down, line protocol is down
  Hardware is MV96340 Ethernet, address is 001d.70a0.c691 (bia
001d.70a0.c691)
  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)
Auto-duplex, Auto Speed, 100BaseTX/FX
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (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, 0 packets/sec
  0 packets input, 0 bytes
    Received 0 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
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 0 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 administratively down, line protocol is down
  Hardware is GT96K Serial
  MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
  CRC checking enabled
  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: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    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, 3 interface resets
    0 unknown protocol drops
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions
  DCD=down DSR=down DTR=down RTS=down CTS=down

Serial0/0/1 is administratively down, line protocol is down
  Hardware is GT96K Serial
  MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
  CRC checking enabled
  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 0/0/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Available Bandwidth 1158 kilobits/sec
5 minute input rate 0 bits/sec, 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, 3 interface resets
0 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
DCD=down DSR=down DTR=down RTS=down CTS=down

Serial0/1/0 is administratively down, line protocol is down

Hardware is GT96K Serial
MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set
Keepalive set (10 sec)
CRC checking enabled
Last input 00:21:50, output 00:21:50, 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 0/1/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Available Bandwidth 1158 kilobits/sec
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
5 packets input, 1026 bytes, 0 no buffer
Received 5 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
1 packets output, 24 bytes, 0 underruns
0 output errors, 0 collisions, 3 interface resets
3 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
DCD=down DSR=down DTR=up RTS=down CTS=down

Serial0/2/0 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)
CRC checking enabled
LMI enq sent 117, LMI stat recvd 114, 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 367/0, interface
broadcasts 361
Last input 00:00:03, output 00:00:00, output hang never
Last clearing of "show interface" counters 00:21:49
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 0/3/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Available Bandwidth 1158 kilobits/sec
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
784 packets input, 63322 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
794 packets output, 64169 bytes, 0 underruns
0 output errors, 0 collisions, 2 interface resets
0 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
63 carrier transitions
DCD=up DSR=up DTR=up RTS=up CTS=up

Serial0/2/0.12 is up, line protocol is up
Hardware is GT96K Serial
Internet address is 10.1.1.1/30
MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation FRAME-RELAY
CRC checking enabled
Last clearing of "show interface" counters never

Serial0/3/0 is up, line protocol is up
Hardware is GT96K Serial
Internet address is 209.65.200.225/30
MTU 1500 bytes, BW 1544 Kbit/sec, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set
Keepalive set (10 sec)
CRC checking enabled
Last input 00:00:09, output 00:00:03, 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 0/1/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Available Bandwidth 1158 kilobits/sec
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
222 packets input, 15636 bytes, 0 no buffer
Received 155 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
365 packets output, 26230 bytes, 0 underruns

0 output errors, 0 collisions, 5 interface resets
3 unknown protocol drops
0 output buffer failures, 0 output buffers swapped out
5 carrier transitions
DCD=up DSR=up DTR=up RTS=up CTS=up

NVIO is administratively down, line protocol is down

Hardware is NVI

MTU 1514 bytes, BW 56 Kbit/sec, DLY 5000 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation UNKNOWN, loopback not set

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

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, 0 interface resets

0 unknown protocol drops

0 output buffer failures, 0 output buffers swapped out

R1#

```
R1#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					
R2	Ser 0/2/0.12	131	R S I	2811	Ser
0/2/0.12					
R5	Ser 0/3/0	131	R S I	2811	Ser
0/3/0					

```
R1#
```

R1#show cdp neighbors detail

Device ID: R2

Entry address(es):

IP address: 10.1.1.2

IPv6 address: 2026::12:2 (global unicast)

IPv6 address: FE80::216:9DFF:FEFA:CAB0 (link-local)

Platform: Cisco 2811, Capabilities: Router Switch IGMP

Interface: Serial0/2/0.12, Port ID (outgoing port): Serial0/2/0.12

Holdtime : 122 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>

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advertisement version: 2

VTP Management Domain: ''

Device ID: R5

Entry address(es):

IP address: 209.65.200.226

Platform: Cisco 2811, Capabilities: Router Switch IGMP

Interface: Serial0/3/0, Port ID (outgoing port): Serial0/3/0

Holdtime : 122 sec

Version :

Cisco IOS Software, 2800 Software (C2800NM-ADVIPSERVICESK9-M), Version 12.4(22)T2, RELEASE SOFTWARE (fc4)

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advertisement version: 2

VTP Management Domain: ''

R1#

```
R1#show frame-relay map
Serial0/2/0.12 (up): point-to-point dlci, dlci 102(0x66,0x1860),
broadcast
                    status defined, active
R1#
```

```
R1#show ip interface
FastEthernet0/0 is administratively down, line protocol is down
  Internet protocol processing disabled
FastEthernet0/1 is administratively down, line protocol is down
  Internet protocol processing disabled
Serial0/0/0 is administratively down, line protocol is down
  Internet protocol processing disabled
Serial0/0/1 is administratively down, line protocol is down
  Internet protocol processing disabled
Serial0/1/0 is administratively down, line protocol is down
  Internet protocol processing disabled
Serial0/2/0 is up, line protocol is up
  Internet protocol processing disabled
Serial0/2/0.12 is up, line protocol is up
  Internet address is 10.1.1.1/30
  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 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 enabled, interface in domain inside
BGP Policy Mapping is disabled
Input features: Stateful Inspection, Virtual Fragment Reassembly,
Virtual Fragment Reassembly After IPsec Decryption, MCI Check
Output features: NAT Inside, Stateful Inspection
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Serial0/3/0 is up, line protocol is up
Internet address is 209.65.200.225/30
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
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 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 enabled, interface in domain outside
BGP Policy Mapping is disabled
Input features: Stateful Inspection, Virtual Fragment Reassembly,
Virtual Fragment Reassembly After IPSec Decryption, NAT Outside, MCI
Check
Output features: CCE Output Classification, Post-routing NAT Outside,
Stateful Inspection
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
NVI0 is administratively down, line protocol is down
Internet protocol processing disabled
R1#

```

R1#show ip cef
Prefix          Next Hop          Interface
0.0.0.0/0       no route
0.0.0.0/8       drop
0.0.0.0/32      receive
10.1.1.0/30     attached         Serial0/2/0.12
10.1.1.0/32     receive         Serial0/2/0.12
10.1.1.1/32     receive         Serial0/2/0.12
10.1.1.3/32     receive         Serial0/2/0.12
10.1.1.4/30     10.1.1.2        Serial0/2/0.12
10.1.1.8/30     10.1.1.2        Serial0/2/0.12
10.1.4.4/30     10.1.1.2        Serial0/2/0.12
10.1.4.8/30     10.1.1.2        Serial0/2/0.12
10.2.1.0/24     10.1.1.2        Serial0/2/0.12
10.2.2.0/24     10.1.1.2        Serial0/2/0.12
10.2.4.12/30    10.1.1.2        Serial0/2/0.12
127.0.0.0/8     drop
209.65.200.224/30 attached         Serial0/3/0
209.65.200.224/32 receive         Serial0/3/0
209.65.200.225/32 receive         Serial0/3/0
209.65.200.227/32 receive         Serial0/3/0
209.65.200.240/29 209.65.200.226 Serial0/3/0
224.0.0.0/4     multicast
224.0.0.0/24    receive
240.0.0.0/4     drop
255.255.255.255/32 receive
R1#

```

```
R1#show tcp statistics
Rcvd: 49 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      25 packets (535 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
      25 ack packets (483 bytes)
Sent: 49 Total, 0 urgent packets
      1 control packets (including 0 retransmitted)
      24 data packets (482 bytes)
      0 data packets (0 bytes) retransmitted
      0 data packets (0 bytes) fastretransmitted
      24 ack only packets (23 delayed)
      0 window probe packets, 0 window update packets
1 Connections initiated, 0 connections accepted, 1 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  
R1#
```

```
R1#show ip protocols  
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 10.1.1.1  
  It is an autonomous system boundary router  
  Redistributing External Routes from,  
    connected, includes subnets in redistribution
```

```
static, includes subnets in redistribution
bgp 65001, includes subnets in redistribution
Number of areas in this router is 1. 1 normal 0 stub 0 nssa
Maximum path: 4
Routing for Networks:
  10.1.1.1 0.0.0.0 area 12
Reference bandwidth unit is 100 mbps
Routing Information Sources:
  Gateway          Distance      Last Update
  3.3.3.3           110          00:18:11
  2.2.2.2           110          00:18:26
Distance: (default is 110)
```

```
Routing Protocol is "bgp 65001"
Outgoing update filter list for all interfaces is not set
Incoming update filter list for all interfaces is not set
IGP synchronization is disabled
Automatic route summarization is disabled
Neighbor(s):
  Address          FiltIn FiltOut DistIn DistOut Weight RouteMap
  209.65.200.226
Maximum path: 1
Routing Information Sources:
  Gateway          Distance      Last Update
  209.65.200.226    20           00:21:33
Distance: external 20 internal 200 local 200
```

R1#

```
R1#show access-lists
Standard IP access list 10
    10 permit 10.0.0.0, wildcard bits 0.255.255.255 (142 matches)
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
R1#
```

```
R1#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address
Interface				
2.2.2.2	0	FULL/ -	00:00:38	10.1.1.2
Serial0/2/0.12				

```
R1#
```

```
R1#show ip ospf interface
Serial0/2/0.12 is up, line protocol is up
  Internet Address 10.1.1.1/30, Area 12
  Process ID 1, Router ID 10.1.1.1, 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 00:00:04
  Supports Link-local Signaling (LLS)
  Cisco NSF helper support enabled
  IETF NSF helper support enabled
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 1, Adjacent neighbor count is 1
    Adjacent with neighbor 2.2.2.2
  Suppress hello for 0 neighbor(s)
R1#
```


R1#show ip ospf database

OSPF Router with ID (10.1.1.1) (Process ID 1)

Router Link States (Area 12)

Link ID count	ADV Router	Age	Seq#	Checksum	Link
2.2.2.2	2.2.2.2	1150	0x8000000C	0x00392B	2
10.1.1.1	10.1.1.1	1149	0x80000007	0x00A0C3	2

Summary Net Link States (Area 12)

Link ID	ADV Router	Age	Seq#	Checksum
10.1.1.4	2.2.2.2	1151	0x80000001	0x00FBEB
10.1.1.8	2.2.2.2	1141	0x80000001	0x00564D

Summary ASB Link States (Area 12)

Link ID	ADV Router	Age	Seq#	Checksum
3.3.3.3	2.2.2.2	1141	0x80000001	0x0037B0

Type-5 AS External Link States

Link ID	ADV Router	Age	Seq#	Checksum	Tag
10.1.4.4	3.3.3.3	1126	0x80000001	0x00ACC1	0
10.1.4.8	3.3.3.3	1126	0x80000001	0x0084E5	0
10.2.1.0	3.3.3.3	1126	0x80000001	0x00FB75	0
10.2.2.0	3.3.3.3	1127	0x80000001	0x00F07F	0
10.2.4.12	3.3.3.3	1127	0x80000001	0x005015	0
209.65.200.224	10.1.1.1	1384	0x80000001	0x004693	0

209.65.200.240 10.1.1.1 1326 0x80000001 0x0031C6 65002
R1#

```
R1#show ip route ospf
    10.0.0.0/8 is variably subnetted, 8 subnets, 2 masks
O E2   10.2.4.12/30 [110/20] via 10.1.1.2, 00:18:52, Serial0/2/0.12
O IA   10.1.1.8/30 [110/192] via 10.1.1.2, 00:19:08, Serial0/2/0.12
O E2   10.1.4.8/30 [110/20] via 10.1.1.2, 00:18:52, Serial0/2/0.12
O E2   10.2.1.0/24 [110/20] via 10.1.1.2, 00:18:52, Serial0/2/0.12
O E2   10.2.2.0/24 [110/20] via 10.1.1.2, 00:18:52, Serial0/2/0.12
O E2   10.1.4.4/30 [110/20] via 10.1.1.2, 00:18:52, Serial0/2/0.12
O IA   10.1.1.4/30 [110/128] via 10.1.1.2, 00:19:08, Serial0/2/0.12
```

R1#

```
R1#show ip bgp neighbors
BGP neighbor is 209.65.200.226, remote AS 65002, external link
  BGP version 4, remote router ID 5.5.5.5
  BGP state = Established, up for 00:23:15
  Last read 00:00:13, last write 00:00:14, hold time is 180, keepalive
interval is 60 seconds
  Neighbor capabilities:
    Route refresh: advertised and received(new)
    Address family IPv4 Unicast: advertised and received
  Message statistics:
```

InQ depth is 0
OutQ depth is 0

	Sent	Rcvd
Opens:	1	1
Notifications:	0	0
Updates:	0	1
Keepalives:	24	24
Route Refresh:	0	0
Total:	25	26

Default minimum time between advertisement runs is 30 seconds

For address family: IPv4 Unicast
BGP table version 2, neighbor version 2/0
Output queue size : 0
Index 1, Offset 0, Mask 0x2
1 update-group member

	Sent	Rcvd
Prefix activity:	----	----
Prefixes Current:	0	1 (Consumes 52 bytes)
Prefixes Total:	0	1
Implicit Withdraw:	0	0
Explicit Withdraw:	0	0
Used as bestpath:	n/a	1
Used as multipath:	n/a	0

	Outbound	Inbound
Local Policy Denied Prefixes:	-----	-----
Bestpath from this peer:	1	n/a
Total:	1	0

Number of NLRI's in the update sent: max 0, min 0

Address tracking is enabled, the RIB does have a route to 209.65.200.226
Connections established 1; dropped 0
Last reset never
Transport(tcp) path-mtu-discovery is enabled
Connection state is ESTAB, I/O status: 1, unread input bytes: 0
Connection is ECN Disabled, Minimum incoming TTL 0, Outgoing TTL 1
Local host: 209.65.200.225, Local port: 37054
Foreign host: 209.65.200.226, Foreign port: 179
Connection tableid (VRF): 0

Enqueued packets for retransmit: 0, input: 0 mis-ordered: 0 (0 bytes)

Event Timers (current time is 0x162784):

Timer	Starts	Wakeups	Next
Retrans	26	0	0x0
TimeWait	0	0	0x0
AckHold	25	24	0x0
SendWnd	0	0	0x0
KeepAlive	0	0	0x0
GiveUp	0	0	0x0
PmtuAger	1699	1698	0x162818

DeadWait	0	0	0x0
Linger	0	0	0x0
ProcessQ	0	0	0x0

iss: 2205630768 snduna: 2205631270 sndnxt: 2205631270 sndwnd:
15883
irs: 1488796966 rcvnxt: 1488797521 rcvwnd: 15830 delrcvwnd:
554

SRTT: 291 ms, RTTO: 368 ms, RTV: 77 ms, KRTT: 0 ms
minRTT: 20 ms, maxRTT: 300 ms, ACK hold: 200 ms
Status Flags: active open
Option Flags: nagle, path mtu capable
IP Precedence value : 6

Datagrams (max data segment is 1460 bytes):
Rcvd: 51 (out of order: 0), with data: 26, total data bytes: 554
Sent: 51 (retransmit: 0, fastretransmit: 0, partialack: 0, Second
Congestion: 0), with data: 25, total data bytes: 501
Packets received in fast path: 0, fast processed: 0, slow path: 0
fast lock acquisition failures: 0, slow path: 0

R1#

```

R1#show ip bgp summary
BGP router identifier 1.1.1.1, local AS number 65001
BGP table version is 2, main routing table version 2
1 network entries using 132 bytes of memory
1 path entries using 52 bytes of memory
2/1 BGP path/bestpath attribute entries using 296 bytes of memory
1 BGP AS-PATH entries using 24 bytes of memory
0 BGP route-map cache entries using 0 bytes of memory
0 BGP filter-list cache entries using 0 bytes of memory
BGP using 504 total bytes of memory
BGP activity 1/0 prefixes, 1/0 paths, scan interval 60 secs

Neighbor      V    AS MsgRcvd MsgSent   TblVer  InQ OutQ Up/Down
State/PfxRcd
209.65.200.226 4 65002      26      25         2    0    0 00:23:27
1
R1#

```

```

R1#show ip bgp
BGP table version is 2, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal,
                r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete

   Network          Next Hop           Metric LocPrf Weight Path
*> 209.65.200.240/29
                209.65.200.226           0             0 65002 i
R1#

```

```
R1#show ip route bgp
      209.65.200.0/24 is variably subnetted, 2 subnets, 2 masks
B       209.65.200.240/29 [20/0] via 209.65.200.226, 00:22:47
R1#
```



```
R1#show ip nat translations
```

```
R1#
```

```
R1#show ip nat statistics
Total active translations: 0 (0 static, 0 dynamic; 0 extended)
Peak translations: 16, occurred 00:18:48 ago
Outside interfaces:
  Serial0/3/0
Inside interfaces:
  Serial0/2/0.12
Hits: 142  Misses: 0
CEF Translated packets: 0, CEF Punted packets: 142
Expired translations: 35
Dynamic mappings:
-- Inside Source
[Id: 1] access-list 10 interface Serial0/3/0 refcount 0
Appl doors: 0
Normal doors: 0
Queued Packets: 0
R1#
```