```
R1#
R1#show run
Building configuration...


Current configuration : 2690 bytes
!
! Last configuration change at 22:13:40 UTC Thu Jun 10 2010
! NVRAM config last updated at 21:40:25 UTC Thu Jun 10 2010
!
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$RO6SAsRilNacGlsvRsdUg0
!
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 209.65.20.225 255.255.255.252
 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#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 0 percent (0/5)
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 0 percent (0/5)
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 0 percent (0/5)
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 = 128/132/140
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 = 64/66/68 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 = 64/65/68 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 = 192/194/196
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 = 192/195/196
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 = 196/196/196
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 = 192/195/200
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 = 192/194/196
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 = 192/194/196
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 80 percent (4/5), round-trip min/avg/max = 192/194/196 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 = 192/195/196
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 = 192/194/196
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 100 percent (5/5), round-trip min/avg/max = 192/194/196
ms
R1#
```

```
R1#show ip interface brief
Interface                  IP-Address      OK? Method Status
Protocol
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                209.65.20.225   YES NVRAM  up
up
NVI0                       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

     209.65.20.0/30 is subnetted, 1 subnets
C       209.65.20.224 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, 00:31:11, Serial0/2/0.12
O IA    10.1.1.8/30 [110/192] via 10.1.1.2, 00:31:11, Serial0/2/0.12
O E2    10.1.4.8/30 [110/20] via 10.1.1.2, 00:31:11, Serial0/2/0.12
O E2    10.2.1.0/24 [110/20] via 10.1.1.2, 00:31:11, Serial0/2/0.12
O E2    10.2.2.0/24 [110/20] via 10.1.1.2, 00:31:11, 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, 00:31:12, Serial0/2/0.12
O IA    10.1.1.4/30 [110/128] via 10.1.1.2, 00:31:12, Serial0/2/0.12
```

```
R1#show processes cpu
CPU utilization for five seconds: 1%/0%; one minute: 2%; five minutes: 1%
 PID Runtime(ms)   Invoked      uSecs   5Sec   1Min   5Min TTY Process
   1          24        81        296  0.00%  0.00%  0.00%   0 Chunk
Manager
   2           0       145          0  0.07%  0.04%  0.02%   0 Load Meter
   3        1212       619       1957  0.00%  0.22%  0.20%   0 Exec
   4           0         1          0  0.00%  0.00%  0.00%   0 EDDRI_MAIN
   5         924        82      11268  0.00%  0.10%  0.10%   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       699          0  0.00%  0.00%  0.00%   0 BGP
Scheduler
  10           0        13          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        733           0  0.00%  0.00%  0.00%   0 IPC
Periodic Tim
  13           0        733           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         25         160  0.00%  0.00%  0.00%   0
Environmental mo
  19           0          1           0  0.00%  0.00%  0.00%   0 ARP Input
  20           0        769           0  0.00%  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          12         30         400  0.00%  0.00%  0.00%   0 EEM ED
Syslog
  28           0        221           0  0.00%  0.00%  0.00%   0 HC Counter
Timer
  29           0          3           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        720           0  0.00%  0.00%  0.00%   0 GraphIt
  34           0          2           0  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          36        334         107  0.00%  0.00%  0.00%   0 Net
Background
  39           4          2        2000  0.00%  0.00%  0.00%   0 IDB Work
  40           0         29           0  0.00%  0.00%  0.00%   0 Logger
  41           4        717           5  0.00%  0.00%  0.00%   0 TTY
Background
```

```
  42           8       737          10  0.07%  0.02%  0.00%    0 Per-Second
Jobs
  43           0        49           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           4         4        1000  0.00%  0.00%  0.00%    0 rf task
  48           8        79         101  0.00%  0.00%  0.00%    0 Net Input
  49           0       146           0  0.00%  0.00%  0.00%    0 Compute
load avg
  50         288        13       22153  0.00%  0.02%  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      2892           0  0.07%  0.01%  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         272         4       68000  0.00%  0.00%  0.00%    0 USB
Startup
  66           0       124           0  0.00%  0.00%  0.00%    0 mxt5100
  67           0         2           0  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          12        42         285  0.00%  0.00%  0.00%   0 BGP I/O
  75           0       725           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        26           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           0         1           0  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        13           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       726           0  0.00%  0.00%  0.00%   0 PI MATM
Aging Pr
  92           0        74           0  0.00%  0.00%  0.00%   0 EtherChnl
  93           0         2           0  0.00%  0.00%  0.00%   0 Ethernet
CFM
  94           4       708           5  0.00%  0.00%  0.00%   0 Ethernet
Timer C
  95           0       740           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        13           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       111         180  0.00%  0.00%  0.00%   0 CDP
Protocol
 106           0         2           0  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         188       436         431  0.00%  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         4           0  0.00%  0.00%  0.00%   0 MOP
Protocols
 119           0         3           0  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           4        10         400  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         3           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           0         51           0  0.00%  0.00%  0.00%    0 IP
Background
 137          12          8        1500  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         13           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         15           0  0.00%  0.00%  0.00%    0 CEF
background p
 145           8        974           8  0.07%  0.01%  0.00%    0 CEF: IPv4
proces
 146           4          3        1333  0.00%  0.00%  0.00%    0 ADJ
background
 147           0          2           0  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         30           0  0.00%  0.00%  0.00%    0 TCP Timer
 152           0          1           0  0.00%  0.00%  0.00%    0 TCP
Protocols
 153           8          4        2000  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           4          2        2000  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       732           0  0.07%  0.00%  0.00%   0 RUDPV1
Main Proc
 161           0         1           0  0.00%  0.00%  0.00%   0 bsm_timers
 162           0       747           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           0         1           0  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          20    183027           0  0.79%  0.81%  0.76%   0 HQF Shaper
Backg
 179           0      7306           0  0.00%  0.03%  0.01%   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           0         2           0  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      1432           0  0.07%  0.00%  0.00%   0 Inspect
process
 187         164        49        3346  0.00%  0.03%  0.00%   0 BGP
Scanner
 188           4      1432           2  0.00%  0.00%  0.00%   0 FW DP
Inspect pr
 189           4      1432           2  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	32	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	0	2	0	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	0	2	0	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	4	2	2000	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	0	3	0	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	4	1	4000	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	1	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       275          14  0.00%  0.00%  0.00%   0 FLEX DSPRM
MAIN
 224           0       273           0  0.00%  0.00%  0.00%   0 FLEX DSP
KEEPALI
 225           0        26           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           8       151          52  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           4         2        2000  0.00%  0.00%  0.00%   0 Dialog
Manager
 235           0         3           0  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         216        40        5400  0.00%  0.00%  0.00%   0 IPSEC key
engine
 245           4         2        2000  0.00%  0.00%  0.00%   0 CRYPTO QoS
proce
 246           4         4        1000  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       755           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	4	3764	1	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	4	2	2000	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	76	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	24	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	0	136	0	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	738	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	758	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	0	220	0	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           4         3       1333  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           0         3          0  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           4        22        181  0.00%  0.00%  0.00%   0 EEM ED
Timer
 290           0         3          0  0.00%  0.00%  0.00%   0 EEM ED
Test
 291           4         3       1333  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        16        250  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           0        18          0  0.00%  0.00%  0.00%   0 IPv6 RIB
Event H
 300           4       378         10  0.00%  0.00%  0.00%   0 CEF: IPv6
proces
 301          88       124        709  0.00%  0.00%  0.00%   0 FR LMI
 302           8        16        500  0.00%  0.00%  0.00%   0 FR PVC
event man
 303           4      7509          0  0.07%  0.03%  0.02%   0 FR
Broadcast Out
 304           0        15          0  0.00%  0.00%  0.00%   0 FR ARP
 305           0        13          0  0.00%  0.00%  0.00%   0 FR
FRAGMENTATION
 306           0        38          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        76          0  0.00%  0.00%  0.00%   0 compute
load per
 310           0       748          0  0.00%  0.00%  0.00%   0 IGMP Input
 311          20     14874          1  0.15%  0.15%  0.15%   0 PIM
Process
 312           0      7519          0  0.00%  0.03%  0.02%   0 Mwheel
Process
 313           0      1456          0  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           0        47           0  0.00%  0.00%  0.00%   0 IPv6 IDB
 317          20       102         196  0.00%  0.00%  0.00%   0 IPv6 Input
 318           0         3           0  0.00%  0.00%  0.00%   0 IPv6 ND
 319           0         1           0  0.00%  0.00%  0.00%   0 IPv6
Address
 320           4      2995           1  0.00%  0.02%  0.01%   0 MLD
 321          16       766          20  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         3           0  0.00%  0.00%  0.00%   0 TCP
Listener
 324          32       804          39  0.00%  0.02%  0.00%   0 NTP
 326           0         1           0  0.00%  0.00%  0.00%   0 LICENSE
AGENT
 327          24       771          31  0.00%  0.00%  0.00%   0 OSPF-1
Router
 328          48       131         366  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 00:12:52, output 00:12:51, 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  63, LMI stat recvd 61, 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 184/0, interface
broadcasts 181
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters 00:12:50
  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, 1 packets/sec
```

```
  5 minute output rate 0 bits/sec, 1 packets/sec
     1047 packets input, 77260 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
     961 packets output, 69678 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 unknown protocol drops
     0 output buffer failures, 0 output buffers swapped out
     67 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 209.65.20.225/30
  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 00:00:01, output 00:00:05, 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, 1 packets/sec
  5 minute output rate 0 bits/sec, 1 packets/sec
     648 packets input, 42831 bytes, 0 no buffer
     Received 93 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     785 packets output, 53031 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

NVI0 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       124         R S I     2811      Ser
0/2/0.12
R5               Ser 0/3/0          129         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 : 177 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: 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 : 121 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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Compiled Fri 19-Jun-09 15:34 by prod_rel_team

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 unreachables 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 209.65.20.225/30
  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 unreachables 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
209.65.20.224/30    attached            Serial0/3/0
209.65.20.224/32    receive             Serial0/3/0
209.65.20.225/32    receive             Serial0/3/0
209.65.20.227/32    receive             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: 32 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      16 packets (364 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
      16 ack packets (312 bytes)
Sent: 31 Total, 0 urgent packets
      1 control packets (including 0 retransmitted)
      15 data packets (311 bytes)
      0 data packets (0 bytes) retransmitted
      0 data packets (0 bytes) fastretransmitted
      15 ack only packets (15 delayed)
      0 window probe packets, 0 window update packets
0 Connections initiated, 1 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      00:37:11
    2.2.2.2              110      00:37:11
  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      03:31:26
  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 (705 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/  -        00:00:39    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 00:00:05
  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         ADV Router      Age         Seq#       Checksum Link
count
2.2.2.2         2.2.2.2         104         0x8000000F 0x00332E 2
10.1.1.1        10.1.1.1        88          0x8000000A 0x009AC6 2

                Summary Net Link States (Area 12)
```

```
Link ID         ADV Router      Age         Seq#       Checksum
10.1.1.4        2.2.2.2         875         0x80000005 0x00F3EF
10.1.1.8        2.2.2.2         104         0x80000007 0x004A53

                Summary ASB Link States (Area 12)

Link ID         ADV Router      Age         Seq#       Checksum
3.3.3.3         2.2.2.2         875         0x80000005 0x002FB4

                Type-5 AS External Link States

Link ID         ADV Router      Age         Seq#       Checksum Tag
10.1.4.4        3.3.3.3         1903        0x80000004 0x00A6C4 0
10.1.4.8        3.3.3.3         1903        0x80000004 0x007EE8 0
10.2.1.0        3.3.3.3         1903        0x80000004 0x00F578 0
10.2.2.0        3.3.3.3         1904        0x80000004 0x00EA82 0
10.2.4.12       3.3.3.3         1904        0x80000004 0x004A18 0
209.65.20.224   10.1.1.1        1883        0x80000001 0x000A84 0
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, 00:10:04, Serial0/2/0.12
O IA    10.1.1.8/30 [110/192] via 10.1.1.2, 00:10:10, Serial0/2/0.12
O E2    10.1.4.8/30 [110/20] via 10.1.1.2, 00:10:04, Serial0/2/0.12
O E2    10.2.1.0/24 [110/20] via 10.1.1.2, 00:10:04, Serial0/2/0.12
O E2    10.2.2.0/24 [110/20] via 10.1.1.2, 00:10:04, Serial0/2/0.12
O E2    10.1.4.4/30 [110/20] via 10.1.1.2, 00:10:04, Serial0/2/0.12
O IA    10.1.1.4/30 [110/128] via 10.1.1.2, 00:10:10, 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 0.0.0.0
  BGP state = Idle
  Last read 00:29:42, last write 00:29:42, hold time is 180, keepalive
interval is 60 seconds
```

```
  Message statistics:
    InQ depth is 0
    OutQ depth is 0

                         Sent       Rcvd
    Opens:                  1          1
    Notifications:          1          0
    Updates:                0          1
    Keepalives:           177        175
    Route Refresh:          0          0
    Total:                179        177
  Default minimum time between advertisement runs is 30 seconds

 For address family: IPv4 Unicast
  BGP table version 3, neighbor version 0/0
  Output queue size : 0
  Index 1, Offset 0, Mask 0x2
  1 update-group member
                                Sent       Rcvd
  Prefix activity:              ----       ----
    Prefixes Current:              0          0
    Prefixes Total:                0          0
    Implicit Withdraw:             0          0
    Explicit Withdraw:             0          0
    Used as bestpath:            n/a          0
    Used as multipath:           n/a          0

                                  Outbound    Inbound
  Local Policy Denied Prefixes:   --------    -------
    Total:                               0          0
  Number of NLRIs in the update sent: max 0, min 0

  Address tracking is enabled, the RIB does not have a route to
209.65.200.226
  Connections established 1; dropped 1
  Last reset 00:29:43, due to BGP Notification sent, hold time expired
  External BGP neighbor not directly connected.
  Transport(tcp) path-mtu-discovery is enabled
  No active TCP connection

R1#
```

```
R1#show ip bgp summary
BGP router identifier 1.1.1.1, local AS number 65001
BGP table version is 3, main routing table version 3

Neighbor        V    AS MsgRcvd MsgSent   TblVer  InQ OutQ Up/Down
State/PfxRcd
209.65.200.226  4 65002     177     179        0    0    0 00:30:06 Idle
```

```
R1#show ip bgp
R1#
```

```
R1#show ip route bgp
R1#
```

```
R1#show ip nat translations
Pro Inside global      Inside local       Outside local      Outside
global
R1#
```

```
R1#show ip nat statistics
Total active translations: 0 (0 static, 0 dynamic; 0 extended)
Peak translations: 12, occurred 01:54:45 ago
Outside interfaces:
  Serial0/3/0
Inside interfaces:
  Serial0/2/0.12
Hits: 1481  Misses: 0
CEF Translated packets: 1246, CEF Punted packets: 232
Expired translations: 52
Dynamic mappings:
-- Inside Source
[Id: 1] access-list 10 interface Serial0/3/0 refcount 0
Appl doors: 0
Normal doors: 0
Queued Packets: 0
```