

```
R2#
R2#show running-config
Building configuration...
```

```
Current configuration : 2440 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 R2
!
boot-start-marker
boot-end-marker
!
logging message-counter syslog
enable secret 5 $1$NytN$xb8Trn0Re9vS6jGlygMv00
!
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  
!  
interface Serial0/0/1  
  no ip address  
!  
interface Serial0/1/0  
  no ip address  
  ip nat outside  
  ip virtual-reassembly  
  shutdown  
  clock rate 56000  
!  
interface Serial0/2/0  
  no ip address  
  encapsulation frame-relay  
!  
interface Serial0/2/0.12 point-to-point  
  ip address 10.1.1.2 255.255.255.252  
  ip pim sparse-dense-mode
```

```
snmp trap link-status
ipv6 address 2026::12:2/122
ipv6 enable
ipv6 ospf 6 area 12
frame-relay interface-dlci 201
!
interface Serial0/2/0.23 point-to-point
 ip address 10.1.1.5 255.255.255.252
 ip pim sparse-dense-mode
 snmp trap link-status
 ipv6 address 2026::1:1/122
 ipv6 enable
 ipv6 ospf 6 area 0
 frame-relay interface-dlci 203
!
interface Serial0/3/0
 no ip address
 ip virtual-reassembly
 shutdown
 clock rate 56000
!
router ospf 1
 router-id 2.2.2.2
 log-adjacency-changes
 network 10.1.1.1 0.0.0.0 area 0
 network 10.1.1.5 0.0.0.0 area 0
 network 10.2.2.1 0.0.0.0 area 0
 network 10.0.0.0 0.255.255.255 area 12
!
ip forward-protocol nd
ip http server
no ip http secure-server
!
!
!
ip access-list standard DENY_10
 deny 10.0.0.0 0.255.255.255
 permit any
ip access-list standard DENY_ALL
 deny any
ip access-list standard PERMIT_10
 permit 10.0.0.0 0.255.255.255
ip access-list standard PERMIT_ALL
 permit any
!
ipv6 router ospf 6
 router-id 2.2.2.2
 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  
  exec-timeout 0 0  
  password cisco  
  login  
line vty 5  
  exec-timeout 0 0  
  login  
!  
scheduler allocate 20000 1000  
ntp peer 10.1.1.1  
ntp server 10.1.1.1  
end
```

R2#

```
R2#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)
```

```
R2#
```

```
R2#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)
```

```
R2#
```

```
R2#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)
```

```
R2#
```

```
R2#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
```

```
R2#
```



```
R2#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
```

```
R2#
```

```
R2#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
```

```
R2#
```

```
R2#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 = 128/132/140
```

```
ms
```

```
R2#
```

```
R2#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 = 128/132/136
```

```
ms
```

```
R2#
```

```
R2#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 = 192/196/204
```

```
ms
```

```
R2#
```

```
R2#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 = 192/197/208
```

```
ms
```

```
R2#
```

```
R2#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 = 192/194/196  
ms
```

```
R2#
```

```
R2#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
```

```
R2#
```



```
R2#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 = 192/196/200
```

```
ms
```

```
R2#
```

```
R2#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
```

```
R2#
```

```
R2#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
```

```
R2#
```

```
R2#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 = 192/194/196
```

```
ms
```

```
R2#
```

```
R2#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
```

```
R2#
```

```
R2#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 = 192/196/204  
ms
```

```
R2#
```

```
R2#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 = 192/194/196  
ms
```

```
R2#
```

```
R2#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
```

```
R2#
```



```
R2#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
```

```
R2#
```

```
R2#show ip interface brief
```

Interface Protocol	IP-Address	OK?	Method	Status
FastEthernet0/0 down down	unassigned	YES	NVRAM	administratively
FastEthernet0/1 down down	unassigned	YES	NVRAM	administratively
Serial0/0/0 down	unassigned	YES	NVRAM	down
Serial0/0/1 down	unassigned	YES	NVRAM	down
Serial0/1/0 down down	unassigned	YES	NVRAM	administratively
Serial0/2/0 up	unassigned	YES	NVRAM	up
Serial0/2/0.12 up	10.1.1.2	YES	NVRAM	up
Serial0/2/0.23 up	10.1.1.5	YES	NVRAM	up
Serial0/3/0 down down	unassigned	YES	NVRAM	administratively
NVI0 down down	unassigned	YES	unset	administratively

R2#

R2#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

10.0.0.0/8 is variably subnetted, 8 subnets, 2 masks  
O E2 10.2.4.12/30 [110/20] via 10.1.1.6, 00:29:59, Serial0/2/0.23  
O IA 10.1.1.8/30 [110/128] via 10.1.1.6, 00:30:16, Serial0/2/0.23  
O E2 10.1.4.8/30 [110/20] via 10.1.1.6, 00:29:59, Serial0/2/0.23  
O E2 10.2.1.0/24 [110/20] via 10.1.1.6, 00:29:59, Serial0/2/0.23  
O E2 10.2.2.0/24 [110/20] via 10.1.1.6, 00:29:59, Serial0/2/0.23  
C 10.1.1.0/30 is directly connected, Serial0/2/0.12  
O E2 10.1.4.4/30 [110/20] via 10.1.1.6, 00:30:01, Serial0/2/0.23  
C 10.1.1.4/30 is directly connected, Serial0/2/0.23  
R2#

R2#show processes cpu

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

PID	Runtime(ms)	Invoked	uSecs	5Sec	1Min	5Min	TTY	Process
1	16	75	213	0.00%	0.00%	0.00%	0	Chunk
Manager								
2	0	411	0	0.00%	0.04%	0.02%	0	Load Meter
3	1136	258	4403	0.79%	0.66%	0.29%	0	Exec
4	0	1	0	0.00%	0.00%	0.00%	0	EDDRI_MAIN
5	2752	243	11325	0.00%	0.11%	0.11%	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	76	850	89	0.00%	0.01%	0.00%	0	OSPF-1
Hello								
10	0	35	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	4	2065	1	0.00%	0.00%	0.00%	0	IPC
Periodic Tim								
13	0	2065	0	0.00%	0.00%	0.00%	0	IPC
Deferred Por								





74	0	1	0	0.00%	0.00%	0.00%	0	chkpt
message ha								
75	0	2057	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	70	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	35	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	2057	0	0.00%	0.00%	0.00%	0	PI MATM
Aging Pr								
92	0	207	0	0.00%	0.00%	0.00%	0	EtherChnl
93	0	2	0	0.00%	0.00%	0.00%	0	Ethernet
CFM								
94	0	2009	0	0.00%	0.00%	0.00%	0	Ethernet
Timer C								
95	0	2072	0	0.07%	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	35	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	36	310	116	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	4	1	4000	0.00%	0.00%	0.00%	0	IP ARP
Adjacency								
110	0	1	0	0.00%	0.00%	0.00%	0	IP ARP
Retry Age								
111	144	660	218	0.00%	0.00%	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	6	0	0.00%	0.00%	0.00%	0	MOP
Protocols								
119	0	3	0	0.00%	0.00%	0.00%	0	PPP Hooks
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	8	14	571	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	7	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	48	79	607	0.00%	0.00%	0.00%	0 IP
Background							
137	40	13	3076	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	35	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	36	0	0.00%	0.00%	0.00%	0 CEF
background p							
145	12	2412	4	0.00%	0.00%	0.00%	0 CEF: IPv4
proces							
146	4	17	235	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	1	0	0.00%	0.00%	0.00%	0 TCP Timer
152	0	1	0	0.00%	0.00%	0.00%	0 TCP
Protocols							
153	4	8	500	0.00%	0.00%	0.00%	0 HTTP CORE
154	0	1	0	0.00%	0.00%	0.00%	0 IP
Traceroute							
155	4	2	2000	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	4	2064	1	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	2079	0	0.00%	0.00%	0.00%	0
bsm_xmt_proc							







255	0	1	0	0.00%	0.00%	0.00%	0	Licensing
MIB pr								
256	0	10422	0	0.07%	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	0	2	0	0.00%	0.00%	0.00%	0	EEM ED
Resource								
262	4	2	2000	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	209	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	66	0	0.00%	0.00%	0.00%	0	Crypto
cTCP proc								
268	4	2	2000	0.00%	0.00%	0.00%	0	VLAN
Manager								
269	48	832	57	0.00%	0.00%	0.00%	0	OSPFv3-6
Hello								
271	0	2069	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	2089	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	4	219	18	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	4	3	1333	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	4	3	1333	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	58	68	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	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	15	266	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	8	34	235	0.00%	0.00%	0.00%	0	IPv6 RIB
Event H								
300	4	1043	3	0.00%	0.00%	0.00%	0	CEF: IPv6
proces								
301	0	4055	0	0.00%	0.00%	0.00%	0	IP NAT
Ager								
302	0	1	0	0.00%	0.00%	0.00%	0	IP NAT
WLAN								
303	0	1	0	0.00%	0.00%	0.00%	0	IP VFR
proc								
304	240	394	609	0.00%	0.00%	0.00%	0	FR LMI
305	36	46	782	0.00%	0.00%	0.00%	0	FR PVC
event man								
306	0	20746	0	0.00%	0.03%	0.02%	0	FR
Broadcast Out								
307	0	38	0	0.00%	0.00%	0.00%	0	FR ARP
308	0	35	0	0.00%	0.00%	0.00%	0	FR
FRAGMENTATION								
309	0	104	0	0.00%	0.00%	0.00%	0	FR TUNNEL
310	0	1	0	0.00%	0.00%	0.00%	0	FRF9
manager								
311	0	1	0	0.00%	0.00%	0.00%	0	FRF9 timed
event								
312	0	209	0	0.00%	0.00%	0.00%	0	compute
load per								
313	0	2086	0	0.00%	0.00%	0.00%	0	IGMP Input
314	0	20753	0	0.07%	0.03%	0.02%	0	Mwheel
Process								
315	36	41624	0	0.15%	0.14%	0.15%	0	PIM
Process								
316	16	101	158	0.00%	0.00%	0.00%	0	IPv6 IDB
317	96	485	197	0.00%	0.00%	0.00%	0	IPv6 Input
318	28	15	1866	0.00%	0.00%	0.00%	0	IPv6 ND
319	0	1	0	0.00%	0.00%	0.00%	0	IPv6
Address								
320	4	8325	0	0.00%	0.02%	0.01%	0	MLD

321	56	2137	26	0.00%	0.00%	0.00%	0	OSPFv3-6
Router								
323	20	2139	9	0.07%	0.01%	0.00%	0	NTP
325	0	1	0	0.00%	0.00%	0.00%	0	LICENSE
AGENT								
326	68	2161	31	0.00%	0.00%	0.00%	0	OSPF-1
Router								
R2#								

R2#show interfaces

FastEthernet0/0 is administratively down, line protocol is down  
Hardware is MV96340 Ethernet, address is 0016.9dfa.cab0 (bia  
0016.9dfa.cab0)  
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 0016.9dfa.cab1 (bia  
0016.9dfa.cab1)  
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 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, 4 interface resets  
0 unknown protocol drops  
0 output buffer failures, 0 output buffers swapped out  
0 carrier transitions  
DCD=down DSR=down DTR=up RTS=up CTS=down

Serial0/0/1 is 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, 4 interface resets  
0 unknown protocol drops  
0 output buffer failures, 0 output buffers swapped out  
0 carrier transitions  
DCD=down DSR=down DTR=up RTS=up 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 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
```

```
Serial0/2/0 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 196, LMI stat recvd 195, 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 1242/0, interface
broadcasts 1185
Last input 00:00:02, output 00:00:03, output hang never
Last clearing of "show interface" counters 00:34:50
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 0/3/256 (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
  1925 packets input, 167510 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
  2102 packets output, 183625 bytes, 0 underruns
```

0 output errors, 0 collisions, 6 interface resets  
0 unknown protocol drops  
0 output buffer failures, 0 output buffers swapped out  
52 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 10.1.1.2/30  
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

Serial0/2/0.23 is up, line protocol is up

Hardware is GT96K Serial  
Internet address is 10.1.1.5/30  
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 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 00:35:05, output 00:35:05, 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, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
1 packets input, 24 bytes, 0 no buffer  
Received 1 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  
0 unknown protocol drops  
0 output buffer failures, 0 output buffers swapped out  
3 carrier transitions  
DCD=down DSR=down DTR=down RTS=down CTS=down

NV10 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
```

R2#

```
R2#show interfaces counters errors
```

```
R2#
```

```
R2#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
R3	Ser 0/2/0.23	149	R S I	2811	Ser
R1	Ser 0/2/0.12	148	R S I	2811	Ser
R2#					

```
R2#show cdp neighbors detail
```

```
-----
```

```
Device ID: R3
```

```
Entry address(es):
```

```
  IP address: 10.1.1.6
```

```
  IPv6 address: 2026::1:2 (global unicast)
```

```
  IPv6 address: FE80::216:47FF:FE9A:F6E8 (link-local)
```

```
Platform: Cisco 2811, Capabilities: Router Switch IGMP
```

```
Interface: Serial0/2/0.23, Port ID (outgoing port): Serial0/2/0.23
```

```
Holdtime : 141 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: R1
```

```
Entry address(es):
```

```
  IP address: 10.1.1.1
```

```
  IPv6 address: 2026::12:1 (global unicast)
```

```
  IPv6 address: FE80::21D:70FF:FEA0:C690 (link-local)
```

```
Platform: Cisco 2811, Capabilities: Router Switch IGMP
```

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

```
Holdtime : 140 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: ''
```

```
R2#
```

```
R2#show frame-relay map
Serial0/2/0.12 (up): point-to-point dlci, dlci 201(0xC9,0x3090),
broadcast
                    status defined, active
Serial0/2/0.23 (up): point-to-point dlci, dlci 203(0xCB,0x30B0),
broadcast
                    status defined, active
R2#
```



```
R2#show arp
```

```
R2#
```

```
R2#show ip arp
```

```
R2#
```

```
R2#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 down, line protocol is down
  Internet protocol processing disabled
Serial0/0/1 is down, line protocol is down
  Internet protocol processing disabled
Serial0/1/0 is 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 10.1.1.2/30
  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 disabled
BGP Policy Mapping is disabled
Input features: MCI Check
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Serial0/2/0.23 is up, line protocol is up
  Internet address is 10.1.1.5/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.5
  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 disabled
  BGP Policy Mapping is disabled
  Input features: MCI Check
```

```
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Serial0/3/0 is administratively down, line protocol is down
  Internet protocol processing disabled
NVI0 is administratively down, line protocol is down
  Internet protocol processing disabled
R2#
```

```
R2#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
10.1.1.2/32	receive	Serial0/2/0.12
10.1.1.3/32	receive	Serial0/2/0.12
10.1.1.4/30	attached	Serial0/2/0.23
10.1.1.4/32	receive	Serial0/2/0.23
10.1.1.5/32	receive	Serial0/2/0.23
10.1.1.7/32	receive	Serial0/2/0.23
10.1.1.8/30	10.1.1.6	Serial0/2/0.23
10.1.4.4/30	10.1.1.6	Serial0/2/0.23
10.1.4.8/30	10.1.1.6	Serial0/2/0.23
10.2.1.0/24	10.1.1.6	Serial0/2/0.23
10.2.2.0/24	10.1.1.6	Serial0/2/0.23
10.2.4.12/30	10.1.1.6	Serial0/2/0.23
127.0.0.0/8	drop	
224.0.0.0/4	multicast	
224.0.0.0/24	receive	
240.0.0.0/4	drop	
255.255.255.255/32	receive	

R2#

```
R2#show tcp statistics
Rcvd: 0 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      0 packets (0 bytes) in sequence
      0 dup packets (0 bytes)
      0 partially dup packets (0 bytes)
      0 out-of-order packets (0 bytes)
      0 packets (0 bytes) with data after window
      0 packets after close
      0 window probe packets, 0 window update packets
      0 dup ack packets, 0 ack packets with unsend data
      0 ack packets (0 bytes)
Sent: 0 Total, 0 urgent packets
      0 control packets (including 0 retransmitted)
      0 data packets (0 bytes)
      0 data packets (0 bytes) retransmitted
      0 data packets (0 bytes) fastretransmitted
      0 ack only packets (0 delayed)
      0 window probe packets, 0 window update packets
0 Connections initiated, 0 connections accepted, 0 connections
established
0 Connections closed (including 0 dropped, 0 embryonic dropped)
0 Total rxmt timeout, 0 connections dropped in rxmt timeout
0 Keepalive timeout, 0 keepalive probe, 0 Connections dropped in
keepalive
R2#
```

```
R2#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 2.2.2.2
  It is an area border router
  Number of areas in this router is 2. 2 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    10.1.1.1 0.0.0.0 area 0
    10.1.1.5 0.0.0.0 area 0
    10.2.2.1 0.0.0.0 area 0
    10.0.0.0 0.255.255.255 area 12
  Reference bandwidth unit is 100 mbps
  Routing Information Sources:
    Gateway         Distance      Last Update
    3.3.3.3         110          00:32:10
  Distance: (default is 110)
```

```
R2#
```



```
R2#show access-lists
Standard IP access list DENY_10
 10 deny 10.0.0.0, wildcard bits 0.255.255.255
 20 permit any
Standard IP access list DENY_ALL
 10 deny any
Standard IP access list PERMIT_10
 10 permit 10.0.0.0, wildcard bits 0.255.255.255
Standard IP access list PERMIT_ALL
 10 permit any
R2#
```

```
R2#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address
Interface				
3.3.3.3	0	FULL/ -	00:00:38	10.1.1.6
Serial0/2/0.23				
10.1.1.1	0	FULL/ -	00:00:32	10.1.1.1
Serial0/2/0.12				

```
R2#
```

```
R2#show ip ospf interface
Serial0/2/0.23 is up, line protocol is up
  Internet Address 10.1.1.5/30, Area 0
  Process ID 1, Router ID 2.2.2.2, 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 00:00:03
  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 3.3.3.3
Suppress hello for 0 neighbor(s)
Serial0/2/0.12 is up, line protocol is up
Internet Address 10.1.1.2/30, Area 12
Process ID 1, Router ID 2.2.2.2, 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 00:00:08
Supports Link-local Signaling (LLS)
Cisco NSF helper support enabled
IETF NSF helper support enabled
Index 1/2, flood queue length 0
Next 0x0(0)/0x0(0)
Last flood scan length is 3, maximum is 3
Last flood scan time is 0 msec, maximum is 0 msec
Neighbor Count is 1, Adjacent neighbor count is 1
  Adjacent with neighbor 10.1.1.1
Suppress hello for 0 neighbor(s)
R2#
```

R2#show ip ospf database

OSPF Router with ID (2.2.2.2) (Process ID 1)

Router Link States (Area 0)

Link ID	ADV Router	Age	Seq#	Checksum	Link
count					
2.2.2.2	2.2.2.2	1988	0x8000000A	0x00C49B	2
3.3.3.3	3.3.3.3	1989	0x8000000A	0x006AEE	2

Summary Net Link States (Area 0)

Link ID	ADV Router	Age	Seq#	Checksum
10.1.1.0	2.2.2.2	1989	0x80000001	0x0024C7
10.1.1.8	3.3.3.3	1990	0x80000001	0x00B52A

Summary ASB Link States (Area 0)

Link ID	ADV Router	Age	Seq#	Checksum
10.1.1.1	2.2.2.2	1979	0x80000001	0x001EC8

Router Link States (Area 12)

Link ID	ADV Router	Age	Seq#	Checksum	Link
count					
2.2.2.2	2.2.2.2	1988	0x8000000A	0x003D29	2
10.1.1.1	10.1.1.1	182	0x80000004	0x00A6C0	2

Summary Net Link States (Area 12)

Link ID	ADV Router	Age	Seq#	Checksum
10.1.1.4	2.2.2.2	1989	0x80000001	0x00FBEB
10.1.1.8	2.2.2.2	1980	0x80000001	0x00564D

Summary ASB Link States (Area 12)

Link ID	ADV Router	Age	Seq#	Checksum
3.3.3.3	2.2.2.2	1980	0x80000001	0x0037B0

Type-5 AS External Link States

Link ID	ADV Router	Age	Seq#	Checksum	Tag
10.1.4.4	3.3.3.3	1965	0x80000001	0x00ACC1	0
10.1.4.8	3.3.3.3	1965	0x80000001	0x0084E5	0
10.2.1.0	3.3.3.3	1965	0x80000001	0x00FB75	0
10.2.2.0	3.3.3.3	1965	0x80000001	0x00F07F	0
10.2.4.12	3.3.3.3	1965	0x80000001	0x005015	0

R2#

```
R2#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 10.1.1.6, 00:32:52, Serial0/2/0.23
O IA   10.1.1.8/30 [110/128] via 10.1.1.6, 00:33:08, Serial0/2/0.23
O E2   10.1.4.8/30 [110/20] via 10.1.1.6, 00:32:52, Serial0/2/0.23
O E2   10.2.1.0/24 [110/20] via 10.1.1.6, 00:32:52, Serial0/2/0.23
O E2   10.2.2.0/24 [110/20] via 10.1.1.6, 00:32:52, Serial0/2/0.23
O E2   10.1.4.4/30 [110/20] via 10.1.1.6, 00:32:52, Serial0/2/0.23
R2#
```

