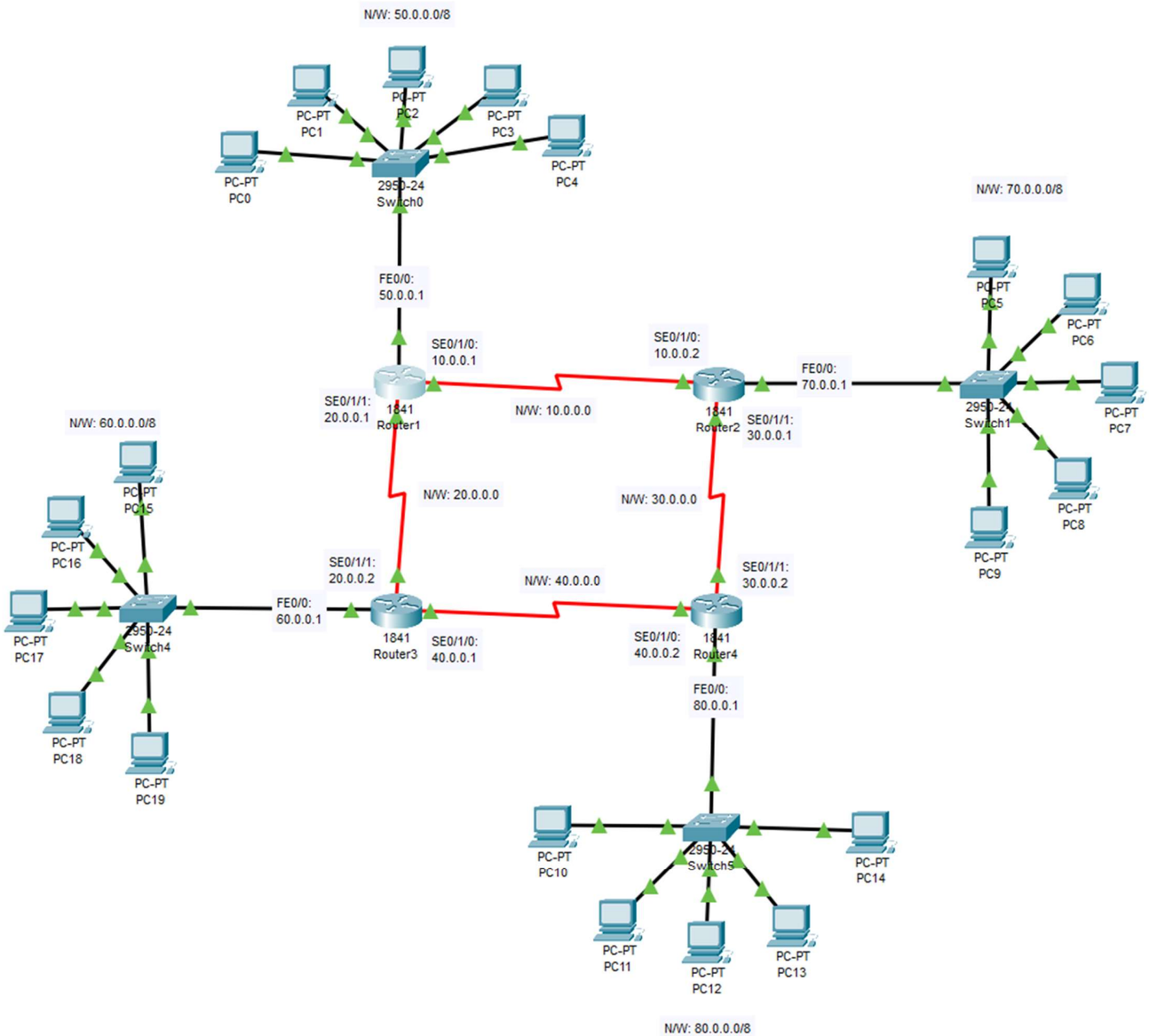
Laboratory 6

MARASIGAN, VEM AIENSI A.
2BSCS-1



Laboratory 6

MARASIGAN, VEM AIENSI A.
2BSCS-1

CLI CODES

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fastE 0/0
Router(config-if)#ip add 11.0.0.1 255.0.0.0
                         ^
% Invalid input detected at '^' marker.

Router(config-if)#ip add 11.0.0.0 255.0.0.0
Bad mask /8 for address 11.0.0.0
Router(config-if)#ip add 10.10.0.1 255.0.0.0
Router(config-if)#ip add 50.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int se0/1/0
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router(config-if)#exit
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#network 50.0.0.0 0.255.255.255 area 0
Router(config-router)#exit
Router(config)#int se 0/1/1
Router(config-if)#ip add 20.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/1, changed state to down
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up

00:20:02: %OSPF-5-ADJCHG: Process 1, Nbr 60.0.0.1 on Serial0/1/1 from LOADING to FULL,
Loading Done

00:23:16: %OSPF-5-ADJCHG: Process 1, Nbr 70.0.0.1 on Serial0/1/0 from LOADING to FULL,
Loading Done
```

Copy Paste

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Router2

Physical Config CLI Attributes

IOS Command Line Interface

```
        --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!



Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fastE0/0
Router(config-if)#ip add 70.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int se 0/1/0
Router(config-if)#ip add 10.0.0.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router(config-if)#exit
Router(config)#int se 0/1/1
Router(config-if)#ip add 30.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/1, changed state to down
Router(config-if)#exit
Router(config)#router ospf 2
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#
00:23:10: %OSPF-5-ADJCHG: Process 2, Nbr 50.0.0.1 on Serial0/1/0 from LOADING to FULL,
Loading Done

Router(config-router)#network 70.0.0.0 0.255.255.255 area 0
Router(config-router)#network 30.0.0.0 0.255.255.255 area 0
Router(config-router)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up

00:27:33: %OSPF-5-ADJCHG: Process 2, Nbr 80.0.0.1 on Serial0/1/1 from LOADING to FULL,
Loading Done
```

Copy Paste

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Router3

Physical Config CLI Attributes

IOS Command Line Interface

```
Would you like to enter the initial configuration dialog? [yes/no]: no


Press RETURN to get started!



Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fastE0/0
Router(config-if)#ip add 60.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#int se 0/1/1
Router(config-if)#ip address 20.0.0.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up

Router(config-if)#exit
Router(config)#router ospf 3
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-router)#network
00:19:49: %OSPF-5-ADJCHG: Process 3, Nbr 50.0.0.1 on Serial0/1/1 from LOADING to FULL,
Loading Done

% Incomplete command.
Router(config-router)#network 60.0.0.0 0.255.255.255 area 0
Router(config-router)#network 40.0.0.0 0.255.255.255 area 0
Router(config-router)#exit
Router(config)#int se 0/1/0
Router(config-if)#ip add 40.0.0.1 255.0.0.0
Router(config-if)#encapsulation ppp
Router(config-if)#no shitdown
                   ^
% Invalid input detected at '^' marker.

Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

00:27:05: %OSPF-5-ADJCHG: Process 3, Nbr 80.0.0.1 on Serial0/1/0 from LOADING to FULL,
Loading Done
```

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Router4

Physical Config CLI Attributes

IOS Command Line Interface

```
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team


        --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no


Press RETURN to get started!



Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se 0/1/0
Router(config-if)#ip add 40.0.0.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

Router(config-if)#exit
Router(config)#int se 0/1/1
Router(config-if)#ip add 30.0.0.2 255.0.0.0
Router(config-if)#clock rate 64000
Router(config-if)#encapsulation ppp
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up

Router(config-if)#exit
Router(config)#int fastE 0/0
Router(config-if)#ip add 80.0.0.1 255.0.0.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#router ospf 4
Router(config-router)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Router(config-router)#network 80.0.0.0 0.255.255.255 area 0
Router(config-router)#network 40.0.0.0 0.255.255.255 area 0
Router(config-router)#network
00:26:59: %OSPF-5-ADJCHG: Process 4, Nbr 60.0.0.1 on Serial0/1/0 from LOADING to FULL,
Loading Done
```

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Laboratory 6

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2BSCS-1

PING

PC16

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 70.0.0.30

Pinging 70.0.0.30 with 32 bytes of data:

Request timed out.
Reply from 70.0.0.30: bytes=32 time=18ms TTL=125
Reply from 70.0.0.30: bytes=32 time=23ms TTL=125
Reply from 70.0.0.30: bytes=32 time=3ms TTL=125

Ping statistics for 70.0.0.30:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 23ms, Average = 14ms
```

PC19

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.10

Pinging 50.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 50.0.0.10: bytes=32 time=12ms TTL=126
Reply from 50.0.0.10: bytes=32 time=12ms TTL=126
Reply from 50.0.0.10: bytes=32 time=14ms TTL=126

Ping statistics for 50.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 12ms, Maximum = 14ms, Average = 12ms
```

PC17

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 80.0.0.50

Pinging 80.0.0.50 with 32 bytes of data:

Request timed out.
Reply from 80.0.0.50: bytes=32 time=17ms TTL=126
Reply from 80.0.0.50: bytes=32 time=17ms TTL=126
Reply from 80.0.0.50: bytes=32 time=17ms TTL=126

Ping statistics for 80.0.0.50:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 17ms, Maximum = 17ms, Average = 17ms
```

PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 60.0.0.40

Pinging 60.0.0.40 with 32 bytes of data:

Request timed out.
Reply from 60.0.0.40: bytes=32 time=18ms TTL=126
Reply from 60.0.0.40: bytes=32 time=20ms TTL=126
Reply from 60.0.0.40: bytes=32 time=19ms TTL=126

Ping statistics for 60.0.0.40:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 18ms, Maximum = 20ms, Average = 19ms
```

PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 80.0.0.10

Pinging 80.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 80.0.0.10: bytes=32 time=2ms TTL=125
Reply from 80.0.0.10: bytes=32 time=3ms TTL=125
Reply from 80.0.0.10: bytes=32 time=3ms TTL=125

Ping statistics for 80.0.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 3ms, Average = 2ms
```

PC4

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 70.0.0.20

Pinging 70.0.0.20 with 32 bytes of data:

Request timed out.
Reply from 70.0.0.20: bytes=32 time=1ms TTL=126
Reply from 70.0.0.20: bytes=32 time=1ms TTL=126
Reply from 70.0.0.20: bytes=32 time=1ms TTL=126

Ping statistics for 70.0.0.20:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

PC9

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.40

Pinging 50.0.0.40 with 32 bytes of data:

Request timed out.
Reply from 50.0.0.40: bytes=32 time=20ms TTL=126
Reply from 50.0.0.40: bytes=32 time=20ms TTL=126
Reply from 50.0.0.40: bytes=32 time=22ms TTL=126

Ping statistics for 50.0.0.40:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 20ms, Maximum = 22ms, Average = 20ms
```

PC7

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 60.0.0.30

Pinging 60.0.0.30 with 32 bytes of data:

Reply from 60.0.0.30: bytes=32 time=41ms TTL=125
Reply from 60.0.0.30: bytes=32 time=18ms TTL=125
Reply from 60.0.0.30: bytes=32 time=2ms TTL=125
Reply from 60.0.0.30: bytes=32 time=16ms TTL=125

Ping statistics for 60.0.0.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 41ms, Average = 19ms
```

PC11

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.50

Pinging 50.0.0.50 with 32 bytes of data:

Reply from 50.0.0.50: bytes=32 time=2ms TTL=125
Reply from 50.0.0.50: bytes=32 time=16ms TTL=125
Reply from 50.0.0.50: bytes=32 time=2ms TTL=125
Reply from 50.0.0.50: bytes=32 time=2ms TTL=125

Ping statistics for 50.0.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 16ms, Average = 5ms
```

Laboratory 6

MARASIGAN, VEM AIENSI A.
2BSCS-1

OSPF Verification commands

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#show ip ospf neighbor detail
 Neighbor 60.0.0.1, interface address 20.0.0.2
    In the area 0 via interface Serial0/1/1
    Neighbor priority is 0, State is FULL, 6 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:32
    Neighbor is up for 00:35:38
    Index 1/1, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 1
    Last retransmission scan time is 0 msec, maximum is 0 msec
 Neighbor 70.0.0.1, interface address 10.0.0.2
    In the area 0 via interface Serial0/1/0
    Neighbor priority is 0, State is FULL, 6 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:35
    Neighbor is up for 00:32:22
    Index 2/2, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec

Router#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
60.0.0.1          0   FULL/  -        00:00:33    20.0.0.2        Serial0/1/1
70.0.0.1          0   FULL/  -        00:00:39    10.0.0.2        Serial0/1/0
Router#show ip route ospf
O    30.0.0.0 [110/128] via 10.0.0.2, 00:30:12, Serial0/1/0
O    40.0.0.0 [110/128] via 20.0.0.2, 00:29:22, Serial0/1/1
O    60.0.0.0 [110/65] via 20.0.0.2, 00:35:10, Serial0/1/1
O    70.0.0.0 [110/65] via 10.0.0.2, 00:32:05, Serial0/1/0
O    80.0.0.0 [110/129] via 10.0.0.2, 00:28:12, Serial0/1/0
              [110/129] via 20.0.0.2, 00:28:12, Serial0/1/1

Router#show ip ospf database
            OSPF Router with ID (50.0.0.1) (Process ID 1)

                Router Link States (Area 0)

Link ID         ADV Router      Age         Seq#       Checksum Link count
50.0.0.1        50.0.0.1        161         0x80000006 0x00a80e 5
60.0.0.1        60.0.0.1        1720        0x80000005 0x001349 5
70.0.0.1        70.0.0.1        1701        0x80000005 0x004026 5
80.0.0.1        80.0.0.1        1701        0x80000005 0x00f317 5
Router#show ip ospf interface

Serial0/1/0 is up, line protocol is up
  Internet address is 10.0.0.1/8, Area 0
  Process ID 1, Router ID 50.0.0.1, 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
    Hello due in 00:00:04
  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 70.0.0.1
  Suppress hello for 0 neighbor(s)
FastEthernet0/0 is up, line protocol is up
  Internet address is 50.0.0.1/8, Area 0
  Process ID 1, Router ID 50.0.0.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 50.0.0.1, Interface address 50.0.0.1
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:06
  Index 2/2, 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 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
Serial0/1/1 is up, line protocol is up
  Internet address is 20.0.0.1/8, Area 0
  Process ID 1, Router ID 50.0.0.1, 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
    Hello due in 00:00:01
  Index 3/3, 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 60.0.0.1
  Suppress hello for 0 neighbor(s)
```

Router2

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#show ip ospf neighbor detail
 Neighbor 80.0.0.1, interface address 30.0.0.2
    In the area 0 via interface Serial0/1/1
    Neighbor priority is 0, State is FULL, 5 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:37
    Neighbor is up for 00:38:44
    Index 1/1, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec
 Neighbor 50.0.0.1, interface address 10.0.0.1
    In the area 0 via interface Serial0/1/0
    Neighbor priority is 0, State is FULL, 7 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:36
    Neighbor is up for 00:43:06
    Index 2/2, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec

Router#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
80.0.0.1          0   FULL/  -        00:00:39    30.0.0.2        Serial0/1/1
50.0.0.1          0   FULL/  -        00:00:37    10.0.0.1        Serial0/1/0
Router#show ip route ospf
O    20.0.0.0 [110/128] via 10.0.0.1, 00:43:19, Serial0/1/0
O    40.0.0.0 [110/128] via 30.0.0.2, 00:38:56, Serial0/1/1
O    50.0.0.0 [110/65] via 10.0.0.1, 00:43:19, Serial0/1/0
O    60.0.0.0 [110/129] via 10.0.0.1, 00:38:56, Serial0/1/0
              [110/129] via 30.0.0.2, 00:38:56, Serial0/1/1
O    80.0.0.0 [110/65] via 30.0.0.2, 00:38:56, Serial0/1/1

Router#show ip ospf database
            OSPF Router with ID (70.0.0.1) (Process ID 2)

                Router Link States (Area 0)

Link ID         ADV Router      Age         Seq#       Checksum Link count
70.0.0.1        70.0.0.1        537         0x80000006 0x003e27 5
50.0.0.1        50.0.0.1        801         0x80000006 0x00a80e 5
60.0.0.1        60.0.0.1        560         0x80000006 0x00114a 5
80.0.0.1        80.0.0.1        539         0x80000006 0x00f118 5
Router#show ip ospf interface

Serial0/1/0 is up, line protocol is up
  Internet address is 10.0.0.2/8, Area 0
  Process ID 2, Router ID 70.0.0.1, 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
    Hello due in 00:00:06
  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 50.0.0.1
  Suppress hello for 0 neighbor(s)
FastEthernet0/0 is up, line protocol is up
  Internet address is 70.0.0.1/8, Area 0
  Process ID 2, Router ID 70.0.0.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 70.0.0.1, Interface address 70.0.0.1
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:03
  Index 2/2, 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 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
Serial0/1/1 is up, line protocol is up
  Internet address is 30.0.0.1/8, Area 0
  Process ID 2, Router ID 70.0.0.1, 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
    Hello due in 00:00:09
  Index 3/3, 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 80.0.0.1
  Suppress hello for 0 neighbor(s)
Router#
```

Router3

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#show ip ospf neighbor detail
 Neighbor 80.0.0.1, interface address 40.0.0.2
    In the area 0 via interface Serial0/1/0
    Neighbor priority is 0, State is FULL, 6 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:35
    Neighbor is up for 00:36:05
    Index 1/1, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec
 Neighbor 50.0.0.1, interface address 20.0.0.1
    In the area 0 via interface Serial0/1/1
    Neighbor priority is 0, State is FULL, 7 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:38
    Neighbor is up for 00:43:13
    Index 2/2, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 1
    Last retransmission scan time is 0 msec, maximum is 0 msec

Router#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
80.0.0.1          0   FULL/  -        00:00:37    40.0.0.2        Serial0/1/0
50.0.0.1          0   FULL/  -        00:00:39    20.0.0.1        Serial0/1/1
Router#show ip route ospf
O    10.0.0.0 [110/128] via 20.0.0.1, 00:43:26, Serial0/1/1
O    30.0.0.0 [110/128] via 40.0.0.2, 00:35:50, Serial0/1/0
O    50.0.0.0 [110/65] via 20.0.0.1, 00:43:26, Serial0/1/1
O    70.0.0.0 [110/129] via 20.0.0.1, 00:35:50, Serial0/1/1
              [110/129] via 40.0.0.2, 00:35:50, Serial0/1/0
O    80.0.0.0 [110/65] via 40.0.0.2, 00:36:10, Serial0/1/0

Router#show ip ospf database
            OSPF Router with ID (60.0.0.1) (Process ID 3)

                Router Link States (Area 0)

Link ID         ADV Router      Age         Seq#       Checksum Link count
60.0.0.1        60.0.0.1        373         0x80000006 0x00114a 5
50.0.0.1        50.0.0.1        614         0x80000006 0x00a80e 5
80.0.0.1        80.0.0.1        353         0x80000006 0x00f118 5
70.0.0.1        70.0.0.1        351         0x80000006 0x003e27 5
Router#show ip ospf interface

Serial0/1/1 is up, line protocol is up
  Internet address is 20.0.0.2/8, Area 0
  Process ID 3, Router ID 60.0.0.1, 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
    Hello due in 00:00:03
  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 50.0.0.1
  Suppress hello for 0 neighbor(s)
FastEthernet0/0 is up, line protocol is up
  Internet address is 60.0.0.1/8, Area 0
  Process ID 3, Router ID 60.0.0.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 60.0.0.1, Interface address 60.0.0.1
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:05
  Index 2/2, 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 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
Serial0/1/0 is up, line protocol is up
  Internet address is 40.0.0.1/8, Area 0
  Process ID 3, Router ID 60.0.0.1, 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
    Hello due in 00:00:03
  Index 3/3, 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 80.0.0.1
  Suppress hello for 0 neighbor(s)
```

Router4

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#show ip ospf neighbor detail
 Neighbor 60.0.0.1, interface address 40.0.0.1
    In the area 0 via interface Serial0/1/0
    Neighbor priority is 0, State is FULL, 7 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:30
    Neighbor is up for 00:34:01
    Index 1/1, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec
 Neighbor 70.0.0.1, interface address 30.0.0.1
    In the area 0 via interface Serial0/1/1
    Neighbor priority is 0, State is FULL, 6 state changes
    DR is 0.0.0.0 BDR is 0.0.0.0
    Options is 0x00
    Dead timer due in 00:00:30
    Neighbor is up for 00:33:41
    Index 2/2, retransmission queue length 0, number of retransmission 0
    First 0x0(0)/0x0(0) Next 0x0(0)/0x0(0)
    Last retransmission scan length is 0, maximum is 0
    Last retransmission scan time is 0 msec, maximum is 0 msec

Router#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
60.0.0.1          0   FULL/  -        00:00:31    40.0.0.1        Serial0/1/0
70.0.0.1          0   FULL/  -        00:00:30    30.0.0.1        Serial0/1/1
Router#show ip route ospf
O    10.0.0.0 [110/128] via 30.0.0.1, 00:34:07, Serial0/1/1
O    20.0.0.0 [110/128] via 40.0.0.1, 00:34:25, Serial0/1/0
O    50.0.0.0 [110/129] via 40.0.0.1, 00:34:07, Serial0/1/0
              [110/129] via 30.0.0.1, 00:34:07, Serial0/1/1
O    60.0.0.0 [110/65] via 40.0.0.1, 00:34:25, Serial0/1/0
O    70.0.0.0 [110/65] via 30.0.0.1, 00:34:07, Serial0/1/1

Router#show ip ospf database
            OSPF Router with ID (80.0.0.1) (Process ID 4)

                Router Link States (Area 0)

Link ID         ADV Router      Age         Seq#       Checksum Link count
80.0.0.1        80.0.0.1        253         0x80000006 0x00f118 5
50.0.0.1        50.0.0.1        515         0x80000006 0x00a80e 5
60.0.0.1        60.0.0.1        274         0x80000006 0x00114a 5
70.0.0.1        70.0.0.1        251         0x80000006 0x003e27 5
Router#show ip ospf interface

FastEthernet0/0 is up, line protocol is up
  Internet address is 80.0.0.1/8, Area 0
  Process ID 4, Router ID 80.0.0.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 80.0.0.1, Interface address 80.0.0.1
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:05
  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 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)
Serial0/1/0 is up, line protocol is up
  Internet address is 40.0.0.2/8, Area 0
  Process ID 4, Router ID 80.0.0.1, 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
    Hello due in 00:00:05
  Index 2/2, 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 60.0.0.1
  Suppress hello for 0 neighbor(s)
Serial0/1/1 is up, line protocol is up
  Internet address is 30.0.0.2/8, Area 0
  Process ID 4, Router ID 80.0.0.1, 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
    Hello due in 00:00:01
  Index 3/3, 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 70.0.0.1
  Suppress hello for 0 neighbor(s)
```