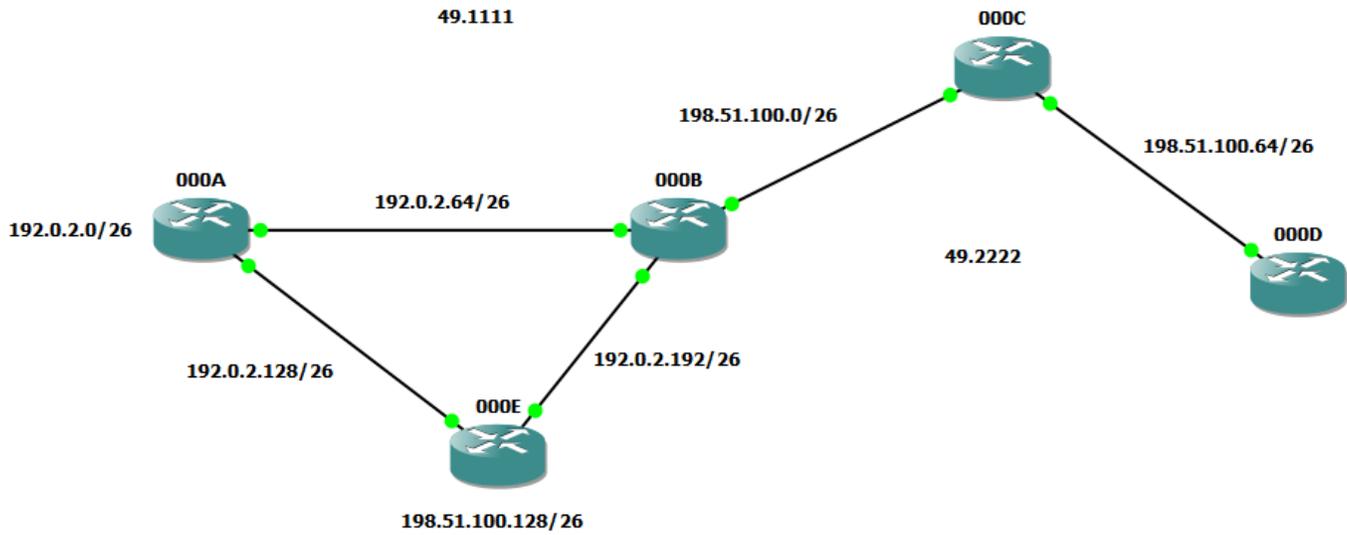


IS-IS Metrics Lab



Narrow Metrics

Show Output

```
000A#show isis neighbor
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000E	L1	Fa0/0	192.0.2.130	UP	28	00
000B	L1	Fa0/1	192.0.2.66	UP	28	01

```
000A#
```

```
000A#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x00000007	0xC41A	1035	0/0/0

```
Area Address: 49.1111
```

```
NLPID: 0xCC
```

```
Hostname: 000A
```

```
IP Address: 192.0.2.65
```

```
Metric: 10 IP 192.0.2.128 255.255.255.192
```

```
Metric: 10 IP 192.0.2.64 255.255.255.192
```

```
Metric: 10 IS 000E.00
```

```
Metric: 10 IS 000B.00
```

```
Metric: 10 IP-External 192.0.2.0 255.255.255.192
```

000B.00-00	0x00000006	0x989A	1106	1/0/0
------------	------------	--------	------	-------

```
Area Address: 49.1111
```

```
NLPID: 0xCC
```

```
Hostname: 000B
```

```
IP Address: 192.0.2.66
```

```
Metric: 10 IP 192.0.2.192 255.255.255.192
```

```
Metric: 10      IP 192.0.2.64 255.255.255.192
Metric: 10      IS 000E.00
Metric: 10      IS 000A.00
000E.00-00      0x000000009  0x0470      1105      0/0/0
```

```
Area Address: 49.1111
```

```
NLPID: 0xCC
```

```
Hostname: 000E
```

```
IP Address: 192.0.2.194
```

```
Metric: 10      IP 192.0.2.128 255.255.255.192
```

```
Metric: 10      IP 192.0.2.192 255.255.255.192
```

```
Metric: 10      IS 000B.00
```

```
Metric: 10      IS 000A.00
```

```
000E.01-00      0x000000001  0x8963      0 (1080)  0/0/0
```

```
IS-IS Level-2 Link State Database:
```

```
LSPID          LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL
```

```
000A.00-00      * 0x000000004  0x115B      961          0/0/0
```

```
Area Address: 49.1111
```

```
NLPID: 0xCC
```

```
Hostname: 000A
```

```
Metric: 10      IP 192.0.2.64 255.255.255.192
```

```
Metric: 10      IP 192.0.2.128 255.255.255.192
```

```
Metric: 20      IP 192.0.2.192 255.255.255.192
```

```
000A#
```

```
000A#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 192.0.2.66 to network 0.0.0.0
```

```
192.0.2.0/26 is subnetted, 4 subnets
```

```
i L1 192.0.2.192 [115/20] via 192.0.2.130, FastEthernet0/0
      [115/20] via 192.0.2.66, FastEthernet0/1
```

```
C 192.0.2.128 is directly connected, FastEthernet0/0
```

```
C 192.0.2.64 is directly connected, FastEthernet0/1
```

```
C 192.0.2.0 is directly connected, FastEthernet1/0
```

```
i*L1 0.0.0.0/0 [115/10] via 192.0.2.66, FastEthernet0/1
```

```
000A#
```

```
000A#show ip route 192.0.2.0 255.255.255.192
```

```
Routing entry for 192.0.2.0/26
```

```
Known via "connected", distance 0, metric 0 (connected, via interface)
```

```
Redistributing via isis
```

```
Advertised by isis metric 10 metric-type internal level-1
```

```
Routing Descriptor Blocks:
```

```
* directly connected, via FastEthernet1/0
```

```
Route metric is 0, traffic share count is 1
```

000B#show isis neighbor

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000E	L1	Fa0/0	192.0.2.194	UP	26	01
000A	L1	Fa0/1	192.0.2.65	UP	22	01
000C	L2	Fa1/0	198.51.100.2	UP	26	00

000B#

000B#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x00000007	0xC41A	974	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000B.00

Metric: 10 IP-External 192.0.2.0 255.255.255.192

000B.00-00	* 0x00000006	0x989A	1049	1/0/0
------------	--------------	--------	------	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000A.00

000E.00-00	0x00000009	0x0470	1048	0/0/0
------------	------------	--------	------	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 192.0.2.194

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IS 000A.00

000E.01-00	0x00000001	0x8963	0 (1022)	0/0/0
------------	------------	--------	----------	-------

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000B.00-00	* 0x00000005	0xD3AE	892	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 198.51.100.1

```
Metric: 10      IP 198.51.100.0 255.255.255.192
Metric: 10      IS 000C.00
Metric: 20      IP 192.0.2.0 255.255.255.192
Metric: 10      IP 192.0.2.64 255.255.255.192
Metric: 20      IP 192.0.2.128 255.255.255.192
Metric: 10      IP 192.0.2.192 255.255.255.192
000C.00-00      0x000000004  0xB2B7      868      0/0/0
```

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.2

Metric: 10 IP 198.51.100.0 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IP 198.51.100.64 255.255.255.192

000B#

000B#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

198.51.100.0/26 is subnetted, 2 subnets

C 198.51.100.0 is directly connected, FastEthernet1/0

i L2 198.51.100.64 [115/20] via 198.51.100.2, FastEthernet1/0

192.0.2.0/26 is subnetted, 4 subnets

C 192.0.2.192 is directly connected, FastEthernet0/0

i L1 192.0.2.128 [115/20] via 192.0.2.194, FastEthernet0/0
[115/20] via 192.0.2.65, FastEthernet0/1

C 192.0.2.64 is directly connected, FastEthernet0/1

i L1 192.0.2.0 [115/20] via 192.0.2.65, FastEthernet0/1

000B#

000B#show ip route 192.0.2.0 255.255.255.192

Routing entry for 192.0.2.0/26

Known via "isis", distance 115, metric 20, type level-1

Redistributing via isis

Last update from 192.0.2.65 on FastEthernet0/1, 00:31:49 ago

Routing Descriptor Blocks:

* 192.0.2.65, from 192.0.2.65, via FastEthernet0/1

Route metric is 20, traffic share count is 1

000C#show isis neighbor

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L2	Fa0/0	198.51.100.1	UP	25	02

000D L1 Fa0/1 198.51.100.66 UP 21 00

000C#

000C#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000C.00-00	* 0x000000005	0x61F5	692	1/0/0

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.65

Metric: 10 IP 198.51.100.64 255.255.255.192

Metric: 10 IS 000D.00

000D.00-00	0x000000004	0x4816	747	0/0/0
------------	-------------	--------	-----	-------

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000D

IP Address: 198.51.100.66

Metric: 10 IP 198.51.100.64 255.255.255.192

Metric: 10 IS 000C.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000B.00-00	0x000000005	0xD3AE	770	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 198.51.100.1

Metric: 10 IP 198.51.100.0 255.255.255.192

Metric: 10 IS 000C.00

Metric: 20 IP 192.0.2.0 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 20 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

000C.00-00	* 0x000000004	0xB2B7	747	0/0/0
------------	---------------	--------	-----	-------

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.2

Metric: 10 IP 198.51.100.0 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IP 198.51.100.64 255.255.255.192

000C#

000C#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

```
198.51.100.0/26 is subnetted, 2 subnets
C    198.51.100.0 is directly connected, FastEthernet0/0
C    198.51.100.64 is directly connected, FastEthernet0/1
192.0.2.0/26 is subnetted, 4 subnets
i L2  192.0.2.192 [115/20] via 198.51.100.1, FastEthernet0/0
i L2  192.0.2.128 [115/30] via 198.51.100.1, FastEthernet0/0
i L2  192.0.2.64 [115/20] via 198.51.100.1, FastEthernet0/0
i L2  192.0.2.0 [115/30] via 198.51.100.1, FastEthernet0/0
000C#
000C#show ip route 192.0.2.0 255.255.255.192
Routing entry for 192.0.2.0/26
  Known via "isis", distance 115, metric 30, type level-2
  Redistributing via isis
  Last update from 198.51.100.1 on FastEthernet0/0, 00:33:49 ago
  Routing Descriptor Blocks:
  * 198.51.100.1, from 198.51.100.1, via FastEthernet0/0
    Route metric is 30, traffic share count is 1
```

000D#show isis neighbor

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000C	L1	Fa0/0	198.51.100.65	UP	20	01

000D#

000D#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000C.00-00	0x000000005	0x61F5	637	1/0/0

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.65

Metric: 10 IP 198.51.100.64 255.255.255.192

Metric: 10 IS 000D.00

000D.00-00	* 0x000000004	0x4816	696	0/0/0
------------	---------------	--------	-----	-------

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000D

IP Address: 198.51.100.66

Metric: 10 IP 198.51.100.64 255.255.255.192

Metric: 10 IS 000C.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000D.00-00	* 0x000000003	0x210A	661	0/0/0

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000D

Metric: 10 IP 198.51.100.64 255.255.255.192

000D#

000D#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 198.51.100.65 to network 0.0.0.0

198.51.100.0/26 is subnetted, 1 subnets

C 198.51.100.64 is directly connected, FastEthernet0/0

i*L1 0.0.0.0/0 [115/10] via 198.51.100.65, FastEthernet0/0

000E#show isis neighbor

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L1	Fa0/1	192.0.2.193	UP	22	00
000A	L1	Fa0/0	192.0.2.129	UP	26	00

000E#

000E#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x00000007	0xC41A	746	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000B.00

Metric: 10 IP-External 192.0.2.0 255.255.255.192

000B.00-00	0x00000006	0x989A	818	1/0/0
------------	------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000A.00

000E.00-00	* 0x00000009	0x0470	819	0/0/0
------------	--------------	--------	-----	-------

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000E
IP Address: 192.0.2.194
Metric: 10      IP 192.0.2.128 255.255.255.192
Metric: 10      IP 192.0.2.192 255.255.255.192
Metric: 10      IS 000B.00
Metric: 10      IS 000A.00
000E.01-00      * 0x00000001  0x8963      0 (788)      0/0/0
IS-IS Level-2 Link State Database:
LSPID          LSP Seq Num  LSP Checksum  LSP Holdtime  ATT/P/OL
000E.00-00      * 0x00000007  0x62D9      800           0/0/0

```

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000E
Metric: 20      IP 192.0.2.0 255.255.255.192
Metric: 20      IP 192.0.2.64 255.255.255.192
Metric: 10      IP 192.0.2.128 255.255.255.192
Metric: 10      IP 192.0.2.192 255.255.255.192

```

000E#

000E#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 192.0.2.193 to network 0.0.0.0

```

192.0.2.0/26 is subnetted, 4 subnets
C      192.0.2.192 is directly connected, FastEthernet0/1
C      192.0.2.128 is directly connected, FastEthernet0/0
i L1   192.0.2.64 [115/20] via 192.0.2.193, FastEthernet0/1
       [115/20] via 192.0.2.129, FastEthernet0/0
i L1   192.0.2.0 [115/20] via 192.0.2.129, FastEthernet0/0
i*L1  0.0.0.0/0 [115/10] via 192.0.2.193, FastEthernet0/1

```

000E#

000E#show ip route 192.0.2.0 255.255.255.192

Routing entry for 192.0.2.0/26

Known via "isis", distance 115, metric 20, type level-1

Redistributing via isis

Last update from 192.0.2.129 on FastEthernet0/0, 00:07:57 ago

Routing Descriptor Blocks:

* 192.0.2.129, from 192.0.2.65, via FastEthernet0/0

Route metric is 20, traffic share count is 1

Configurations

```
!  
hostname 000A  
!  
interface FastEthernet0/0  
 ip address 192.0.2.129 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 192.0.2.65 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet1/0  
 ip address 192.0.2.1 255.255.255.192  
 duplex auto  
 speed auto  
!  
router isis  
 net 49.1111.0000.0000.000a.00  
 redistribute connected metric 10 level-1  
!  
End
```

```
!  
hostname 000B  
!  
interface FastEthernet0/0  
 ip address 192.0.2.193 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 192.0.2.66 255.255.255.192  
 ip router isis  
 duplex auto
```

```
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
isis csnp-interval 10
!
interface FastEthernet1/0
ip address 198.51.100.1 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000b.00
!
End
```

```
!
hostname 000C
!
interface FastEthernet0/0
ip address 198.51.100.2 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 198.51.100.65 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.2222.0000.0000.000c.00
!
End
```

```
!
hostname 000D
!
interface FastEthernet0/0
```

```
ip address 198.51.100.66 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.2222.0000.0000.000d.00
!
End
```

```
!
hostname 000E
!
interface FastEthernet0/0
ip address 192.0.2.130 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 192.0.2.194 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000e.00
!
end
```

Transitional Metrics

Show Output

```
000A(config-if)#isis metric 2000
```

Warning: for metrics greater than 63, 'metric-style wide' should be configured on level-1-2, or it will be capped at 63.

```
000A#
```

```
000A#sho isis neighbor
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000E	L1	Fa0/0	192.0.2.130	UP	23	00
000B	L1	Fa0/1	192.0.2.66	UP	29	01

000A#

000A#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x0000000B	0x24BD	881	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000B.00

Metric: 10 IS-Extended 000E.00

Metric: 10 IS-Extended 000B.00

Metric: 10 IP 192.0.2.0/26

Metric: 10 IP-External 192.0.2.0 255.255.255.192

000B.00-00	0x00000007	0x969B	870	1/0/0
------------	------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000A.00

000E.00-00	0x0000000B	0x78FB	1069	0/0/0
------------	------------	--------	------	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 192.0.2.194

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IS 000A.00

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000A.00

000E.01-00	0x00000001	0x8963	0 (2)	0/0/0
------------	------------	--------	-------	-------

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x00000008	0x463F	880	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

Metric: 10 IP 192.0.2.64/26

Metric: 10 IP 192.0.2.128/26

Metric: 20 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 20 IP 192.0.2.192 255.255.255.192

000A#

000A#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 192.0.2.66 to network 0.0.0.0

192.0.2.0/26 is subnetted, 4 subnets

i L1 192.0.2.192 [115/20] via 192.0.2.130, FastEthernet0/0
[115/20] via 192.0.2.66, FastEthernet0/1

C 192.0.2.128 is directly connected, FastEthernet0/0

C 192.0.2.64 is directly connected, FastEthernet0/1

C 192.0.2.0 is directly connected, FastEthernet1/0

i*L1 0.0.0.0/0 [115/10] via 192.0.2.66, FastEthernet0/1

000A#

000A#show ip route 192.0.2.0 255.255.255.192

Routing entry for 192.0.2.0/26

Known via "connected", distance 0, metric 0 (connected, via interface)

Redistributing via isis

Advertised by isis metric 10 metric-type internal level-1

Routing Descriptor Blocks:

* directly connected, via FastEthernet1/0

Route metric is 0, traffic share count is 1

000A#

000A#

000A#show clns protocol

IS-IS Router: <Null Tag>

System Id: 0000.0000.000A.00 IS-Type: level-1-2

Manual area address(es):

49.1111

Routing for area address(es):

49.1111

Interfaces supported by IS-IS:

FastEthernet0/1 - IP

FastEthernet0/0 - IP

Redistribute:

static (on by default)

Distance for L2 CLNS routes: 110

RRR level: none

Generate narrow metrics: level-1-2

Accept narrow metrics: level-1-2

Generate wide metrics: level-1-2

Accept wide metrics: level-1-2

000B#show isis neighbor

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000E	L1	Fa0/0	192.0.2.194	UP	26	01
000A	L1	Fa0/1	192.0.2.65	UP	29	01
000C	L2	Fa1/0	198.51.100.2	UP	22	00

000B#

000B#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x0000000C	0x22BE	1169	0/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000A				
IP Address: 192.0.2.65				
Metric: 10 IP 192.0.2.128/26				
Metric: 10 IP 192.0.2.64/26				
Metric: 10 IP 192.0.2.128 255.255.255.192				
Metric: 10 IP 192.0.2.64 255.255.255.192				
Metric: 10 IS 000E.00				
Metric: 10 IS 000B.00				
Metric: 10 IS-Extended 000E.00				
Metric: 10 IS-Extended 000B.00				
Metric: 10 IP 192.0.2.0/26				
Metric: 10 IP-External 192.0.2.0 255.255.255.192				
000B.00-00	* 0x00000007	0x969B	431	1/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000B				
IP Address: 192.0.2.66				
Metric: 10 IP 192.0.2.192 255.255.255.192				
Metric: 10 IP 192.0.2.64 255.255.255.192				
Metric: 10 IS 000E.00				
Metric: 10 IS 000A.00				
000E.00-00	0x0000000B	0x78FB	628	0/0/0
Area Address: 49.1111				
NLPID: 0xCC				

Hostname: 000E
IP Address: 192.0.2.194
Metric: 10 IP 192.0.2.128/26
Metric: 10 IP 192.0.2.192/26
Metric: 10 IP 192.0.2.128 255.255.255.192
Metric: 10 IP 192.0.2.192 255.255.255.192
Metric: 10 IS 000B.00
Metric: 10 IS 000A.00
Metric: 10 IS-Extended 000B.00
Metric: 10 IS-Extended 000A.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000B.00-00	* 0x00000007	0xCFB0	961	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 198.51.100.1

Metric: 10 IP 198.51.100.0 255.255.255.192

Metric: 10 IS 000C.00

Metric: 20 IP 192.0.2.0 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 20 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

000C.00-00	0x00000006	0xAEB9	1073	0/0/0
------------	------------	--------	------	-------

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.2

Metric: 10 IP 198.51.100.0 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IP 198.51.100.64 255.255.255.192

000B#

000B#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

198.51.100.0/26 is subnetted, 2 subnets

C 198.51.100.0 is directly connected, FastEthernet1/0

i L2 198.51.100.64 [115/20] via 198.51.100.2, FastEthernet1/0

192.0.2.0/26 is subnetted, 4 subnets

C 192.0.2.192 is directly connected, FastEthernet0/0

i L1 192.0.2.128 [115/20] via 192.0.2.194, FastEthernet0/0
[115/20] via 192.0.2.65, FastEthernet0/1

```
C      192.0.2.64 is directly connected, FastEthernet0/1
i L1   192.0.2.0 [115/20] via 192.0.2.65, FastEthernet0/1
000B#
000B#show ip route 192.0.2.0 255.255.255.192
Routing entry for 192.0.2.0/26
  Known via "isis", distance 115, metric 20, type level-1
  Redistributing via isis
  Last update from 192.0.2.65 on FastEthernet0/1, 00:56:16 ago
  Routing Descriptor Blocks:
  * 192.0.2.65, from 192.0.2.65, via FastEthernet0/1
    Route metric is 20, traffic share count is 1
```

```
000B#
000B#show clns protocol
```

```
IS-IS Router: <Null Tag>
System Id: 0000.0000.000B.00  IS-Type: level-1-2
Manual area address(es):
  49.1111
Routing for area address(es):
  49.1111
Interfaces supported by IS-IS:
  FastEthernet1/0 - IP
  FastEthernet0/1 - IP
  FastEthernet0/0 - IP
Redistribute:
  static (on by default)
Distance for L2 CLNS routes: 110
RRR level: none
Generate narrow metrics: level-1-2
Accept narrow metrics:   level-1-2
Generate wide metrics:   none
Accept wide metrics:     none
```

```
000B#
```

```
000E#show isis neighbor
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L1	Fa0/1	192.0.2.193	UP	22	00
000A	L1	Fa0/0	192.0.2.129	UP	29	00

```
000E#
```

```
000E#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x0000000C	0x22BE	1048	0/0/0

```
Area Address: 49.1111
NLPID:        0xCC
```

```

Hostname: 000A
IP Address: 192.0.2.65
Metric: 10 IP 192.0.2.128/26
Metric: 10 IP 192.0.2.64/26
Metric: 10 IP 192.0.2.128 255.255.255.192
Metric: 10 IP 192.0.2.64 255.255.255.192
Metric: 10 IS 000E.00
Metric: 10 IS 000B.00
Metric: 10 IS-Extended 000E.00
Metric: 10 IS-Extended 000B.00
Metric: 10 IP 192.0.2.0/26
Metric: 10 IP-External 192.0.2.0 255.255.255.192
000B.00-00 0x000000008 0x949C 1123 1/0/0

```

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IP 192.0.2.64 255.255.255.192

Metric: 10 IS 000E.00

Metric: 10 IS 000A.00

```

000E.00-00 * 0x00000000B 0x78FB 507 0/0/0

```

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 192.0.2.194

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

Metric: 10 IS 000B.00

Metric: 10 IS 000A.00

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000A.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000E.00-00	* 0x000000009	0xDD7F	507	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

Metric: 20 IP 192.0.2.0/26

Metric: 20 IP 192.0.2.64/26

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 20 IP 192.0.2.0 255.255.255.192

Metric: 20 IP 192.0.2.64 255.255.255.192

Metric: 10 IP 192.0.2.128 255.255.255.192

Metric: 10 IP 192.0.2.192 255.255.255.192

000E#

000E#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 192.0.2.193 to network 0.0.0.0

192.0.2.0/26 is subnetted, 4 subnets

```
C      192.0.2.192 is directly connected, FastEthernet0/1
C      192.0.2.128 is directly connected, FastEthernet0/0
i L1   192.0.2.64 [115/20] via 192.0.2.193, FastEthernet0/1
        [115/20] via 192.0.2.129, FastEthernet0/0
i L1   192.0.2.0 [115/20] via 192.0.2.129, FastEthernet0/0
i*L1  0.0.0.0/0 [115/10] via 192.0.2.193, FastEthernet0/1
```

000E#

000E#show ip route 192.0.2.0 255.255.255.192

Routing entry for 192.0.2.0/26

Known via "isis", distance 115, metric 20, type level-1

Redistributing via isis

Last update from 192.0.2.129 on FastEthernet0/0, 00:30:34 ago

Routing Descriptor Blocks:

* 192.0.2.129, from 192.0.2.65, via FastEthernet0/0
Route metric is 20, traffic share count is 1

000E#

000E#show clns protocol

IS-IS Router: <Null Tag>

System Id: 0000.0000.000E.00 IS-Type: level-1-2

Manual area address(es):

49.1111

Routing for area address(es):

49.1111

Interfaces supported by IS-IS:

FastEthernet0/1 - IP

FastEthernet0/0 - IP

Redistribute:

static (on by default)

Distance for L2 CLNS routes: 110

RRR level: none

Generate narrow metrics: level-1-2

Accept narrow metrics: level-1-2

Generate wide metrics: level-1-2

Accept wide metrics: level-1-2

Configurations

```
!  
hostname 000A  
!  
interface FastEthernet0/0  
 ip address 192.0.2.129 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 192.0.2.65 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet1/0  
 ip address 192.0.2.1 255.255.255.192  
 duplex auto  
 speed auto  
!  
router isis  
 net 49.1111.0000.0000.000a.00  
 redistribute connected metric 10 level-1  
!  
End
```

```
!  
hostname 000B  
!  
interface FastEthernet0/0  
 ip address 192.0.2.193 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 192.0.2.66 255.255.255.192  
 ip router isis  
 duplex auto
```

```
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
isis csnp-interval 10
!
interface FastEthernet1/0
ip address 198.51.100.1 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000b.00
!
End
```

```
!
hostname 000C
!
interface FastEthernet0/0
ip address 198.51.100.2 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 198.51.100.65 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.2222.0000.0000.000c.00
!
End
```

```
!
hostname 000D
!
interface FastEthernet0/0
```

```
ip address 198.51.100.66 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.2222.0000.0000.000d.00
!
End
```

```
!
hostname 000E
!
interface FastEthernet0/0
ip address 192.0.2.130 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 192.0.2.194 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000e.00
metric-style transition
!
End
```

Wide Metrics

Show Output

```
000A#sho isis neighbors
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L1	Fa0/1	192.0.2.66	UP	26	01
000E	L1	Fa0/0	192.0.2.130	UP	26	00

000A#

000A#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x00000003	0x69DE	978	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000E.00

Metric: 10 IP 192.0.2.0/26

000B.00-00	0x00000003	0x066F	981	1/0/0
------------	------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000E.00

Metric: 10 IS-Extended 000A.00

000E.00-00	0x00000003	0x5762	977	0/0/0
------------	------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 192.0.2.194

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000A.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x00000002	0x40AB	982	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

Metric: 10 IP 192.0.2.64/26

Metric: 10 IP 192.0.2.128/26

Metric: 20 IP 192.0.2.192/26

000A#

000A#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 192.0.2.66 to network 0.0.0.0

192.0.2.0/26 is subnetted, 4 subnets

```
i L1 192.0.2.192 [115/20] via 192.0.2.130, FastEthernet0/0
      [115/20] via 192.0.2.66, FastEthernet0/1
C    192.0.2.128 is directly connected, FastEthernet0/0
C    192.0.2.64 is directly connected, FastEthernet0/1
C    192.0.2.0 is directly connected, FastEthernet1/0
i*L1 0.0.0.0/0 [115/10] via 192.0.2.66, FastEthernet0/1
```

000A#

000A#show clns protocol

IS-IS Router: <Null Tag>

System Id: 0000.0000.000A.00 IS-Type: level-1-2

Manual area address(es):

49.1111

Routing for area address(es):

49.1111

Interfaces supported by IS-IS:

FastEthernet0/1 - IP

FastEthernet0/0 - IP

Redistribute:

static (on by default)

Distance for L2 CLNS routes: 110

RRR level: none

Generate narrow metrics: none

Accept narrow metrics: none

Generate wide metrics: level-1-2

Accept wide metrics: level-1-2

000A#

000B#show isis neighbors

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000E	L1	Fa0/0	192.0.2.194	UP	28	01
000C	L2	Fa1/0	198.51.100.2	UP	28	00
000A	L1	Fa0/1	192.0.2.65	UP	29	01

000B#

000B#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x00000003	0x69DE	1037	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128/26

```

Metric: 10      IP 192.0.2.64/26
Metric: 10      IS-Extended 000B.00
Metric: 10      IS-Extended 000E.00
Metric: 10      IP 192.0.2.0/26
000B.00-00      * 0x00000003  0x066F          1043          1/0/0

```

```
Area Address: 49.1111
```

```
NLPID:         0xCC
```

```
Hostname: 000B
```

```
IP Address:   192.0.2.66
```

```
Metric: 10    IP 192.0.2.192/26
```

```
Metric: 10    IP 192.0.2.64/26
```

```
Metric: 10    IS-Extended 000E.00
```

```
Metric: 10    IS-Extended 000A.00
```

```
000E.00-00      0x00000003  0x5762          1037          0/0/0
```

```
Area Address: 49.1111
```

```
NLPID:         0xCC
```

```
Hostname: 000E
```

```
IP Address:   192.0.2.194
```

```
Metric: 10    IP 192.0.2.128/26
```

```
Metric: 10    IP 192.0.2.192/26
```

```
Metric: 10    IS-Extended 000B.00
```

```
Metric: 10    IS-Extended 000A.00
```

```
IS-IS Level-2 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000B.00-00	* 0x00000003	0x7547	1039	0/0/0

```
Area Address: 49.1111
```

```
NLPID:         0xCC
```

```
Hostname: 000B
```

```
IP Address:   198.51.100.1
```

```
Metric: 10    IP 198.51.100.0/26
```

```
Metric: 10    IS-Extended 000C.00
```

```
Metric: 20    IP 192.0.2.0/26
```

```
Metric: 10    IP 192.0.2.64/26
```

```
Metric: 20    IP 192.0.2.128/26
```

```
Metric: 10    IP 192.0.2.192/26
```

```
000C.00-00      0x00000002  0xBB67          1032          0/0/0
```

```
Area Address: 49.2222
```

```
NLPID:         0xCC
```

```
Hostname: 000C
```

```
IP Address:   198.51.100.2
```

```
Metric: 10    IP 198.51.100.0/26
```

```
Metric: 10    IS-Extended 000B.00
```

```
Metric: 10    IP 198.51.100.64/26
```

```
000B#
```

```
000B#
```

```
000B#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

```
198.51.100.0/26 is subnetted, 2 subnets
C    198.51.100.0 is directly connected, FastEthernet1/0
i L2  198.51.100.64 [115/20] via 198.51.100.2, FastEthernet1/0
192.0.2.0/26 is subnetted, 4 subnets
C    192.0.2.192 is directly connected, FastEthernet0/0
i L1  192.0.2.128 [115/20] via 192.0.2.194, FastEthernet0/0
      [115/20] via 192.0.2.65, FastEthernet0/1
C    192.0.2.64 is directly connected, FastEthernet0/1
i L1  192.0.2.0 [115/20] via 192.0.2.65, FastEthernet0/1
000B#
000B#
000B#show clns protocol
```

```
IS-IS Router: <Null Tag>
System Id: 0000.0000.000B.00 IS-Type: level-1-2
Manual area address(es):
    49.1111
Routing for area address(es):
    49.1111
Interfaces supported by IS-IS:
    FastEthernet1/0 - IP
    FastEthernet0/1 - IP
    FastEthernet0/0 - IP
Redistribute:
    static (on by default)
Distance for L2 CLNS routes: 110
RRR level: none
Generate narrow metrics: none
Accept narrow metrics: none
Generate wide metrics: level-1-2
Accept wide metrics: level-1-2
000B#
```

```
000C#show isis neighbors
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L2	Fa0/0	198.51.100.1	UP	29	02
000D	L1	Fa0/1	198.51.100.66	UP	25	00

```
000C#
```

```
000C#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000C.00-00	* 0x00000003	0x9457	1091	1/0/0

Area Address: 49.2222
NLPID: 0xCC
Hostname: 000C
IP Address: 198.51.100.65
Metric: 10 IP 198.51.100.64/26
Metric: 10 IS-Extended 000D.00
000D.00-00 0x00000002 0x836F 1085 0/0/0

Area Address: 49.2222
NLPID: 0xCC
Hostname: 000D
IP Address: 198.51.100.66
Metric: 10 IP 198.51.100.64/26
Metric: 10 IS-Extended 000C.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000B.00-00	0x00000003	0x7547	1089	0/0/0

Area Address: 49.1111
NLPID: 0xCC
Hostname: 000B
IP Address: 198.51.100.1
Metric: 10 IP 198.51.100.0/26
Metric: 10 IS-Extended 000C.00
Metric: 20 IP 192.0.2.0/26
Metric: 10 IP 192.0.2.64/26
Metric: 20 IP 192.0.2.128/26
Metric: 10 IP 192.0.2.192/26
000C.00-00 * 0x00000002 0xBB67 1084 0/0/0

Area Address: 49.2222
NLPID: 0xCC
Hostname: 000C
IP Address: 198.51.100.2
Metric: 10 IP 198.51.100.0/26
Metric: 10 IS-Extended 000B.00
Metric: 10 IP 198.51.100.64/26

000C#

000C#

000C#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

198.51.100.0/26 is subnetted, 2 subnets
C 198.51.100.0 is directly connected, FastEthernet0/0
C 198.51.100.64 is directly connected, FastEthernet0/1

```
192.0.2.0/26 is subnetted, 4 subnets
i L2 192.0.2.192 [115/20] via 198.51.100.1, FastEthernet0/0
i L2 192.0.2.128 [115/30] via 198.51.100.1, FastEthernet0/0
i L2 192.0.2.64 [115/20] via 198.51.100.1, FastEthernet0/0
i L2 192.0.2.0 [115/30] via 198.51.100.1, FastEthernet0/0
000C#
000C#
000C#
000C#show clns protocol
```

```
IS-IS Router: <Null Tag>
System Id: 0000.0000.000C.00 IS-Type: level-1-2
Manual area address(es):
49.2222
Routing for area address(es):
49.2222
Interfaces supported by IS-IS:
FastEthernet0/1 - IP
FastEthernet0/0 - IP
Redistribute:
static (on by default)
Distance for L2 CLNS routes: 110
RRR level: none
Generate narrow metrics: none
Accept narrow metrics: none
Generate wide metrics: level-1-2
Accept wide metrics: level-1-2
000C#
```

```
000D#show isis neighbor
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000C	L1	Fa0/0	198.51.100.65	UP	26	01

```
000D#
```

```
000D#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000C.00-00	0x00000003	0x9457	1166	1/0/0
Area Address: 49.2222				
NLPID: 0xCC				
Hostname: 000C				
IP Address: 198.51.100.65				
Metric: 10 IP 198.51.100.64/26				
Metric: 10 IS-Extended 000D.00				
000D.00-00	* 0x00000002	0x836F	1162	0/0/0
Area Address: 49.2222				
NLPID: 0xCC				
Hostname: 000D				
IP Address: 198.51.100.66				

Metric: 10 IP 198.51.100.64/26

Metric: 10 IS-Extended 000C.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000D.00-00	* 0x00000001	0xAAA9	1162	0/0/0

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000D

Metric: 10 IP 198.51.100.64/26

000D#

000D#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 198.51.100.65 to network 0.0.0.0

198.51.100.0/26 is subnetted, 1 subnets

C 198.51.100.64 is directly connected, FastEthernet0/0

i*L1 0.0.0.0/0 [115/10] via 198.51.100.65, FastEthernet0/0

000D#

000D#show clns protocol

IS-IS Router: <Null Tag>

System Id: 0000.0000.000D.00 IS-Type: level-1-2

Manual area address(es):

49.2222

Routing for area address(es):

49.2222

Interfaces supported by IS-IS:

FastEthernet0/0 - IP

Redistribute:

static (on by default)

Distance for L2 CLNS routes: 110

RRR level: none

Generate narrow metrics: none

Accept narrow metrics: none

Generate wide metrics: level-1-2

Accept wide metrics: level-1-2

000D#

000E#show isis neighbors

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L1	Fa0/1	192.0.2.193	UP	28	00
000A	L1	Fa0/0	192.0.2.129	UP	28	00

000E#

000E#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x00000003	0x69DE	926	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000E.00

Metric: 10 IP 192.0.2.0/26

000B.00-00	0x00000003	0x066F	931	1/0/0
------------	------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000E.00

Metric: 10 IS-Extended 000A.00

000E.00-00	* 0x00000003	0x5762	928	0/0/0
------------	--------------	--------	-----	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 192.0.2.194

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000A.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000E.00-00	* 0x00000002	0xE801	931	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

Metric: 20 IP 192.0.2.0/26

Metric: 20 IP 192.0.2.64/26

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

000E#

000E#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 192.0.2.193 to network 0.0.0.0

192.0.2.0/26 is subnetted, 4 subnets

```
C      192.0.2.192 is directly connected, FastEthernet0/1
C      192.0.2.128 is directly connected, FastEthernet0/0
i L1   192.0.2.64 [115/20] via 192.0.2.193, FastEthernet0/1
        [115/20] via 192.0.2.129, FastEthernet0/0
i L1   192.0.2.0 [115/20] via 192.0.2.129, FastEthernet0/0
i*L1  0.0.0.0/0 [115/10] via 192.0.2.193, FastEthernet0/1
000E#
000E#
000E#show clns protocol
```

IS-IS Router: <Null Tag>

System Id: 0000.0000.000E.00 IS-Type: level-1-2

Manual area address(es):

49.1111

Routing for area address(es):

49.1111

Interfaces supported by IS-IS:

FastEthernet0/1 - IP

FastEthernet0/0 - IP

Redistribute:

static (on by default)

Distance for L2 CLNS routes: 110

RRR level: none

Generate narrow metrics: none

Accept narrow metrics: none

Generate wide metrics: level-1-2

Accept wide metrics: level-1-2

000E#

Configurations

```
!
hostname 000A
!
interface FastEthernet0/0
ip address 192.0.2.129 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
```

```
ip address 192.0.2.65 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet1/0
ip address 192.0.2.1 255.255.255.192
duplex auto
speed auto
!
router isis
net 49.1111.0000.0000.000a.00
metric-style wide
redistribute connected metric 10 level-1
!
End
```

```
!
hostname 000B
!
interface FastEthernet0/0
ip address 192.0.2.193 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 192.0.2.66 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
isis csnp-interval 10
!
interface FastEthernet1/0
ip address 198.51.100.1 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
```

```
!  
router isis  
 net 49.1111.0000.0000.000b.00  
 metric-style wide  
!  
End  
  
!  
hostname 000C  
!  
interface FastEthernet0/0  
 ip address 198.51.100.2 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-2-only  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 198.51.100.65 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
router isis  
 net 49.2222.0000.0000.000c.00  
 metric-style wide  
!  
End  
  
!  
hostname 000E  
!  
interface FastEthernet0/0  
 ip address 192.0.2.130 255.255.255.192  
 ip router isis  
 duplex auto  
 speed auto  
 isis circuit-type level-1  
 isis network point-to-point  
 isis three-way-handshake ietf  
!  
interface FastEthernet0/1  
 ip address 192.0.2.194 255.255.255.192  
 ip router isis  
 duplex auto
```

```

speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000e.00
metric-style wide
!
End

!
hostname 000D
interface FastEthernet0/0
ip address 198.51.100.66 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
no ip address
shutdown
duplex auto
speed auto
!
router isis
net 49.2222.0000.0000.000d.00
metric-style wide
!
end

```

Default Metric

Show Output

```
000A#show isis neighbors
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000B	L1	Fa0/1	192.0.2.66	UP	26	01
000E	L1	Fa0/0	192.0.2.130	UP	21	00

```
000A#
```

```
000A#
```

```
000A#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	* 0x00000002	0x6BDD	1049	0/0/0

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000A
IP Address: 192.0.2.65
Metric: 10      IP 192.0.2.128/26
Metric: 10      IP 192.0.2.64/26
Metric: 10      IS-Extended 000B.00
Metric: 10      IS-Extended 000E.00
Metric: 10      IP 192.0.2.0/26
000B.00-00      0x00000004      0x3044      1053      1/0/0

```

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000B
IP Address: 192.0.2.66
Metric: 10      IP 192.0.2.192/26
Metric: 10      IP 192.0.2.64/26
Metric: 10      IS-Extended 000A.00
Metric: 10      IS-Extended 000E.00
000E.00-00      0x00000002      0x8835      1048      0/0/0

```

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000E
IP Address: 198.51.100.129
Metric: 100000  IP 192.0.2.128/26
Metric: 100000  IP 192.0.2.192/26
Metric: 100000  IP 198.51.100.128/26
Metric: 100000  IS-Extended 000A.00
Metric: 100000  IS-Extended 000B.00

```

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000A.00-00	* 0x00000002	0xF2C4	1053	0/0/0

```

Area Address: 49.1111
NLPID:      0xCC
Hostname: 000A
Metric: 10      IP 192.0.2.64/26
Metric: 10      IP 192.0.2.128/26
Metric: 20      IP 192.0.2.192/26
Metric: 100010  IP 198.51.100.128/26

```

000A#

000A#

000A#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 192.0.2.66 to network 0.0.0.0

```

    198.51.100.0/26 is subnetted, 1 subnets
i L1   198.51.100.128 [115/100010] via 192.0.2.130, FastEthernet0/0
    192.0.2.0/26 is subnetted, 4 subnets
i L1   192.0.2.192 [115/20] via 192.0.2.66, FastEthernet0/1
C      192.0.2.128 is directly connected, FastEthernet0/0
C      192.0.2.64 is directly connected, FastEthernet0/1
C      192.0.2.0 is directly connected, FastEthernet1/0
i*L1 0.0.0.0/0 [115/10] via 192.0.2.66, FastEthernet0/1
000A#

```

```
000B#show isis neighbors
```

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000A	L1	Fa0/1	192.0.2.65	UP	22	01
000E	L1	Fa0/0	192.0.2.194	UP	23	01
000C	L2	Fa1/0	198.51.100.2	UP	29	00

```
000B#
```

```
000B#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000A.00-00	0x00000002	0x6BDD	1098	0/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000A				
IP Address: 192.0.2.65				
Metric: 10 IP 192.0.2.128/26				
Metric: 10 IP 192.0.2.64/26				
Metric: 10 IS-Extended 000B.00				
Metric: 10 IS-Extended 000E.00				
Metric: 10 IP 192.0.2.0/26				
000B.00-00	* 0x00000004	0x3044	1104	1/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000B				
IP Address: 192.0.2.66				
Metric: 10 IP 192.0.2.192/26				
Metric: 10 IP 192.0.2.64/26				
Metric: 10 IS-Extended 000A.00				
Metric: 10 IS-Extended 000E.00				
000E.00-00	0x00000002	0x8835	1097	0/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000E				
IP Address: 198.51.100.129				
Metric: 100000 IP 192.0.2.128/26				
Metric: 100000 IP 192.0.2.192/26				
Metric: 100000 IP 198.51.100.128/26				
Metric: 100000 IS-Extended 000A.00				

Metric: 100000 IS-Extended 000B.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000B.00-00	* 0x00000003	0xCABD	1103	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 198.51.100.1

Metric: 10 IP 198.51.100.0/26

Metric: 10 IS-Extended 000C.00

Metric: 20 IP 192.0.2.0/26

Metric: 10 IP 192.0.2.64/26

Metric: 20 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 100010 IP 198.51.100.128/26

000C.00-00	0x00000002	0xBB67	1096	0/0/0
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Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.2

Metric: 10 IP 198.51.100.0/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IP 198.51.100.64/26

000B#

000B#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

198.51.100.0/26 is subnetted, 3 subnets

i L1 198.51.100.128 [115/100010] via 192.0.2.194, FastEthernet0/0

C 198.51.100.0 is directly connected, FastEthernet1/0

i L2 198.51.100.64 [115/20] via 198.51.100.2, FastEthernet1/0

192.0.2.0/26 is subnetted, 4 subnets

C 192.0.2.192 is directly connected, FastEthernet0/0

i L1 192.0.2.128 [115/20] via 192.0.2.65, FastEthernet0/1

C 192.0.2.64 is directly connected, FastEthernet0/1

i L1 192.0.2.0 [115/20] via 192.0.2.65, FastEthernet0/1

000B#

000E#show isis neighbors

System Id	Type	Interface	IP Address	State	Holdtime	Circuit Id
000A	L1	Fa0/0	192.0.2.129	UP	24	00

000B L1 Fa0/1 192.0.2.193 UP 24 00

000E#

000E#show isis database detail

IS-IS Level-1 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000A.00-00	0x00000002	0x6BDD	1162	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000A

IP Address: 192.0.2.65

Metric: 10 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IS-Extended 000E.00

Metric: 10 IP 192.0.2.0/26

000B.00-00	0x00000004	0x3044	1167	1/0/0
------------	------------	--------	------	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 192.0.2.66

Metric: 10 IP 192.0.2.192/26

Metric: 10 IP 192.0.2.64/26

Metric: 10 IS-Extended 000A.00

Metric: 10 IS-Extended 000E.00

000E.00-00	* 0x00000002	0x8835	1164	0/0/0
------------	--------------	--------	------	-------

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 198.51.100.129

Metric: 100000 IP 192.0.2.128/26

Metric: 100000 IP 192.0.2.192/26

Metric: 100000 IP 198.51.100.128/26

Metric: 100000 IS-Extended 000A.00

Metric: 100000 IS-Extended 000B.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000E.00-00	* 0x00000002	0x9C42	1165	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 198.51.100.129

Metric: 100010 IP 192.0.2.0/26

Metric: 100010 IP 192.0.2.64/26

Metric: 100000 IP 192.0.2.128/26

Metric: 100000 IP 192.0.2.192/26

Metric: 100000 IP 198.51.100.128/26

000E#

000E#sho 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 192.0.2.193 to network 0.0.0.0

```
198.51.100.0/26 is subnetted, 1 subnets
C    198.51.100.128 is directly connected, Loopback0
192.0.2.0/26 is subnetted, 4 subnets
C    192.0.2.192 is directly connected, FastEthernet0/1
C    192.0.2.128 is directly connected, FastEthernet0/0
i L1  192.0.2.64 [115/100010] via 192.0.2.193, FastEthernet0/1
      [115/100010] via 192.0.2.129, FastEthernet0/0
i L1  192.0.2.0 [115/100010] via 192.0.2.129, FastEthernet0/0
i*L1  0.0.0.0/0 [115/100000] via 192.0.2.193, FastEthernet0/1
000E#
000E#
000E#
```

```
000E#conf t
Enter configuration commands, one per line. End with CNTL/Z.
000E(config)#int fa 0/0
000E(config-if)#isis metric 100
000E(config-if)#int fa 0/1
000E(config-if)#isis metric 100
000E(config)#int lo0
000E(config-if)#isis metric 100
```

```
000B#show isis database detail
```

```
IS-IS Level-1 Link State Database:
```

LSPID	LSP Seq Num	LSP Checksum	LSP Holddtime	ATT/P/OL
000A.00-00	0x00000002	0x6BDD	792	0/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000A				
IP Address: 192.0.2.65				
Metric: 10 IP 192.0.2.128/26				
Metric: 10 IP 192.0.2.64/26				
Metric: 10 IS-Extended 000B.00				
Metric: 10 IS-Extended 000E.00				
Metric: 10 IP 192.0.2.0/26				
000B.00-00	* 0x00000004	0x3044	798	1/0/0
Area Address: 49.1111				
NLPID: 0xCC				
Hostname: 000B				

```
IP Address: 192.0.2.66
Metric: 10 IP 192.0.2.192/26
Metric: 10 IP 192.0.2.64/26
Metric: 10 IS-Extended 000A.00
Metric: 10 IS-Extended 000E.00
000E.00-00 0x00000005 0x8706 1156 0/0/0
```

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000E

IP Address: 198.51.100.129

Metric: 100 IP 192.0.2.128/26

Metric: 100 IP 192.0.2.192/26

Metric: 100 IP 198.51.100.128/26

Metric: 100 IS-Extended 000A.00

Metric: 100 IS-Extended 000B.00

IS-IS Level-2 Link State Database:

LSPID	LSP Seq Num	LSP Checksum	LSP Holdtime	ATT/P/OL
000B.00-00	* 0x00000004	0x0645	1157	0/0/0

Area Address: 49.1111

NLPID: 0xCC

Hostname: 000B

IP Address: 198.51.100.1

Metric: 10 IP 198.51.100.0/26

Metric: 10 IS-Extended 000C.00

Metric: 20 IP 192.0.2.0/26

Metric: 10 IP 192.0.2.64/26

Metric: 20 IP 192.0.2.128/26

Metric: 10 IP 192.0.2.192/26

Metric: 110 IP 198.51.100.128/26

```
000C.00-00 0x00000002 0xBB67 789 0/0/0
```

Area Address: 49.2222

NLPID: 0xCC

Hostname: 000C

IP Address: 198.51.100.2

Metric: 10 IP 198.51.100.0/26

Metric: 10 IS-Extended 000B.00

Metric: 10 IP 198.51.100.64/26

000B#

000B#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

198.51.100.0/26 is subnetted, 3 subnets

```
i L1 198.51.100.128 [115/110] via 192.0.2.194, FastEthernet0/0
C 198.51.100.0 is directly connected, FastEthernet1/0
i L2 198.51.100.64 [115/20] via 198.51.100.2, FastEthernet1/0
    192.0.2.0/26 is subnetted, 4 subnets
C 192.0.2.192 is directly connected, FastEthernet0/0
i L1 192.0.2.128 [115/20] via 192.0.2.65, FastEthernet0/1
C 192.0.2.64 is directly connected, FastEthernet0/1
i L1 192.0.2.0 [115/20] via 192.0.2.65, FastEthernet0/1
000B#
```

Configurations

```
!
hostname 000A
!
interface FastEthernet0/0
 ip address 192.0.2.129 255.255.255.192
 ip router isis
 duplex auto
 speed auto
 isis circuit-type level-1
 isis network point-to-point
 isis three-way-handshake ietf
!
interface FastEthernet0/1
 ip address 192.0.2.65 255.255.255.192
 ip router isis
 duplex auto
 speed auto
 isis circuit-type level-1
 isis network point-to-point
 isis three-way-handshake ietf
!
interface FastEthernet1/0
 ip address 192.0.2.1 255.255.255.192
 duplex auto
 speed auto
!
router isis
 net 49.1111.0000.0000.000a.00
 metric-style wide
 redistribute connected metric 10 level-1
!
End

!
hostname 000B
!
interface FastEthernet0/0
```

```
ip address 192.0.2.193 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
ip address 192.0.2.66 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
isis csnp-interval 10
!
interface FastEthernet1/0
ip address 198.51.100.1 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-2-only
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000b.00
metric-style wide
!
End

!
hostname 000E
!
interface Loopback0
ip address 198.51.100.129 255.255.255.192
ip router isis
!
interface FastEthernet0/0
ip address 192.0.2.130 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
interface FastEthernet0/1
```

```
ip address 192.0.2.194 255.255.255.192
ip router isis
duplex auto
speed auto
isis circuit-type level-1
isis network point-to-point
isis three-way-handshake ietf
!
router isis
net 49.1111.0000.0000.000e.00
metric-style wide
metric 100000
!
End
```