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Title	Cisco Certified Internetwork Expert (CCIE LABs)
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Advanced IGP Redistribution

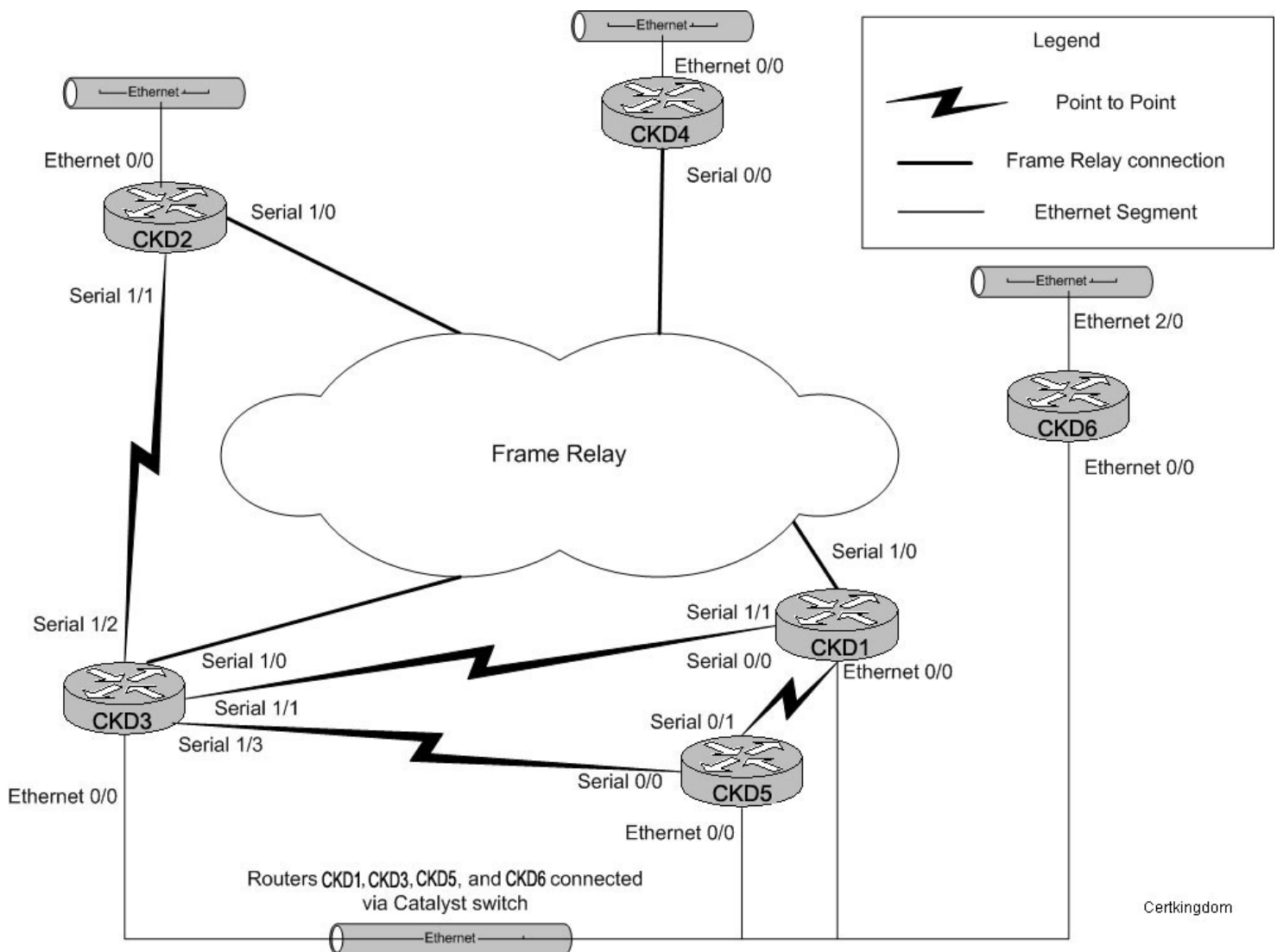
Introduction:

This lab will require you to configure a number of different routing protocols (EIGRP, IGRP, and OSPF) with route redistribution and route summarization enabled. The OSPF portion will be configured over a frame relay network. Among the topics covered in this lab are the effects of split horizons on routing protocols, route redistribution, route summarization, and OSPF over a NBMA network. Upon completion all subnets should be reachable from all routers in the network. This lab will be completed in a series of 7 steps. After each step be sure to compare the output seen by your lab routers with the output we have provided.

Some Hints are also provided in this lab but you are encouraged to only use them if you get stuck.

Lab Configuration Tasks

1. Connect your routers as shown in the network diagram.



Configure the interfaces of each router with the following IP addresses and subnets:

CKD1:

Loop0 199.99.1.1 /24 Loopback 0

E0/0 188.88.136.1 /26 Ethernet Segment to Catalyst switch

S0/0 188.88.15.1 /28 Serial to CKD5

S1/1 188.88.31.1 /30 Serial to CKD3

S1/0 unassigned Frame-relay

CKD2:

Loop0 199.99.2.2 /24 Loopback 0

E0/0 188.88.2.2 /24 Ethernet Segment

S1/1 188.88.32.2/24 Serial to CKD3

S1/0 unassigned Frame-relay

CKD3:

Loop0 199.99.3.3 /24 Loopback 0

E0/0 188.88.136.3 /26 Ethernet Segment to Catalyst switch

S1/3 188.88.35.1 /30 Serial to CKD5

S1/2 188.88.32.3/24 Serial to CKD2

S1/1 188.88.31.2/30 Serial to CKD1

S1/0 unassigned Frame-relay

CKD4:

Loop0 199.99.4.4 /24 Loopback 0

E0/0 11.11.4.4 /22 Ethernet Segment

S0/0 unassigned Frame-relay

CKD5:

Loop0 199.99.5.5 /24 Loopback

E0/0 188.88.136.5 /26 Ethernet Segment to Catalyst switch

S0/1 188.88.15.5 /28 Serial to CKD1

S0/0 188.88.35.2 /30 Serial link to CKD3

CKD6:

Loop0 199.99.6.6 /24 Loopback 0

E0/0 188.88.136.6 /26 Ethernet segment

E1/0 11.11.1.6 /23 Ethernet segment

2. Configure the frame-relay cloud with CKD2 as the hub and CKD1, CKD3, and CKD4 as spokes.

Only CKD2 may use sub-interfaces.

Configure CKD2 – CKD4 in subnet 188.88.24.0/24.

Configure CKD1, CKD2, and CKD3 in subnet 188.88.123.0/29.

Do not use any DLCI's other than those necessary to make CKD2 the hub.

3. On CKD4 enable IGRP for the Ethernet, loopback, and frame-relay interfaces.

4. Configure subnets 188.88.2.0/24 and 188.88.123.0/29 in the OSPF backbone area 0. Use the default OSPF network type on CKD1.

5. Configure subnets 188.88.136.0/26, 188.88.31.0/30, 188.88.32.0/24, and 188.88.35.0/30 in OSPF area 1.

All possible routers should participate.

6. Enable EIGRP on CKD1 and CKD5 for subnet 188.88.15.0/28.

7. Every interface that is used should only have one routing protocol active. Loopback interfaces for CKD1, CKD2, CKD3, and CKD6 may be advertised as you see fit. Loopbacks should not appear as host routes.

Do not use any static or default routes.

All subnets/interfaces that participate in routing must be reachable from all routers.

Limitations:

1. Every interface that is used should only have one routing protocol active.

2. Loopback interfaces for CKD1, CKD2, CKD3, and CKD6 must be reachable by all routers and may be advertised any way you wish.

3. Loopbacks should not appear as host routes.

4. Do not use any static or default routes.

5. All subnets/interfaces that participate in routing must be reachable from all routers.

The routing tables of all routers are included here:

Router CKD1

CKD1#show ip route

188.88.0.0/16 is variably subnetted, 13 subnets, 5 masks

O 188.88.136.0/24 is a summary, 00:12:49, Null0

C 188.88.136.0/26 is directly connected, Ethernet0/0

O 188.88.32.0/24 [110/791] via 172.136.3, 00:12:49, Ethernet0/0

O IA 188.88.35.0/24 [110/106] via 188.88.123.3 00:12:29, Serial1/0

O 188.88.35.0/30 [110/58] via 188.88.136.5, 00:12:49, Ethernet0/0

O 188.88.31.0/25 is a summary, 00:12:49, Null0

C 188.88.31.0/30 is directly connected, Serial1/1

O E2 188.88.24.0/24 [110/20] via 188.88.123.2, 00:12:30, Serial1/0

O 188.88.15.0/24 is a summary, 00:15:27, Null0

C 188.88.15.0/28 is directly connected, Serial0/0

O 188.88.2.0/24 [110/54] via 188.88.123.2, 00:12:50, Serial1/0

O 188.88.123.0/24 is a summary, 00:12:50, Null0

C 188.88.123.0/29 is directly connected, Serial1/0

O E2 199.99.4.0/24 [110/20] via 188.88.123.2, 00:12:31, Serial1/0

O 199.99.5.0/24 [110/11] via 188.88.136.5, 00:12:51, Ethernet0/0

O E2 11.0.0.0/8 [110/20] via 188.88.123.2, 00:12:31, Serial1/0

O 199.99.6.0/24 [110/11] via 188.88.136.6, 00:12:51, Ethernet0/0

C 199.99.1.0/24 is directly connected, Loopback0

O 199.99.2.0/24 [110/49] via 188.88.123.2, 00:12:51, Serial1/0

O 199.99.3.0/24 [110/49] via 188.88.123.3, 00:12:51, Serial 1/0

Router CKD2

CKD2#show ip route

188.88.0.0/16 is variably subnetted, 12 subnets, 4 masks

O IA 188.88.136.0/24 [110/58] via 188.88.123.1 00:12:46, Serial1/0.123

[110/58] via 188.88.123.3 00:12:46, Serial1/0.123

O 188.88.136.0/26 [110/58] via 188.88.32.3, 00:12:56, Serial1/1

C 188.88.32.0/24 is directly connected, Serial1/1

O IA 188.88.35.0/24 [110/106] via 188.88.123.3, 00:12:46, Serial1/0.123

O 188.88.35.0/30 [110/106] via 188.88.32.3, 00:12:56, Serial1/1

O IA 188.88.31.0/24 [110/96] via 188.88.123.1, 00:12:47, Serial1/0.123

O 188.88.31.0/30 [110/106] via 188.88.32.2, 00:12:57, Serial1/1

O 188.88.24.0/24 is directly connected, Serial1/0.24

O E2 188.88.15.0/24 [110/20] via 188.88.123.1, 00:12:47, Serial1/0.123

C 188.88.2.0/24 is directly connected, Ethernet0/0

O 188.88.123.0/24 is a summary, 00:12:57, Null0

C 188.88.123.0/29 is directly connected, Serial1/0.123

I 199.99.4.0/24 [100/7382] via 188.88.24.4, 00:00:56, Serial1/0.24

O 199.99.5.0/24 [110/59] via 188.88.32.3, 00:11:05, Serial1/1

I 11.0.0.0/8 [100/6982] via 188.88.24.4, 00:00:56, Serial1/0.24

O 199.99.6.0/24 [110/59] via 188.88.32.3, 00:11:05, Serial1/1

O 199.99.1.0/24 [110/49] via 188.88.123.1, 00:11:05, Serial1/0.123

C 199.99.2.0/24 is directly connected, Loopback0

O 199.99.3.0/24 [110/49] via 188.88.123.3, 00:11:05, Serial1/0.123

Router CKD3

CKD3#show ip route

188.88.0.0/16 is variably subnetted, 12 subnets, 4 masks

O 188.88.136.0/24 is a summary, 00:11:10, Null0

C 188.88.136.0/26 is directly connected, Ethernet0/0

C 188.88.32.0/24 is directly connected, Serial1/2

O 188.88.35.0/24 is a summary, 00:11:10, Null0

C 188.88.35.0/30 is directly connected, Serial1/3

O 188.88.31.0/24 is a summary, 00:11:10, Null0

C 188.88.31.0/30 is directly connected, Serial1/1

O E2 188.88.24.0/24 [110/20] via 188.88.123.2, 00:12:50, Serial1/0

[110/20] via 188.88.32.2, 00:12:51, Serial1/2

O E2 188.88.15.0/24 [110/20] via 188.88.136.1, 00:12:51, Ethernet0/0

[110/20] via 188.88.136.5, 00:12:51, Ethernet0/0

O 188.88.2.0/24 [110/787] VIA 188.88.123.2, 00:11:11, Serial1/0

O 188.88.123.0/24 is a summary, 00:11:13, Null0

C 188.88.123.0/24 is directly connected, Serial1/0

O E2 199.99.4.0/24 [110/20] via 188.88.123.2, 00:12:52, Serial1/0

[110/20] via 188.88.32.2, 00:12:53, Serial1/2

O 199.99.5.0/24 [110/11] via 188.88.136.5, 00:11:13, Ethernet0/0

O E2 111.0.0/8 [110/20] via 188.88.136.5, 00:11:13, Ethernet0/0

[110/20] via 188.88.32.2, 00:12:53, Serial1/2

O 199.99.6.0/24 [110/11] via 188.88.136.6, 00:15:13, Ethernet0/0

O 199.99.1.0/24 [110/782] via 188.88.123.1, 00:11:13, Serial1/0

O 199.99.2.0/24 [110/782] via 188.88.123.2, 00:11:13, Serial1/0

C 199.99.3.0/24 is directly connected, Loopback0

Router CKD4

CKD4#show ip route

188.88.0.0/24 is subnetted, 8 subnets

I 188.88.136.0 [100/181571] via 188.88.24.2, 00:01:03, Serial0/0

I 188.88.32.0 [100/10476] via 188.88.24.2, 00:01:03, Serial0/0

I 188.88.35.0 [100/181571] via 188.88.24.2, 00:01:03, Serial0/0

I 188.88.31.0 [100/181571] via 188.88.24.2, 00:01:03, Serial0/0

C 188.88.24.0 is directly connected, Serial0/0

I 188.88.15.0 [100/181571] via 188.88.24.2, 00:01:03, Serial0/0

I 188.88.2.0 [100/8539] via 188.88.24.2, 00:01:03, Serial0/0

I 188.88.123.0 [100/181571] via 188.88.24.2, 00:01:04, Serial0/0

C 199.99.4.0/24 is directly connected, Loopback0

I 199.99.5.0/24 [100/181571] via 188.88.24.2, 00:01:04, Serial0/0

11.0.0.0/22 is subnetted, 1 subnets

C 11.11.4.0 is directly connected, Ethernet0/0

I 199.99.6.0/24 [100/181571] via 188.88.24.2, 00:01:05, Serial0/0

I 199.99.1.0/24 [100/181571] via 188.88.24.2, 00:01:05, Serial0/0

I 199.99.2.0/24 [100/8976] via 188.88.24.2, 00:01:05, Serial0/0

I 199.99.2.0/24 [100/8976] via 188.88.24.2, 00:01:05, Serial0/0

Router CKD5

CKD5#show ip route

188.88.0.0/16 is variably subnetted, 12 subnets, 4 masks

O IA 188.88.136.0/24 [110/849] via 188.88.136.3, 00:11:04, Ethernet0/0

C 188.88.136.0/26 is directly connected, Ethernet0/0

O 188.88.32.0/24 [110/791] via 188.88.136.3, 00:11:24, Ethernet0/0

O IA 188.88.35.0/24 [110/116] via 188.88.136.1, 00:11:04, Ethernet0/0

C 188.88.35.0/30 is directly connected, Serial0/0

O IA 188.88.31.0/24 [110/887] via 188.88.136.3, 00:11:04, Ethernet0/0

O 188.88.31.0/30 [110/58] via 188.88.136.1, 00:11:25, Ethernet0/0

O E2 188.88.24.0/24 [110/20] via 188.88.136.3, 00:15:05, Ethernet0/0

O 188.88.15.0/24 is a summary, 00:15:49, Null0

C 188.88.15.0/28 is directly connected, Serial0/1

O IA 188.88.2.0/24 [110/64] via 188.88.136.1, 00:11:05, Ethernet0/0

O IA 188.88.123.0/24 [110/58] via 188.88.136.1, 00:11:05, Ethernet0/0

O E2 199.99.4.0/24 [110/20] via 188.88.136.3, 00:11:06, Ethernet0/0

199.99.5.0/24 is directly connected, Loopback0

O E2 11.0.0.0/0 [110/20] via 188.88.136.3, 00:11:06, Ethernet0/0

199.99.1.0/24 [110/11] via 188.88.136.6, 00:11:26, Ethernet0/0

O IA 199.99.1.0/24 [110/11] via 188.88.136.1, 00:11:06, Ethernet0/0

O IA 199.99.2.0/24 [110/59] via 188.88.136.1, 00:11:06, Ethernet0/0

O IA 199.99.3.0/24 [110/11] via 188.88.136.3, 00:11:06, Ethernet0/0

Router CKD6

CKD6#show ip route

188.88.0.0/16 is variably subnetted, 11 subnets, 3 masks

O IA 188.88.0/24 [110/840] via 188.88.136.3, 00:11:13, FastEthernet0/0

C 188.88.136.0/26 is directly connected, FastEthernet0/0

O 188.88.32.0/24 [110/782] via 188.88.136.3, 00:11:33, FastEthernet0/0

O IA 188.88.35.0/24 [110/107] via 188.88.136.1, 00:11:13 FastEthernet0/0

O 188.88.35.0/30 [110/49] via 188.88.136.5, 00:11:33, FastEthernet0/0

I IA 188.88.31.0/24 [110/878] via 188.88.136.3, 00:11:13, FastEthernet0/0

O 188.88.31.0/30 [110/49] via 188.88.136.1, 00:11:34, FastEthernet0/0

O E2 188.88.24.0/24 [110/20] via 188.88.136.3, 00:11:14, FastEthernet0/0

O E2 188.88.15.0/24 [110/20] via 188.88.136.1, 00:11:14, FastEthernet0/0

[110/20] via 188.88.136.5, 00:11:14, FastEthernet0/0

O IA 188.88.2.0/24 [110/55] via 188.88.136.1, 00:11:14, FastEthernet0/0

O IA 188.88.123.0/24 [110/49] via 188.88.136.1, 00:11:14, FastEthernet0/0

O E2 199.99.4.0/24 [110/20] via 188.88.136.3, 00:11:15, FastEthernet0/0

O 199.99.5.0/24 [110/2] via 188.88.136.5, 00:11:35, FastEthernet0/0

O E2 11.0.0.0/8 [110/20] via 188.88.136.3, 00:11:15, FastEthernet0/0

C 199.99.6.0/24 is directly connected, Loopback0

O IA 199.99.1.0/24 [110/2] via 188.88.136.1, 00:11:15, FastEthernet0/0

O IA 199.99.2.0/24 [110/50] via 188.88.136.1, 00:11:15, FastEthernet0/0

O IA 199.99.3.0/24 [110/2] via 188.88.136.3, 00:11:15, FastEthernet0/0

Final Lab Solution:

Only the relevant portions of the configuration have been included.

Router CKD1

CKD1#sh run

interface Serial1/0

ip address 188.88.123.1 255.255.255.248

encapsulation frame-relay

ip ospf priority 0

frame-relay map ip 188.88.123.2 122 broadcast

frame-relay map ip 188.88.123.3 122 broadcast

no frame-relay inverse-arp

!

router eigrp 15

network 188.88.15.0 0.0.0.15

no auto-summary

no eigrp log-neighbor-changes

!

router ospf 1

log-adjacency-changes

area 0 range 188.88.123.0 255.255.255.0

area 1 range 188.88.31.0 255.255.255.0

area 1 range 188.88.136.0 255.255.255.0

summary-address 172.15.0 255.255.255.0

redistribute eigrp 15 subnets

passive-interface Loopback0

network 188.88.31.0 0.0.0.3 area 1

network 188.88.123.0 0.0.0.7 area 0

network 188.88.136.0 0.0.0.63 area 1

network 199.99.1.0 0.0.0.255 area 0

Router CKD2

CKD2#sh run

interface Serial1/0

no ip address

encapsulation frame-relay

no frame-relay inverse-arp

!

interface Serial1/0.24 point-to-point

ip address 188.88.24.2 255.255.255.0

frame-relay interface-dlci 224

!

interface Serial1/0.123 multipoint

ip address 188.88.123.2 255.255.255.248

ip ospf network non-broadcast

frame-relay map ip 188.88.123.1 221 broadcast

frame-relay map ip 188.88.123.3 233 broadcast

!

router ospf 1

log-adjacency-changes

area 0 range 188.88.123.0 255.255.255.0

```
redistribute igrp 1 subnets
passive-interface Ethernet0/0
passive-interface Loopback0
network 188.88.2.0 0.0.0.255 area 0
network 188.88.32.0 0.0.0.255 area 1
network 188.88.123.0 0.0.0.7 area 0
network 199.99.2.0 0.0.0.255 area 0
neighbor 188.88.123.3
neighbor 188.88.123.1
!
```

```
router igrp 1
redistribute ospf 1
passive-interface Ethernet0/0
passive-interface Serial1/0.123
passive-interface Serial1/1
network 188.88.0.0
default-metric 56 1000 255 2 1500
```

Router CKD3

CKD3#sh run

```
interface Serial1/0
ip address 188.88.123.3 255.255.255.248
encapsulation frame-relay
ip ospf priority 0
```

frame-relay map ip 188.88.123.1 322 broadcast

frame-relay map ip 188.88.123.2 322 broadcast

no frame-relay inverse-arp

!

router ospf 1

log-adjacency-changes

area 0 range 188.88.123.0 255.255.255.0

area 1 range 188.88.31.0 255.255.255.0

area 1 range 188.88.35.0 255.255.255.0

area 1 range 188.88.136.0 255.255.255.0

passive-interface Loopback0

network 188.88.31.0 0.0.0.3 area 1

network 188.88.32.0 0.0.0.255 area 1

network 188.88.35.0 0.0.0.3 area 1

network 188.88.123.0 0.0.0.7 area 0

network 188.88.136.0 0.0.0.63 area 1

network 199.99.3.0 0.0.0.255 area 0

Router CKD4

CKD4#sh run

interface Serial0/0

ip address 188.88.24.4 255.255.255.0

encapsulation frame-relay

ip split-horizon

```
frame-relay map ip 188.88.24.2 422 broadcast
```

```
no frame-relay inverse-arp
```

```
!
```

```
router igrp 1
```

```
passive-interface Ethernet0/0
```

```
passive-interface Loopback0
```

```
network 11.0.0.0
```

```
network 188.88.0.0
```

```
network 199.99.4.0
```

Router CKD5

```
CKD5#sh run
```

```
router eigrp 15
```

```
network 188.88.15.0 0.0.0.15
```

```
no auto-summary
```

```
no eigrp log-neighbor-changes
```

```
!
```

```
router ospf 1
```

```
log-adjacency-changes
```

```
area 1 range 188.88.35.0 255.255.255.0
```

```
summary-address 188.88.15.0 255.255.255.0
```

```
redistribute eigrp 15 subnets
```

```
passive-interface Loopback0
```

```
network 188.88.35.0 0.0.0.3 area 1
```



```
network 188.88.136.0 0.0.0.63 area 1
```

```
network 199.99.5.0 0.0.0.255 area 1
```

Router CKD6

```
CKD6#sh run
```

```
interface Ethernet1/0
```

```
no ip address
```

```
no ip directed-broadcast
```

```
shutdown
```

```
!
```

```
router ospf 1
```

```
passive-interface Loopback0
```

```
network 188.88.136.0 0.0.0.63 area 1
```

```
network 199.99.0 0.0.0.255 area 1
```

Lab Hints:

Section 2: The CKD2 – CKD4 connection should be point-to-point.

CKD2, CKD1, and CKD3 should be multipoint.

Since you cannot use any other DLCI's you will need to use map statements.

You should also disable inverse-arp.

Section 3: It is not explicitly called for but you will need to enable IGRP on CKD2 also.

Section 4: The default OSPF network type on a frame-relay physical interface is NBMA. If one of the routers is NBMA, the others will need to be NBMA.

To make this work you need to ensure that CKD2 is the DR.

You will need to manually configure neighbors on CKD2.

You should also set the OSPF priority to 0 for CKD1 and CKD3.

You could make CKD2 the DR by raising CKD2's OSPF priority and leaving CKD1 and CKD3 at the default value of 1, however since you do not a full-mesh this would create the situation where CKD1 and CKD3 both think they are the BDR.

Section 7: You may need to use passive-interface statements to avoid having multiple routing protocols going out a single interface.

To get routes to CKD4 you need to summarize them into /24 advertisements.

For OSPF routes you should use the "area X range" on the ABR's.

For the EIGRP route you need to use the "summary-address" command on the ASBR's.

Alternatively, you could use the "ip summary-address eigrp" command at the interface level.

Be mindful of split-horizons on CKD4.

Setting the encapsulation to frame-relay disables split-horizon.

If you leave it disabled, CKD4 will echo routes back to CKD2.

Because of the lower administrative distance, CKD2 will believe CKD4 is the next-hop for routes that are in the OSPF/EIGRP domains.

When redistributing routes into IGRP you must assign a default-metric, if not the routers will be advertised to CKD4 with an "unreachable" metric and

CKD4 will not add the routes into its routing table.

Lab Verification

Verification For Task 2

CKD1#sh fram map

Serial1/0(up): ip 188.88.123.2 dlci 122(0x7A,0x1CA0), static, broadcast,

CISCO, status defined, active

Serial1/0(up): ip 188.88.123.3 dlci 122(0x7A,0x1CA0), static broadcast,

CISCO, status defined, active

CKD2#sh fram map

Serial1/0.123(up): ip 188.88.123.1 dlci 221(0xDD,0X34D0), static, broadcast,

CISCO, status defined, active

Serial1/0.123(up): ip 188.88.123.3 dlci 223(0xDF,0x34F0), static, broadcast,

CISCO, status defined, active

Serial1/0.24(up): point-to-point dlci, dlci 24(0xE0,0X3800), broadcast

status defined active

CKD3#sh frame map

Serial1/0(up): ip 188.88.123.1 dlci 322(0x142,0x5020), static, broadcast,

CISCO, status defined, active

Serial1/0(up): ip 188.88.123.2 dlci 322(0x142,0x5020), static, broadcast,

CISCO, status defined, active

CKD4#sh frame map

Serial0/0(up): ip 188.88.24.2 dlci 422(0x1A6,0x6869), static, broadcast,

CISCO, status defined, active

Verification For Task 3

CKD4#sh ip protocols

Routing Protocols is "igrp 1"

Sending updates every 90 seconds, next due in 8 seconds

Invalid after 270 seconds, hold down 280, flushed after 630

Outgoing update filter list for all interfaces is

Incoming update filter list for all interfaces is

Default networks flagged in outgoing updates

Default networks accepted from incoming updates

IGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0

IGRP maximum hopcount 100

IGRP maximum metric variance 1

Redistributing: igrp 1

Routing for Networks:

11.0.0.0

188.88.0.0

199.99.4.0

Passive Interface(s):

Ethernet0/0

Loopback0

Routing Information Sources:

Gateway Distance Last Update

188.88.24.2 100 00:01:18

Distance: (default is 100)

Verification For Task 4

CKD1#sh ip ospf int s1/0

Serial1/0 is up, line protocol is up

Internet Address 188.88.123.1/29, Area 0

Process ID 1, Router ID 199.99.1.1, Network Type NON_BROADCAST, Cost: 48

Transmit Delay is 1 sec, State DROTHER, Priority 0

Designated Router (ID) 199.99.2.2, Interface address 188.88.123.2

No backup designated router on this network

Timer intervals configured, Hello 30, Dead 120, Wait 120, Retransmit 5

Hello die in 00:00:07

Index 1/1, flood queue length 0

Next 0x0(0)/0x0(0)

Last flood scan length is 1, maximum is 6

Last flood scan time is 0 msec, maximum is 0 msec

Neighbor Count is 1, Adjacent neighbor count is 1

Adjacent with neighbor 199.99.2.2 (Designated Router)

Suppress hello for 0 neighbor(s)

CKD2#sh ip ospf int

Ethernet0/0 is up, line protocol is up

Internet Address 188.88.2.2/24, Area 0

Process ID 1, Router ID 199.99.2.2, Network Type BROADCAST, Cost: 6

Transmit Delay is 1 sec, State DR, Priority 1

Designated Router (ID) 199.99.2.2, Interface address 188.88.2.2

No backup designated router on this network

Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5

No Hellos (Passive interface)

Index 1/1, flood queue length 0

Next 0x0(0)/0x0(0)

Last flood scan length is 0 maximum is 0

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)

CKD2#sh ip ospf int s1/0.123

Serial1/0.123 is up, line protocol is up

Internet Address 188.88.123.2/29, Area 0

Process ID 1, Router ID 199.99.2.2, Network Type NON_BROADCAST, Cost: 48

Transmit Delay is 1 sec, State DR, Priority 1

Designated Router (ID) 199.99.2.2, Interface address 188.88.123.2

No backup designated router on this network

Timer intervals configured, Hello 30, Dead 120, Wait 120, Retransmit 5

Hello due in 00:00:09

Index 3/3, flood queue length 0

Next 0x0(0)/0x0(0)

Neighbor Count is 2, Adjacent neighbor count is 2

Adjacent with neighbor 199.99.3.3

Adjacent with neighbor 199.99.1.1

Suppress hello 0 for neighbor(s)

CKD3#sh ip ospf int s1/0

Serial1/0 is up, line protocol is up

Internet Address 188.88.123.3/29, Area 0

Process ID 1, Router ID 199.99.3.3, Network Type NON_BROADCAST, Cost:

781

Transmit Delay is 1 sec, State DROTHER, priority 0

Designated Router (ID) 199.99.2.2, Interface address 188.88.123.2

No backup designated router on this network

Timer intervals configured, Hello 30, Dead 120, Wait 120, Retransmit 5

Hello due in 00:00:01

Last flood scan length is 1, maximum is 7

Last flood scan time is 0 msec, maximum is 4 msec

Neighbor Count is 1, Adjacent neighbor count is 1

Adjacent with neighbor 199.99.2.2 (Designated Router)

Suppress hello for 0 neighbor(s)

Technical Verification For Task 5

When using the “show ip ospf neighbor” command you should see that CKD3 is connected to seven different neighbors.