CCNA(640-802) Lab ? EIGRP Troubleshooting

After adding P4S2 router, no routing updates are being exchanged between P4S1 and the new location. All other inter connectivity and Internet access for the existing locations of the company are working properly.

The task is to identify the fault(s) and correct the router configuration to provide full connectivity between the routers.

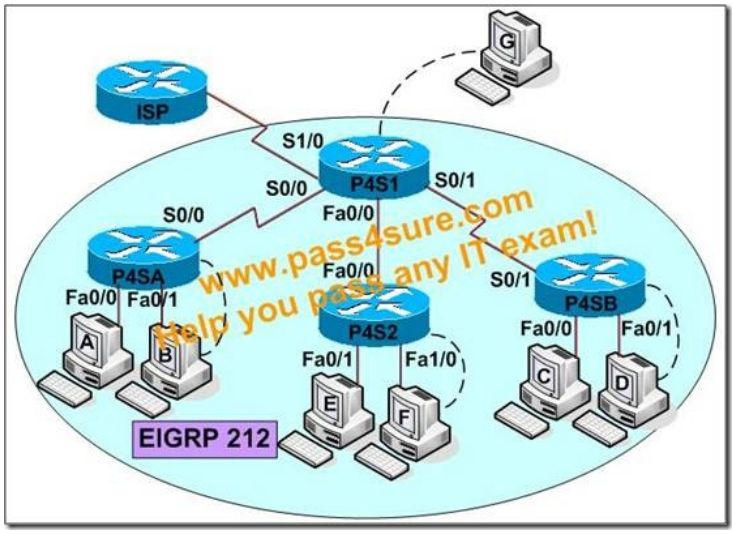
Access to the router CLI can be gained by clicking on the appropriate host.

All passwords on all routers are cisco.

IP addresses are listed in the chart below.

P4S1 Fa0/0 - 192.168.77.33 S1/0 - 198.0.18.6 S0/1 - 192.168.60.25	**P4S2** Fa0/0 - 192.168.77.34 Fa1/0 - 192.168.60.81 Fa0/1 - 192.168.60.65
P4SA Fa0/0 - 192.168.60.97 Fa0/1 - 192.168.60.113 S0/0 - 192.168.36.14	**P4SB** Fa0/0 - 192.168.60.129 Fa0/1 - 192.168.60.145 S0/1 - 192.168.60.26

Click that host-G, complete the configration of the router in the pop-up CLI



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P4SA# show run

interface FastEthernet0/0

ip address 192.168.60.97 255.255.255.240

!

interface FastEthernet0/1

ip address 192.168.60.113 255.255.255.240

!

interface Serial0/0

Ip address 192.168.36.14 255.255.255.252

Clockrate 64000

!

router eigrp 212

Network 192.168.36.0

Network 192.168.60.0

No auto-summary

!

P4SA# show ip route

192.168.36.0/30 is subnetted, 1 subnets

C 192.168.36.12 is directly connected, Serial0/0

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.96/28 is directly connected, FastEthernet0/0

C 192.168.60.112/28 is directly connected, FastEthernet0/1

D 192.168.60.128/28 [90/21026560] via 192.168.36.13, 00:00:57, Serial0/0

D 192.168.60.144/28 [90/21026560] via 192.168.36.13, 00:00:57, Serial0/0

D 192.168.60.24/30 [90/21026560] via 192.168.36.13, 00:00:57, Serial0/0

D* 198.0.18.0 [90/21024000] via 192.168.36.13, 00:00:57, Serial0/0

****

P4S2# show run

!

!

interface FastEthernet0/0

ip address 192.168.77.34 255.255.255.252

!

interface FastEtherner0/1

ip address 192.168.60.65 255.255.255.240

!

interface FastEthernet1/0

ip address 192.168.60.81 255.255.255.240

!

!

router eigrp 22

network 192.168.60.0

network 192.168.77.0

no auto-summary

P4S2# show ip route

192.168.60.0/28 is subnetted, 2 subnets

C 192.168.60.80 is directly connected, FastEthernet1/0

C 192.168.60.64 is directly connected, FastEthernet0/1

192.168.77.0/30 is subnetted, 1 subnets

C 192.168.77.32 is directly connected, FastEthernet0/0

****

P4SB# show run

interface FastEthernet0/0

ip address 192.168.60.129 255.255.255.240

!

interface FastEthernet0/1

ip address 192.168.60.145 255.255.255.240

!

interface Serial0/1

ip address 192.168.60.26 255.255.255.252

router eigrp 212

network 192.168.60.0

network 192.168.60.0

P4SB# show ip route

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.24/30 is directly connected, Serial0/1

C 192.168.60.128/28 is directly connected, FastEthernet0/0

C 192.168.60.144/28 is directly connected, FastEthernet0/1

D 192.168.60.96/28 [90/21026560] via 192.168.60.25, 00:00:57, Serial0/1

D 192.168.60.112/28 [90/21026560] via 192.168.60.25, 00:00:57, Serial0/1

192.168.36.0/30 is subnetted, 1 subnets

D 192.168.36.12 [90/21026560] via 192.168.60.25, 00:00:57, Serial0/1

D* 198.0.18.0 [90/21024000] via 192.168.60.25, 00:00:57, Serial0/1

****

P4S1# show run

!

interface FastEthernet0/0

ip address 192.168.77.33 255.255.255.252

!

interface Serial1/0

ip address 198.0.18.6 255.255.255.0

!

interface Serial0/0

ip address 192.168.36.13 255.255.255.252

clockrate 64000

!

interface Serial0/1

ip address 192.168.60.25 255.255.255.252

clockrate 64000

!

!

router eigrp 212

network 192.168.36.0

network 192.168.60.0

network 192.168.85.0

network 198.0.18.0

no auto-summary

!

ip classless

ip default-network 198.0.18.0

ip route 0.0.0.0 0.0.0.0 198.0.18.5

ip http server

P4S1# sh ip route

192.168.36.0/30 is subnetted, 1 subnets

C 192.168.36.12 is directly connected, Serial0/0

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.24/30 is directly connected, Serial0/1

D 192.168.60.128/28 [90/21026560] via 192.168.60.26, 00:00:57, Serial0/1

D 192.168.60.144/28 [90/21026560] via 192.168.60.26, 00:00:57, Serial0/1

D 192.168.60.96/28 [90/21026560] via 192.168.36.14, 00:00:57, Serial0/0

192.168.77.0/30 is subnetted, 1 subnets

C 192.168.77.32 is directly connected, FastEthernet0/0

C 198.0.18.0/24 is directly connected, Serial1/0

*S 0.0.0.0 via 198.0.18.5

Explanation:
Step1:
Identify the faults in configuration on **P4S1** and **P4S2**. As the SIM specifies all other inter connectivity and internet access for the existing locations of the company are working properly.
Routing Protocols used in the SIM is **EIGRP** with AS **212** as provided by exhibit.
Faults Identified:

Wrong AS (EIGRP 22) provided at **P4S2** (New router)

P4S1 does not advertise the new network between P4S1 and P4S2 into EIGRP.

We need to correct the above two configuration mistakes to have full connectivity

Step2: **Correcting the EIGRP AS to 212**
Wrong AS (**EIGRP 22**) provided at P4S2 (New router)
All routers that want to exchange routes within EIGRP needs to be in same Autonomous System.
Step 2.1:
First we need to remove the current wrong EIGRP AS 22 from Router P4S2
Click on **Host-F** to get CLI of **P4S2**
P4S2>enable
Password : cisco (Provided by SIM Q)
P4S2#conf t
P4S2(conf)#
Step 2.2:
Removing the wrong EIGRP routing process with **AS 22**
P4S2(conf)#no router eigrp 22
The above statement removes all the EIGRP configuration configured for AS 22 .
Step 2.3:
Adding the correct EIGRP configuration
Start the EIGRP routing process with AS 212
P4S2(conf)#router eigrp 212
Step 2.4:
Advertise the directly connected networks into EIGRP on P4S2
Fa 0/0 - 192.168.77.34
Fa 1/0 - 192.168.60.81
Fa 0/1 - 192.168.60.65

P4S2(config-router)#network 192.168.60.0

P4S2(config-router)#network 192.168.77.0
P4S2(config-router)#no auto-summary
P4S2(config-router)#end
Step 2.5:
Important save the changes made to router P4S2
P4S2#copy run start
Step 3:

P4S1 does not advertise the new network between P4S1 and P4S2 into EIGRP.

Click on **Host-G** to get CLI of **P4S1**
The network 192.168.77.0 is used between **P4S1** Fa0/0 - **P4S2** Fa 0/0
This network needs to be advertise into EIGRP routing process at **P4S1**
P4S1>enable
Password : cisco (Provided by SIM Q)
P4S1#conf t
P4S1(conf)#
Step 3.1:
Enter EIGRP routing process for **AS 212**
P4S1(conf)#router eigrp 212
Step 3.2:
The network 192.168.77.0 is used between P4S1 Fa0/0 - P4S2 Fa 0/0 . Advertise this network into EIGRP
P4S1(config-router)#network 192.168.77.0
P4S1(config-router)#end

Step 3.3:
Important save the changes made to router **P4S1**
P4S1#copy run start
Verification:
From **P4S2** CLI
ping P4S1 Serial 1/0 IP address 198.0.18.6
P4S2#ping 198.0.18.6
!!!!!
A successful ping shows the new P4S2 will have full connectivity with other routers.

That is all, hope to helpful for you. Best Luck for ur CCNA 640-802 Exam.

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