**Задача 1 с условие**. Да се реализира топология на LAN, която да отговаря на следните условия:

1. Да участва Cisco рутер c3725;

2. FastEthernet0/0 портът да е свързан със суич, осигуряващ достъп на поне три VPCS устройства (PC1, PC2 и PC3) до рутера. Мрежата да поддържа IP адресация в диапазона 192.168.0.0/24;

3. FastEthernet0/1 портът да е свързан със суич, осигуряващ достъп на поне три VPCS устройства (PC4, PC5 и PC6) до рутера. Поддържана IP адресация - 192.168.99.0/24;

4. Всеки един от двата порта на рутера да сформира отделна мрежа с посочената по-горе адресация. TCP/IP конфигурационните параметри на VPCS устройствата да се назначават от два DHCP сървъра. Единият DHCP да отговаря за устройствата, свързани към порт FastEthernet0/0, а другият за FastEthernet0/1.

----------------------------------------------------------------------------

R1

R1#conf t

Enter configuration commands, one per line. End with CNTL/Z.

R1(config)#int f0/0

R1(config-if)#ip address 192.168.0.0 255.255.255.0

Bad mask /24 for address 192.168.0.0

R1(config-if)#ip address 192.168.0.1 255.255.255.0

R1(config-if)#no shut

R1(config-if)#e

\*Mar 1 00:01:41.299: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up

\*Mar 1 00:01:42.299: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

R1(config-if)#exit

R1(config)#ip dhcp pool p0

R1(dhcp-config)#network 192.168.0.0 255.255.255.0

R1(dhcp-config)#default-router 192.168.0.1

R1(dhcp-config)#exit

R1(config)#int f0/1

R1(config-if)#ip address 192.168.99.1 255.255.255.0

R1(config-if)#no shut

R1(config-if)#e

\*Mar 1 00:03:51.059: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up

\*Mar 1 00:03:52.059: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R1(config-if)#exit

R1(config)#ip dhcp pool p99

R1(dhcp-config)#network 192.168.99.0 255.255.255.0

R1(dhcp-config)#default-router 192.168.99.1

R1(dhcp-config)#exit

R1(config)#exit

R1#w

\*Mar 1 00:05:34.951: %SYS-5-CONFIG\_I: Configured from console by console

R1#wr

Building configuration...

[OK]

R1#conf t

Enter configuration commands, one per line. End with CNTL/Z.

R1(config)#router rip

R1(config-router)#network 192.168.0.0

R1(config-router)#network 192.168.99.0

R1(config-router)#exit

R1(config)#exit

R1#wr

\*Mar 1 00:06:57.019: %SYS-5-CONFIG\_I: Configured from console by console

R1#wr

Building configuration...

[OK]

R1#wr

Building configuration...

[OK]

R1#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

C 192.168.99.0/24 is directly connected, FastEthernet0/1

C 192.168.0.0/24 is directly connected, FastEthernet0/0

R1#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

C 192.168.99.0/24 is directly connected, FastEthernet0/1

C 192.168.0.0/24 is directly connected, FastEthernet0/0

R1#

PC1

PC1> ip dhcp

DDORA IP 192.168.0.2/24 GW 192.168.0.1

PC1> ping 192.168.0.3

84 bytes from 192.168.0.3 icmp\_seq=1 ttl=64 time=1.296 ms

84 bytes from 192.168.0.3 icmp\_seq=2 ttl=64 time=0.471 ms

84 bytes from 192.168.0.3 icmp\_seq=3 ttl=64 time=1.035 ms

84 bytes from 192.168.0.3 icmp\_seq=4 ttl=64 time=0.633 ms

84 bytes from 192.168.0.3 icmp\_seq=5 ttl=64 time=1.006 ms

PC1> ping 192.168.0.4

84 bytes from 192.168.0.4 icmp\_seq=1 ttl=64 time=0.612 ms

84 bytes from 192.168.0.4 icmp\_seq=2 ttl=64 time=0.731 ms

84 bytes from 192.168.0.4 icmp\_seq=3 ttl=64 time=0.930 ms

84 bytes from 192.168.0.4 icmp\_seq=4 ttl=64 time=0.485 ms

84 bytes from 192.168.0.4 icmp\_seq=5 ttl=64 time=0.761 ms

PC1> ping 192.168.99.2

192.168.99.2 icmp\_seq=1 timeout

192.168.99.2 icmp\_seq=2 timeout

84 bytes from 192.168.99.2 icmp\_seq=3 ttl=63 time=60.382 ms

84 bytes from 192.168.99.2 icmp\_seq=4 ttl=63 time=60.471 ms

84 bytes from 192.168.99.2 icmp\_seq=5 ttl=63 time=45.503 ms

PC1> ping 192.168.99.2

84 bytes from 192.168.99.2 icmp\_seq=1 ttl=63 time=61.130 ms

84 bytes from 192.168.99.2 icmp\_seq=2 ttl=63 time=60.595 ms

84 bytes from 192.168.99.2 icmp\_seq=3 ttl=63 time=45.373 ms

84 bytes from 192.168.99.2 icmp\_seq=4 ttl=63 time=30.340 ms

84 bytes from 192.168.99.2 icmp\_seq=5 ttl=63 time=60.634 ms

PC1> ping 192.168.99.3

192.168.99.3 icmp\_seq=1 timeout

192.168.99.3 icmp\_seq=2 timeout

84 bytes from 192.168.99.3 icmp\_seq=3 ttl=63 time=60.337 ms

84 bytes from 192.168.99.3 icmp\_seq=4 ttl=63 time=60.194 ms

84 bytes from 192.168.99.3 icmp\_seq=5 ttl=63 time=60.188 ms

PC1> ping 192.168.99.3

84 bytes from 192.168.99.3 icmp\_seq=1 ttl=63 time=60.367 ms

84 bytes from 192.168.99.3 icmp\_seq=2 ttl=63 time=60.337 ms

84 bytes from 192.168.99.3 icmp\_seq=3 ttl=63 time=60.362 ms

84 bytes from 192.168.99.3 icmp\_seq=4 ttl=63 time=60.558 ms

84 bytes from 192.168.99.3 icmp\_seq=5 ttl=63 time=60.789 ms

PC1> ping 192.168.99.4

192.168.99.4 icmp\_seq=1 timeout

192.168.99.4 icmp\_seq=2 timeout

84 bytes from 192.168.99.4 icmp\_seq=3 ttl=63 time=60.297 ms

84 bytes from 192.168.99.4 icmp\_seq=4 ttl=63 time=60.334 ms

84 bytes from 192.168.99.4 icmp\_seq=5 ttl=63 time=60.527 ms

PC1> ping 192.168.99.4

84 bytes from 192.168.99.4 icmp\_seq=1 ttl=63 time=60.452 ms

84 bytes from 192.168.99.4 icmp\_seq=2 ttl=63 time=60.255 ms

84 bytes from 192.168.99.4 icmp\_seq=3 ttl=63 time=60.200 ms

84 bytes from 192.168.99.4 icmp\_seq=4 ttl=63 time=60.181 ms

84 bytes from 192.168.99.4 icmp\_seq=5 ttl=63 time=60.400 ms

PC1> save

Saving startup configuration to startup.vpc

. done

PC1>

PC2

PC2> ip dhcp

DDORA IP 192.168.0.3/24 GW 192.168.0.1

PC2> save

Saving startup configuration to startup.vpc

. done

PC2>

PC3

PC3> ip dhcp

DDORA IP 192.168.0.4/24 GW 192.168.0.1

PC3> save

Saving startup configuration to startup.vpc

. done

PC3>

PC4

PC4> ip dhcp

DDORA IP 192.168.99.2/24 GW 192.168.99.1

PC4> save

Saving startup configuration to startup.vpc

. done

PC4>

PC5

PC5> ip dhcp

DDORA IP 192.168.99.3/24 GW 192.168.99.1

PC5> save

Saving startup configuration to startup.vpc

. done

PC5>

PC6

PC6> ip dhcp

DDORA IP 192.168.99.4/24 GW 192.168.99.1

PC6> save

Saving startup configuration to startup.vpc

. done

PC6>