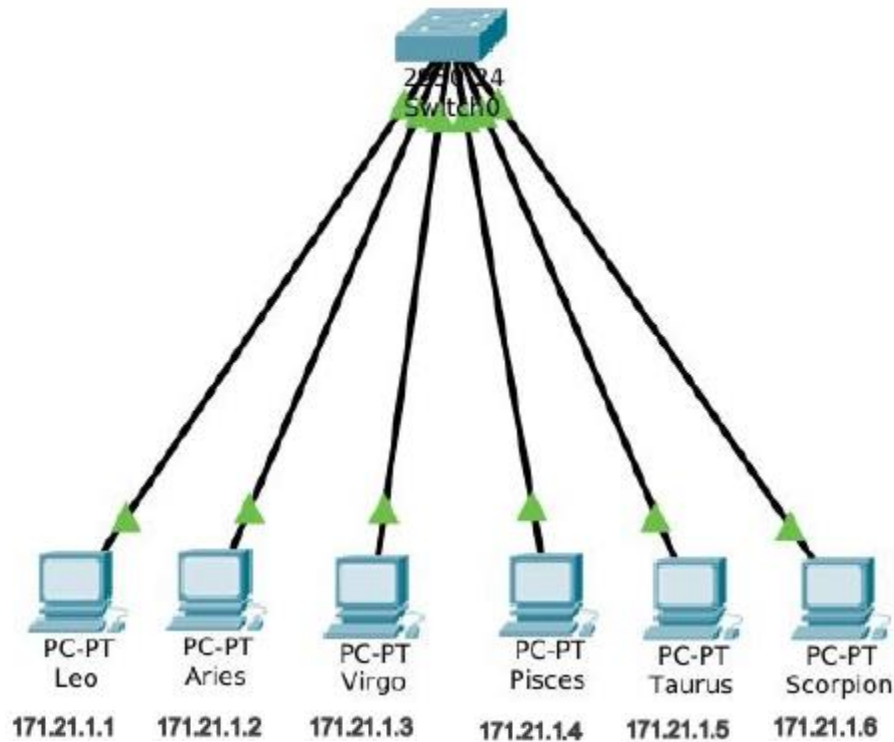


Nama : Kuku Adhi Pratama
NIM : L200174185
Kelas : X
Modul : BAB IV VLAN

1. Kegiatan-1 (Topologi 1)

1. Desain topologi , penamaan, dan penyetingan IP Address



2. Konfigurasi pada Switch untuk membuat 3 Vlan dengan nama zodiak1, zodiak2, dan zodiak3

```
Physical Config CLI Attributes
IOS Command Line Interface

%LINEPROTO-1-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINK-3-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-1-UPDOWN: Line protocol on Interface FastEthernet3/4, changed state to up
%LINK-3-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-1-UPDOWN: Line protocol on Interface FastEthernet3/5, changed state to up
%LINK-3-CHANGED: Interface FastEthernet0/6, changed state to up
%LINEPROTO-1-UPDOWN: Line protocol on Interface FastEthernet3/6, changed state to up

Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#

Ctrl+F6 to exit CLI focus
```

3. Konfigurasi port-port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut :

- zodiak1 = Leo dan Pisces
- zodiak2 = Aries dan Taurus
- zodiak3 = Virgo dan Scorpion

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

Ctrl+F6 to exit CLI focus

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4. Melihat konfigurasi secara keseluruhan

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch#show vlan brief
```

VLAN Name	Status	Ports
1 default	active	Fa0/7, Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/15, Fa0/16, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Fa0/24
10 zodiak1	active	Fa0/1, Fa0/4
20 zodiak2	active	Fa0/2, Fa0/5
30 zodiak3	active	Fa0/3, Fa0/6
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

Switch#

Ctrl+F6 to exit CLI focus

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➤ Melihat konfigurasi vlan 10

```
Switch#show vlan id 10
```

```

VLAN Name                Status    Ports
-----
10   zodiak1                active    Fa0/1, Fa0/4

VLAN Type  SAID          MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl
Trans2
-----
10   enet  100010      1500   -     -     -     -     -       0       0

```

➤ Melihat konfigurasi vlan 20

```
Switch#show vlan id 20
```

```

VLAN Name                Status    Ports
-----
20   zodiak2                active    Fa0/2, Fa0/5

VLAN Type  SAID          MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl
Trans2
-----
20   enet  100020      1500   -     -     -     -     -       0       0

```

➤ Melihat konfigurasi vlan 30

```
Switch#show vlan id 30
```

```

VLAN Name                Status    Ports
-----
30   zodiak3                active    Fa0/3, Fa0/6

VLAN Type  SAID          MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl
Trans2
-----
30   enet  100030      1500   -     -     -     -     -       0       0

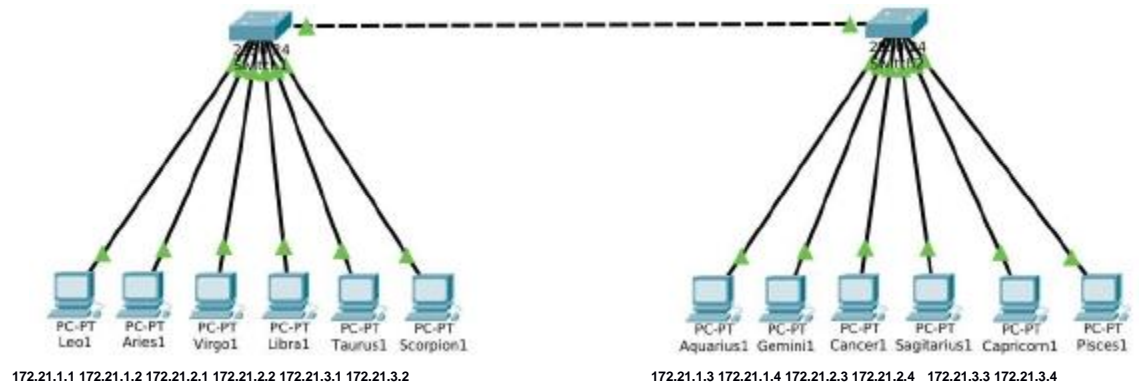
```

5. Tabel informasi konfigurasi vlan

No.	Variabel	Nilai		
1	No Vlan	10	20	30
2	Nama Vlan	zodiak1	zodiak2	zodiak3
3	Port	Fa 0/1, Fa 0/4	Fa 0/2, Fa 0/5	Fa 0/3, Fa 0/6
4	Status	Active	Active	Active

2. Kegiatan-1 (Topologi 2)

1. Desain topologi , penamaan, dan penyetingan IP Address



2. Konfigurasi pada Switch untuk membuat 3 Vlan dengan nama zodiak1, zodiak2, dan zodiak3

Physical Config **CLI** Attributes

IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6, changed
state to up
%LINK-5-CHANGED: Interface FastEthernet0/7, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed
state to up

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus

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3. Konfigurasi port-port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut :

- zodiak1 = Leo1, Libra1, Aquarius1, dan Gemini1
- zodiak2 = Aries1, Taurus1, Cancer1, dan Sagitarius1
- zodiak3 = Virgo1, Scorpion1, Carpricons1, dan Pisces1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch(config)#int fa 0/1
Switch(config-if)#switch
Switch(config-if)#switchport mod
Switch(config-if)#switchport mode acc
Switch(config-if)#switchport mode access
Switch(config-if)#swit
Switch(config-if)#switchport acc
Switch(config-if)#switchport access vl
Switch(config-if)#switchport access vlan 10
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access |
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

Ctrl+F6 to exit CLI focus

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Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch(config-if)#switchport mode access
Switch(config-if)#swit
Switch(config-if)#switchport acc
Switch(config-if)#switchport access vl
Switch(config-if)#switchport access vlan 10
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access |
Switch(config-if)#switchport access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus

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4. Konfigurasi Vlan trunking pada Switch1

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa 0/7
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed
state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed
state to up
exit
Switch(config)#
```

5. Melihat konfigurasi trunking pada Switch1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch#show int fa 0/7 switchport
Name: Fa0/7
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
--More--
```

Ctrl+F6 to exit CLI focus

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```
Switch#show int trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/7     on        802.1q         trunking    1

Port      Vlans allowed on trunk
Fa0/7     1-1005

Port      Vlans allowed and active in management domain
Fa0/7     1,10,20,30

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/7     1,10,20,30
```


Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/15, Fa0/16, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Fa0/24
10	zodiak1	active	Fa0/1, Fa0/4
20	zodiak2	active	Fa0/2, Fa0/5
30	zodiak3	active	Fa0/3, Fa0/6
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	-	0	0

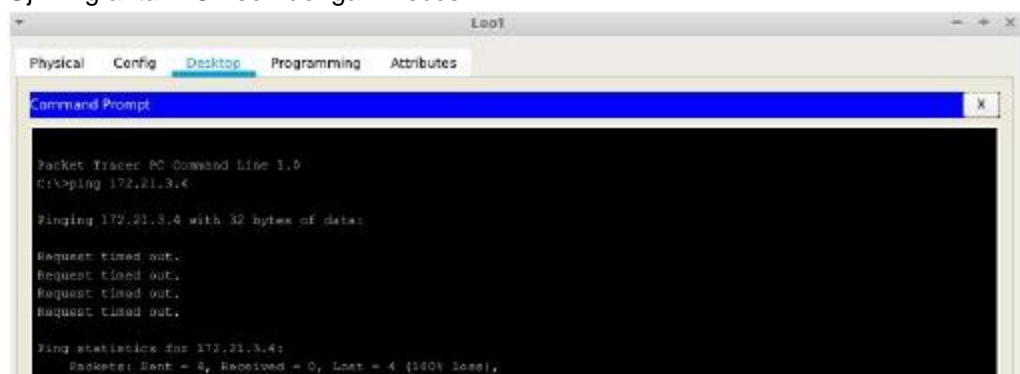
--More-- |

Ctrl+F6 to exit CLI focus

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Pada Konfigurasi ini Port yang sudah terkonfigurasi ke dalam Vlan yaitu, Port 0/1 sampai Port 0/6, sedangkan Port 0/7 untuk Trunking antar Switch

6. Uji Ping antar PC Leo1 dengan Pisces1



Hasilnya RTO, karena pada PC Pisces1 tidak berada pada Vlan yang sama dengan PC Leo1

7. Konfigurasi Vlan trunking pada Switch2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Press RETURN to get started.  
  
Switch>enable  
Switch#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#int fa 0/7  
Switch(config-if)#switchport mode trunk  
Switch(config-if)#exit  
Switch(config)#exit  
Switch#  
%SYS-5-CONFIG_I: Configured from console by console  
|
```

Ctrl+F6 to exit CLI focus

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8. Melihat Konfigurasi trunking pada Switch2

Physical
Config
CLI
Attributes

IOS Command Line Interface

```
Switch#show vlan
```

VLAN Name	Status	Ports
1 default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4, Fa0/5, Fa0/6, Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/15, Fa0/16, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Fa0/24
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1 enet	100001	1500	-	-	-	-	-	0	0
1002 fddi	101002	1500	-	-	-	-	-	0	0
1003 tr	101003	1500	-	-	-	-	-	0	0
1004 fdnet	101004	1500	-	-	-	ieee	-	0	0
1005 trnet	101005	1500	-	-	-	ibm	-	0	0

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1 enet	100001	1500	-	-	-	-	-	0	0
1002 fddi	101002	1500	-	-	-	-	-	0	0
1003 tr	101003	1500	-	-	-	-	-	0	0
1004 fdnet	101004	1500	-	-	-	ieee	-	0	0
1005 trnet	101005	1500	-	-	-	ibm	-	0	0

Remote SPAN VLANs

Primary	Secondary	Type	Ports

Switch#

Ctrl+F6 to exit CLI focus
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Pada langkah ini Port-port Fastethernet belum terkonfigurasi ke dalam Vlan, bahkan Vlan nya belum dibuat

9. Konfigurasi port-port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut :

- zodiak1 = Leo1, Libra1, Aquarius1, dan Gemini1
- zodiak2 = Aries1, Taurus1, Cancer1, dan Sagitarius1
- zodiak3 = Virgo1, Scorpion1, Carpricons1, dan Pisces1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#
Switch(config)#int fa 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20

Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus

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10. Uji Coba Ping

❖ PC Leo1 ke PC Aries1

```
C:\>ping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

❖ PC Leo1 ke PC Aquarius1

```
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=128ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time=3ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 128ms, Average = 32ms
```

❖ PC Leo1 ke PC Pisces1

```
C:\>ping 172.21.3.4

Pinging 172.21.3.4 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.3.4:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

- PC Libra1 ke PC Cancer1

```
C:\>ping 172.21.2.3

Pinging 172.21.2.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.2.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

- PC Libra1 ke PC Leo1

```
C:\>ping 172.21.1.1

Pinging 172.21.1.1 with 32 bytes of data:

Reply from 172.21.1.1: bytes=32 time=2ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

Dari beberapa hasil percobaan diatas, dapat disimpulkan apabila PC berada pada Vlan yang sama, maka akan menghasilkan balasan atau reply dari IP tujuan pada saat melakukan pengujian Ping, Seperti contohnya PC Leo1 ke PC Aquarius1 dan PC Libra1 ke PC Leo1.

Akan tetapi apabila berada pada vlan yang berbeda maka akan menghasilkan status RTO, seperti pada contoh PC Leo1 ke PC Aries1, PC Leo1 ke PC Pisces1, dan PC Libra1 ke PC Cancer1.