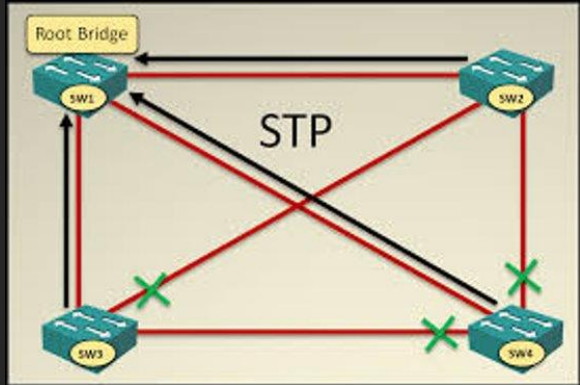




Restitution STP

Mourad Jaadar

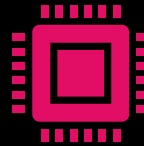
Sommaire

- Présentation de la mission
- Objectifs
- Contrainte
- STP
- RSTP
- Démarche
- Test
- Bilan

Présentation du Projet



Mise en place d'une redondance au niveau des commutateurs -Garantir l'accès aux différents services.



Contribuer à la sécurité des services et à la qualité des services

Objectif

- Savoir configurer le protocole STP et expliquer le fonctionnement du protocole
- Mise en place d'une topologie redondante -> matérielle d'interconnexion
- Assurer un accès aux différents services en cas de pannes

Contrainte

Commutateur au plus près des serveur (Root)

Connaître l'état des port

Délais de temps (1 semaines pour réaliser la missions

STP

STP = Spanning tree protocole -> Norme 802.1 D

topologie sans boucle dans un Lan composé de switches .

Éviter les tempêtes de broadcast et les boucles à l'intérieur de lan.

- Algorithme :

- Election du switch root

- port racine sur chaque switch

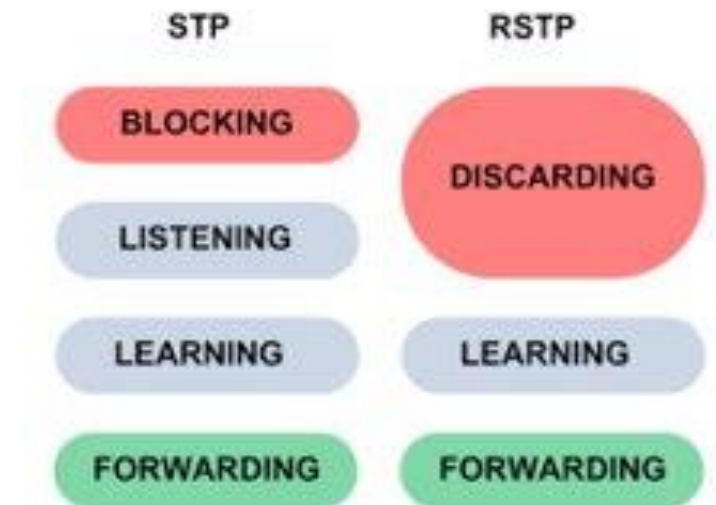
- port designated sur chaque segment

- Blocked sur les autres ports

- Continuité et qualité de services

RSTP

- -RSTP : rapide spanning tree protocole
- -norme 802.1 W
- -Plus rapide que stp
- -2 état de changement des port



Démarche

Configuration de STP

- Affectation des commutateur root :
 - commutateur 1 root pour les vlan 50,20,99 (port en accès)
 - commutateur 2 root pour le vlan 10 (port en accès)
- Définition d'un port par défaut
 - Sur commutateur 1 port 2 4 vers commutateur 3 par défaut. (port en trunk)

Test

- -Débranchement de lien entre le commutateur 1 et le commutateur 2
- -5 état du passages des ports pour STP
- -2 état du passages des ports pour RSTP

```
*Mar 1 06:27:23.917: STP: VLAN0039 Fa0/23 -> forwarding
*Mar 1 06:27:23.917: STP[99]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:23.917: STP: VLAN0039 Fa0/24 -> forwarding
*Mar 1 06:27:23.924: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan99, changed state to up
*Mar 1 06:27:39.124: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.124: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.124: STP: VLAN0020 we are the spanning tree root
*Mar 1 06:27:39.124: STP[20]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.124: STP: VLAN0050 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.124: STP[50]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.124: STP: VLAN0099 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.124: STP[99]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.149: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:40.132: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to down
*Mar 1 06:27:40.133: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:41.131: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to down
*Mar 1 06:27:42.188: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:28:01.441: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to up
*Mar 1 06:28:02.488: set portid: VLAN0010 Fa0/24; new port id 0010
*Mar 1 06:28:02.488: STP: VLAN0010 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0020 Fa0/24; new port id 0010
*Mar 1 06:28:02.488: STP: VLAN0020 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0050 Fa0/24; new port id 0010
*Mar 1 06:28:02.488: STP: VLAN0050 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0099 Fa0/24; new port id 0010
*Mar 1 06:28:02.488: STP: VLAN0099 Fa0/24 -> listening
*Mar 1 06:28:09.495: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up
*Mar 1 06:28:17.485: STP: VLAN0010 Fa0/24 -> learning
*Mar 1 06:28:17.485: STP: VLAN0020 Fa0/24 -> learning
*Mar 1 06:28:17.485: STP: VLAN0050 Fa0/24 -> learning
*Mar 1 06:28:17.485: STP: VLAN0099 Fa0/24 -> learning
*Mar 1 06:28:32.503: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:28:32.503: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:28:32.503: STP: VLAN0010 Fa0/24 -> forwarding
*Mar 1 06:28:32.503: STP[20]: Generating TC trap for port FastEthernet0/24
```

Test

```
*Mar 1 06:27:23.917: STP: VLAN0099 Fa0/23 -> forwarding
*Mar 1 06:27:23.917: STP[99]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:23.917: STP: VLAN0099 Fa0/24 -> forwarding
*Mar 1 06:27:23.926: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan99, changed state to up
*Mar 1 06:27:39.126: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.126: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.126: STP: VLAN0020 we are the spanning tree root
```

Test

```
*Mar 1 06:27:39.188: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:40.132: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to do
*Mar 1 06:27:40.183: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:41.131: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to down
*Mar 1 06:27:42.188: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:28:01.481: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to up
*Mar 1 06:28:02.488: set portid: VLAN0010 Fa0/24: new port id 8018
*Mar 1 06:28:02.488: STP: VLAN0010 Fa0/24 -> listening
```

Test

```
*Mar 1 06:28:17.495: STP: VLAN0020 Fa0/24 -> learning
*Mar 1 06:28:17.495: STP: VLAN0050 Fa0/24 -> learning
*Mar 1 06:28:17.495: STP: VLAN0099 Fa0/24 -> learning
*Mar 1 06:28:32.503: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:28:32.503: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:28:32.503: STP: VLAN0010 Fa0/24 -> forwarding
*Mar 1 06:28:32.503: STP[20]: Generating TC trap for port FastEthernet0/24
```

```
*Mar 1 06:28:17.495: STP: VLAN0099 Fa0/24 -> learning
*Mar 1 06:28:32.503: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:28:32.503: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:28:32.503: STP: VLAN0010 Fa0/24 -> forwarding
*Mar 1 06:28:32.503: STP[20]: Generating TC trap for port FastEthernet0/24
```

Test

- Port
- Root : Meilleure Chemin vers le Root bridge
- Designated: Port non root en forwarding

```
VLAN0010
Spanning tree enabled protocol ieee
Root ID    Priority    24586
           Address    0c00.7849.7e00
           Cost      19
           Port      24 (FastEthernet0/24)
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID   Priority    32768 (priority 32768 sys-id-ext 10)
           Address    c044.4d27.b100
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time 15 sec
```

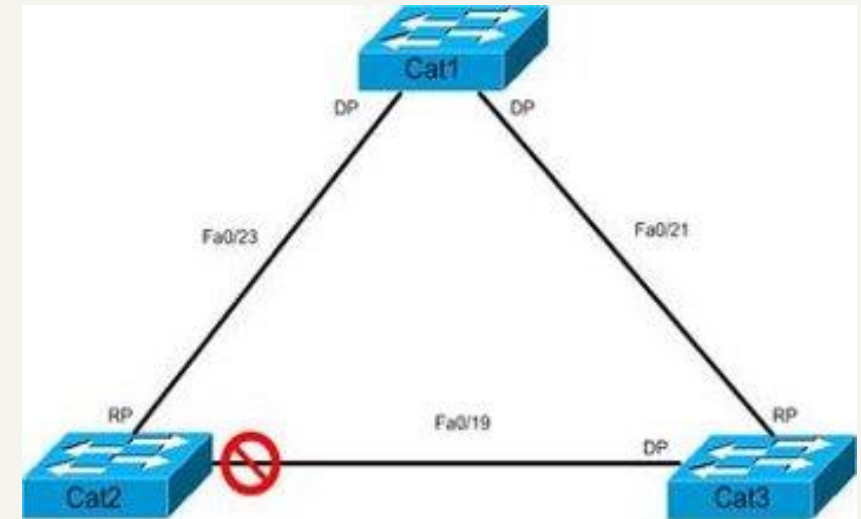
Interface	Role	Sts	Cost	Prio.Mbr	Type
-----	----	---	-----	-----	-----
Fa0/22	Desg	FWO	19	128.22	P2p
Fa0/23	Desg	LBR	19	128.23	P2p
Fa0/24	Root	FWO	19	128.24	P2p

```
VLAN0020
Spanning tree enabled protocol ieee
Root ID    Priority    24596
           Address    0019.5e69.1000
           Cost      19
           Port      20 (FastEthernet0/20)
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID   Priority    32768 (priority 32768 sys-id-ext 20)
           Address    c044.4d27.b100
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time 15 sec
```

Interface	Role	Sts	Cost	Prio.Mbr	Type
-----	----	---	-----	-----	-----
Fa0/22	Desg	FWO	19	128.22	P2p
Fa0/23	Root	FWO	19	128.23	P2p
Fa0/24	Desg	FWO	19	128.24	P2p

- -Assurer Continuité de service
- -Garantir l'accès aux différents services
- - Contribue à la sécurité
- -Éviter les tempêtes de diffusion à l'intérieur d'un LAN
- LAN



Bilan