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FlexLinks

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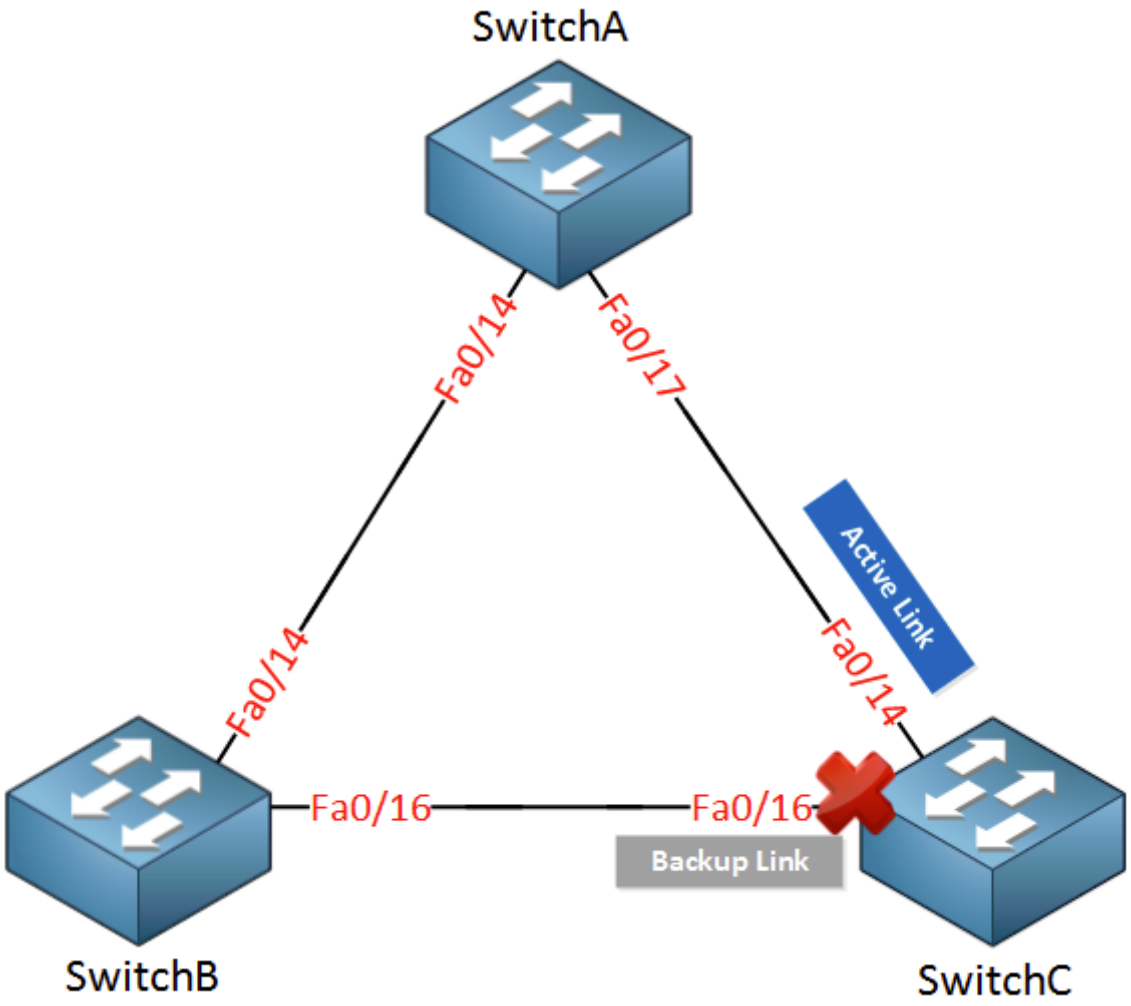
When you have a redundant switched topology, spanning-tree will block some of the interfa to create a loop-free topology. Another method to deal with redundant topologies is by using flexlinks. When you configure **FlexLinks** you'll have an **active** and **standby** interface. Here's an example:



In the topology above spanning-tree would normally block one of the interfaces to create that loop-free topology. This time however we are going to use flexlinks. What happens is that one interface will be the active link and the other one will be a backup link. The backup link is down and only comes up when the active link fails.

I can configure this on SwitchC:

- Fa0/14 will be the active interface.
- Fa0/16 will be the backup interface (this one is blocked!).

When you configure interfaces as FlexLinks they will **not send BPDUs**. There is no way to detect loops because **we don't run spanning-tree** on them. Whenever our active interface fails the backup interface will take over.

Let's look at the configuration...

Configuration

I will configure SwitchC so that interface Fa0/14 is the active interface and Fa0/16 becomes a backup:

```
SwitchC(config)#interface fa0/14
SwitchC(config-if)#switchport backup interface fa0/16
```

This is how we make interface fa0/16 a backup of interface fa0/14.

```
SwitchC#
%SPANTREE-6-PORTDEL_ALL_VLANS: FastEthernet0/14 deleted from all Vlans
%SPANTREE-6-PORTDEL_ALL_VLANS: FastEthernet0/16 deleted from all Vlans
```

You can see spanning-tree is being disabled for these interfaces.

```
SwitchC#show interfaces switchport backup

Switch Backup Interface Pairs:

Active Interface        Backup Interface        State
------------------------------------------------------------------------
FastEthernet0/14        FastEthernet0/16        Active Up/Backup Standby
```

Verify our configuration with the show interfaces switchport backup command. That's all there is to it. It's an interesting solution because we don't need spanning-tree anymore. After all only one interface is active at any moment. Let's see what happens when I disable the active interface:

```
SwitchC(config)#interface f0/14
SwitchC(config-if)#shutdown
```

Take a look below:

```
SwitchC#show interfaces switchport backup

Switch Backup Interface Pairs:
```

```
Active Interface        Backup Interface        State
------------------------------------------------------------------------
FastEthernet0/14        FastEthernet0/16        Active Down/Backup Up
```

You can see that Fa0/16 has taken over. That's all there is to it!

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- August 31, 2015 at 01:50 #11315 Reply

Thomas K
Participant
Rene,
Hi. In a normal working state, what does the interface status look like if one were to say issue a “show interface status” or “show interface F0/16” in this case?

Many thanks.

Thomas

August 31, 2015 at 10:56 #11316 Reply

Rene Molenaar
Keymaster
Hi Thomas,

It should show something like “standby mode” line protocol down instead of up/up.

Rene

October 13, 2015 at 04:21 #18824 Reply

Frades
Participant
is there any reason to run flexlink rather than STP?

October 13, 2015 at 16:59 #18832 Reply

Rene Molenaar
Keymaster
I think the only advantage is the convergence time, flexlinks are faster than RSTP.

February 16, 2016 at 06:54 #22158 Reply

Ranjana G
Participant
Hi Rene,

Can you explain what if failed link get backup, will it automatically switch over to active link.?

February 17, 2016 at 14:59 #22182 Reply

Rene Molenaar
Keymaster
Hi Ranjana,

Yes it will switch back to the active link.

Rene

May 26, 2016 at 16:05 #24513 Reply

Mohammad Hasanuz Z
Participant
Hi Rene,

ANY Ethernet Frame will not send to Backup link if receive then discarded , right ??

Flexlink can work with Many link ??

br//
zaman

June 1, 2016 at 13:28 #24659 Reply

Rene Molenaar
Keymaster
Hi Zaman,

The backup link is not used at all...unless the primary link fails. One flexlink has 1 primary and 1 backup link, you can configure multiple flexlink pairs though...the maximum number depen on the platform.

Rene

June 7, 2016 at 16:51 #24733 Reply

Jie C
Participant
Hei Rene,

Cisco says something else:

If port 1 goes down, port 2 comes up and starts forwarding traffic to switch C. When port 1 comes back up, it goes into standby mode and does not forward traffic; port 2 continues forwarding traffic.

But I Strongly agree with you! because i have done it on ME3400 live with customer:

When it was nothing connected to Gig 0/2 on ME3400:
`GigabitEthernet0/1 GigabitEthernet0/2 <strong>Active Up/Backup Down</strong>`

When he connected the lan cabel to Gig 0/2:
`GigabitEthernet0/1 GigabitEthernet0/2 <strong>Active Up/Backup Standby</strong>`

when he took Gig 0/1 out:
`GigabitEthernet0/1 GigabitEthernet0/2 <strong>Active Down/Backup Up</strong>`

when he connected Gig 0/1 back, For 5 sec the main interface was in standby mode:
`GigabitEthernet0/1 GigabitEthernet0/2 <strong>Active Standby/Backup Up</strong>`

Gig 0/1 took control:
`GigabitEthernet0/1 GigabitEthernet0/2 <strong>Active Up/Backup Standby</strong>`

Regards,
Jie

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