

FlexLinkLite Configuration

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Chapter 1 FlexLinkLite Configuration

1.1 FlexLinkLite Overview

FlexLinkLite is used in a network environment to easily construct two uplink links, which back up each other. If STP is not enabled in this network environment, FlexLinkLite can avoid the loop and conduct fast switchover when a link is out of effect.

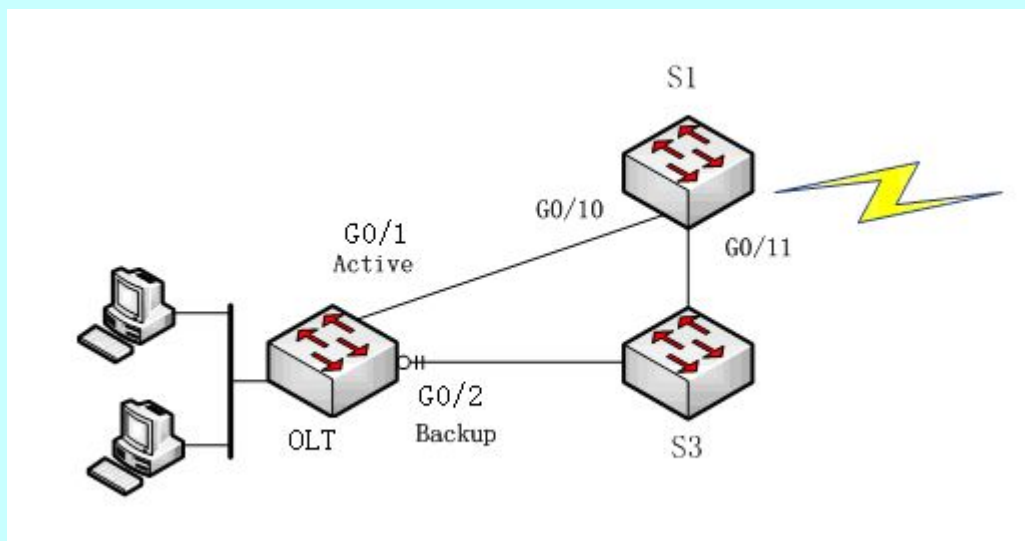


Figure 1: FlexLinkLite-enabled network

FlexLinkLite includes a pair of ports that back up each other. As shown in figure 1, FlexLinkLite is enabled on switch S2, and G5/1 and G5/2 are two ports that back up each other, the former being an active port while the latter being a backup port. In normal case, the active port forwards data and the backup port blocks data so as to avoid data loopback. If the active port's link is out of effect, the backup port will immediately begin to forward data.

A pair of ports, which back up each other, can be two physical ports, or a physical port and an aggregation port, or two aggregation ports. The port on which FlexLinkLite is set cannot be used for STP calculation or EAPS settings.

In case the links of two ports are up, the preempt mode is used to select which port to forward data. FlexLinkLite only supports the preempt based on the preset role. As shown in figure 1, when a link is out of effect and the preempt is set, port G0/1 will replace port G0/2 to forward data and port G5/2 will block data.

FlexLinkLite also has a topology change notification mechanism. As shown in figure 1, port G0/2 of switch S2 replaces port G0/1 to start forwarding data; S2 sends the TCN packets positively, and S1, after receiving these TCN packets, immediately clears the MAC addresses that are learned by the downlink ports, G0/10 and G0/11, and switches the downlink data flow rapidly to the correct link. In general, the TCN mechanism can assure the successful switchover of the two-way flow in 50ms.

1.2 FlexLinkLite Configuration

1.2.1 Run the following commands to set the backup port:

Run the following commands to set the FlexLinkLite backup port:

Command	Purpose
Switch# configure	Enters the global configuration mode of the switch.
Switch_config# interface <i>intf-name</i>	Enters the interface configuration mode. Intf-name: stands for the name of a port, such as G0/1 or F0/10.
Switch_config_intf# switchport backup interface <i>backup-intf-name</i> as [active backup]	Sets another port to be the backup port of the current port. backup-intf-name: represents the name of another port. active: Stands for the active port, to which backup-intf-name corresponds, when the current port is a backup one. backup: Stands for the backup port, to which backup-intf-name corresponds, when the current port is an active one.

After **switchport backup interface** is set on an interface, the corresponding settings will automatically generate on the backup port without any manual operations.

However, if **no switchport backup interface** is run, a pair of ports, which back up each other, will be deleted.

1.2.2 Setting the Preempt of a Backup Port

Command	Purpose
Switch_config_intf# switchport backup interface preempt mode [none role]	Sets the preempt mode. none: represents no preempt. role: means the role-based preempt, which is the default settings of the active port.
Switch_config_intf# switchport backup interface preempt delay [immediately <i>time-sec</i>]	Sets the delay of the preempt. That is, it refers to the waiting time during which the link state will be resumed to preempt start. immediately: conducts the preempt without any delay. time-sec: means the delay of preempt, whose unit is second. The default value is three seconds. The value ranges between 1 and 600 seconds.

switchport backup interface preempt mode role is deemed as the default settings of each backup port pair.

1.2.3 Setting the Transmission and Reception of TCN Packets

Command	Purpose
Switch_config_intf# switchport backup interface tcn transmit	Allows a port to transmit the TCN packets.
Switch_config_intf# switchport backup interface tcn accept	Allows a port to process the TCN packets.

The **transmit** command can be enabled on the device with a configured backup port. When a backup port is switched, it will transmit the TCN packets.

The **accept** command can be enabled on the uplink device. If this command is enabled on a uplink device, it can receive the TCN packets and delete the MAC addresses that are learned by the downlink port.

1.3 FlexLinkLite Configuration Example

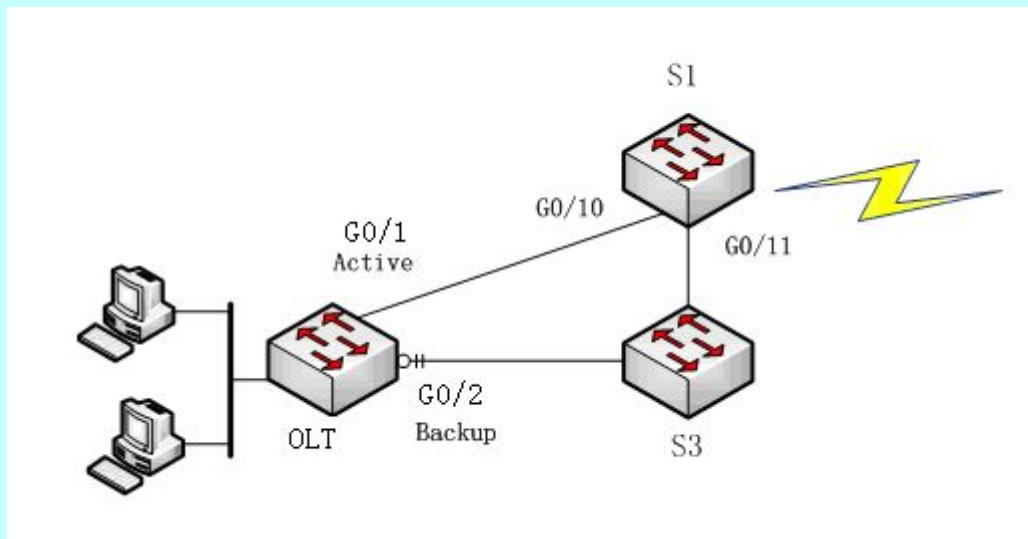


Figure 2: FlexLinkLite configuration example

Configuration

Run the following commands to set the backup port:

```
Switch# config
Switch_config# interface gigaEthernet 0/1
Switch_config_g0/1# switchport backup interface g0/2 as backup
```

Enable the default role-based preempt and set the delay to 15 seconds:

```
Switch_config_g0/1# switchport backup interface preempt delay 15
```

Make the following settings to enable the TCN packets to be transmitted:

```
Switch_config_g0/1# switchport backup interface tcn transmit
Switch_config_g0/1# interface g0/2
Switch_config_g0/2# switchport backup interface tcn transmit
Switch_config_g0/2# exit
```

Browse the state of the port:

```
Switch_config# show backup interfaces
Backup interface pairs:
```

Active	Backup	State	Preemption
G0/1	G0/2	Active Up/Backup Down	Role/15/0

Make the following settings to enable the TCN packets to be received:

```
Switch# config
Switch_config# interface range g0/10 , 11
Switch_config_if_range# switchport backup interface tcn accept
Switch_config_if_range# exit
Switch_config#
```