

Optical Fiber Protection Shift Configuration

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Chapter 1 Optical Fiber Protection Shift Settings

1.1 Overview of Optical Fiber Protection Shift

In order to improve the reliability and life of the network, the EPON system adopts the optical-fiber protection shift mechanism. The optical fiber protection shift can be conducted in the following two methods:

- a) Automatic shift: It is triggered by the faults such as signal loss or signal worsening.
- b) Mandatory shift: It is triggered by administration events.

OLT supports the following two kinds of optical fiber protection:

- 1) Type B: OLT PON port, bus optical-fiber redundancy protection (as shown in figure 1-1):
 - OLT: The standby OLT PON port is in cold backup state, OLT in line check state and OLT PON in port state. The protection shift is finished by OLT.
 - Optical splitter: The 2:N optical splitter is used.
 - ONU: There are no special requirements.
- 2) Type C: full protection (OLT PON port, optical-fiber bus, optical splitter, distributive optical-fiber redundancy protection) (as shown in figure 1-2):
 - OLT: The active and standby OLT PON ports are both in working state.
 - Optical splitter: Two 2:N optical splitters are used.
 - ONU: The optical switch fitting is set before the PON port, its line state is checked by ONU, its main line is also decided by ONU, and its protection shift is conducted by ONU.

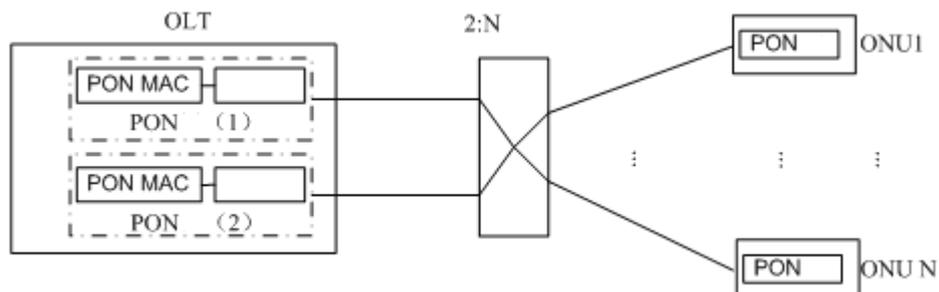


Figure 1-1 Type B

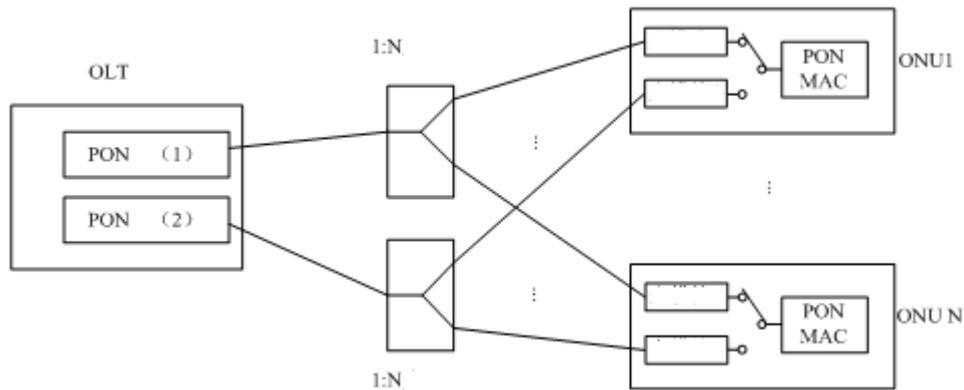


Figure 1-2 Type C

1.2 Setting the Optical-Fiber Protection Shift

1.2.1 Setting the Optical-Fiber Protection Port

You can run **epon {b-psg|c-psg} slot** on OLT to create a virtual optical-fiber protection port, that is, the PSG port. After the PSG port is created, you should run **epon psg member** immediately to add two to-be-protected actual PON ports for the virtual PSG port.

The following steps are recommended to set optical-fiber protection:

Procedure	Purpose
enable	Enters the privileged configuration mode.
config	Enters the global configuration mode.
epon {b-psg c-psg} slot slot [sequence seq]	Creates a type-B or type-C virtual PSG port. slot stands by the ID of the slot where the EPON line card is located. seq stands for the ID of the logic port.
Interface psg slot/seq	Enters the psg port configuration mode.
epon psg member active epon-port standby epon-port	Binds the to-be-protected active/standby PON ports.
exit	Exits from the psg interface configuration mode.
exit	Exits from the global configuration mode.
exit	Exits from the privileged configuration mode.

1.2.2 Switching the Optical-Fiber Protection Port Manually

OLT only supports the manual switchover of the type-B optical-fiber protection.

Procedure	Purpose
enable	Enters the privileged configuration mode.
epon psg switch interface <i>psg-port</i>	Switches over the PSG port manually.