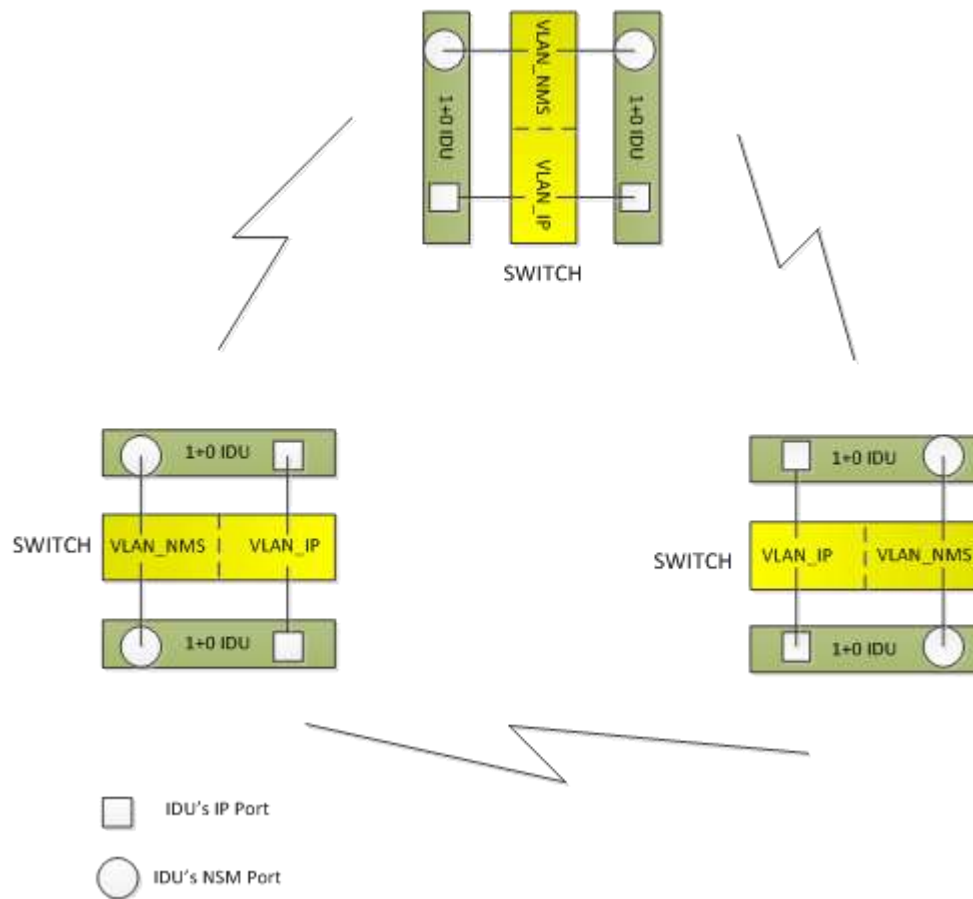


Ring topology by PDH 1+0 with external switch:



Function #1020

WMT (Web Management Terminal) software should close the traffic and WMT (Ethernet) channels when local Rx synchronization is loss

Background of requirements:

- In the case of structuring ring topology by PDH 1+0 with external switch, and if STP(RSTP) protocol is enabled in switch and only one direction of transmission is synchronization loss, the STP(RSTP) may not be available in this situation. Brazil customers found the similar issues when testing the ring structure by PDH 1+0. You can find the reference of PDH ring protection in wiki from skyway Redmine.

This function can be confirmed by following these steps. Check if operation mode is set in 1+0,1+1 or 2+0, the Ethernet packets should not be sent to opposite side when local is synchronization loss.

WMT software should be modified as: **when local is loss of synchronization, software should close traffic channel; when local is resumed, it need continuous 5 seconds synchronization before opening traffic channel.**

- 1. 1+0 mode:

1+0 mode is consist of: (1 terminal)

- 1 Outside Door Unit (ODU)
- 1 Inside Door Unit (1+0 IDU)
- 1 Antenna
- 1 50Ω coaxial cable between ODU and IDU



Figure 1.1 1+0 mode

Test Case:

PDH IDU	Mode	west	east	Purpose
Local	1+0	Syn/Loss Syn	N/A	Note : Synchronization and loss of synchronization can be test by attenuator or power reduction. Local Syn: Local PC can ping to remote PC; Remote PC can catch Ethernet packets from local PC via Ethereal. Local loss Syn: Local PC can not ping opposite side PC by traffic channel; Remote PC can catch Ethernet packets from local PC via Ethereal.
Remote	1+0	Syn	N/A	

2. 1+1

- ◆ 1+1 HSB mode is consist of: (1 terminal)
 - 2 Outside Door Unit (ODU)
 - 1 Splitter
 - 1 Antenna
 - 1 Inside Door Unit (1+1 IDU)
 - 2 50Ω coaxial cable between ODU and IDU

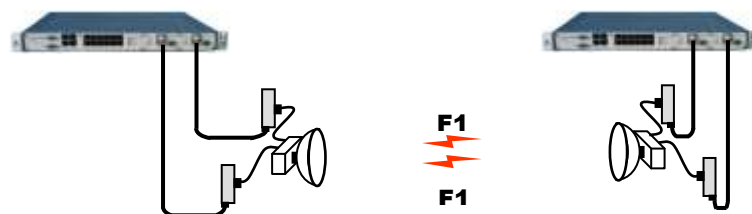


Figure 1.2 1+1 HSB

Test Case:

PDH IDU	模式	west	east	Purpose
Local	1+1	Syn/Loss Syn	Syn/Loss Syn	<p>Note: Synchronization and loss of synchronization can be test by attenuator or power reduction.</p> <p>Local west and east Syn: Local PC can ping to remote PC; Remote PC can catch Ethernet packets from local PC via Ethereal.</p> <p>Local west Syn、Local east loss Syn: Local PC can ping to remote PC; Remote PC can catch Ethernet packets from local PC via Ethereal.</p> <p>Local west loss Syn, local east Syn: Local PC can ping to remote PC; Remote PC can catch Ethernet packets from local PC via Ethereal.</p> <p>Local west and east loss Syn: Local PC can not ping opposite side PC by traffic channel ; Remote PC can catch Ethernet packets from local PC via Ethereal.</p>
Remote	1+1	Syn	Syn	

3. 2+0

- **East & West mode:**

Repeater Site with East & West mode is consist of : (Can be set as Repeater type or Point to 2 Points)

- 2 Outside Door Unit (ODU)
- 2 Antennas
- 1 Inside Door Unit (1+1 IDU)
- 2 50Ω coaxial cable between ODU and IDU

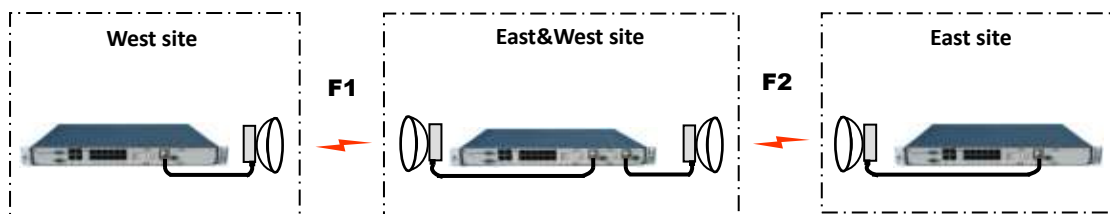


Figure 1.3 East & West mode

Test Case:

PDH IDU	模式	west	east	Purpose
East&west Site	East&West	Syn/Loss Syn	Syn/Loss Syn	<p>Note: Synchronization and loss of synchronization can be test by attenuator or power reduction.</p> <p>West and East Syn in East&West Site: Local PC can ping to PC of West Site and East Site; PC of West Site and West Site can independently catch Ethernet packets from local PC via Ethereal.</p> <p>West Syn and East loss Syn in East&West Site: PC of East&West Site can ping to PC of west but not ping to east site; PC of West Site can catch Ethernet packets via Ethereal but East Site can not.</p> <p>West loss Syn and East Syn in East&West Site: PC of East&West Site can ping to PC of East Site but not ping to West Site; PC of East Site can catch Ethernet packets via Ethereal but West Site can not.</p> <p>West and East Syn in East&West Site: PC of East&West Site can not ping to PC of East Site or West Site; PC of East Site and West site can not catch Ethernet packets via Ethereal either.</p>
West Site	1+0	Syn	N/A	
East Site	1+0	Syn	N/A	