CFM and Y1731 Configuration

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Chapter 1 Overview

1.1 Stipulation

1.1.1 Format Stipulation in the Command Line

Syntax	Meaning
Bold	Stands for the keyword in the command line, which stays unchanged and must be entered without any modification. It is presented as a bold in the command line.
{italic}	Stands for the parameter in the command line, which must be replaced by the actual value. It must be presented by the italic in the brace.
<*italic*>	Stands for the parameter in the command line, which must be replaced by the actual value. It must be presented by the italic in the point bracket.
[ ]	Stands for the optional parameter, which is in the square bracket.
{ x | y | ... }	Means that you can choose one option from two or more options.
[x | y | ...]	Means that you can choose one option or none from two or more options.
{ x | y | ... } *	Means that you has to choose at least one option from two or more options, or even choose all options.
[x | y | ...] *	Means that you can choose multiple options or none from two or more options.
&<1-n>	Means that the parameter before the “&” symbol can be entered 1~n times.
#	Means that the line starting with the “#” symbol is an explanation line.

Chapter 2 CFM Configuration

2.1 CFM Configuration Task List

- Adding the Maintenance Domain
- Adding the Maintenance Association
- Adding MIP (Maintenance domain Intermediate Point)
- Adding MEP (Maintenance association End Point)
- Starting CFM

2.2 CFM Maintenance Task List

- Using the Loopback Function
- Using the Linktrace Function

2.3 CFM Configuration

2.3.1 Adding the Maintenance Domain

Configuration mode: Global

Command	Purpose
ethernet cfm md mdnf *{string}* <*char_string*> [**level** <*0-7*> | **creation** <*MHF_creation_type*> | **sit** <*sender_id_type*> | **ip** <*IP_address*>]	Adds a maintenance domain whose name is char_string. Note: 【1】 The system enters the maintenance domain configuration mode after the maintenance domain is added.

2.3.2 Adding the Maintenance Association

Configuration mode: maintenance domain

Command	Purpose
ma manf *{string}* <*char_string*> **ci** *{100ms* | *1s* | *10s* | *1min* | *10min}* **meps** <*mepids*> [**vlan** <*1-4094*> | **creation** <*MHF_creation_type*> | **sit** <*sender_id_type*> | **ip** <*IP_address*>]	Adds a maintenance association whose name is char_string.

2.3.3 Adding MIP (Maintenance domain Intermediate Point)

Configuration mode: physical interface

Command	Purpose
ethernet cfm mip add level <*0-7*> [**vlan** <*1-4094*>]	Adds a designated VLAN and hierarchical MIP to the designated physical interface.

2.3.4 Adding MEP (Maintenance association End Point)

Configuration mode: physical interface

Command	Purpose
ethernet cfm mep add mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** <*1-8191*> **rmepid** <*1-8191*> [**direction** *{up* | *down}* **| ip** <*ip_address*> **| lap** *{all* | *mac* | *rCCM* | *eCCM* | *xcon* | *none}*]	Adds a designated maintenance domain and an MEP to the designated physical interface.

2.3.5 Starting CFM

Configuration mode: Global

Command	Purpose
ethernet cfm *{enable}*	Starts CFM.

2.4 CFM Maintenance

2.4.1 Using the Loopback Function

Configuration mode: EXEC

Command	Purpose
ethernet cfm loopback mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** <*1-8191*> **mac** <*AA:BB:CC:DD:EE:FF*> **number** <*1-64*>	Uses a designated MEP to conduct loopback towards itself.

2.4.2 Using the Linktrace Function

Configuration mode: EXEC

Command	Purpose
ethernet cfm linktrace mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** <*1-8191*> **mac**	Uses a designated MEP to conduct loopback towards itself.

<AA:BB:CC:DD:EE:FF> [**ttl** *{1-255}* | **fdb-only** *{yes}*]	

2.5 Configuration Example

Users want to add a maintenance domain whose name is customer and hierarchy is 5, set a customer1 maintenance association for vlan1. The the transmission interval of CCM of the maintenance association is 1s (MEP1, MEP2, MEP2009). And users at last add an MEP whose MEPID is 2009 to physical port1 and whose remote MEP is 2008:

Switch_config#ethernet cfm md mdnf string customer level 5

Switch_config_cfm#ma manf string customer1 vlan 1 ci 1s meps 1-2,2009

Switch_config_cfm#interface g0/1

Switch_config_g0/1#ethernet cfm mep add mdnf string customer manf string customer1 mepid 2009 rmep 2008 direction down lap all

Switch_config_g0/1#exit

Switch_config#ethernet cfm enable