CFM and Y1731 Configuration

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Chapter 1 Overview

1.1 Stipulations

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 *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} **mdn** <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} **man** <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}* **mdn** <*char_string*> **manf** *{string}* **man** <*char_string*> **mepid** <*1-8191*> [**direction** *{up* | *down}* **| ip** <*ip_address*>]	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} **mdn** <char_string> **manf** {string} **man** <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} **mdn** <char_string> **manf** {string} **man** <char_string> **mepid** <1-8191> **mac** <AA:BB:CC:DD:EE:FF> [**ttl** {1-255} | **fdb-only** {yes}] <char_string> **manf** {string}	Uses a designated MEP to conduct loopback towards itself.

man <char_string> **mepid** <1-8191> **mac** <AA:BB:CC:DD:EE:FF> **ttl** <1-255>	

2.5 Configuration Example

You want to add a maintenance domain whose name is customer and hierarchy is 5, set a customer1 maintenance association for vlan1, configure the transmission interval of CCM of the maintenance association to 1s and add an MEP whose MEPID is 2009 to physical port1.

Switch_config#ethernet cfm md mdnf string mdn customer level 5

Switch_config_cfm#ma manf string man 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 mdn customer manf string man customer1 mepid 2009 direction DOWN

Switch_config_g0/1#exit

Switch_config#ethernet cfm enable

Chapter 3 Y1731 Configuration

3.1 Configuration Task List

- Specifying an MEP to Forward AIS Frame
- Enabling Frame Delay Measurement
- Displaying the Information About OAM Protocol

3.1.1 Specifying an MEP to Forward AIS Frame

Run the following commands specify an MEP to transmit AIS frames:

Procedure	Command	Purpose
Step1	**config**	Enters the global configuration mode.
Step2	**ethernet y1731 ais-mep timer** *time*	Designates the transmission interval of AIS packets. <1> -- 1 frame per second <2> -- 1 frame per minute The default transmission value is 1 second.
Step3	**interface** intf-type intf-id	Enters the interface configuration mode.
Step4	**ethernet y1731 ais-mep** *MEGID MEPID*	Specifies an MEP to transmit AIS frames. MEGID is the name of MEG to which MEP belongs. MEPID is the identifier of the specified MEP.

You can run **no ethernet y1731 ais-mep timer** to resume the default transmission period of AIS frames and run **no ethernet y1731 ais-mep *MEGID MEPID*** to delete AIS transmitter, MEP.

3.1.2 Displaying the Information About OAM Protocol

Run show to browse Y1731 configuration:

Command	Purpose
show ethernet y1731 ais-mep	The above-mentioned command is used to show the MEPs that can transmit AIS frames.
show ethernet y1731 detect *MEGID* **[***MEPID* **]**	The above-mentioned command is used to display the detection information about the continuous check of MEG, including whether continuity is lost or whether other faults occur. MEGID is the name of MEG. MEPID is the symbol of to-be-displayed MEP.
show ethernet y1731 interface *interface-name*	Displaying MEP and MIP Configurations on a Port ***interface-name*** stands for port identifier.
show ethernet y1731 meglist [*MEGID* **]**	The above-mentioned command is used to display the configuration of all MEG or the detailed

	configuration about a certain MEG. MEGID is the name of to-be-displayed MEG.
show ethernet y1731 miplist	The above-mentioned command is used to display the information about all configured MIPs.
show ethernet y1731 traffic	The above-mentioned command is used to display some statistics information about the Y.1731 module, including statistics of the received and transmitted OAM packets and the system error.

3.1.3 Deleting Y1731 Configuration or Statistics Information

Run **clear** to browse Y1731 configuration and statistics information:

Command	Purpose
clear ethernet y1731 counters	The above-mentioned command is used to delete the transmission statistics information about the OAM packets and the system error information.