CFM and Y1731 Configuration Commands

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Chapter 1 Overview

1.1 Stipulation

1.2 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

2.1 CFM Configuration Commands

2.1.1 Adding the Maintenance Domain and Entering the Maintenance Domain Mode

Syntax

To add a maintenance domain or enter the already existent maintenance domain, run the following command.

ethernet cfm md mdnf *{string}* <*char_string*> [**level** <*0-7*> | **creation** <*MHF_creation_type*> |

sit <*sender_id_type*> | **ip** <*IP_address*>]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
level	(optional parameter) Stands for the level of a maintenance domain. It is 0 by default.
creation	MIP It is none by default.
sit	Stands for the identifier type of the sender. It is none by default.
ip	(optional parameter) Stands for the IP address reported by the trouble alarm. It is 0.0.0.0 by default.

Command Mode

Global configuration mode

Example

Switch_config#ethernet cfm md mdnf string customer level 5

Related Command

None

2.1.2 Deleting the Maintenance Domain

Syntax

To delete a designated maintenance domain, run the following command.

no ethernet cfm md mdnf *{string}* <*char_string*>

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.

Command Mode

Global configuration mode

Example

Switch_config#no ethernet cfm md mdnf string customer

Related Command

None

2.1.3 Browsing the Maintenance Domain

Syntax

To browse all the maintenance domains or the designated maintenance domains of the local device, run the following command.

show ethernet cfm md [mdnf *{string}* <*char_string*>**]**

Parameters

Parameters	Description
mdnf	Stands for the format of the name of a to-be-browsed designated maintenance domain. At present only the char-string format is supported. It is in character string format with 1 to 42 printable characters and all characters should be

	capital sensitive.

Command Mode

EXEC, global, interface, maintenance domain

Example

Switch_config#show ethernet cfm md mdnf string customer

Related Command

None

2.1.4 Adding a maintenance association

Syntax

To add a maintenance association, run the following command.

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*>]

Parameters

Parameters	Description
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. It is the name of the maintenance association. It is in character string mode.
ci	Stands for the transmission interval of CCM. The shortest transmission interval which is supported presently is 100ms.
meps	Stands for the MEPID of all MEPs in the local maintenance domain.
vlan	Stands for the identifier of the VLAN where the maintenance association is located. It is 1 by default.
creation	MIP It is none by default.

sit	Stands for the identifier type of the sender. It is none by default.
ip	(optional parameter) Stands for the IP address reported by the trouble alarm. It is 0.0.0.0 by default.

Command Mode

Maintenance domain mode

Example

Switch_config_cfm#ma manf string customer1 ci 1s meps 1-2,2009 vlan 10

Related Command

None

2.1.5 Deleting the Maintenance Association

Syntax

To delete a designated maintenance association, run the following command.

no ma manf *{string}* *<char_string>*

Parameters

Parameters	Description
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. *<char_string>* is the name of the maintenance association. It is in character string mode.

Command Mode

Maintenance domain mode

Example

Switch_config_cfm#no ma manf string man customer

Related Command

None

2.1.6 Browsing the Maintenance Association

Syntax

To browse all or designated maintenance associations in a designated maintenance domain on the local device, run the following command.

show ethernet cfm ma mdnf *{string}* <*char_string*> [**manf** {string} <char_string>]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain where the to-be-browsed maintenance association is located. At present only the char-string format is supported. <*char_string*> is the name of the maintenance domain where the to-be-browsed maintenance association is located. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of a to-be-browsed maintenance association. At present only the char-string format is supported. <char_string> is the name of a to-be-browsed maintenance association. It is in character string mode.

Command Mode

EXEC, global, interface, maintenance domain

Example

Switch_config#show ethernet cfm ma mdnf string customer manf string customer1

Related Command

None

2.1.7 Adding MIP

Syntax

To add an MIP of a specific level, which belongs to a designated VLAN, on a specific interface, run the following command.

ethernet cfm mip add level <*0-7*> [**vlan** <*1-4094*>]

Parameters

Parameters	Description
level	Stands for the level of a maintenance domain.
vlan	Stands for the identifier of the VLAN where the maintenance association is located. It is 1 by default.

Command Mode

Physical interface configuration mode

Example

Switch_config_g0/1#ethernet cfm mip add level 1 vlan 10

Related Command

None

2.1.8 Deleting MIP

Syntax

To delete a designated MIP, run the following command.

ethernet cfm mip del vlan *<1-4094>*

Parameters

Parameters	Description
vlan	Stands for the identifier of the VLAN where MIP is located.

Command Mode

Interface configuration mode

Example

Switch_config_g0/1#ethernet cfm mip del vlan 10

Related Command

None

2.1.9 Browsing MIP

【Method 1】

Syntax

To browse all MIPs of a designated interface in the local device or MIPs in a specific VLAN, run the following command.

show ethernet cfm mip vlan *<1-4094>* **interface** *<interface_name>*

show ethernet cfm mip interface *<interface_name>*

Parameters

Parameters	Description
interface	Stands for a to-be-browsed interface.
vlan	Stands for the identifier of a to-be-browsed VLAN.

Command Mode

EXEC, global, interface, maintenance domain

Example

Switch_config#show ethernet cfm mip vlan 1 interface g0/1

Related Command

None

【Method 2】

Syntax

To browse all MIPs on the current interface of the local device, run the following command.

ethernet cfm mip display

Parameters

None

Command Mode

Physical interface mode

Example

Switch_config_g0/1#ethernet cfm mip display

Related Command

None

2.1.10 Adding MEP

Syntax

To add an MEP, which belongs to a designated maintenance association, on a specific interface, run the following command.

ethernet cfm mep add mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** <*1-8191*> [**direction** *{up | down}* **| ip** <*ip_address*> **| lap** *{all | mac | rCCM | eCCM | xcon | none}*]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. <*char_string*> is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. <*char_string*> is the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of the to-be-added MEP.
direction	(optional parameter) Stands for the direction of the to-be-added MEP. It is down by default.
ip	(optional parameter) Stands for the IP address reported by the trouble alarm. It is 0.0.0.0 by default.
lap	Stands for the lowest priority of trouble report. It is all by default.

Command Mode

Physical interface configuration mode

Example

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

Related Command

None

2.1.11 Deleting MEP

Syntax

To delete a designated MEP, run the following command.

ethernet cfm mep del mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** *<1-8191>*

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. *<char_string>* is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. *<char_string>* is the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of the to-be-added MEP.

Command Mode

Physical interface configuration mode

Example

Switch_config_g0/1#ethernet cfm mep del mdnf string customer manf string customer1 mepid 2009

Related Command

None

2.1.12 Browsing MEP

【Method 1】

Syntax

To browse the detailed or brief information about all MEPs in the designated maintenance domain of the local device, or that about a specific MEP, run the following command.

show ethernet cfm mep mdnf *{string}* *<char_string>* **manf** *{string}* *<char_string>* [**mepid** *<1-8191>*] [**view** *{detail | brief}*]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. *<char_string>* is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported.
man	Stands for the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital

	sensitive.
mepid	Stands for the MEPID of the to-be-browsed MEP.
view	Means to browse the detailed information or the brief information. It is the detailed information that will be browsed by default.

Command Mode

EXEC, global, interface, maintenance domain

Example

Switch_config#show ethernet cfm mep mdnf string x manf string x view brief

Related Command

None

【Method 2】

Syntax

To browse all MEPs on the current interface of the local device, run the following command.

ethernet cfm mep display

Parameters

None

Command Mode

Physical interface mode

Example

Switch_config_g0/1#ethernet cfm mep display

Related Command

None

2.3 CFM Maintenance Commands

2.2.1 loopback

Syntax

To use a designated MEP at the local terminal to conduct loopback towards another designated MEP at the remote terminal, run the following command.

ethernet cfm loopback mdnf *{string}* *<char_string>* **manf** *{string}* *<char_string>* **mepid** *<1-8191>* **mac** *<AA:BB:CC:DD:EE:FF>* [**number** *<1-64>*]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. *<char_string>* is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. *<char_string>* is the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of the local MEP.
mac	Stands for the MAC address of the remote MEP.
number	(optional parameter) Stands for the times of conducting loopback. It is 3 by default.

Command Mode

EXEC

Example

Switch#ethernet cfm loopback mdnf string x manf string x mepid 1 mac 00:15:E9:43:AD:E3 number 3

Related Command

None

2.2.2 linktrace

Syntax

To use a designated local MEP to conduct linktrace towards a designated remote MEP, run the following command.

ethernet cfm linktrace mdnf *{string}* *<char_string>* **manf** *{string}* *<char_string>* **mepid** *<1-8191>* **mac** *<AA:BB:CC:DD:EE:FF>* [**ttl** *{1-255}* | **fdb-only** *{yes}*]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. *<char_string>* is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported.
mepid	Stands for the MEPID of the local MEP.
mac	Stands for the MAC address of the remote MEP.
ttl	(optional parameter) Stands for the tt1 value. It is 64 by default.
fdb-only	(optional parameter) Means to use the forward database or not. It is yes by default.

Command Mode

EXEC

Example

Switch#ethernet cfm linktrace mdnf s x manf string x mepid 1 mac 00:15:E9:43:AD:E3 ttl 64

Related Command

None

2.2.3 Deleting the Linktrace Result Table

Syntax

To delete the linktrace result table of a designated MEP, run the following command.

clear ethernet cfm linktrace mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> [**mepid** <*1-8191*>]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. <*char_string*> is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. <*char_string*> is the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of the local MEP.

Command Mode

EXEC

Example

Switch#clear ethernet cfm linktrace mdnf string x manf string x mepid 1

Related Command

None

2.2.4 Setting the Size of the Linktrace Result Table

Syntax

To set the size of the linktrace result table (that is, the number of linktraces which can be conducted concurrently), run the following command.

ethernet cfm linktrace table-size *<1-16>*

Parameters

Parameters	Description
table-size	Stands for the size of the linktrace result table.

Command Mode

Global configuration mode

Example

Switch_config#ethernet cfm linktrace table-size 1

Related Command

None

2.2.5 Setting the Number of Entries in the Linktrace Result Table

Syntax

To set the maximum number of entries that are received each time by the linktrace result table, run the following command.

ethernet cfm linktrace entry-number *<2-4095>*

Parameters

Parameters	Description
entry-number	Stands for the number of the entries in the linktrace result table.

Command Mode

Global configuration mode

Example

Switch_config#ethernet cfm linktrace entry-number 2009

Related Command

None

2.2.6 Setting the aging time of the linktrace result table

Syntax

To set the maximum number of entries that are received each time by the linktrace result table(Unit:min), run the following command.

ethernet cfm linktrace hold-time *<1-29>*

Parameters

Parameters	Description
hold-time	Stands for the aging time of the linktrace result table. Unit: minute

Command Mode

Global configuration mode

Example

Switch_config#ethernet cfm linktrace hold-time 10

Related Command

None

2.2.7 Deleting the MEP Statistics Data

Syntax

To delete the statistics data of a designated MEP, run the following command.

ethernet cfm mep clear mdnf *{string}* <*char_string*> **manf** *{string}* <*char_string*> **mepid** <*1-8191*>

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported. <*char_string*> is the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported. <*char_string*> is the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of a designated MEP.

Command Mode

Physical interface mode

Example

Switch_config_g0/1#ethernet cfm mep clear mdnf string x manf string x mepid 1

Related Command

None

2.4 CFM Control Commands

2.4.1 CFM Stack Control Command

Syntax

To enable or disable the whole CFM protocol stack, run the following command.

ethernet cfm *{enable* | *disable}*

Parameters

None

Command Mode

Global configuration mode

Example

Switch_config#ethernet cfm enable

Related Command

None

2.4.2 CFM Interface Control Command

Syntax

To enable or disable the CFM function of the current interface, run the following command.

ethernet cfm *{enable* | *disable}*

Parameters

None

Command Mode

Physical interface mode

Example

Switch_config_g0/1#ethernet cfm enable

Related Command

None

2.4.3 MIP Control Command

Syntax

To enable or disable the MIP of a designated VLAN on the current interface, run the following command.

ethernet cfm mip *{enable* | *disable}* **vlan** *<1-4094>*

Parameters

None

Command Mode

Physical interface mode

Example

Switch_config_g0/1#ethernet cfm mip enable vlan 1

Related Command

None

2.4 CFM Query Commands

2.4.1 Browsing the CFM Protocol Stack

Syntax

To browse the CFM protocol stack, run the following command.

show ethernet cfm stack

Parameters

None

Command Mode

Non-user mode

Example

Switch_config#show ethernet cfm stack

Related Command

None

2.4.2 Browsing the CFM Interface

Syntax

To check the relevant information of CFM interface, run the following command.

show ethernet cfm interface [<*interface_name*>]

Parameters

None

Command Mode

Non-user mode

Example

Switch_config#show ethernet cfm interface g0/1

Related Command

None

2.4.3 Browsing the Locally Stored Information about the Remote MEP

Syntax

To browse the detailed or brief information about all remote MEPs, which together with a designated local MEP belong to the same maintenance association, or about a designated remote MEP, run the following command.

show ethernet cfm rmep mdnf *{string}* **mdn** <*char_string*> **manf** *{string}* **man** <*char_string*> [**mepid** <*1-8191*>] [**rmepid** <*1-8191*>] [**view** *{detail* | *brief}*]

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported.
mdn	Stands for the name of the maintenance domain. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported.
man	Stands for the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.

mepid	Stands for the MEPID of the local MEP, which together with the to-be-browsed remote MEP belongs to the same maintenance association.
rmepid	Stands for the MEPID of the to-be-browsed remote MEP.
view	Means to browse the detailed information or the brief information. It is the detailed information that will be browsed by default.

Command Mode

Non-user mode

Example

Switch_config#show ethernet cfm rmep mdnf string mdn x manf string man x mepid 1 rmepid 2 view brief

Related Command

None

2.4.4 Browsing the LinkTrace Result Table

Syntax

To browse the linktrace result table which is carried out by a specified TID of a specific MEP, run the following command.

show ethernet cfm linktrace mdnf *{string}* **mdn** <*char_string*> **manf** *{string}* **man** <*char_string*> **mepid** <*1-8191*> **tid** <*0-4294967295*>

Parameters

Parameters	Description
mdnf	Stands for the format of the name of the maintenance domain. At present only the char-string format is supported.
mdn	Stands for the name of the maintenance domain. It is in character string format

	with 1 to 42 printable characters and all characters should be capital sensitive.
manf	Stands for the format of the name of the maintenance association. At present only the char-string format is supported.
man	Stands for the name of the maintenance association. It is in character string format with 1 to 42 printable characters and all characters should be capital sensitive.
mepid	Stands for the MEPID of the local MEP, which together with the to-be-browsed remote MEP belongs to the same maintenance association.
tid	Stands for the TID that is returned during linktrace.

Command Mode

Non-user mode

Example

Switch_config#show ethernet cfm linktrace mdnf string mdn x manf string man x mepid 1 tid 19830719

```
**** [RESULT FOR READING LINKTRACE REPLY] ****

                ================================================
                                ID :0x12E97BF (19830719)【Event ID of the presently running LT】
                                TTL :0x00000004(4)  【TTL value of the presently running LT】
                            TOTAL LTRs:1【LTRs returned by the remote terminal of the result table】
                              MAX LTRs:100【receiving at most 100 LTRs】
                            NEXT ORDER:2【The next expected LTR order ID】

                                【The total information of one Linktrace is shown above】
                ==================== LTRs ====================

                                order:1【Order ID of this LTR】
                                  TTL:3【TTL vlaue in the responsed LTRs】
                                FwdYes:NO【Whether the local node forwards LTM】
                             TerminalMEP:NO【Whether the local node is the terminal MEP】
                          Last Egress ID:0 - 00:E0:0F:DC:02:11【MAC of the previous hop】
                          Next Egress ID:0 - 00:00:00:00:00:00【MAC of the next hop, and if the result is 0 it means there is no
next hop】
                            Relay Action:(1)HIT【Field of the Relay action: HIT means just hitting successively】
                         Ingress Action:OK(1)【state of the ingress port: OK】
                    Ingress MAC Address:00:E0:0F:81:11:1C【MAC of the ingress port】
                Ingress Port ID format:MAC-ADDRESS(3)【ID format of the ingress port: MAC format】
                 Ingress Port ID (hex):00 E0 0F 81 11 1C【Identifier of the ingress port：00 E0 0F 81 11 1C】
```

Related Command

None

2.4.5 Browsing the whole running status of CFM

Syntax

To browse the whole running status of CFM, run the following command.

show ethernet cfm running-info

Parameters

None

Command Mode

All modes except the user mode

Example

Switch_config#show ethernet cfm running-info

Related Command

None