



FiberHome Element Management System

Northbound Interface (TL1)

User Manual

Version: C

Code: MN000000542

FiberHome Telecommunication Technologies Co., Ltd.

February 2017

Thank you for choosing our products.

We appreciate your business. Your satisfaction is our goal. We will provide you with comprehensive technical support and after-sales service. Please contact your local sales representative, service representative or distributor for any help needed at the contact information shown below.

Fiberhome Telecommunication Technologies Co., Ltd.

Address: No. 67, Guanggu Chuangye Jie, Wuhan, Hubei, China

Zip code: 430073

Tel: +6 03 7960 0860/0884 (for Malaysia)

+91 98 9985 5448 (for South Asia)

+593 4 501 4529 (for South America)

Fax: +86 27 8717 8521

Website: <http://www.fiberhomegroup.com>

Legal Notice

烽火通信®

FiberHome®

GONST®

FONST®

e-Fim®

CiTRANS®

E-jet®

IBAS®

Freelink®

FonWeaver®

OTNPlanner™

SmartWeaver™

are trademarks of FiberHome Telecommunication Technologies Co., Ltd.
(Hereinafter referred to as FiberHome)

All brand names and product names used in this document are used for identification purposes only and are trademarks or registered trademarks of their respective holders.

All rights reserved

No part of this document (including the electronic version) may be reproduced or transmitted in any form or by any means without prior written permission from FiberHome.

Information in this document is subject to change without notice.

Preface

Related Documentation

Document	Description
<i>e-Fim ANM2000 Broadband Access Network Management System Product Description (Based on Windows)</i>	Introduces the functions, application scenarios and technical specifications of the e-Fim ANM2000 Broadband Access Network Management System (Based on Windows).
<i>e-Fim ANM2000 Broadband Access Network Management System Installation Guide (Based on Windows)</i>	Introduces how to install the e-Fim ANM2000 Broadband Access Network Management System (Based on Windows).
<i>e-Fim ANM2000 Broadband Access Network Management System Maintenance Guide (Based on Windows)</i>	Introduces routine maintenance items, specific maintenance methods, common failures and troubleshooting methods for the e-Fim ANM2000 Broadband Access Network Management System (Based on Windows). Discusses handling methods for common alarms of relevant equipment.
<i>e-Fim ANM2000 Broadband Access Network Management System Operation Guide (Based on Windows)</i>	Introduces how to operate the e-Fim ANM2000 Broadband Access Network Management System (Based on Windows).
<i>e-Fim ANM2000 Broadband Access Network Management System Active/Standby System Installation Guide (Based on Windows)</i>	Introduces how to install the active/standby systems of e-Fim ANM2000 Broadband Access Network Management System (Based on Windows).
<i>UNM2000 Network Convergence Management System Product Description</i>	Introduces the functions, application scenarios and technical specifications of the UNM2000 Network Convergence Management System.
<i>UNM2000 Network Convergence Management System Installation Guide (Based on Windows)</i>	Introduces how to install the UNM2000 Network Convergence Management System (Based on Windows).
<i>UNM2000 Network Convergence Management System Installation Guide (Based on SUSELinux)</i>	Introduces how to install the UNM2000 Network Convergence Management System (Based on SUSELinux).

Document	Description
<i>UNM2000 Network Convergence Management System Operation Guide</i>	Introduces the operation guidelines of the UNM2000 Network Convergence Management System.
<i>FiberHome Element Management System Northbound Interface (TL1) Operation Manual</i>	Introduces various commands and examples used by the TL1 northbound interface of the FiberHome Element Management System.

Version

Version	Description
A	Initial version.
B	Updates some command descriptions.
C	Adds commands such as MODIFY-ONUVOIPSERVICE.

Intended Readers

This manual is intended for the following readers:




- ◆ Commissioning engineers
- ◆ Operation and maintenance engineers
- ◆ Application developers

Conventions

Terminology Conventions

Terminology	Convention
ANM2000	FiberHome e-Fim ANM2000 Broadband Access Network Management System
UNM2000	FiberHome UNM2000 Network Convergence Management System

Symbol Conventions

Symbol	Convention	Description
	Note	Important features or operation guide.
	Caution	Possible injury to persons or systems, or cause traffic interruption or loss.
	Warning	May cause severe bodily injuries.
→	Jump	Jumps to another step.
→	Cascading menu	Connects multi-level menu options.
↔	Bidirectional service	The service signal is bidirectional.
→	Unidirectional service	The service signal is unidirectional.

Contents

Preface.....	I
Related Documentation	I
Version	III
Intended Readers	III
Conventions	IV
1 TL1 Northbound Interface Overview	1
1.1 TL1 Interface Introduction	2
1.2 Network Diagram	2
1.3 Protocols Used	4
1.4 Management Function	5
1.5 Security Mechanism	6
1.6 Performance Specifications	6
2 TL1 Northbound Interface Installation	8
2.1 Installing the TL1 Northbound Interface	9
2.2 Starting / Stopping the TL1 Northbound Interface Service	9
3 Command Format.....	10
3.1 Format Overview	11
3.2 Command Format.....	12
3.3 Acknowledgment Message Format	13
3.4 Response Message Format	14
3.5 Resource Change Notification Format.....	15
3.6 Definition of Returned Error Codes.....	17
4 Session Control	18
4.1 Logging into the FiberHome EMS (LOGIN).....	19
4.2 Logging Out of the FiberHome EMS (LOGOUT)	20
4.3 Handshake Command (SHAKEHAND)	21

5	Service Commissioning Interface	23
5.1	ONU Configuration (FTTH)	24
5.1.1	Adding an ONU (ADD-ONU)	24
5.1.2	Configuring an ONU (CFG-ONU)	26
5.1.3	Configuring the Bandwidth of an ONU (CFG-ONUBW)	28
5.1.4	Deleting an ONU (DEL-ONU)	30
5.1.5	Configuring the MAC Address Limit of an LAN Port (CFG-LANPORTMACLIMIT)	32
5.1.6	Configuring the Wi-Fi Service (CFG-WIFISERVICE)	34
5.1.7	Modifying Wi-Fi Service (MODIFY-WIFISERVICE)	37
5.1.8	Configuring a WAN Connection (SET-WANSERVICE)	40
5.1.9	Deleting a WAN Connection (SET-WANSERVICE)	43
5.1.10	Configuring Bandwidth Profile of the ONU (CFG-ONUBWPROFILE)	46
5.1.11	Unbinding Bandwidth Profile of the ONU (UNBIND-ONUBWPROFILE)	48
5.1.12	Configuring Rate-control Bandwidth Binding for L3 Service (CFG-LT-BWPROFILE)	49
5.1.13	Binding Flow Policy to the ONU Port (CFG-PORTBINDFLOWPOLICY)	51
5.1.14	Configuring Sub-port of Aggregation Port (SET-UPLINKTRUNK)	53
5.1.15	Query Port of the TRUNK Port Link Aggregation	55
5.2	Broadband / IPTV Services of a LAN Port	56
5.2.1	Activating a LAN Port (ACT-LANPORT)	56
5.2.2	Deactivating a LAN Port (DACT-LANPORT)	58
5.2.3	Configuring a LAN Port (CFG-LANPORT)	60
5.2.4	Configuring the VLAN of a PON Port (ADD-PONVLAN)	64
5.2.5	Deleting the VLAN of a PON Port (DEL-PONVLAN)	66
5.2.6	Configuring the VLAN of a LAN Port (CFG-LANPORTVLAN)	68
5.2.7	Deleting the VLAN of a LAN Port (DEL-LANPORTVLAN) ..	70
5.2.8	Configuring the IPTV Service of a LAN Port (CFG-LANIPTVPORT)	72
5.2.9	Adding a LAN Port into a Multicast VLAN (ADD-LANIPTVPORT)	75

5.2.10	Configuring the IPTV Service of a LAN Port (CFG-LANIPTVPORT)	77
5.2.11	Deleting a LAN Port from a Multicast VLAN (DEL-LANIPTVPORT)	80
5.2.12	Adding HG Management Channel Configuration (CFG-NONOMCIMPATHTHCONFIG).....	82
5.2.13	Adding VEIP Data Service (CFG-VEIPSERVICE).....	84
5.2.14	Modifying VEIP Data Service (DEL-VEIPSERVICE)	86
5.2.15	Unbinding VEIP Data Service (UNBIND-VEIPSERVICE)...	88
5.2.16	Deleting VEIP Data Service (DEL-VEIPSERVICE)	90
5.3	Broadband / IPTV Services of an xDSL Port.....	91
5.3.1	Activating a DSL Port (ACT-DSLPORT)	92
5.3.2	Deactivating a DSL Port (DACT-DSLPORT).....	94
5.3.3	Configuring the Bandwidth of a DSL Port (CFG-DSLPORTBW)	96
5.3.4	Configuring the VLAN of a DSL Port (CFG-DSLPORTVLAN).....	98
5.3.5	Deleting the VLAN of a DSL Port (DEL-DSLPORTVLAN)	100
5.3.6	Adding a Multicast User for a DSL Port (ADD-DSLIPTVPORT)	102
5.3.7	Deleting a Multicast User of a DSL Port (DEL-DSLIPTVPORT)	104
5.3.8	Configuring the IPTV Service of a DSL Port (CFG-DSLIPTVPORT)	106
5.4	VoIP Service.....	108
5.4.1	Activating a VoIP Port (ACT-VOIPPORT)	108
5.4.2	Deactivating a VoIP Port (DACT-VOIPPORT).....	111
5.4.3	Configuring the Voice Service of a VoIP Port (CFG-VOIPSERVICE).....	113
5.4.4	Deleting the Voice Service of a VoIP Port (DEL-VOIPSERVICE).....	116
5.4.5	Configuring the NGN Uplink Interface (SET-NGN-UPLINK).....	118
5.4.6	Modifying Voice Coding of VOIP Port (MODIFY-ONUVOIPSERVICE)	121
5.5	VLAN Service	123

5.5.1	Creating a VLAN (ADD-VLAN)	123
5.5.2	Deleting a VLAN (DEL-VLAN)	125
5.6	Configuring a Port Speed Rate Template	127
5.6.1	Adding a Port Rate Limiting Template (ADD- PORTSPEEDLIMITPROFILE)	127
5.6.2	Deleting a Port Rate Limiting Template (DEL- PORTSPEEDLIMITPROFILE)	129
5.7	Configuring a Bandwidth Template	130
5.7.1	Adding a Bandwidth Template (ADD-BWPROFILE)	130
5.7.2	Deleting a Bandwidth Template (DEL-BWPROFILE)	132
5.8	Configuring a Flow Policy	133
5.8.1	Adding a Flow Policy (ADD-FLOWPOLICY)	133
5.8.2	Deleting a Flow Policy (DEL-FLOWPOLICY)	136
5.8.3	Adding a Port Flow Policy (ADD- PORTPVCFLOWPOLICY)	138
6	Integrated Testing Interface	140
6.1	The Ping Command	141
6.1.1	Using PING on an ONU (PING)	141
6.2	Querying the Equipment Information	144
6.2.1	Querying the NE Information (LST-DEVINFO)	144
6.2.2	Querying the Card Information (LST-BRDINFO)	146
6.3	Querying the PON Information	149
6.3.1	Querying the PON Port Information (LST-PONINFO)	149
6.3.2	Querying the PON Link Statistics Information (LST- PONPERF)	151
6.3.3	Querying the ONU Configuration (LST-ONUCFG)	154
6.3.4	Querying the ONU Status (LST-ONUSTATE)	157
6.3.5	Querying the MAC Address Table of an ONU UNI Port (LST- PORTMACADDRESS)	160
6.3.6	Querying the DDM Information of Optical Modules (LST- OMDDM)	162
6.3.7	Querying the Unregistered ONU of a PON Port (LST- UNREGONU)	166

6.3.8	Querying the Wi-Fi Service Information of an ONU (LST-WIFISERVICE).....	168
6.3.9	Querying the WAN Service Information of an ONU (LST-ONUWANSERVICECFG).....	172
6.3.10	Restarting an ONU (RESET-ONU).....	176
6.3.11	Querying the IP Address / Range Allocated to the User by Wi-Fi (LST-USERDHCPSEVER).....	178
6.3.12	Modifying the IP Address / Range Allocated to the User by Wi-Fi (CFG-USERDHCPSEVER).....	181
6.3.13	Querying the Web Interface Username and Password (LST-WEBADMINISTRATOR).....	183
6.3.14	Modifying the Web Interface Username and Password (CFG-WEBADMINISTRATOR).....	185
6.3.15	Restoring an ONU to Factory Default Settings (RESTORE-DEFAULTCFG).....	187
6.4	Querying the LAN Information	189
6.4.1	Querying the LAN Port Information (LST-ONULANINFO).....	189
6.4.2	Querying the LAN Port Rate Control (LST-LANCAR).....	192
6.4.3	Querying the ETH Performance (LST-LANPERF).....	195
6.4.4	Conducting the Broadband Dial-up Emulation Test (TEST-PPPOESIMULATION).....	199
6.5	Querying the DSL Information	202
6.5.1	Querying the ADSL2+ Port Information (LST-ADSLINFO).....	202
6.5.2	Querying the ADSL2+ Port Performance (LST-ADSLPERF).....	206
6.5.3	Querying the ADSL2+ Port Statistics Information (LST-ADSLSTAT).....	209
6.5.4	Querying the VDSL2 Port Information (LST-VDSLINFO).....	212
6.5.5	Querying the VDSL2 Port Performance (LST-VDSLPERF).....	216
6.5.6	Querying the VDSL2 Port Statistics Information (LST-VDSLSTAT).....	218
6.5.7	Conducting the Single-ended Loop Test (SELT).....	222
6.5.8	Conducting the Double-ended Loop Test (DELT).....	224
6.5.9	Querying the xDSL Port PVC Information (LST-PVCINFO).....	227

6.6	Querying the VLAN Information.....	229
6.6.1	Querying the VLAN Forwarding (LST-VLANFWDINFO)...	229
6.7	Querying the IPTV Information	232
6.7.1	Querying the Multicast Configuration (LST-IPTVCFG)	232
6.8	Querying the VoIP Information	235
6.8.1	Querying the Voice Quality Statistical Information (LST-VoIPINFO).....	235
6.8.2	Querying the MG Configuration (LST-MGCFG).....	238
6.8.3	Querying the MG Interface Information (LST-MGINFO)....	241
6.8.4	Querying the Port Fax Parameter (LST-FAXINFO).....	244
6.8.5	Querying the POTS Port Information (LST-POTSINFO)...	247
6.8.6	Conducting the Outer Line Test (MELT)	251
6.8.7	Conducting the Inner Line Test (TEST-POTSCIRCUIT) ...	254
6.8.8	Conducting the Incoming Call Emulation Test (TEST-CALLEESIMULATION)	257
6.8.9	Conducting the Outgoing Call Emulation Test (TEST-CALLERSIMULATION)	261
6.9	Querying the Alarm Information	265
6.9.1	Querying Alarms (QUERY-ALARM).....	265
7	Integrated Query Interface	271
7.1	Querying the Equipment Information	272
7.1.1	Querying the OLT Equipment Information (LST-DEVICE)	272
7.1.2	Querying the ONU Equipment Information (LST-ONU)	273
7.1.3	Querying the ONU Hardware / Software Version (LST-ONUVERSION)	277
7.1.4	Querying the Shelf Information (LST-SHELF)	279
7.1.5	Querying the Card Information (LST-BOARD)	283
7.1.6	Querying ONU Distance Value in a Batch Manner (LST-ONUDISTANCE)	288
7.2	Querying Service Resources.....	289
7.2.1	Querying the Media Gateway Information (LST-MG).....	290
7.2.2	Querying the Voice Port Information (LST-POTS)	293
7.2.3	Querying the Multicast Service Information (LST-IPTV)....	297
7.2.4	Querying the LAN Port Information (LST-LANPORT)	300

7.2.5	Querying the DSL Port Information (LST-DSLPORT)	304
7.2.6	Querying the Port VLAN Information (LST-PORTVLAN) ..	306
7.2.7	Querying the VLAN Information (LST-VLAN)	309
7.2.8	Querying the ONU Port Service Information (LST- ONUSERVICESTATUS)	312
7.2.9	Querying the VLAN Service Port (LST-SERVICEPORT) ..	315
7.2.10	Querying the Flow Policy (LST- PORTPVCFLOWPOLICY)	317
7.2.11	Querying the Template Information (RTRV-TEMPLATE- ALL)	320
7.2.12	Querying the Port Template Information (RTRV-TEMPLATE- PORT)	321
7.3	Resource Change Notification	324
7.3.1	Registering the Resource Change Notification (SUBSCRIBE)	324
7.3.2	Deregistering the Resource Change Notification (UNSUBSCRIBE)	325
7.3.3	Querying the Resource Change Notification (LST- RESNOTIFY)	326
7.3.4	Resource Change Notification Interface	328
7.4	Resource Data Full Export	333
7.4.1	Resource Full Export Interface (DUMP- RESOURCEINFO)	334
7.4.2	Resource Full Export Notification	335
8	Integrated Alarm Interface	337
8.1	Subscribing to Alarms (SUBSCRIBE)	338
8.2	Enabling the Alarm Filter (ACT-ALARM-FILTER)	339
8.3	Disabling the Alarm Filter (DACT-ALARM-FILTER)	340
8.4	Modifying the Alarm Filter Configuration (CHG-ALARM-FILTER) ...	341
8.5	Viewing the Alarm Filter Configuration (LST-ALARM-FILTER)	343
8.6	Querying Alarms (LST-ALARM)	344
8.7	Confirming an Alarm (ACK-ALARM)	349
8.8	Canceling the Confirmation for an Alarm (UNACK-ALARM)	350
8.9	Clearing an Alarm (CLR-ALARM)	351

9	Common Error Codes	353
10	The List of Parameters	354
11	The List of Alarms	358
12	Abbreviations.....	364

1

TL1 Northbound Interface Overview

The following introduces the position of the TL1 northbound interface in the network, its used protocols, supported functions, adopted security mechanism as well as performance specifications.

- ☒ TL1 Interface Introduction
- ☒ Network Diagram
- ☒ Protocols Used
- ☒ Management Function
- ☒ Security Mechanism
- ☒ Performance Specifications

1.1 TL1 Interface Introduction

The TL1 northbound interface is used for connecting the Element Management System (EMS) and the Operation Support System (OSS) / Network Management System (NMS).

The TL1 northbound interface enables the OSS or NMS to implement the provisioning and maintenance of the EPON/GEPON FTTX broadband, IPTV and VoIP services.

1.2 Network Diagram

The position of the TL1 northbound interface in the network is as shown in Figure 1-1.

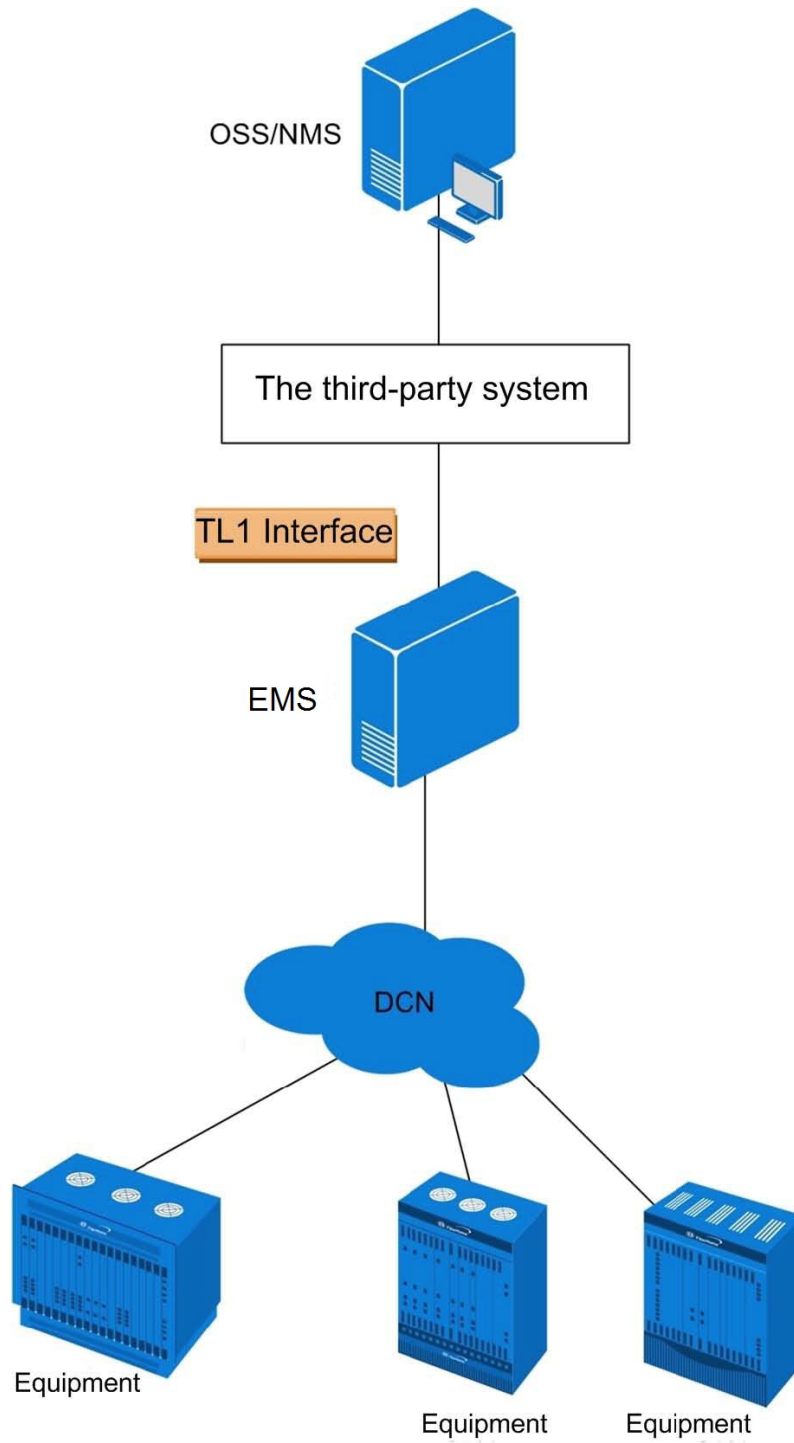


Figure 1-1 Network Diagram

In the network diagram, each node functions as follows:

- ◆ OSS / NMS: Indicates the Operation Support System / Network Management System. It sends TL1 commands to the EMS to perform service provisioning and failure query operations.
- ◆ Third-party system: It is deployed between the OSS / NMS and the EMS, parsing the OSS / NMS system command into the standard TL1 format and sending it to the EMS; meanwhile, it parses the result returned from the EMS and presents it to OSS / NMS.
- ◆ TL1 northbound interface: It processes the TL commands already parsed by the third-party system, and performs operations on the EMS and returns the result.
- ◆ EMS: Indicates the FiberHome Element Management System, providing the TL1 interface to be used by the upper-level system.
- ◆ Equipment: Indicates other sets of equipment in the network, managed by the EMS.

1.3 Protocols Used

The FiberHome EMS can establish the TCP connection with the upper-level system to achieve connection and communication.

It offers the following default ports for the upper-level system to use: 3333 (alarm management), 3334(service provisioning), 3335 (integrated testing), 3336 (resource query) and 3337 (service provisioning / integrated testing / resource query).

After the login to OSS / NMS using the configured username and password, the operations relevant to the TL1 northbound interface can be performed.

The protocols used by the TL1 northbound interface is as shown in Figure 1-2.

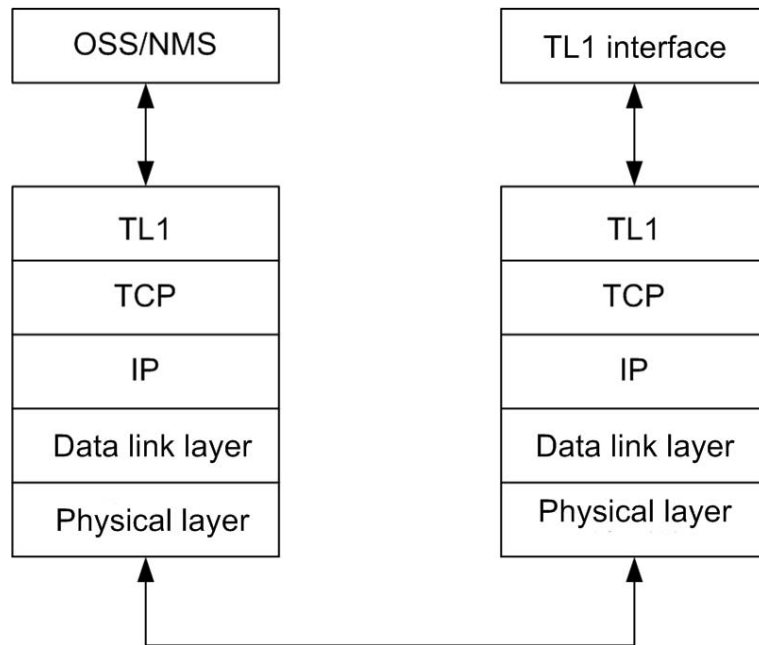


Figure 1-2 Protocols Used

- ◆ OSS / NMS: Operation Support System / Network Management System.
- ◆ TCP/IP: Transmission Control Protocol / Internet Protocol.

1.4 Management Function

The TL1 northbound interface supports the following functions:

- ◆ Service provisioning: Supports the provisioning of the broadband, voice and multicast services in the FTTB / FTTH scenario.
- ◆ Integrated testing: Supports querying the running status of the equipment, and the status of the PON, XDSL and POTS ports as well as troubleshooting.
- ◆ Alarm management: Supports subscribing to, querying and filtering alarms so as to monitor the running status of the EMS.
- ◆ Resource query: Supports querying the equipment physical resource and service configurations as well as the resource change notification report.

1.5 Security Mechanism

The TL1 northbound interface adopts the security mechanism of the FiberHome EMS. To implement this security mechanism, it is required to configure an account for the TL1 northbound interface on the EMS and then log in using this account. The FiberHome EMS accepts a maximum of 32 concurrent TCP connections.

The security mechanism adopted by the TL1 northbound interface includes the following functions:

- ◆ Login authentication: When connecting to the TL1 northbound interface, the TCP client needs to send the LOGIN command to login. Only after the successful login can the subsequent commands of the TCP connection be accepted by the system. The LOGIN username and password are exclusively allocated by the FiberHome EMS to the TL1 northbound interface.
- ◆ Automatic disconnection: If the TCP connection has no communication within 10 minutes, the system will initiatively disconnect it.

1.6 Performance Specifications

The performance specifications of the TL1 northbound interface are as shown in Table 1-1.

Table 1-1 Performance Specifications of the TL1 Northbound Interface

Performance Item	Specifications
Maximum concurrent TCP connections	32
Service provisioning interface	<ul style="list-style-type: none">◆ Each connection supports the service provisioning and service deletion work orders for more than 2 users.◆ Each connection supports work order suspending, resuming and modifying for more than 4 users.
Integrated testing interface	<ul style="list-style-type: none">◆ The result will be returned within 1 minute for the inner line test, outer line test, SELT, DELT and incoming / outgoing emulation tests.◆ The result will be returned within 5 seconds for a query command.

Table 1-1 Performance Specifications of the TL1 Northbound Interface (Continued)

Performance Item	Specifications
Integrated alarm interface	<ul style="list-style-type: none">◆ Alarm delay is less than 10 seconds in normal running status and is less than 30 seconds in case of alarm storm.◆ The maximum delay for synchronizing 1000 alarm data entries is 10 minutes.◆ Alarm throughput is 20 entries / second.
Integrated query interface	<ul style="list-style-type: none">◆ Query time is less than 5 seconds when number of query records is smaller than 500, and query time is less than 10 seconds when number of query records is greater than 500.◆ Full export of configuration data is up to 10000 ports / minute.

2 TL1 Northbound Interface Installation

The following introduces how to install and run the TL1 northbound interface on Windows operating system.

- ☒ Installing the TL1 Northbound Interface
- ☒ Starting / Stopping the TL1 Northbound Interface Service

2.1 Installing the TL1 Northbound Interface

Run the FiberHome EMS installation file on Windows operating system and select the required TL1 service when proceeding to the step for selecting the installation components. For more information, refer to the *Installation Guide* of the corresponding EMS.

2.2 Starting / Stopping the TL1 Northbound Interface Service

The following introduces how to start / stop the TL1 northbound interface service.

1. In the **Running** window, enter **Services.msc** to open the service list.
2. Start / stop the TL1 northbound interface service.
 - ▶ The ANM2000 TL1 interface services are AEMS-TL1Server(alarm), AEMS-UDIServer, AEMS-TL1Server(resource), AEMS-TL1Server(services) and AEMS-TL1Server(test).
 - ▶ The UNM2000 TL1 interface services are unmextendeventservice, unmextendmoduleserver, unmnbi_tl1_ctc_alarm_main, unmnbi_tl1_ctc_main and unmnbi_tl1_fh_main.

3 Command Format

The following introduces the command format and response message format of the TL1 northbound interface.

- ☒ Format Overview
- ☒ Command Format
- ☒ Acknowledgment Message Format
- ☒ Response Message Format
- ☒ Resource Change Notification Format
- ☒ Definition of Returned Error Codes

3.1 Format Overview

The following introduces the command format, response format and annotation symbols.

Command Format

The command format indicates the format of the command entered. When executing commands, the matching patterns are as follows:

- ◆ Executing an operation command: Adopts exact matching for all character strings.
- ◆ Executing a query command: Adopts fuzzy query for optional parameters with data type being character string and adopts exact matching for required parameters with data type being character string.



Note:

If the filter condition entered matches multiple records instead of one record, the TL1 northbound interface returns all the matching records as a list.

Response Format

Response format indicates the format of the message returned after a command is executed.

Annotation Symbol Description

For the description of annotation symbols, see Table 3-1.

Table 3-1 Annotation Symbol Description

Annotation Symbol	Description
< >	Encapsulates an identifier. For example, <int-num> indicates any integer.
[]	Encapsulates an optional symbol or message body.
" "	Encapsulates an English letter. For example, "a" indicates the English letter a instead of a variable identifier.

Table 3-1 Annotation Symbol Description (Continued)

Annotation Symbol	Description
()	Encapsulates a group of required symbols or message body.
*	A suffix, indicating the current symbol or symbol group occurs 0 times or several times.
+	A suffix, indicating the current symbol or symbol group occurs 1 times or several times.
^	Indicates a blank space.
cr	Indicates a carriage return.
lf	Indicates a line feed.
	Separates multiple options, indicating only one option can be selected. For example, a b c indicates selecting a, b or c.
::=	Separates two parts in a syntax rule. For example, <TESTit> ::= (0 1 ~ 9) indicates the value of <TESTit> is a number among 0-9 (including 0 and 9).

3.2 Command Format

The following introduces the command format and parameters of the TL1 northbound interface.

Command Format

```
<command_code>:<staging_blocks>:<payload_blocks>;  
<command code>::=<verb>[ -<modifier>[ -<modifier>]]  
Staging Parameter Block::=[ <target identifier>] :<access identifier(s)>:  
<ctag>:
```

Parameter Description

Parameter Name	Description
command_code	<p>Command code, indicating the operation to be performed. The format is as follows:</p> <pre><verb>[-<modifier>[-<modifier>]]</pre> <ul style="list-style-type: none"> ◆ verb: required parameter, identifying the name of the command. Commonly it is a simple verb or an abbreviation describing an action. ◆ modifier: command modifier. verb can be followed by two optional modifiers, separated from each other by -.
staging_blocks	<p>Task identifier block. The format is as follows:</p> <pre>[<target identifier>] :<access identifier(s)>:<ctag>:</pre> <ul style="list-style-type: none"> ◆ target identifier: not used at present. ◆ access identifier: information locating, indicating the specific object to which the command is executed. ◆ ctag (correlation tag): command tag, used for matching the input command and output command; the value of it in the response message should be the same as that in the input message.
payload_blocks	<p>Pass parameter block, which can be null. The format is as follows:</p> <pre>datablock1,datablock2</pre> <p>The format of each parameter block (datablock) is Parameter Name=Parameter Value, and a comma is used to separate two parameter blocks.</p>

3.3 Acknowledgment Message Format

The acknowledgment message format is shown as follows:

```
acknowledgment_code ctag<
acknowledgment_code:
IP:In Progress
NA:No acknowledgment
RL:Repeat Later system busy
```

The acknowledgment message response time generally cannot be longer than 2 seconds; otherwise, a transmission error or equipment failure is suspected. Besides, not all commands require acknowledgment messages. The command that can be quickly responded will be returned the response message, such as the set command and stop command.

3.4 Response Message Format

There are two types of response messages:

- ◆ Operation-command response messages
- ◆ Query-command response messages

Operation-command Response Message Format

```
<header><response_id>[ <response_block>] <terminator>
header::=<cr><lf><lf>^^^<sid>^<year>-<month>-<day>^<hour>:<minute>:
<second>
response_id::=<cr><lf>M^^<ctag>^<completion code>
response_block::=( (<cr><lf>^^^<EN=error-code>^^^<ENDESC=error-
description> )
terminator::=<cr><lf> (;|>)
```

Query-command Response Message Format

```
<header><response_id>[ <response_block>] <terminator>
header::=<cr><lf><lf>^^^<sid>^<year>-<month>-<day>^<hour>:<minute>:
<second>
response_id::=<cr><lf>M^^<ctag>^<completion code>
response_block::=( (<cr><lf>^^^<EN=error-code>^^^<ENDESC=error-
description> ) | (<cr><lf>^^^<quoted line> ) )
quoted line::=<total_blocks=total-count><cr><lf>^^^<block_number=block-
num><cr><lf>^^^<block_records=current-record-count><cr><lf><result>
result::=<cr><lf><title><cr><lf>(<->*)<cr><lf>(<attribs> ( (<values> ) * ) )
(<->*)<cr><lf><cr><lf>
attribs::=<attrib> ( (<tab><attrib> ) * )<cr><lf>
values::=<value> ( (<tab><value> ) * )<cr><lf>
terminator::=<cr><lf> (;|>)
```

Response Parameter Description

The description of the parameters displayed in the command response result is as shown in the following table:

Parameter Name	Description
header	<p>Message header, the public part of all response message and automatic reported messages, including equipment ID (sid), date and time. The format is as follows:</p> <pre><cr><lf><lf>^^^<sid>^<year>-<month>-<day>^<hour>:<minute>:<second></pre> <p>sid: manufacturer name abbreviation_network management server IP. Value range is FH_IP.</p>
response_id	<p>Response ID. The format is as follows:</p> <pre><cr><lf>M^^<ctag>^<completion code></pre> <ul style="list-style-type: none"> ◆ ctag (correlation tag): command tag, used for matching the input command and output command; the value of it in the response message should be the same as that in the input message. ◆ completion code: response completion identifier. The value is as follows: <ul style="list-style-type: none"> ▶ COMPLD: Indicates the command is executed correctly. ▶ DELAY: Indicates the command execution is delayed. ▶ DENY: Indicates executing the command failed. ▶ PRTL: Indicates the command is partially executed. ▶ RTRV: Indicates the test results of the command and other items are being tested.
response_block	<p>Response message body.</p> <ul style="list-style-type: none"> ◆ EN: error code. ◆ ENDESC: error description. ◆ quoted line: returned parameter. When the amount of queried data is very large, the TL1 northbound interface will send the queried data to the client through several small packets. total_blocks indicates the total number of data packets; block_number indicates the numbering of the current packet; block_records indicates the number of data entries contained in the current packet. ◆ title: character string, indicating the title information of the result. ◆ attrib: character string, indicating the attribute name. ◆ value: character string, indicating the attribute value. If it is not supported, – will be returned.
terminator	<p>Indicated by > or ;</p> <ul style="list-style-type: none"> ◆ >: Indicating the data packet is not completed and the next packet is waiting to be received. ◆ ;; Indicates all the packets are sent and there should be only one ; in the returned data.

3.5 Resource Change Notification Format

The following introduces the resource change notification format and parameters of the TL1 northbound interface.

Resource Change Notification Format

```

<header><auto id><alarm_body><terminator>
header::=<cr><lf><lf><sid>^<year>-<month>-<day><hour>:<minute>:<second>
auto id::=<cr><lf> <almcde><atag><verb><modifier1><modifier2>
body::=<cr><lf><attrib>=<value> ( (<tab><attrib>=<value>)* )<cr><lf>
terminator::=<cr><lf> (;|>)

```

Resource Change Notification Parameters

Parameter Name	Description
header	<p>Message header, the public part of all response message and automatic reported messages, including equipment ID (sid), date and time.</p> <p>sid: manufacturer name abbreviation_network management server IP. The value is as follows:</p> <ul style="list-style-type: none"> ◆ HW_IP ◆ ZTE_IP ◆ FH_IP
Auto id	<p>Level and status of the automatic reported message, where:</p> <ul style="list-style-type: none"> ◆ almcde: alarm level. According to the severity of the reported message, the value will be one of the following levels: <ul style="list-style-type: none"> ▶ *C: critical alarm ▶ **: major alarm ▶ *: minor alarm ▶ A: warning alarm ◆ atag: association tag generated by automatic reporting. It is allocated by the EMS and it must be continuous and contained by all automatic reported messages. It enables the upper-level EMS to associate the automatic reported message with the common reason that triggers the automatic reporting. It can also be used to check whether an error occurs upon the EMS receiving the message. For resource change notification message, almcde is A. ◆ verb: REPT ◆ Modifier1: RES ◆ Modifier2: resource change type. The value is as follows: <ul style="list-style-type: none"> ▶ ADD/DEL/MOD_OLT: Indicates adding / deleting / modifying the OLT network element (NE). ▶ ADD/DEL/MOD_ONU: Indicates adding / deleting / modifying the ONU NE. ▶ ADD/DEL_SHELF: Indicates adding / deleting the cabinet. ▶ ADD/DEL_BOARD: Indicates adding / deleting the card.

3.6 Definition of Returned Error Codes

The error codes returned by the TL1 northbound interface are as shown in Table 3-2.

Table 3-2 Definition of Returned Error Codes

EN (error- code)	Error Type	ENDESC (error-description)
IRNE	INPUT	resource does not exist
IANE	INPUT	the alarm does not exist
IMP	INPUT	missing parameter
IIPF	INPUT	invalid parameter format
IIPE	INPUT	input parameter error
DDNS	DEVICE	device may not support this operation
DDOF	DEVICE	device operation failed
DDB	DEVICE	device is busy
SENS	SYSTEM	EMS may not support this operation
SEOF	SYSTEM	EMS operation failed
EEEH	EXCEPTION	EMS exception happens
TUB	TEST	user is busy
TUT	TEST	user is testing
TTMB	TEST	test module is busy

4 Session Control

The session control is used for managing the SOCKET connection between the access adaptation module and the FiberHome EMS, providing a secure layer to prevent against access by unauthorized users. It is recommended to modify the user ID and password periodically during running and maintaining of the EMS.

- ☒ Logging into the FiberHome EMS (LOGIN)
- ☒ Logging Out of the FiberHome EMS (LOGOUT)
- ☒ Handshake Command (SHAKEHAND)

4.1 Logging into the FiberHome EMS (LOGIN)

Function Description

- ◆ To use the service provisioning interface of the TL1 northbound interface, establish the TCP connection with the FiberHome EMS through the port 3334.
- ◆ To use the integrated query interface, establish the TCP connection with the FiberHome EMS through the port 3336.
- ◆ To use the integrated testing interface, establish the TCP connection with the FiberHome EMS through the port 3335.
- ◆ To use the integrated alarm interface, establish the TCP connection with the FiberHome EMS through the port 3333.

When successfully establishing the TCP connection, log into the FiberHome EMS through the command. After login, send commands of the TL1 northbound interface to perform operations over the equipment.

Command Format

```
LOGIN:::CTAG::UN=user-name,PWD=password;
```

Input Parameter

Parameter Name	Data Type	Value Range	Description	Default Value
UN	OCTET STRING	Size (20)	User Name	-
PWD	OCTET STRING	Size (16)	Password	-

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, after establishing the TCP connection with the server, enter the username **EMSUSER** and password **EMSPWD** to log into the FiberHome EMS.

◆ Command

```
LOGIN:::CATG::UN=EMSUSER,PWD=EMSPWD;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

4.2 Logging Out of the FiberHome EMS (LOGOUT)

Function Description

Log out of the FiberHome EMS and disconnect the TCP connection with the TL1 northbound interface.

Command Format

```
LOGOUT:::CTAG::;
```

Input Parameter

None

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, the current user logs out of the FiberHome EMS.

◆ Command

```
LOGOUT:::CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

4.3 Handshake Command (SHAKEHAND)

Function Description

If the TCP connection has no communication within 10 minutes, the system will initiatively disconnect the TCP connection. However, sending the handshake command can keep it connected with no operations performed.

Command Format

```
SHAKEHAND:::CTAG::;
```

Input Parameter

None

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, send the handshake command to the system.

◆ Command

```
SHAKEHAND:::CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

5 Service Commissioning Interface

The following introduces the commands for the provisioning of the IPTV, broadband and VOIP services in the FTTx scenario.

- ☒ ONU Configuration (FTTH)
- ☒ Broadband / IPTV Services of a LAN Port
- ☒ Broadband / IPTV Services of an xDSL Port
- ☒ VoIP Service
- ☒ VLAN Service
- ☒ Configuring a Port Speed Rate Template
- ☒ Configuring a Bandwidth Template
- ☒ Configuring a Flow Policy

5.1 ONU Configuration (FTTH)

The following introduces how to add, delete and configure an optical network unit (ONU) of the FTTH type.

5.1.1 Adding an ONU (ADD-ONU)

Function Description

This command is used for adding an ONU on the optical line terminal (OLT). Upon initial service installation, you can send this command to the PON port that has not been fully configured after configuring the OLT.

Command Format

```
ADD-ONU::OLTID=olt-name,PONID=ponport_location:CTAG::[ AUTHTYPE=auth-
type] ,ONUID=onu-index[ ,PWD=onu password] [ ,ONUNO=onu-no] [ ,NAME=name] [ ,
DESC=onu description] ,ONUTYPE=onu type;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
AUTHTYPE	OCTET STRING	MAC LOID LOIDONCEON	Authentication mode. Default value is LOID. In LOIDONCEON authentication mode, LOID and MAC will be bound.

Parameter Name	Data Type	Value Range	Description
ONUID	OCTET STRING	Size (64)	Authentication information. If AUTHTYPE is set to MAC, ONUID is MAC address. If AUTHTYPE is set to LOID, ONUID is LOID.
PWD	OCTET STRING	Size (128)	LOID PASSWORD
ONUNO	INTEGER	1 - 512	ONU authorization code
NAME	OCTET STRING	Size (128)	ONU name
DESC	OCTET STRING	Size (64)	ONU description. When the FiberHome EMS description and equipment description are required to be consistent, this parameter cannot be Chinese.
ONUTYPE	OCTET STRING	Size (32)	ONU type

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, add an ONU for the slot 1 - PON 2 port of the OLT whose IP address is 10.78.11.102. The information of the ONU is as follows: ONUID is Test00002; PWD is Password2; ONU authorization code is 10; description is Test_ONU2; ONU authentication mode is LOID.

◆ Command

```
ADD-ONU::OLTID=10.78.11.102,PONID=NA-NA-1-2:CTAG::AUTHTYPE=LOID,
ONUID=Test00002,PWD=Password2,ONUNO=10,NAME=Test2,DESC=Test_ONU2,
ONUTYPE=AN5006-04;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
```

;

Example 2, add an ONU for the slot 15 - PON 2 port of the OLT whose IP address is 10.78.11.102. The information of the ONU is as follows: MAC address is 54-4B-40-04-2C-1F; ONU authentication mode is MAC.

◆ **Command**

```
ADD-ONU::OLTID=10.78.11.102,PONID=NA-NA-15-2:CTAG::AUTHTYPE=MAC,
ONUID=54-4B-40-04-2C-1F,ONUNO=11,NAME=Test3,DESC=Test_ONU3,
ONUTYPE=AN5006-04;
```

◆ **Response Message**

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
DEL-ONU
```

5.1.2 Configuring an ONU (CFG-ONU)

Function Description

This command is used for modifying the ONU authentication mode and authentication ID information when replacing the ONU.

Command Format

```
CFG-ONU::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,
ONUID=onu-index:CTAG::AUTHTYPE=auth-type[,AUTHINFO=onu-index];
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDTYPE	OCTET STRING	Size (128)	ONU ID type (NAME, MAC, LOID, ONU_Number).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
AUTHTYPE	OCTET STRING	MAC LOID LOIDONCEON	Authentication mode
AUTHINFO	OCTET STRING	Size (128)	LOID or MAC of the ONU. <ul style="list-style-type: none"> ◆ If AUTHTYPE is set to MAC, this parameter indicates MAC address of the ONU. MAC address format is XX-XXXX-XX-XX-XX. ◆ If AUTHTYPE is set to LOID or LOIDONCEON, this parameter indicates LOID of the ONU.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the ONU connected to the slot 3 - PON 1 port of the OLT whose OLTID is 10.250.18.100. The information of the ONU is as follows: ONUID is Test0001; authentication mode is LOID; LOID is test0002.

◆ Command

```
CFG-ONU::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=Test0001:CTAG::AUTHTYPE=LOID,AUTHINFO=test0002;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:51:24  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
ADD-ONU  
DEL-ONU
```

5.1.3 Configuring the Bandwidth of an ONU (CFG-ONUBW)

Function Description

This command is used for configuring the uplink and downlink bandwidth of an ONU.

Prerequisite

Make sure the uplink and downlink bandwidth templates are configured in the EMS before using this command to configure the ONU uplink and downlink bandwidth.

Command Format

```
CFG-ONUBW::ONUUP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,  
ONUIDTYPE=onuid-type,ONUID=onu-index] :CTAG::UPBW=onu-up-bandwidth[ ,  
DOWNBW=onu-down-bandwidth] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
UPBW	OCTET STRING	Size (32)	Uplink DBA bandwidth template name.
DOWNBW	OCTET STRING	Size (32)	Downlink bandwidth template name.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the uplink bandwidth template BW_UP and the downlink bandwidth template BW_DOWN for the ONU (ONUID being Test0001) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
CFG-ONUBW::OLTID=10.71.227.56,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=Test0001:CTAG::UPBW=BW_UP,DOWNBW=BW_DOWN;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
ADD-ONU  
DEL-ONU
```

5.1.4 Deleting an ONU (DEL-ONU)



Note:

Deleting an ONU will simultaneously delete the services that the ONU bears. To re-activate the services on the ONU, add and configure the services again.

Function Description

This command is used for deleting the ONU authorized by the OLT.

Command Format

```
DEL-ONU::OLTID=olt-name,PONID=ponport_location:CTAG::ONUIDTYPE=onuid-  
type,ONUID=onu-index;
```


Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete an ONU from the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is Test0001; authentication mode is LOID.

◆ Command

```
DEL-ONU::OLTID=10.250.18.100,PONID=NA-NA-3-1:CTAG::ONUIDTYPE=LOID,
ONUID=Test0001;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

For example, delete the ONU from the slot 15 - PON 2 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: MAC address is 54-4B-40-04-2C-1F; authentication mode is MAC.

◆ Command

```
DEL-ONU::OLTID=10.250.18.100,PONID=NA-NA-15-2:CTAG::ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1F
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
ADD-ONU
```

5.1.5 Configuring the MAC Address Limit of an LAN Port (CFG-LANPORTMACLIMIT)

Function Description

This command is used for configuring the limit of MAC addresses for a LAN port of the ONU.

Command Format

```
CFG-LANPORTMACLIMIT::OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index,ONUPORT=onu-port:CTAG::
COUNT=count_num;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	MAC LOID ONU_ Number ONU_ NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU-PORT	OCTET STRING	Size (128)	Locates card port through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
COUNT	INTEGER	Size (0 - 254)	Limits the number of MAC addresses.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Related Command

None

5.1.6 Configuring the Wi-Fi Service (CFG-WIFISERVICE)

Function Description

This command is used for configuring the Wi-Fi service for the ONU authorized by OLT. It is allowed to add SSIP and configure it with different keys.

Command Format

```
CFG-WIFISERVICE::ONUIP=onu-name|OLTID=olt-name[ , PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] :CTAG::WILESS-AREA=area,WILESS-
CHANNEL=channel,WILESS-STANDARD=standard,T-POWER=tpower,SSID=ssid,SSID-
ENABLE=ssid-enable,SSID-NAME=name,SSID-VISIBLE=visible,AUTH-MODE=mode,
ENCRYPT-TYPE=type[ , PRESARED-KEY=key,UPDATEKEY-INTERVAL=interval][ ,
RADIUS-SERVER=server,RADIUS-PORT=port,RADIUS-KEY=key][ , WEP-
ENCRYPTIONLEVEL=level,WEP-KEYINDEX=index,WEPKEY1=key1,WEPKEY2=key2,
WEPKEY3=key3,WEPKEY4=key4] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDENTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
WILESS-AREA	INTEGER	0 - Europe 1 - USA	Wireless area
WILESS-CHANNEL	INTEGER	If wireless area is set to 0, the value range of this parameter is [0, 13]; if wireless area is set to 1, the value range of this parameter is [0, 11].	Wireless channel number
WILESS-STANDARD	OCTET STRING	802.11b, 802.11g, 802.11b/g, 802.11n, 802.11bgn	Wireless standard
T-POWER	INTEGER	[0, 20]	Launched power
SSID	INTEGER	1 - 4	SSID index
SSID-ENABLE	INTEGER	0, 1	Indicates whether to enable or not. 0 indicates Disable and 1 indicates Enable.
SSID-NAME	OCTET STRING	Size (32)	SSID name
SSID-VISIBLE	INTEGER	0: unhide (Available) 1: hide (Not Available)	Indicates whether to hide SSID.

Parameter Name	Data Type	Value Range	Description
AUTH-MODE	OCTET STRING	OPEN SHARED WEP WPA WPA2 WPA2PSK WPA2 WPA/WPA2 WPA2PSK WPA2PSK	WLAN authentication mode
ENCRYPT-TYPE	OCTET STRING	NONE, WEP, TKIP, AES, TKIPAES	WLAN encryption type
PRESHARED-KEY	OCTET STRING	STRING (64)	WPA pre-shared key
UPDATEKEY-INTERVAL	INTEGER	[0, 4194303]	WPA key update interval Unit: second
RADIUS-SERVER	OCTET STRING	Size (128)	RADIUS server
RADIUS-PORT	OCTET STRING	STRING (2)	RADIUS server port
RADIUS-KEY	OCTET STRING	STRING (32)	RADIUS-KEY
WEP-ENCRYPTION-LEVEL	INTEGER	1: 40 bit 2: 104 bit	WEP key length
WEP-KEYINDEX	INTEGER	[1, 4]	Key index
WEPKEY1	OCTET STRING	STRING (64)	WEP key 1
WEPKEY2	OCTET STRING	STRING (64)	WEP key 2
WEPKEY3	OCTET STRING	STRING (64)	WEP key 3
WEPKEY4	OCTET STRING	STRING (64)	WEP key 4

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the WEP encryption mode for the ONU connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 999999999997; authentication mode is physical ID.

◆ **Command**

```
CFG-WIFISERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=999999999997:CTAG::WILESS-AREA=1,WILESS-CHANNEL=0,WILESS-
STANDARD=802.11b,T-POWER=1,SSID=1,SSID-ENABLE=1,SSID-NAME=fiberhome,
SSID-VISIBALE=0,AUTH-MODE=WEPAUTO,ENCRYP-TYPE=WEP,WEP-
ENCRYPTIONLEVEL=1,WEP-KEYINDEX=1,WEPKEY1=12345,WEPKEY3=34567;
```

◆ **Response Message**

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.1.7 Modifying Wi-Fi Service (MODIFY-WIFISERVICE)

Function Description

This command is used for modifying the Wi-Fi service for the ONU authorized by the OLT. It is allowed to add SSIP and configure it with different keys.

Command Format

```
MODIFY-WIFISERVICE::OLTID=olt-ip,PONID=pon-id,ONUIDTYPE=onuidtype,
ONUID=onuid:CTAG::Enable=xxx,WILESS-AREA=xxx,WILESS-CHANNEL=xxx,T-
POWER=xxx,SSID=xxx,SSID-ENABLE=xxx,SSID-NAME=xxx,SSID-VISIBALE=xxx,
AUTH-MODE=xxx,ENCRYP-TYPE=xxx,PRESHARED-KEY=xxx,IgdWlanStandard=xxx,
WorkingFrequency=xxx,FrequencyBandwidth=xxx;
```

Supported Equipment

- ◆ OLT: AN5116-02, AN5116-06B.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
Enabled	OCTET STRING	◆ enable ◆ disable	Enable or disable	Optional
WILESS-AREA	INTEGER	Wireless area	0 to 13	Optional
WILESS-CHANNEL	INTEGER	Wireless channel number	0 to 13	Optional
T-POWER	INTEGER	Wi-Fi power control	20, 40, 60, 80, 100, 120, 140, 160, 180, 200	Optional
SSID	INTEGER	SSID index	SSID index	If other SSID parameters need to be configured, you need to configure the index first, which is used to locate the SSID item.
SSID-ENABLE	INTEGER	0 and 1	0: disable 1: enable	Optional
SSID-NAME	OCTET STRING	Size (32)	SSID name	Optional

Parameter	Data Type	Value Range	Parameter Description	Remark
SSID-VISIBALE	INTEGER	0 and 1	Indicates whether to hide SSID. ◆ 0: Do not hide. ◆ 1: Hide.	Optional
AUTH-MODE	OCTET STRING	OPEN, SHARED WEPAUTO, WPAPSK WPA, WPA2PSK WPA2, WPA/WPA2, WPAPSK/WPA2PSK	WLAN authentication mode	Optional
ENCRYPT-TYPE	OCTET STRING	NONE, WEP, TKIP, AES, TKIPAES	WLAN encryption type	Optional
PRE-SHARED-KEY	OCTET STRING	STRING (64)	WPA pre-shared key	Optional
IgdWlan-Standard	OCTET STRING	802.11b, 802.11g, 802.11b/g, 802.11n, 802.11bgn, 802.11a, 802.11an, 802.11ac	Wireless standard	Optional
WorkingFrequency	OCTET STRING	2.4Ghz, 5.8Ghz	Working band	Optional
Frequency-Bandwidth	OCTET STRING	20/40MHz, 20MHz, 40MHz, 80MHz	Bandwith of band	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Example

For example: Modify the band bandwidth of the ONU with ID FHTT09378c68 on the PON port 1 in slot 4 on the OLT device with IP 10.190.42.3.

◆ Command

```
MODIFY-WIFISERVICE::OLTID=10.171.0.22,PONID=NA-NA-7-1,ONUIDTYPE=MAC,
ONUID=FHTT01E84310:CTAG::Enable=enable,WILESS-AREA=2,WILESS-CHANNEL=2,
T-POWER=140,SSID=1,SSID-ENABLE=0,SSID-NAME=brisa-81808,SSID-VISIBALE=1,
AUTH-MODE=WPAPSK,ENCRYPT-TYPE=TKIP,PRESHARED-KEY=naotemsenhal234,
IgdWlanStandard=802.11g,WorkingFrequency=2.4Ghz,FrequencyBandwidth=20/
40MHZ;
```

◆ Response Message

```
FH_10.170.163.112 2017-02-19 16:08:07
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

CFG-WIFISERVICE

5.1.8 Configuring a WAN Connection (SET-WANSERVICE)

Function Description

This command is used for configuring WAN connections for the ONU authorized by OLT.

Command Format

```
SET-WANSERVICE::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index]:CTAG::STATUS=status,MODE=mode,
CONNTYPE=connecttype[ ,VLAN=vlan][ ,COS=cos][ ,QOS=qos][ ,NAT=nat[ ,
IPMODE=ipmode][ ,WANIP=wanip,WANMASK=mask,WANGATEWAY=gateway,
MASTERDNS=maskdns,SLAVEDNS=slavedns][ [ ,PPPOEPROXY=proxy] ,
PPPOEUSER=pppoeusername,PPPOEPASSWD=pppoepassword,PPPOENAME=pppoename[ ,
PPPOEMODE=pppoemode] ] ] ,[ UPORT=uport,SSID=ssidno,WANSVC=1] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1, AN5506-04-B2.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.

Parameter	Data Type	Value Range	Parameter Description
ONUIDTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
STATUS	INTEGER	1 - add 2 - delete	1: adding; 2: deleting.
MODE	INTEGER	1 to 4	WAN connection mode: 1-TR069, 2-INTERNET, 3-TR069 INTERNET, 4-Other. In bridge connection type, the WAN connection mode can only be set to 2-INTERNET or 4-Other.
CONNTYPE	INTEGER	1 to 2	WAN connection type: 1 - bridge; 2 - route
VLAN	INTEGER	0 to 4085	VLAN ID of the WAN connection.
COS	INTEGER	1 to 7	VLAN COS of the WAN connection.
QOS	INTEGER	1: enable 2: disable	Indicates whether to enable the QoS function. 1: enable; 2: disable.
NAT	INTEGER	1: enable 2: disable	Indicates whether to enable NAT. 1: enable; 2: disable.
IPMODE	INTEGER	1 to 3	IP obtaining mode of the WAN connection. 1: DHCP; 2: STATIC; 3: PPPOE.
WANIP	OCTET STRING	Size (16)	Static IP of the WAN connection. It must be a valid IP address, in format of dotted decimal notation. This parameter is valid only when IPMODE is set to STATIC.
WANMASK	OCTET STRING	Size (16)	Subnet mask of the WAN connection. It must be a valid IP address, in format of dotted decimal notation. This parameter is valid only when IPMODE is set to STATIC.
WANGATEWAY	OCTET STRING	Size (16)	Default gateway of the WAN connection. It must be a valid IP address, in format of dotted decimal notation. This parameter is valid only when IPMODE is set to STATIC.
MASTERDNS	OCTET STRING	Size (16)	Primary DNS of the WAN connection. It must be a valid IP address, in format of dotted decimal notation. This parameter is valid only when IPMODE is set to STATIC.

Parameter	Data Type	Value Range	Parameter Description
SLAVEDNS	OCTET STRING	Size (16)	Secondary DNS of the WAN connection. It must be a valid IP address, in format of dotted decimal notation. This parameter is valid only when IPMODE is set to STATIC.
PPPOE-PROXY	INTEGER	1 to 2	1: enable; 2: disable.
PPPOEUSER	OCTET STRING	STRING (32)	Username of the PPPoE connection.
PPPOE-PASSWD	OCTET STRING	STRING (32)	Password of the PPPoE connection.
PPPOENAME	OCTET STRING	STRING (32)	PPPoE service name.
PPPOEMODE	INTEGER	1 to 2	PPPoE dial-up mode. 1: Auto connect; 2: Connect when traffic is detected
UPORT	INTEGER	1 to 4, 0	FE port. Value range is 1 to 4. 0 indicates all LAN ports. Only one of the three parameters UPORT, SSID and WANSVC can be configured.
SSID	INTEGER	1 to 4	SSID number. Value range is 1 to 4. Only one of the three parameters UPORT, SSID and WANSVC can be configured.
WANSVC	INTEGER	1	It is configured when WAN connection mode is set to TR069. The value is 1. Only one of the three parameters UPORT, SSID and WANSVC can be configured.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the TR069 WAN connection for the ONU connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 999999999997; authentication mode is physical ID.

Command

```
SET-WANSERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,  
ONU=9999999999997:CTAG::STATUS=1,MODE=1,CONNTYPE=2,VLAN=88,NAT=2,  
IPMODE=2,WANIP=43.43.43.43,WANMASK=255.255.255.0,  
WANGATEWAY=43.43.43.43,MASTERDNS=3.3.3.3,SLAVEDNS=4.4.4.4,WANSVC=1;
```

Response Message

```
FH_10.78.20.120 2012-10-15 14:36:03  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, configure a WAN connection with the INTERNET connection mode and Route connection type for all the LAN ports of the ONU connected to the slot 7 - PON 4 port of the OLT whose IP address is 10.78.200.200. The information of the ONU is as follows: ONUID is FHTT01e821a; authentication mode is physical ID.

Command

```
SET-WANSERVICE::OLTID=10.78.200.200,PONID=NA-NA-7-4,ONUIDTYPE=MAC,  
ONU=FHTT01e821a0:CTAG::STATUS=1,MODE=2,CONNTYPE=2,VLAN=88,COS=1,  
NAT=2,IPMODE=1,UPORT=0;
```

Response Message

```
FH_10.78.12.155 2014-07-15 18:47:53  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

ADD-ONU

5.1.9 Deleting a WAN Connection (SET-WANSERVICE)

Function Description

This command is used for deleting WAN connections.

Command Format

```
SET-WANSERVICE::OLTID=olt_name,PONID=ponport_location,ONUIDTYPE=id-
type,ONUID=onu_index:CTAG::STATUS=status,MODE=mode,CONNTYPE=conntype,
VLAN=vlan_id,COS=cos_value,UPORT=port_id;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
STATUS	INTEGER	1 - 2	<ul style="list-style-type: none"> ◆ 1: configure ◆ 2: delete 	Required. Here it is used for deleting and therefore STATUS can only be set to 2.

Parameter Name	Data Type	Value Range	Description	Remark
MODE	INTEGER	<ul style="list-style-type: none"> ◆ 1: TR069 ◆ 2: INTEGER ◆ 3: TR069 INTEGER ◆ 4: Other 	WAN connection mode.	Required.
CONNTYPE	INTEGER	<ul style="list-style-type: none"> ◆ 1: bridge ◆ 2: route 	WAN connection type.	Required.
VLAN	INTEGER	1 - 4085	VLAN ID of the WAN connection	Required.
COS	INTEGER	0 - 7	Priority level of 802.1p of the WAN connection.	Required.
UPOINT	INTEGER	1 - 4, 101 - 104	Binding LAN port <ul style="list-style-type: none"> ◆ When UPOINT is set to 1- 4, it indicates LAN1 - LAN4. ◆ When UPOINT is set to 101 - 104, it indicates SSID1 - SSID4. 	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete the WAN connection of the ONU (MAC address being FHTT01e821a0) connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
SET-WANSERVICE::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::STATUS=2,MODE=2,CONNTYPE=2,VLAN=88,COS=3,
UPOINT=1;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.1.10 Configuring Bandwidth Profile of the ONU (CFG-ONUBWPROFILE)

Function Description

This command is used to configure the bandwidth profile and the GPON service bandwidth profile of the ONU.

Command Format

```
CFG-ONUBWPROFILE::OLTID=olt_name,PONID=ponport_location,ONUIDTYPE=id-
type,ONUID=onu_index:CTAG::BW=bandwidth,GPONSERVICEBW=gpon-service-bw;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	-
ONU-ID-TYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	-
BW	OCTET STRING	Size (32)	Bandwidth profile name.	Configure at least one parameter
GPONSER-VICEBW	OCTET STRING	Size (32)	Name of the GPON service bandwidth profile	

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example: configure the bandwidth profile and the GPON service bandwidth profile of the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
CFG-ONUBWPROFILE::OLTID=10.171.0.16,PONID=1-1-4-5,ONUIDTYPE=ONU_NUMBER,
ONUID=1:CTAG::BW=1,GPONSERVICEBW=xldan;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:50:24
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

UNBIND-ONUBWPROFILE

5.1.11 Unbinding Bandwidth Profile of the ONU (UNBIND-ONUBWPROFILE)

Function Description

This command is used to unbind the bandwidth profile and the GPON service bandwidth profile of the ONU.

Command Format

```
UNBIND-ONUBWPROFILE::OLTID=olt_name,PONID=ponport_location,  
ONUIDENTYPE=id-type,ONUIDENTIFIER=onu_index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDENTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUIDENTIFIER	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or Nonmember.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example: unbind the bandwidth profile and the GPON service bandwidth profile of the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
UNBIND-ONUBWPROFILE::OLTID=10.171.0.16,PONID=1-1-4-5,  
ONUIDTYPE=ONU_NUMBER,ONUID=1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:50:24  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

CFG-ONUBWPROFILE

5.1.12 Configuring Rate-control Bandwidth Binding for L3 Service (CFG-LT-BWPROFILE)

Function Description

This command is used to configure the rate-control bandwidth of L3 service.

Command Format

```
CFG-LT-BWPROFILE::OLTID=olt_name,PONID=ponport_location,ONUIDTYPE=id-  
type,ONUID=onu_index:CTAG::WANNNAME=wan_name, WANINDEX=wan_index,  
UPBWPROFILE=up_bwprofile,DOWNBWPROFILE=down_bwprofile;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUID-TYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).	Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
WANNAME	OCTET STRING	Size (64)	WAN connection name	Optional
WANINDEX	INTEGER	1 to 8	WAN connection index	Optional
UPBWPRO-FILE	OCTET STRING	Size (64)	Uplink bandwidth template	Required.
DOWN-BWPRO-FILE	OCTET STRING	Size (64)	Downlink bandwidth template	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, bind the rate-control uplink and downlink bandwidth profile to the L3 service on the ONU with the ID FHTT03317f00, which is on the PON port 1 in slot 6 on the OLT device with IP 10.190.47.223.

◆ **Command**

```
CFG-LT-BWPROFILE::OLTID=10.190.47.223,PONID=NA-NA-6-1,ONUIDTYPE=MAC,  
ONUID=FHTT03317f00:CTAG::WANNNAME=1_INTERNET_B_VID_100,UPBWPROFILE=123,  
DOWNBWPROFILE=test;
```

◆ **Response Message**

```
FH_10.170.162.23 2017-02-15 15:34:18  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

5.1.13 Binding Flow Policy to the ONU Port (CFG-PORTBINDFLOWPOLICY)

Function Description

This command is used to bind the flow policy to the ONU port.

Command Format

```
CFG-PORTBINDFLOWPOLICY::ONUIP=onu-name|OLTID=olt_name,  
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index, ONUPORT=onu-  
port:CTAG::IngressPolicy=Ingress_Policy, EgressPolicy=Egress_Policy,  
IngressRule=Ingress_Rule,EgressRule=Egress_Rule;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUIDTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	ONU identifier type (NAME, MAC, LOID, ONU_Number).	Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
IngressPolicy	OCTET STRING	Size (20)	Uplink flow policy	Required.
EgressPolicy	OCTET STRING	Size (20)	Downlink flow policy	Required.
IngressRule	OCTET STRING	Size (20)	Uplink rule	OLTV4.x version. Required.
EgressRule	OCTET STRING	Size (20)	Downlink rule	OLTV4.x version. Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example: configure the flow policy on the PON port 1 in slot 16 on the OLT equipment with the IP 10.171.0.16.

◆ Command

```
CFG-PORTBINDFLOWPOLICY::OLTID=10.171.0.16,PONID=NA-NA-16-1,  
ONUIDTYPE=MAC,ONUID=1111aaaa3333,ONUPORT=NA-NA-NA-1:CTAG::  
IngressPolicy=test,EgressPolicy=default1,IngressRule=de_rule_4,  
EgressRule=de_rule_5;
```

◆ Response Message

```
FH_10.170.163.112 2017-02-15 15:55:52  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

5.1.14 Configuring Sub-port of Aggregation Port (SET-UPLINKTRUNK)

Function Description

This command is used to configure the TRUNK port link aggregation.

Prerequisite

You have configured the aggregation group in **Local Service Configuration**→**PON Service**→**Aggregation Mode Setting** in the EMS.

Command Format

```
SET-UPLINKTRUNK::OLTID=olt_name:ctag::TRUNKNO=trunk_no,MASTERPORT=NA-  
NA-2, MEMBERPORT=NA-NA-NA-NA;
```

Supported Equipment

OLT: AN5516 series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
TRUNKNO	INTEGER	1 to 16	Set the TRUNK group serial number in Aggregation Mode Setting	Required.
MASTER-PORT	OCTET STRING	1 to 12	Main port number of the TRUNK group	Required.
MEMBER-PORT	OCTET STRING	1 to 12	Member port number of the TRUNK group	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example: Configure the TRUNK port link aggregation on the OLT equipment with the IP 10.171.0.22.

◆ Command

```
SET-UPLINKTRUNK::OLTID=10.171.0.22:ctag::TRUNKNO=2,MASTERPORT=NA-NA-19-2,MEMBERPORT=NA-NA-20-5;
```

◆ Response Message

```
FH_10.170.163.112 2017-02-15 16:55:52
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.1.15 Query Port of the TRUNK Port Link Aggregation

Function Description

This command is used to query the port of the TRUNK port link aggregation.

Command Format

```
LST-UPLINKTRUNK::OLTID=olt_name:ctag::;
```

Supported Equipment

OLT: AN5116-06B, AN5516-04, AN5516-06.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter	Data Type	Value Range	Parameter Description
TRUNKNO	INTEGER	1 to 16	TRUNK group serial number, created in the aggregation mode setting.
MASTERPORT	OCTET STRING	1 to 12	Main port number of the TRUNK group
MEMBERPORT	OCTET STRING	1 to 12	Member port number of the TRUNK group

Example

Example: query the TRUNK port link aggregation of the OLT equipment with the IP 10.171.0.22.

◆ Command

```
LST-TRUNKINFO::OLTID=10.171.0.22:ctag::;
```

◆ Response Message

```
FH_127.0.0.1 2016-05-09 10:50:27
M ctag COMPLD
total_blocks=1
block_number=1
block_records=2
Lst Of Trunk Info
-----
TRUNKNO  MASTERPORT      MEMBERPORT
1         1-1-19-2        1-1-19-3
2         1-1-20-1        1-1-20-2|1-1-20-3
-----
```

Related Command

SET-UPLINKTRUNK

5.2 Broadband / IPTV Services of a LAN Port

The following introduces how to configure the broadband and IPTV services of a LAN port.

5.2.1 Activating a LAN Port (ACT-LANPORT)

Function Description

This command is used for activating a LAN port of the ONU to enable it.

Command Format

```
ACT-LANPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, activate the LAN 1 port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is Test0001; authentication mode is LOID.

◆ Command

```
ACT-LANPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=Test0001,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, activate the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
ACT-LANPORT::ONUIP=10.250.18.20,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
DACT-LANPORT
```

5.2.2 Deactivating a LAN Port (DACT-LANPORT)

Function Description

This command is used for deactivating a LAN port of the ONU to disable it.

Command Format

```
DACT-LANPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,  
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, deactivate the LAN 1 port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is Test0001; authentication mode is LOID.

◆ Command

```
DACT-LANPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=Test0001,ONUPORT=NA-NA-NA-1:CTAG::
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, deactivate the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
DACT-LANPORT::ONUIP=10.250.18.20,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
ACT-LANPORT
```

5.2.3 Configuring a LAN Port (CFG-LANPORT)

Function Description

This command is used for configuring the bandwidth, default VLAN and default priority level of a LAN port.

Prerequisite

Before using the command, ensure the bandwidth template is configured on the OLT.

Command Format

```
CFG-LANPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::[ BW=band
width][ ,VLANMOD=mode][ ,PVID=vlan id][ ,PCOS=port qos] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required. It can be a list of multiple ports, separated by vertical bars, for example, NA-NA-NA-0 NA-NA-NA-1. Entering multiple ports means these ONU ports will be configured simultaneously.
BW	OCTET STRING	Size (128)	Bandwidth template name: setting uplink / downlink bandwidth.	Optional.
VLANMOD	OCTET STRING	<ul style="list-style-type: none"> ◆ Tag ◆ Trunk ◆ Transparent ◆ Translation 	VLAN mode settings of the port: <ul style="list-style-type: none"> ◆ TAG (SFU or HGU scenario): Use the value combined with the VLAN configuration command of OLT PON port. ◆ TRUNK (SFU+HGU scenario): Use the value combined with the VLAN configuration command of OLT PON port. ◆ Transparent (SFU+HGU scenario): Use the value combined with the VLAN configuration command of OLT PON port. ◆ Translate (SFU+HGU scenario): Use the value combined with the VLAN configuration command of ONU LAN port. 	Optional.
PVID	INTEGER	0 - 4095	Default VLAN of the port.	Optional.
PCOS	INTEGER	0 - 7	Default priority level of the port.	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the bandwidth template BW_UP, default VLAN102 and priority level 1 for the LAN 2 port of the ONU (having no management IP address) connected to the slot 15 - PON 2 port of the OLT whose IP address is 10.78.11.102. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
CFG-LANPORT::OLTID=10.78.11.102,PONID=NA-NA-15-2,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-2:CTAG::BW=BW_UP,VLANMOD=Tag,
PVID=102,PCOS=1;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Example 2, configure the bandwidth template BW_2M for the LAN 1 port located in the No. 1 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
CFG-LANPORTBW::ONUIP=10.250.18.121,ONUPORT=NA-NA-1-1:CTAG::BW=BW_2M
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.2.4 Configuring the VLAN of a PON Port (ADD-PONVLAN)

Function Description

This command is used for configuring the VLAN information of the OLT PON port.



Note:

To implement switching between VLAN and CVLAN on the OLT and VLAN transparent transmission on the SFU, it is required to configure the VLAN configuration interface of the OLT PON port (ADD-PONVLAN) and the attribute configuration interface of the ONU LAN port (CFG-LANPORTVLAN).

Command Format

```
ADD-PONVLAN::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-
type,ONUID=onu-index:CTAG:[SVLAN=outer vlan,]CVLAN=Inner vlan[ ,UV=user-
vlan][ ,SCOS=outer qos][ ,CCOS=inner qos] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
SVLAN	INTEGER	0 - 4095	SVLAN	Optional. It is required for stacked VLAN service.
CVLAN	INTEGER	0 - 4095	CVLAN	Required.
UV	INTEGER	0 - 4095	VLAN at user side	Optional.
SCOS	INTEGER	0 - 7	Outer priority level	Optional.
CCOS	INTEGER	0 - 7	Inner priority level	Optional (in case the inner COS and outer COS are the same, only the inner COS is sent).

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the VLAN information for the No. 1 port of the ONU connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
ADD-PONVLAN::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E:CTAG::SVLAN=100,CVLAN=78,UV=98,SCOS=5,CCOS=4;
```

◆ Response Message

```

FH_10.78.20.120 2011-02-21 14:55:17
M CTAG COMPLD
  EN=0  ENDESC=No error
;

```

Related Command

```
DEL-PONVLAN
```

5.2.5 Deleting the VLAN of a PON Port (DEL-PONVLAN)

Function Description

This command is used for deleting the VLAN information of an ONU PON port.

Command Format

```

DEL-PONVLAN::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-
type,ONUID=onu-index:CTAG:[ ,UV=user-vlan] ;

```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
UV	INTEGER	0 - 4095	VLAN at user side	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete the VLAN information of the No. 1 port of the ONU connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
DEL-PONVLAN::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E:CTAG:[ ,UV=98] ;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 15:57:17
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

ADD-PONVLAN

5.2.6 Configuring the VLAN of a LAN Port (CFG-LANPORTVLAN)

Function Description

This command is used for configuring the VLAN information of a LAN port.

Command Format

```
CFG-LANPORTVLAN::ONUIP=onu-name[OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::
[SVLAN=outer vlan] ,CVLAN=Inner vlan[ ,UV=user-vlan][ ,SCOS=outer qos][ ,
CCOS=inner qos] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required. It can be a list of multiple ports, separated by vertical bars, for example, NA-NA-NA-0 NA-NA-NA-1. Entering multiple ports means these ONU ports will be configured simultaneously.
SVLAN	INTEGER	0 - 4095	SVLAN	Optional.
CVLAN	INTEGER	0 - 4095	CVLAN	Required.
UV	INTEGER	0 - 4095	VLAN at user side	Optional.
SCOS	INTEGER	0 - 7	Outer priority level	Optional.
CCOS	INTEGER	0 - 7	Inner priority level	Optional (in case the inner COS and outer COS are the same, only the inner COS is sent).

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the CVLAN 21 and priority level 3 for the LAN 1 port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
CFG-LANPORTVLAN::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,  
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::CVLAN=21,CCOS=3;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, configure the CVLAN 21 for the LAN 2 port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
CFG-LANPORTVLAN::ONUIP=10.250.18.121,ONUPORT=NA-NA-1-2:CTAG::CVLAN=21,  
CCOS=3;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:51:33  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
DEL-LANPORTVLAN
```

5.2.7 Deleting the VLAN of a LAN Port (DEL-LANPORTVLAN)

Function Description

This command is used for deleting the VLAN information of an ONU LAN port.

Command Format

```
DEL-LANPORTVLAN::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-  
type,ONUID=onu-index,ONUPORT=onu-port:CTAG::[,UV=user-vlan] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPOINT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required. It can be a list of multiple ports, separated by vertical bars, for example, NA-NA-NA-0 NA-NA-NA-1. Entering multiple ports means these ONU ports will be configured simultaneously.
UV	INTEGER	0 - 4095	VLAN at user side	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, delete the VLAN information of the LAN 1 port of the ONU (that as no management IP) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
DEL-LANPORTVLAN::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,  
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 15:55:17  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, delete the VLAN configuration of the PON 10 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.78.11.115.

◆ Command

```
DEL-LANPORTVLAN::ONUIP=10.78.11.115,ONUPORT=NA-NA-4-10:CTAG::CVLAN=21,  
CCOS=3;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 17:05:49  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
ADD-LANPORTVLAN
```

5.2.8 Configuring the IPTV Service of a LAN Port (CFG-LANIPTVPORT)

Function Description

This command is used for configuring the IPTV service of a LAN port.

Command Format

```
CFG-LANIPTVPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::
[ FLMODE=iptv-fastleave-mode] [ ,MAXGRP=Max-group-number] ;
```

Supported Equipment

- ◆ OLT: AN5116-02, AN5116-06B.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required. It can be a list of multiple ports, separated by vertical bars, for example, NA-NA-NA-0 NA-NA-NA-1. Entering multiple ports means these ONU ports will be configured simultaneously.

Parameter	Data Type	Value Range	Parameter Description	Remark
FLMODE	OCTET STRING	Enabled, Disabled	Enable / disable the quick leaving mode	Optional
MAXGRP	INTEGER	0 to 255	Maximum number of multicast programs that a port can join simultaneously.	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, (the ONU has no independent management IP) Set the quick leaving mode of the multicast service to Enabled, set the maximum multicast program quantity to 23 and set the ONU authentication mode to MAC for the No. 1 LAN port of the ONU connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
CFG-LANIPTVPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,  
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::FLMODE=Enabled,  
MAXGRP=23;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 09:17:13  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, configure the multicast service for the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
CFG-LANIPTVPORT::ONUIP=10.250.18.20,ONUPORT=NA-NA-4-1:CTAG::
FLMODE=Enabled,MAXGRP=32;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:59:14
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
ADD-LANIPTVPORT
```

```
DEL-LANIPTVPORT
```

5.2.9 Adding a LAN Port into a Multicast VLAN (ADD-LANIPTVPORT)

Function Description

This command is used for adding a LAN port into a multicast VLAN.

Command Format

```
ADD-LANIPTVPORT::ONUIP=onu-name[OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::[ UV=user
vlan][ ,MVLAN=mvlan] [ ,CCOS=ccos] [ ,SVCMODPROFILE=svc mod profile] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter	Data Type	Value Range	Parameter Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required. It can be a list of multiple ports, separated by vertical bars, for example, NA-NA-NA-0 NA-NA-NA-1. Entering multiple ports means these ONU ports will be configured simultaneously.
UV	INTEGER	0 to 4095	Customer VLAN.	Optional
MVLAN	INTEGER	0 to 4095	Associated multicast VLAN	Optional. Specified multicast VLAN for service provisioning.
CCOS	INTEGER	0 to 7	Multicast priority	Optional
SVCMOD-PROFILE	OCTET STRING	Size (20)	Service model template name	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, add the LAN 1 port of the ONU (having no management IP address) into the MVLAN. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
ADD-LANIPTVPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::UV=109,MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:56:17
M CTAG COMPLD
    EN=0    ENDESC=No error
;
```

Example 2, bind the No. 1 LAN port located in the No. 4 slot of the ONU (having an independent management IP address) whose IP address is 10.250.18.20 to the MVLAN88 (multicast VLAN).

◆ Command

```
ADD-LANIPTVPORT::ONUIP=10.250.18.20,ONUPORT=NA-NA-4-1:CTAG::UV=100,
MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:59:14
M CATG COMPLD
    EN=0    ENDESC=No error
;
```

Related Command

```
DEL-LANIPTVPORT
```

5.2.10 Configuring the IPTV Service of a LAN Port (CFG-LANIPTVPORT)

Function Description

This command is used for configuring the IPTV service of a LAN port.

Command Format

```
CFG-LANIPTVPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::
[ FLMODE=iptv-fastleave-mode] [ ,MAXGRP=Max-group-number] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Parameter Name	Data Type	Value Range	Description	Remark
FLMODE	OCTET STRING	Size (32)	Fast leave mode: Enabled Disabled	Optional.
MAXGRP	INTEGER	0 - 255	Maximum number of multicast programs that a port can join simultaneously.	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, delete the multicast service with the fast leave mode being enabled and MAXGRP being 23 of the LAN 1 port of the ONU (having no management IP address) with ONUID being 54-4B-40-04-2C-1E and ONU authentication mode being MAC. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
CFG-LANIPVPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::FLMODE=Enabled,
MAXGRP=23;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 9:17:13
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Example 2, configure the multicast service for the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
CFG-LANIP TVPORT::ONU IP=10.250.18.20,ONU PORT=NA-NA-4-1:CTAG::
FLMODE=Enabled,MAXGRP=32;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 9:18:14
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
ADD-LANIP TVPORT
DEL-LANIP TVPORT
```

5.2.11 Deleting a LAN Port from a Multicast VLAN (DEL-LANIP TVPORT)

Function Description

This command is used for deleting a LAN port from a multicast VLAN.

Command Format

```
DEL-LANIP TVPORT::ONU IP=onu-name[OLTID=olt-name[,PONID=ponport_location,
ONU IDTYPE=onuid-type,ONU ID=onu-index],ONU PORT=onu-port:CTAG::[UV=user
vlan][,MVLAN=mvlan];
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONU IP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
UV	INTEGER	0 - 4095	VLAN at user side	Optional. It is required when the multicast service is accessed through a home gateway.
MVLAN	INTEGER	0 - 4095	Associated multicast VLAN	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, delete the multicast service with the fast leave mode being enabled and MAXGRP being 23 of the LAN 1 port of the ONU (having no management IP address) with ONUID being 54-4B-40-04-2C-1E and ONU authentication mode being MAC. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
DEL-LANIP TVPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONU IDTYPE=MAC,  
ONU ID=54-4B-40-04-2C-1E,ONU PORT=NA-NA-NA-1:CTAG::UV=109,MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 15:18:17  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, delete the LAN 1 port from the MVLAN88 (multicast VLAN). The LAN 1 port locates in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
DEL-LANIP TVPORT::ONU IP=10.250.18.20,ONU PORT=NA-NA-4-1:CTAG::UV=100,  
MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 08:59:14  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

ADD-LANIP TVPORT

5.2.12 Adding HG Management Channel Configuration (CFG-NONOMCIMPAT HCONFIG)

Function Description

This command is used for configuring the management channel information of a LAN port.

Command Format

```
CFG-NONOMCIMPATHCNFIG::OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index:CTAG::ChannelEnable=1[ ,
ManageCVlanId=9][ ,ManageCVlanCos=7] ;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ChannelEnable	INTEGER	0 and 1	0: disable; 1: enable	Required.
ManageCVlanId	INTEGER	0 to 4095	CVLAN	Optional
ManageCVlanCos	INTEGER	0 to 7	CVLAN priority	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the management channel on the ONU with ID 1, which is in the PON port 2 in slot 4 on the OLT device with IP 10.78.200.200. The management channel is disabled.

◆ Command

```
CFG-NONOMCIMPATHTHCONFIG::OLTID=10.78.200.200,PONID=NA-NA-4-2,  
ONUIDTYPE=ONU_NUMBER,ONUID=1:CTAG::ChannelEnable=0,ManageCVlanId=2,  
ManageCVlanCos=3;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

5.2.13 Adding VEIP Data Service (CFG-VEIPSERVICE)

Function Description

This command is used to configure the VEIP data service of the LAN port.

Command Format

```
CFG-VEIPSERVICE::ONUIP=onu-ip|OLTID=olt-name,PONID=ponport_location,  
ONUIDTYPE=onuid-type,ONUID=onu-index,ONUPORT=onu-port:CTAG::  
ServiceId=service-id,CVLANID=cvlanid,CCOS=ccos,TVLANID=T-vlan,TCOS=T-  
cos,UpAssuredRateLimit=up-bandwidth profile,DownAssuredRateLimit=down-  
bandwidth-profile,ServiceModelProfile=service-model-profile,  
ServiceType=service-type;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required.
ONUUUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ONUUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
ServiceId	INTEGER	1 to 16	Service serial number under the port	Optional
CVLANID	INTEGER	1 to 4085	CVLAN ID	Optional
CCOS	INTEGER	0 to 7	CVLAN PON priority or COS	Optional
TVLANID	INTEGER	1 to 4085	TVLAN ID	Optional
TCOS	INTEGER	0 to 7	TCOS	Optional
UpAssuredRateLimit	OCTET STRING	Size (20)	Uplink bandwidth profile name.	Optional
DownAssuredRateLimit	OCTET STRING	Size (20)	Downlink bandwidth profile name.	Optional
ServiceModelProfile	OCTET STRING	Size (20)	Service model template name	Required.
ServiceType	OCTET STRING	NONE DATA IPTV MANAGEMENT VOIP	Service Type	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the VEIP data service of the LAN port 1 on the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
CFG-VEIPSERVICE::OLTID=10.171.0.16,PONID=1-1-4-5,ONUIDTYPE=ONU_NUMBER,
ONUID=1,ONUPORT=NA-NA-NA-1:CTAG::ServiceId=1,CVLANID=500,CCOS=0,
UpAssuredRateLimit=1,DownAssuredRateLimit=2,ServiceModelProfile=1,
ServiceType=VOIP;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

5.2.14 Modifying VEIP Data Service (DEL-VEIPSERVICE)

Function Description

This command is used to modify the VEIP data service of the LAN port.

Command Format

```
MODIFY-VEIPSERVICE::ONUIP=onu-ip|OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index,ONUPORT=onu-port:CTAG::
CVLANID=cvlanid,UpAssuredRateLimit=up-bandwidth-profile,
DownAssuredRateLimit=down-bandwidth-profile,ServiceType=service-type;
```

Supported Equipment

- ◆ OLT: AN5116-02, AN5116-06B.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	It is compulsory for the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required for the ONU or OLT that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required.
ONUIDENT	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
ServiceId	INTEGER	1 to 16	Service serial number under the port	Optional
CVLANID	INTEGER	1 to 4085	CVLAN ID	Optional
UpAssuredRateLimit	OCTET STRING	Size (20)	Uplink bandwidth profile name.	Optional
DownAssuredRateLimit	OCTET STRING	Size (20)	Downlink bandwidth profile name.	Optional
ServiceType	OCTET STRING	NONE DATA IPTV MANAGEMENT VOIP	Service Type	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, modify the VEIP data service of the LAN port 1 on the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
MODIFY-VEIPRATELIMIT::OLTID=10.171.0.16,PONID=1-1-4-5,  
ONUIDTYPE=ONU_NUMBER,ONUID=1,ONUPORT=NA-NA-NA-1:CTAG::CVLANID=500,  
UpAssuredRateLimit=2,DownAssuredRateLimit=1,ServiceType=IPTV;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

5.2.15 Unbinding VEIP Data Service (UNBIND-VEIPSERVICE)

Function Description

This command is used to unbind the bandwidth template in the VEIP data service configuration of the LAN port.

Command Format

```
UNBIND-VEIPSERVICE::ONUIP=onu-ip|OLTID=olt-name,PONID=ponport_location,  
ONUIDTYPE=onuid-type,ONUID=onu-index,ONUPORT=onu-port:CTAG::  
ServiceId=service-id;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	It is compulsory for the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required for the ONU or OLT that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
ServiceId	INTEGER	1 to 16	Service serial number under the port	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, unbind the bandwidth template of the VEIP data service of the LAN port 1 on the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
UNBIND-VEIPSERVICE::OLTID=10.171.0.16,PONID=1-1-4-5,
ONUIDTYPE=ONU_NUMBER,ONUID=1,ONUPORT=NA-NA-NA-1:CTAG::ServiceId=1;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17
M CTAG COMPLD
    EN=0    ENDESC=No error
;
```

5.2.16 Deleting VEIP Data Service (DEL-VEIPSERVICE)

Function Description

This command is used to delete the VEIP data service configuration of the LAN port.

Command Format

```
UNBIND-VEIPSERVICE::OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index,ONUPORT=onu-port:CTAG::
ServiceId=service-id;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: AN5006 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required.
ONUUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
ServiceId	INTEGER	1 to 16	Service serial number under the port	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, delete the VEIP data service of the LAN port 1 on the ONU with ID 1, which is in the PON port 5 in slot 4 on the OLT device with IP 10.171.0.16.

◆ Command

```
DEL-VEIPSERVICE::OLTID=10.171.0.16,PONID=1-1-4-5,ONUIDENTYPE=ONU_NUMBER,
ONUID=1,ONUUPORT=NA-NA-NA-1:CTAG::ServiceId=1;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 14:55:17
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

5.3 Broadband / IPTV Services of an xDSL Port

The following introduces how to configure the broadband / IPTV services of an xDSL port.

5.3.1 Activating a DSL Port (ACT-DSLPORT)

Function Description

This command is used for activating a DSL port.

Command Format

```
ACT-DSLPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPOINT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 2, activate the DSL 1 port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
ACT-DSLPORT::ONUIP=10.250.18.121,ONUPOINT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 17:13:17
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
DACT-DSLPORT
```

5.3.2 Deactivating a DSL Port (DACT-DSLPORT)

Function Description

This command is used for deactivating a DSL port.

Command Format

```
DACT-DSLPORT::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index],ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, deactivate the No. 1 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
DACT-DSLPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 17:14:19
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

```
ACT-DSLPORT
```

5.3.3 Configuring the Bandwidth of a DSL Port (CFG-DSLPORTBW)

Function Description

This command is used for configuring the bandwidth of a DSL port. Before using the command, ensure the ONU is bound with the DSL line template and the bandwidth template is correctly configured.

Command Format

```
CFG-DSLPORTBW::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::BW=band
width;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU_ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU_PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
BW	OCTET STRING	Size (32)	Bandwidth template name: setting uplink / downlink bandwidth.	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example: configure the bandwidth template for the No. 1 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
CFG-DSLPORTBW::ONU_IP=10.250.18.121,ONU_PORT=NA-NA-3-1:CTAG::BW=BW_2M
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 17:17:19
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.3.4 Configuring the VLAN of a DSL Port (CFG-DSLPORTVLAN)

Function Description

This command is used for configuring the VLAN information of a DSL port.

Command Format

```
CFG-DSLPORTVLAN::ONUIP=onu-name[OLTID=olt-name[,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index],ONUPORT=onu-port:CTAG::[VPI=vpi]
[,VCI=vci][,SVLAN=outer vlan],CVLAN=Inner vlan[,UV=user-vlan];
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required
VPI	INTEGER	0 to 4095	VPI	Optional
VCI	INTEGER	32 to 65535	VCI	Optional
SVLAN	INTEGER	0 to 4095	SVLAN	Optional
CVLAN	INTEGER	0 to 4095	CVLAN	Required
UV	INTEGER	0 to 4095	Customer VLAN.	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the VLAN information for the No. 1 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
CFG-DSLPORTVLAN::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::VPI=0,
VCI=35,CVLAN=261;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-22 17:19:01
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
DEL-DSLPORTVLAN
```

5.3.5 Deleting the VLAN of a DSL Port (DEL-DSLPORTVLAN)

Function Description

This command is used for deleting the VLAN information of a DSL port.

Command Format

```
DEL-DSLPORTVLAN::ONUIP=onu-name[OLTID=olt-name[,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index],ONUPORT=onu-port:CTAG::[VPI=vpi]
[,VCI=vci][,SVLAN=outer_vlan],CVLAN=Inner_vlan[,UV=user_vlan];
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VPI	INTEGER	0 - 4095	Vpi	Optional.
VCI	INTEGER	32 - 65535	Vci	Optional.
SVLAN	INTEGER	0 - 4095	SVLAN	Optional.
CVLAN	INTEGER	0 - 4095	CVLAN	Required.
UV	INTEGER	0 - 4095	VLAN at user side	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete the VLAN information of the No. 1 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
DEL-DSLPORTVLAN::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::VPI=0,
VCI=35,CVLAN=261;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 18:13:38
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
CFG-DSLPORTVLAN
```

5.3.6 Adding a Multicast User for a DSL Port (ADD-DSLIPVPORT)

Function Description

This command is used for adding a multicast user for a DSL port.

Command Format

```
ADD-DSLIPVPORT::ONUIP=onu-name[OLTID=olt-name[,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index],ONUPORT=onu-port:CTAG::[UV=user
vlan][VPI=vpi][,VCI=vci][,MVLAN=mvlan];
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VPI	INTEGER	0 - 4095	Vpi	Optional.
VCI	INTEGER	32 - 65535	Vci	Optional.
UV	INTEGER	0 - 4095	VLAN at user side	Optional. It is required when VDSL works in VDSL mode.
MVLAN	INTEGER	Size (32)	Associated multicast VLAN	Optional. Specified multicast VLAN for service provisioning.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, add a multicast user for the DSL 1 port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
ADD-DSLIPVPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::UV=100,
VPI=0,VCI=35,MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 18:15:38
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

DEL-DSLIP TVPORT

5.3.7 Deleting a Multicast User of a DSL Port (DEL-DSLIP TVPORT)

Function Description

This command is used for deleting the multicast service of a DSL port.

Command Format

```
DEL-DSLIP TVPORT::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::[ VPI=vpi]
[ ,VCI=vci][ UV=user vlan][ ,MVLAN=mvlan] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VPI	INTEGER	0 - 4095	Vpi	Optional. It is required when ADSL or VDSL works in ADSL mode.
VCI	INTEGER	32 - 65535	Vci	Optional. It is required when ADSL or VDSL works in ADSL mode.
UV	INTEGER	0 - 4095	VLAN at user side	Optional. It is required when VDSL works in VDSL mode.
MVLAN	INTEGER	Size (32)	Associated multicast VLAN	Optional. Specified multicast VLAN for service provisioning.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete the multicast service of the DSL 1 port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
DEL-DSLIP TVPORT::ONU IP=10.250.18.121,ONU PORT=NA-NA-3-1:CTAG::VPI=0,
VCI=35,UV=100,MVLAN=88;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 18:17:31
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
ADD-DSLIP TVPORT
```

5.3.8 Configuring the IPTV Service of a DSL Port (CFG-DSLIP TVPORT)

Function Description

This command is used for configuring the IPTV service of a DSL port.

Command Format

```
CFG-DSLIP TVPORT::ONU IP=onu-name[OLTID=olt-name[ ,PONID=ponport_location,
ONU IDTYPE=onuid-type,ONU ID=onu-index] ,ONU PORT=onu-port:CTAG::[ VPI=vpi]
[ ,VCI=vci][ ,FLMODE=iptv-fastleave-mode][ ,MAXGRP=Max-group-number] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONU IP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VPI	INTEGER	0 - 4095	Vpi	Optional. It is required when ADSL or VDSL works in ADSL mode.
VCI	INTEGER	32 - 65535	Vci	Optional. It is required when ADSL or VDSL works in ADSL mode.
UV	INTEGER	0 - 4095	VLAN at user side	Optional. It is required when VDSL works in VDSL mode.
FLMODE	OCTET STRING	Size (32)	Fast leave mode: Enabled Disabled	Optional.
MAXGRP	INTEGER	0 - 255	Maximum number of multicast programs that a port can join simultaneously.	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the multicast service of the No. 1 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
CFG-DSL IPTVPORT::ONU IP=10.250.18.121,ONU PORT=NA-NA-3-1:CTAG::  
FLMODE=Enabled,MAXGRP=20;
```

◆ Response Message

```
FH_10.78.20.120 2/22/2011 18:17:31  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
DEL-DSL IPTVPORT  
ADD-DSL IPTVPORT
```

5.4 VoIP Service

The following introduces how to activate / deactivate a VoIP port, and configure / delete the voice service of the VoIP port.

5.4.1 Activating a VoIP Port (ACT-VOIPPORT)

Function Description

The command is used for activating a VoIP port.

Command Format

```
ACT-VOIPPORT::ONUIP=onu-name[ OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, activate the No. 1 voice port of the ONU (that has no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
ACT-VOIPPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 18:09:11
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Example 2, activate the POTS 1 port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
ACT-VOIPPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 19:01:47
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

DACT-VOIPPORT

5.4.2 Deactivating a VoIP Port (DACT-VOIPPORT)

Function Description

The command is used for deactivating a VoIP port.

Command Format

```
DACT-VOIPPORT::ONUIP=onu-name|[ OLTID=olt-name, PONID=ponport_location,  
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, deactivate the No. 1 voice port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
DACT-VOIPPORT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 18:11:12
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Example 2, deactivate the POTS 1 port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
DACT-VOIPPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 19:01:57
M CATG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

```
ACT-VOIPPORT
```

5.4.3 Configuring the Voice Service of a VoIP Port (CFG-VOIPSERVICE)

Function Description

The command is used for configuring the voice service of a VoIP port.

Command Format

```
CFG-VOIPSERVICE::ONUIP=onu-name[ OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ,ONUPORT=onu-port:CTAG::
[ PHONENUMBER=phonenummer][ ,PT=protocoltype][ ,SLVAN=voipoutervlan][ ,
VOIPVLAN=voipinnervlan][ ,SCOS=outerqos][ ,CCOS=innerqos][ ,
EID=equipmentid][ TID=Terminal-ID][ SIPREGDM=sipregisterdomain][ ,
SIPUSERNAME=sipusername][ ,SIPUSERPWD=sipuserpassword]
[ MGCIP1=activebacip][ ,MGCIP2=standbybacip][ ,IPMODE=ipmode][ ,
IP=ipaddress,IPMASK=ipmask,IPGATEWAY=ipgateway][ ,PPPOEUSER=pppoeuser,
PPPOEPWD=pppoepassword] , VOICECODEC=voice;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUIDENT	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required
PHONE-NUMBER	OCTET STRING	Size (1 to 32)	Telephone number	Optional. It is required for the SIP protocol.
PT	OCTET STRING	Size (1 to 32)	Voice protocol type (H.248, SIP)	Optional
EID	OCTET STRING	Size (1 to 64)	MG gateway domain name in the H248 configuration.	Optional. It is required for the H248 protocol.
TID	OCTET STRING	Size (1 to 64)	H248 user terminal identifier	Optional. It is required for the H248 protocol.
SIPREGDM	OCTET STRING	Size (1 to 32)	SIP register server	Optional
SIPUSER-NAME	OCTET STRING	Size (1 to 32)	Username corresponding to the SIP user port	Optional. It is required for the SIP protocol.

Parameter	Data Type	Value Range	Parameter Description	Remark
SIPU-SERPWD	OCTET STRING	Size (1 to 32)	Password corresponding to the SIP user port	Optional. It is required for the SIP protocol.
SVLAN	INTEGER	0 to 4095	Outer VLAN of the voice service	Optional. Indicates the outer VLAN of the stacked VLAN in the FTTH scenario.
VOIPVLAN	INTEGER	0 to 4095	Inner VLAN of the voice service.	Optional. It is required for the FTTH scenario.
IPMODE	OCTET STRING	Size (1 to 32)	IP obtaining mode: DHCP, PPPOE, STATIC.	Optional
IP	OCTET STRING	Size (1 to 32)	IP address	Optional. It is required for static IP allocation.
IPMASK	OCTET STRING	Size (1 to 32)	IP address mask	Optional. It is required for static IP allocation.
IPGATEWAY	OCTET STRING	Size (1 to 32)	Gateway address	Optional. It is required for static IP allocation.
PPPOEUSER	OCTET STRING	Size (1 to 32)	PPPOE username	Optional. It is required for the PPPOE mode.
PPPOEPWD	OCTET STRING	Size (1 to 32)	PPPOE password.	Optional. It is required for the PPPOE mode.
SCOS	INTEGER	0 to 7	Outer service priority level	Optional
CCOS	INTEGER	0 to 7	Inner service priority level	Optional
MGCIP1	OCTET STRING	Size (32)	IP address of the active softswitch	Optional
MGCIP2	OCTET STRING	Size (32)	IP address of the standby softswitch.	Optional
VOICECODEC	OCTET STRING	Size (128) G.711U, G.711A, G.723, G.729 and G.722	Speech encoding protocol	Optional

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, configure the voice service for No. 1 voice port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
CFG-VOIPSERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::PHONENUMBER=77777777,
PT=H.248,VOIPVLAN=1645,CCOS=0,EID=eid,TID=tid,IPMODE=STATIC,
IP=14.14.14.7,IPMASK=255.255.0.0,IPGATEWAY=14.14.14.1;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 18:56:13
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Example 2, configure the voice service for the POTS 4 port located in the No. 1 slot of the ONU (having a management IP address) whose IP address is 10.78.11.115.

◆ Command

```
CFG-VOIPSERVICE::ONUIP=10.78.11.115,ONUPORT=NA-NA-1-4:CTAG::PT=H.248,
VOIPVLAN=3111,CCOS=0,EID=AAA,TID=12365478;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-21 13:41:37
M CATG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

```
ACT-VOIPPORT
DEL-VOIPSERVICE
```

5.4.4 Deleting the Voice Service of a VoIP Port (DEL-VOIPSERVICE)

Function Description

The command is used for deleting the voice service of a VoIP port.

Command Format

```
DEL-VOIPSERVICE::OLTID=olt-name,PONID=ponport_location,
ONUIDTYPE=onuidtype,ONUID=onu-index,ONUPORT=onu-port:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required
ONU-ID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	Required
ONU-ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Required
ONU-PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, delete the voice service of No. 1 voice port of the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is 54-4B-40-04-2C-1E; authentication mode is MAC.

◆ Command

```
DEL-VOIPSERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,  
ONUID=54-4B-40-04-2C-1E,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.78.20.120 2/21/2011 19:06:14  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Example 2, delete the voice service of the POTS 4 port located in the No. 1 slot of the ONU (having a management IP address) whose IP address is 10.78.11.115.

◆ Command

```
DEL-VOIPSERVICE::ONUIP=10.78.11.115,ONUPORT=NA-NA-1-4:CTAG::PT=H.248,  
VOIPVLAN=3111,CCOS=0,EID=AAA,TID=12365478;
```

◆ Response Message

```
FH_10.78.20.120 2011-02-22 19:08:09  
M CATG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
ACT-VOIPPORT  
CFG-VOIPSERVICE
```

5.4.5 Configuring the NGN Uplink Interface (SET-NGN-UPLINK)

Function Description

This command is used for configuring the NGN uplink interface parameters, including the uplink MGC and SIP server information.

Command Format

The command format for the ANM2000 is as follows:

```
SET-NGN-UPLINK::OLTID=device-ID:CTAG::SVCNAME=servicename|
SVCVLAN=servicevlan,NGNPROTOCOL=ngn_protocol[ ,
MASTERDNS=master_dns_ipaddress][ ,SLAVEDNS=slave_dns_ipaddress][ ,
DHCP=dhcp] ,SIPREGSERVER=sip_registerar_server_ipaddress,
SIPREGPORT=sip_registerar_server_port,SIPPROSERVER=sip_proxy_server-
ipaddress,SIPPROPORT=sip_proxy_server_port,SIPEXP=sip_expires,
STATUS=enable;
```

The command format for the UNM2000 is as follows:

```
SET-NGN-UPLINK::OLTID=device-ID:CTAG::SVCNAME=servicename,
NGNPROTOCOL=ngn_protocol,[ MGCIP1=mgcip1,MGCIP1PORT=mgcip1port][ ,
MGCIP2=mgcip2,MGCIP2PORT=mgcip2port][ ,MASTERDNS=master_dns_ipaddress][ ,
SLAVEDNS=slave_dns_ipaddress][ ,DHCP=dhcp][ ,
SIPREGSERVER=sip_registerar_server_ipaddress,
SIPREGPORT=sip_registerar_server_port,SIPPROSERVER=sip_proxy_server-
ipaddress,SIPPROPORT=sip_proxy_server_port,SIPEXP=sip_expires] ,
STATUS=status;
```

Supported Equipment

OLT: AN5116-02, AN5116-06B, AN5516-06B.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	Required.
SVCNAME	STRING	Size (0 - 30)	Signaling service name.	Required.
SVCVLAN	INTEGER	0 - 4085	When it is used, the EMS matches it from the existing local VLANs.	-
NGNPROTOCOL	INTEGER	0 - MGCP 1 - H.248 2 - SIP	NGN uplink protocol	-
MASTERDNS	INTEGER	1 - 65535 (sample: lefefefe)	Primary DNS server	-
SLAVEDNS	INTEGER	1 - 65535 (sample: lefefefe)	Secondary DNS server	-

Parameter Name	Data Type	Value Range	Description	Remark
DHCP	INTEGER	0 - 1	A switch to enable DHCP	-
SIPREGSERVER	STRING	Size (0 - 64)	SIP register server address	-
SIPREGPORT	INTEGER	1 - 65535	SIP register server port	-
SIPPROSERVER	STRING	Size (0 - 64)	SIP proxy server address	-
SIPPROPORT	INTEGER	1 - 65535	SIP proxy server port	-
SIPEXP	INTEGER	1 - 4294967294	SIP protocol timeout	-
STATUS	INTEGER	1: create 2: add	1: create 2: add	-
MGCIP1	OCTET STRING	Size (64)	MGC1 IP Address / Standby SIP Registrar Server Address	-
MGCIP1PORT	INTEGER	1024 - 65535	MGC1 Port NO. / Standby SIP Registrar Server Port NO.	-
MGCIP2	OCTET STRING	Size (64)	MGC2 IP Address / Standby SIP Proxy Server Address	-
MGCIP2PORT	INTEGER	1024 - 65535	MGC2 Port NO. / Standby SIP Proxy Server Port NO.	-

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, configure the NGN uplink interface parameters of the OLT whose IP address is 10.78.200.200 (The ONU has no management IP address).

◆ Command

```
SET-NGN-UPLINK::OLTID=10.78.200.200:CTAG::SVCNAME=xx,NGNPROTOCOL=2,
MGCIP1=1.1.1.5,MGCIP1PORT=5060,MGCIP2=5.3.6.2,MGCIP2PORT=5060,
MASTERDNS=1.1.1.1,SLAVEDNS=2.6.6.2,DHCP=1,SIPREGSERVER=2.2.2.2,
```

```
SIPREGPORT=2222,SIPPROSERVER=3.3.3.3,SIPPROPORT=5060,SIPEXP=3600,
STATUS=2;
```

◆ Response Message

```
FH_10.78.12.155 2014-07-16 14:00:31
M CTAG COMPLD
EN=0 ENDESC=No error
;
```

Related Command

None

5.4.6 Modifying Voice Coding of VOIP Port (MODIFY-ONUVOIPSERVICE)

Function Description

This command is used to modify the voice code of the VOIP port voice service.

Command Format

```
MODIFY-ONUVOIPSERVICE::ONUIP=onu-ip|OLTID=olt-name,
PONID=pontport_location,ONUIDTYPE=onuid-type,ONUID=onu-index,
ONUUPORT=onu-port:CTAG::VOICECODEC=voice;
```

Supported Equipment

- ◆ OLT: AN5116 series, AN5516 series.
- ◆ ONU: HG260, AN5506-04-F1.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUUP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	It is required for the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required for the ONU that has no management IP address.

Parameter	Data Type	Value Range	Parameter Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUIDENT	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VOICECODEC	OCTET STRING	Size (128) G.711U G.711A G.723 G.729 G.722	Voice encoding protocol	This item is optional. The default setting is G.711A. Enter the corresponding voice encoding protocol name directly to modify.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example1: (The ONU has no independent management IP) Modify the voice code of the voice service on the voice port 1 of the ONU with the ID FH03317f00, which is under the PON port 1 in slot 6 on the OLT device with the IP 110.190.47.223. The ONU authentication mode is MAC.

◆ Command

```
MODIFY-ONUVOIPSERVICE::OLTID=10.190.47.223,PONID=NA-NA-6-1,
ONUIDTYPE=MAC,ONUID=FHTT03317f00,ONUPORT=NA-NA-NA-1:CTAG::
VOICECODEC=G.729;
```

◆ Response Message

```
FH_10.170.162.23 2017-02-15 14:34:14
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

5.5 VLAN Service

The following introduces how to create and delete the VLAN service.

5.5.1 Creating a VLAN (ADD-VLAN)

Function Description

This command is used for creating a VLAN.

Command Format

```
ADD-VLAN::ONUIP=onu-name|OLTID=olt-name:CTAG::VLAN=vlanid[ ,DESC=vlan-
alias] ,VLANMODE=vlan-type[ ,PORTLIST=port-list][ ,MVLANFLAG=mvlan-flag][ ,
MVLANPRI=mvlan-priority][ ,SERVICE=service] ;
```

Supported Equipment

◆ OLT: AN5516 series, AN5116 series.

◆ ONU: AN5006-20, AN5006-15.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	In FTTB / FTTN scenario, it is required to create the VLAN on the ONU.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required to create VLAN on OLT.

Parameter Name	Data Type	Value Range	Description	Remark
VLAN	INTEGER	0 - 4094	VLANID	Required.
DESC	OCTET STRING	Size (128)	VLAN alias	Optional.
VLANMODE	OCTET STRING	SINGLE QINQ STACKING	VLAN attribute. SINGLE: Switches the outer VLAN tag or add the VLAN tag to the untagged messages uplinked. STACKING: Switches the inner VLAN tag and add the outer VLAN tag, or add the outer and inner VLAN tags to the untagged messages. QINQ: Adds a VLAN tag to the messages uplinked, mainly for the private line application.	Required.
PORTLIST	OCTET STRING	NA-NA-NA-NA	a list of uplink ports that allows the VLAN to pass through	Optional. It can be a list of uplink ports, separated by vertical bars, for example, NA-0-19-0 NA-0-19-1 NA-0-20-0.
MVLANFLAG	INTEGER	0: Non-multicast VLAN 1: Multicast VLAN	Indicates whether it is a multicast VLAN or non-multicast VLAN.	Optional. Default value: 0
MVLANPRI	INTEGER	0 - 7	Priority level of the IGMP message.	Optional Default Value: 6
SERVICE	OCTET STRING	HSI (Internet access) IPTV (unicast) VOIP (voice)	Service type of the VLAN	Optional. Default value: HSI (This parameter can contain the meaning of MVLANFLAG. Adding a parameter value indicates multicast.)

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, create a VLAN with VLAN ID being 101 and VLANMODE being STACKING for the OLT (the ONU has no management IP address) whose IP address is 10.78.200.200.

◆ Command

```
ADD-VLAN::OLTID=10.78.200.200:CTAG::VLAN=101,VLANMODE=STACKING,  
PORTLIST=NA-NA-19-1;
```

◆ Response Message

```
FH_10.98.100.16 2014-06-12 15:45:15  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

DEL-VLAN

5.5.2 Deleting a VLAN (DEL-VLAN)

Function Description

This command is used for deleting a VLAN.

Command Format

```
DEL-VLAN:: ONUIP=onu-name|OLTID=olt-name:CTAG::VLAN=vlanid;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-15.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
VLAN	INTEGER	0 - 4096	VLANID	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, delete the VLAN with VLAN ID being 101 of the OLT (the ONU has a management IP address) whose IP address is 10.78.200.200.

◆ Command

```
DEL-VLAN::OLTID=10.78.200.200:CTAG::VLAN=101;
```

◆ Response Message

```
FH_10.98.100.16 2014-06-12 16:03:26
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

ADD-VLAN

5.6 Configuring a Port Speed Rate Template

The following introduces the PORTSPEEDLIMITPROFILE command and example for adding / deleting the port speed limit template.

5.6.1 Adding a Port Rate Limiting Template (ADD-PORTSPEEDLIMITPROFILE)

Function Description

This command is used for adding a port rate limiting template.

Command Format

```
ADD-PORTSPEEDLIMITPROFILE::ONUIP=onu-name|OLTID=olt-name:CTAG::
PROFILENAME=profile name, [ USPOLICINGSTATUS=status, UMABW=uplink maximum
allowed bandwidth, UPCIR=UsPolicingCIR, USCBS=us cbs, USEBS=us ebs,
DSPOLICINGSTATUS=status, SDBW=servicedownlinkbandwidth,
DPCIR=DsPolicingCIR, DSPIR=ds pir] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILENAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.

Parameter Name	Data Type	Value Range	Description	Remark
USPOLICING-STATUS	INTEGER	0 - 1	Uplink policing status 0: disable 1: enable	Optional.
UMABW	INTEGER	0 - 1000000	Maximum service uplink bandwidth	Optional.
UPCIR	INTEGER	0 - 1000000 64 - 1000000 for the AN5006-20 and AN5006-30 devices.	Assured uplink port rate	Optional.
USCBS	INTEGER	0 - 4294967294	Uplink committed burst size	Optional.
USEBS	INTEGER	0 - 4294967294	Uplink excess burst size	Optional.
DSPOLICING-STATUS	INTEGER	0 - 1	Downlink policing status 0: disable 1: enable	Optional.
SDBW	INTEGER	0 - 16777215	Service downlink bandwidth	Optional.
DPCIR	INTEGER	0 - 16777215 64- 1000000 for the AN5006-20 and AN5006-30 devices.	Assured downlink port rate	Optional.
DSPIR	INTEGER	0 - 16777215	Downlink peak cell rate	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Add a rate limiting profile named as hello for the ONU whose IP address is 10.171.0.38, and set the rate limiting parameters.

◆ Command

```
ADD-PORTSPEEDLIMITPROFILE::ONUIP=10.171.0.38:CTAG::PROFILENAME=hello,
USPOLICINGSTATUS=1,UPCIR=200,USCBS=111,USEBS=222,DSPOLICINGSTATUS=1,
DPCIR=400,DSPIR=444;
```

◆ Response Message

```
FH_0.0.0.0 2010-11-04 11:45:19
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
DEL-PORTSPEEDLIMITPROFILE
```

5.6.2 Deleting a Port Rate Limiting Template (DEL-PORTSPEEDLIMITPROFILE)

Function Description

This command is used for deleting a port rate limiting template.

Command Format

```
DEL-PORTSPEEDLIMITPROFILE::ONUIP=onu-name|OLTID=olt-name:CTAG::
PROFILENAME=profile name;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILENAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Delete the rate limiting profile hello on the ONU 10.171.0.38.

◆ Command

```
DEL-PORTSPEEDLIMITPROFILE::ONUIP=10.171.0.38:CTAG::PROFILENAME=hello;
```

◆ Response Message

```
FH_0.0.0.0 2010-11-04 11:45:19
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
ADD-PORTSPEEDLIMITPROFILE
```

5.7 Configuring a Bandwidth Template

The following introduces the BWPROFILE command and example for adding / deleting a bandwidth template.

5.7.1 Adding a Bandwidth Template (ADD-BWPROFILE)

Function Description

This command is used for adding a bandwidth template.

Command Format

```
ADD-BWPROFILE::ONUIP=onu-name|OLTID=olt-name:CTAG::PROFILENAME=profile
name[ ,UPMGBW=Up MIN Guaranteed Bandwidth,UMABW=uplink maximum allowed
bandwidth, DMGBW=Down MIN Guaranteed Bandwidth,DMABW=Down MAX Allowed
Bandwidth, UFBW=Upstream Fixed Bandwidth] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILENAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.
UPMGBW	INTEGER	0 - 1000000	Minimum service uplink bandwidth	Optional.
UMABW	INTEGER	0 - 1000000	Maximum service uplink bandwidth	Optional.
DMGBW	INTEGER	0 - 1000000	Minimum service downlink bandwidth	Optional.
DMABW	INTEGER	0 - 1000000	Maximum service downlink bandwidth	Optional.
UFBW	INTEGER	0 - 1000000	Fixed service uplink bandwidth	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Add the bandwidth profile for the OLT 10.171.0.33.

◆ Command

```
ADD-BWPROFILE::OLTID=10.171.0.33:CTAG::PROFILENAME=hello,UPMGBW=100,
UMABW=11111,DMGBW=2222,DMABW=3333,UFBW=4444;
```

◆ Response Message

```
FH_0.0.0.0 2010-11-04 11:45:19
M  CTAG COMPLD
    EN=0    ENDESC=No error
;
```

Related Command

```
DEL-BWPROFILE
```

5.7.2 Deleting a Bandwidth Template (DEL-BWPROFILE)

Function Description

This command is used for deleting a bandwidth template.

Command Format

```
DEL-BWPROFILE::ONUIP=onu-name|OLTID=olt-name:CTAG::PROFILENAME=profile
name;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILE-NAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Delete the bandwidth profile on the OLT whose IP address is 10.171.0.33.

◆ Command

```
DEL-BWPROFILE::OLTID=10.171.0.33:CTAG::PROFILENAME=hello;
```

◆ Response Message

```
FH_0.0.0.0 11/4/2015 11:45:19
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

```
ADD-BWPROFILE
```

5.8 Configuring a Flow Policy

The following introduces the FLOWPOLICY command and example for adding / deleting a flow policy.

5.8.1 Adding a Flow Policy (ADD-FLOWPOLICY)

Function Description

This command is used for adding a flow policy.

Command Format

```
AADD-FLOWPOLICY::ONUIP=onu-name|OLTID=olt-name:CTAG::
PROFILENAME=profile name ,RULENAME=rule name,PRECEDENCE=Precedence[ ,
ACL=acl enable,RATELIMIT= rate limit, CIR=cir,CBS=cbs,
QUEUEENABLE=QueueEnable,QUEUEMAP=Queue Mapped, COSREMARK=cos remark,
COS=cos, DSCPremark=dscp remark, DSCP=dscp, RTC= Remark traffic class, TC=
Traffic class, REPORTENABLE=RePortEnable, REPORTNO=port no,
PMENABLE=PortMirrorEnable, MPORTNO=port no] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILENAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.
RULENAME	OCTET STRING	Size (128)	Name of the flow classification rule	Required.
PRECEDENCE	INTEGER	1 - 12	Policy priority	Required.
ACL	INTEGER	0 - 1	Indicates whether to enable the ACL. 0: disable 1: enable	Optional.
RATELIMIT	INTEGER	0 - 1	Indicates whether to enable the flow rate limiting function. 0: disable 1: enable	Optional.
CIR	INTEGER	0 - 1000000	Assured rate	Optional.
CBS	INTEGER	0 - 262144	Burst length	Optional.

Parameter Name	Data Type	Value Range	Description	Remark
QUEUEENABLE	INTEGER	0 - 1	Indicates whether to enable the queue mapping function. 0: disable 1: enable	Optional.
QUEUEMAP	INTEGER	0 - 7	Mapping queue	Optional.
COSREMARK	INTEGER	0 - 1	Indicates whether to enable the re-marking function. 0: disable 1: enable	Optional.
COS	INTEGER	0 - 7	Priority label	Optional.
DSCPremark	INTEGER	0 - 1	Indicates whether to enable the re-marking function. 0: disable 1: enable	Optional.
DSCP	INTEGER	0 - 63	DSCP	Optional.
RTC	INTEGER	0 - 1	Re-marking traffic class 0: disable 1: enable	Optional.
TC	INTEGER	0 - 255	Communication classification	Optional.
REPORTENABLE	INTEGER	0 - 1	Port re-direction enabling 0: disable 1: enable	Optional.
REPORTNO	INTEGER	1 - 101	Port number	Optional.
PMENABLE	INTEGER	0 - 1	Port mirroring 0: disable 1: enable	Optional.
MPORTNO	INTEGER	1 - 100	Port number	Optional.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Add a flow policy named hello for the ONU 10.171.0.39.

◆ Command

```
ADD-FLOWPOLICY::ONUIP=10.171.0.39:CTAG::PROFILENAME=hello,  
RULENAME=nimei,PRECEDENCE=2,ACL=1,RATELIMIT=1,CIR=1111,CBS=2222,  
QUEUEENABLE=1,QUEUEMAP=1,COSREMARK=1,COS=2,DSCPremark=1,DSCP=3,RTC=1,  
TC=4,REPORTENABLE=1,REPORTNO=5,PMENABLE=1,MPORTNO=6;
```

◆ Response Message

```
FH_0.0.0.0 11/4/2015 11:45:19  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

```
DEL-FLOWPOLICY  
ADD-PORTPVCFLOWPOLICY
```

5.8.2 Deleting a Flow Policy (DEL-FLOWPOLICY)

Function Description

This command is used for adding a flow policy.

Command Format

```
DEL-FLOWPOLICY::ONUIP=onu-name|OLTID=olt-name:CTAG:: PROFILENAME=profile  
name;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PROFILENAME	OCTET STRING	Size (128)	Name of the port rate limiting template	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1: Delete the flow policy hello on the ONU 10.171.0.39.

◆ Command

```
DEL-FLOWPOLICY::ONUIP=10.171.0.39:CTAG::PROFILENAME=hello;
```

◆ Response Message

```
FH_0.0.0.0 11/4/2015 11:45:19
M CTAG COMPLD
  EN=0  ENDESC=No error
;
```

Related Command

```
ADD-FLOWPOLICY
ADD-PORTPVCFLOWPOLICY
```

5.8.3 Adding a Port Flow Policy (ADD-PORTPVCFLOWPOLICY)

Function Description

This command is used for adding a port flow policy.

Command Format

```
ADD-PORTPVCFLOWPOLICY::ONUIP=| (OLTID=oltname,PONID=ponport_location,  
ONUIDENTYPE=onuid-type,ONUIDENT=onu-index)[ ,ONUPORT=onuport] :CTAG::PVCNO=0,  
UPPOLICYID=ubrPcr_1024K,DOWNPOLICYID=ubrPcr_1024K;
```

Supported Equipment

ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUIDENTYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUIDENT	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.

Parameter Name	Data Type	Value Range	Description
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA-NA. To specify the card, enter it in format of NA-0-6-NA. To specify the port number, enter it in format of NA-0-6-5.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Example

Issue the command

```
ADD-PORTPVCFLOWPOLICY::ONUIP=172.28.148.57,ONUPORT=1-1-1-1:CTAG::
PVCNO=1,UPPOLICYID=ubrPcr_1024K,DOWNPOLICYID=ubrPcr_1024K;
```

Response Message










None

Related Command

```
ADD-FLOWPOLICY
DEL-FLOWPOLICY
```

6 Integrated Testing Interface

The following introduces the testing commands for related resources of the PON line, voice service, xDSL port and LAN port.

-  The Ping Command
-  Querying the Equipment Information
-  Querying the PON Information
-  Querying the LAN Information
-  Querying the DSL Information
-  Querying the VLAN Information
-  Querying the IPTV Information
-  Querying the VoIP Information
-  Querying the Alarm Information

6.1 The Ping Command

The following introduces the PING command and the related example to use it.

6.1.1 Using PING on an ONU (PING)

Function Description

Pinging an IP address on an ONU can test the connectivity at IP layer between the ONU and the equipment corresponding to the IP address.

Command Format

```
PING::ONUIP=onu name|OLTID=OLT_name[ ,PONID=ponport_location,ONUIDTYPE
=id-type,ONUID=onu_index]:CTAG::IP=ip-address;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	Size (128) ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type ONU_NAME MAC LOID ONU_NUMBER	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
IP	OCTET STRING	Size (20)	The destination IP address of the PING command.	Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = List of PING Info

TxPkts RxPkts LostPkts LostPktRatio MinDelay MaxDelay AvgDelay

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
TxPkts	INTEGER	0 - 10	Number of sent packets.	-
RxPkts	INTEGER	0 - 10	Number of received packets.	-
LostPkts	INTEGER	0 - 10	Number of lost packets.	-
LostPktRatio	INTEGER	0 - 100	Packet loss rate	Unit: %, lost packets / sent packets.
MinDelay	INTEGER	0 - 2000	Minimum delay time Unit: ms	-
MaxDelay	INTEGER	0 - 2000	Maximum delay time Unit: ms	-
AvgDelay	INTEGER	0 - 2000	Mean delay Unit: ms	-

Example

Example 1, ping the IP address 10.250.18.100 on the ONU (having no management IP address) connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100. The information of the ONU is as follows: ONUID is Test0001; authentication mode is LOID.

◆ Command

```
PING::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=Test0001:CTAG::IP=10.250.18.100;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 10:56:34
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
Ping from ONU
-----
TxPkts RxPkts LostPkts LostPktRatio MinDelay MaxDelay AvgDelay
4      4      0      0      1      1      1
-----
;
```

Example 2, ping the IP address 10.250.18.100 on the ONU (having a management IP address) whose IP address is 10.250.18.20.

◆ Command

```
PING::ONUIP=10.250.18.121:CTAG::IP=10.250.18.100;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:42:08
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
Ping from ONU
-----
TxPkts RxPkts LostPkts LostPktRatio MinDelay MaxDelay AvgDelay
2      2      0      0      0      0      0
-----
;
```

Related Command

None

6.2 Querying the Equipment Information

The following introduces the commands and examples for querying the equipment information.

6.2.1 Querying the NE Information (LST-DEVINFO)

Function Description

This command is used to query the equipment model, software version, memory, CPU and temperature of the NE (OLT and ONU).

Command Format

```
LST-DEVINFO::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport-location,  
ONUIDTYPE=id-type,ONUID=onu-index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title= List of Device Info

name of attributes: DEVNAME DEVIP DT DEVER MEM CPU TEMPERATURE

Output Parameter

Parameter Name	Data Type	Value Range	Description
DEVNAME	OCTET STRING	Size (128)	Equipment name
DEVIP	OCTET STRING	Size (128)	Equipment IP address
DT	OCTET STRING	Size (255)	Equipment model
DEVER	OCTET STRING	Size (255)	Software version
MEM	INTEGER	0 - 100	Memory usage Unit: %
CPU	INTEGER	0 - 100	CPU usage Unit: %
TEMPERATURE	INTEGER	-50 - 100	Temperature Unit: °C

Example

For example, query the information of the NE whose IP address is 10.250.18.100.

◆ Command

```
LST-DEVINFO::OLTID=10.250.18.100:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-01 10:09:57
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
List of Device Info
-----
DEVNAME  DEVIP    DT      DEVER    MEM     CPU      TEMPERATURE
1    10.250.18.100  AN5516_01 RP0121  68.98   5.57 30
-----
```

Related Command

None

6.2.2 Querying the Card Information (LST-BRDINFO)

Function Description

This command is used for querying the type, status and version of the card.

Command Format

```
LST-BRDINFO::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index][ ,BOARDID=board-name] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required when querying the ONU that has no management IP address.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.
BOARDID	OCTET STRING	Size (128) Cabinet rack - shelf - slot	Card information location. Locating through the approach of cabinet rack - shelf - slot number. Enter NA if the corresponding information is not specified.	Optional. If it is not specified, it indicates querying all cards.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title= List of Device Info

BOARDID BSTAT BOARDTYPE BSERVICE PNUM SWVER HWVER MEM CPU

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
BOARDID	OCTET STRING	Size (128) Cabinet rack - shelf - slot	Locates the information of the card connected with the ONU through the approach of cabinet rack - shelf - slot number. Enter NA if the corresponding information is not specified.	-
BSTAT	OCTET STRING	Normal Fault Offline	Card status	-
BOARDTYPE	OCTET STRING	Size (128)	Card Type	-
BSERVICE	OCTET STRING	Power ETH ADSL VDSL POTS E1 GPON EPON SCU Other	Card service type (such as ADSL2P and SHDSL)	SCU: main control unit
PNUM	INTEGER	0 - 64	Number of ports	-
SWVER	OCTET STRING	Size (255)	Software version	-
HWVER	OCTET STRING	Size (255)	Hardware Version	-
MEM	INTEGER	0 - 100	Memory usage Unit: %	-
CPU	INTEGER	0 - 100	CPU usage Unit: %	-

Example

For example, query the card information of the NE whose IP address is 10.250.18.100.

◆ Command

```
LST-BRDINFO::OLTID=10.250.18.100,BOARDID=NA-NA-3:CTAG::;
```

◆ Response Message

```

FH_10.250.18.133 2010-10-27 10:59:09
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
List of Board Info
-----
BOARDID  BSTAT  BOARDTYPE  BSERVICE  PNUM  SWVER  HWVER  MEM CPU
NA-1-3 Normal  EC4B  EPON  4 RP0121  WKE2.119.318R2A 38.88  2.73
-----
;

```

Related Command

None

6.3 Querying the PON Information

The following introduces the commands and examples for querying the PON information.

6.3.1 Querying the PON Port Information (LST-PONINFO)

Function Description

This command is used for querying the status information and configuration information of the OLT PON port.

Command Format

```
LST-PONINFO::OLTID=olt-name,PONID=pon_name:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = List of olt pon port information
AdminState OperState
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
AdminState	OCTET STRING	UP DOWN	Administration status
OperState	OCTET STRING	UP DOWN	Running status

Example

For example, query the status of the No. 1 PON port located in the No. 3 slot of the NE equipment whose IP address is 10.250.18.100.

◆ Command

```
LST-PONINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:02:13
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
List of olt pon port information
```



```

-----
AdminState      OperState
UP              UP
-----

```

Related Command

None

6.3.2 Querying the PON Link Statistics Information (LST-PONPERF)

Function Description

This command is used for querying the statistics information of the OLT PON port or ONU PON port, such as the number of sent / received packets, sent / received bytes as well as error frames.

Command Format

```

LST-PONPERF::ONUIP=onu-name| (OLTID=olt-name,PONID=ponport_location[ ,
ONUIDTYPE=id-type,ONUID=onu-index] ) :CTAG::;

```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required when querying the OLT PON port or the ONU that has no management IP address.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required when querying the OLT PON port or the ONU that has no management IP address.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type: ONU_NAME MAC LOID ONU_NUMBER	It is required when querying the ONU that has no management IP address.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of pon port performance

OutPkts InPkts OutOctets InOctets CRC UnderSizePkts OverSizePkts InErrors

OutErrors InDiscards OutDiscards InUnicastPkts InMulticastPkts

InBroadcastPkts OutUnicastPkts OutMulticastPkts OutBroadcastPkts

Output Parameter

Parameter Name	Data Type	Value Range	Description
OutPkts	DOUBLE	0 - 1.85E19	Number of sent packets.
InPkts	DOUBLE	0 - 1.85E19	Number of received packets.
OutOctets	DOUBLE	0 - 1.85E19	Number of sent bytes
InOctets	DOUBLE	0 - 1.85E19	Number of received bytes
CRC	DOUBLE	0 - 1.85E19	Number of received CRC error packets
UnderSizePkts	DOUBLE	0 - 1.85E19	Number of received undersized packets
OverSizePkts	DOUBLE	0 - 1.85E19	Number of received oversized packets
InErrors	DOUBLE	0 - 1.85E19	Number of received error packets
OutErrors	DOUBLE	0 - 1.85E19	Number of unsent error packets

Parameter Name	Data Type	Value Range	Description
InDiscards	DOUBLE	0 - 1.85E19	Number of discarded received packets
OutDiscards	DOUBLE	0 - 1.85E19	Number of discarded sent packets
InUnicastPkts	DOUBLE	0 - 1.85E19	Number of received unicast packets
InMulticastPkts	DOUBLE	0 - 1.85E19	Number of received multicast packets
InBroadcastPkts	DOUBLE	0 - 1.85E19	Number of received broadcast packets
OutUnicastPkts	DOUBLE	0 - 1.85E19	Number of sent unicast packets
OutMulticastPkts	DOUBLE	0 - 1.85E19	Number of sent multicast packets
OutBroadcastPkts	DOUBLE	0 - 1.85E19	Number of sent broadcast packets

Example

Example 1, query the PON link status of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the NE whose IP address is 10.250.18.100.

◆ Command

```
LST-PONPERF::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:05:41
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of pon port performance
-----
OutPkts InPkts  OutOctets  InOctets  CRC    UnderSizePkts
OverSizePkts  InErrors  OutErrors  InDiscards
OutDiscards InUnicastPkts InMulticastPkts InBroadcastPkts OutUnicastPkts
OutMulticastPkts  OutBroadcastPkts
2832   411    240431  29259   --    --    --    --    0
0      0      47      8      364   542   885   1405
-----
```

Example 2, query the PON link status of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-PONPERF::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:48:20
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
list of pon port performance
-----
OutPkts InPkts OutOctets  InOctets  CRC   UnderSizePkts  OverSizePkts
InErrors  OutErrors  InDiscards
OutDiscards  InUnicastPkts  InMulticastPkts InBroadcastPkts
OutUnicastPkts  OutMulticastPkts  OutBroadcastPkts
4409    1385    450601  202533  --    --    --    --
0  0  0    1295    8    90    667    926    2816
-----
```

Related Command

None

6.3.3 Querying the ONU Configuration (LST-ONUCFG)

Function Description

This command is used for querying the configuration information of an ONU on the OLT, including ONU status, optical fiber length and authentication information.

Command Format

```
LST-ONUCFG::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=id-type,
ONUID=onu-index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of ONU info

AdminState OperState AUTH AUTHINFO Length UsFixedBw UsAssuredBw UsMaxBw

DsMaxBw

Output Parameter

Parameter Name	Data Type	Value Range	Description
AdminState	OCTET STRING	UP DOWN	Administration status
OperState	OCTET STRING	UP Power-Off LOS	Running status
AUTHTYPE	OCTET STRING	MAC LOID LOIDONCEON	Authentication mode

Parameter Name	Data Type	Value Range	Description
AUTHINFO	OCTET STRING	Size (64)	Authentication information. If AUTHTYPE is set to MAC, AUTHINFO is MAC address. If AUTHTYPE is set to LOID, AUTHINFO is LOID.
Length	DOUBLE	0 - 100	Optical fiber length Unit: km
UsFixedBw	INTEGER	0 - 40000	Fixed uplink bandwidth Unit: Mbit/s
UsAssuredBw	INTEGER	0 - 40000	Guaranteed uplink bandwidth Unit: Mbit/s
UsMaxBw	INTEGER	0 - 40000	Maximum uplink bandwidth Unit: Mbit/s
DsMaxBw	INTEGER	0 - 40000	Maximum downlink bandwidth Unit: Mbit/s

Example

For example, query the configuration information of the ONU with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-ONUCFG::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:03:08
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
list of ONU info
-----
AdminState  OperState  AUTH  AUTHINFO  Length
UsFixedBw   UsAssuredBw  UsMaxBw DsMaxBw
UP  UP  LOID  aaa_bbb_ccc_111_222  0  0  0
1000  1000
-----
```

Related Command

None

6.3.4 Querying the ONU Status (LST-ONUSTATE)

Function Description

This command is used for querying the status or authentication information of a single ONU or all ONUs on the OLT PON port.

Command Format

```
LST-ONUSTATE::OLTID=olt-name,PONID=ponport_location[,ONUIDTYPE=id-type,
ONUID=onu-index]:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	-

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type: ONU_NAME MAC LOID ONU_NUMBER	Optional. If it is not specified, it indicates querying the status of all ONUs on the OLT PON port.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	Optional. If it is not specified, it indicates querying the status of all ONUs on the OLT PON port.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of ONU state

ONUID AdminState OperState AUTH AUTHINFO ONUIP

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUID	OCTET STRING	Size (128)	ONU identifier type, used for uniquely identifying the ONU on the PON port. The value is ONU_Number.
AdminState	OCTET STRING	UP DOWN	Administration status
OperState	OCTET STRING	UP Power-Off LOS	Running status
AUTH	OCTET STRING	MAC LOID	Authentication mode

Parameter Name	Data Type	Value Range	Description
AUTHINFO	OCTET STRING	Size (64)	Authentication information. If AUTHTYPE is set to MAC, AUTHINFO is MAC address. If AUTHTYPE is set to LOID, AUTHINFO is LOID.
ONUIP	OCTET STRING	-	ONU management IP address
LASTOFFTIME	OCTET STRING	-	ONU offline time

Example

Example 1, query the status of the ONU with ONUID being aaa_bbb. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-ONUSTATE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:03:48
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of ONU state
-----
ONUID AdminState OperStat AUTH AUTHINFO ONUIP LASTOFFTIME
5      UP          UP      LOID aaa_bbb  --      0000-00-00 00:00:00
-----
```

Related Command

None

6.3.5 Querying the MAC Address Table of an ONU UNI Port (LST-PORTMACADDRESS)

Function Description

This command is used for querying the MAC address table learned by an ONU UNI port. The MAC address format is XX-XX-XX-XX-XX-XX.

Command Format

```
LST-PORTMACADDRESS::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location][ ,ONUIDTYPE=id-type,ONUID=onu_index][ ,
PORTID=uniport_index][ ,VLAN=vlan_value] :CTAG::;
```

- ◆ The ONU that has a management IP address.

```
LST-PORTMACADDRESS::ONUIP=onu_name,PORTID=uniport_index[ ,
VLAN=vlan_value] :CTAG::;
```

- ◆ The ONU that has no management IP address.

```
LST-PORTMACADDRESS::OLTID=olt_name,PONID=ponport_location,ONUIDTYPE=id-
type,ONUID=onu_index,PORTID=uniport_index[ ,VLAN=vlan_value] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required for the ONU that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required for the ONU that has no management IP address.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type: ONU_NAME MAC LOID ONU_NUMBER	It is required for the ONU that has no management IP address.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required for the ONU that has no management IP address.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Required.
VLAN	INTEGER	0 - 4096	VLAN number	VLAN number

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of MAC Address
VLAN MAC

Output Parameter

Parameter Name	Data Type	Value Range	Description
VLAN	INTEGER	0 - 4095	VLAN
MAC	OCTET STRING	Size (128)	MAC address format is XX-XXXX-XX-XX-XX.

Example

Example 1, query the MAC address table of the UNI port of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-PORTMACADDRESS::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,PORTID=NA-NA-NA-1,VLAN=2114:CTAG::;
```

◆ Response Message

FH_10.250.18.133 2010-10-27 11:06:25

M CTAG COMPLD

total_blocks=1

block_number=1

block_records=1

list of MAC Address

VLAN	MAC
------	-----

2114	
------	--

Example 2, query the MAC address table of the No. 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

LST-PORTMACADDRESS::ONUIP=10.250.18.121,PORTID=NA-NA-4-1,VLAN=2114:

CTAG::;

◆ Response Message

FH_10.250.18.133 11/2/2010 9:45:19

M CTAG COMPLD

total_blocks=1

block_number=1

block_records=1

list of MAC Address

VLAN	MAC
------	-----

2114	
------	--

Related Command

None

6.3.6 Querying the DDM Information of Optical Modules (LST-OMDDM)

Function Description

This command is used for querying the DDM information of optical modules, including the ETH optical module, OLT PON optical module and ONU PON optical module.

Command Format

```
LST-OMDDM::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location][ ,
ONUIDTYPE=id-type,ONUID=onu-index][ ,PORTID=lanport_index][ ,
PEERFLAG=flag]:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required when querying the OLT PON optical module or the ONU that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required when querying the OLT PON optical module or the ONU that has no management IP address.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	It is required when querying the ONU that has no management IP address.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.

Parameter Name	Data Type	Value Range	Description	Remark
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional. It is used for querying the OLT uplink port.
PEERFLAG	OCTET STRING	Size (128)	True, False.	Optional. It is used for returning the far-end optical power information upon the query. The default value is False.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of MAC Address

ONUID RxPower RxPowerR TxPower TxPowerR CurrTxBias CurrTxBiasR Temperature
TemperatureR Voltage VoltageR PTxPower PRxPower

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUID	OCTET STRING	Size (128)	When querying the OLT optical module, a dash (–) will be returned. When querying the ONU optical module, the ONU identifier will be returned. The value is ONU_Number.
RxPower	OCTET STRING	-40 to 10	Received optical power. Unit: dBm.
RxPowerR	OCTET STRING	Normal High Low	Indicates whether the received optical power is normal.
TxPower	OCTET STRING	-40 to 10	Sent optical power. Unit: dBm.
TxPowerR	OCTET STRING	Normal High Low	Indicates whether the sent optical power is normal.
CurrTxBias	OCTET STRING	0 to 131	Bias current. Unit: mA.

Parameter Name	Data Type	Value Range	Description
CurrTxBiasR	OCTET STRING	Normal High Low	indicates whether the bias current is normal.
Temperature	OCTET STRING	-45 to 90	Temperature. Unit: °C.
TemperatureR	OCTET STRING	Normal High Low	Indicates whether the temperature is normal.
Voltage	OCTET STRING	0 to 6.55	Supply voltage. Unit: V.
VoltageR	OCTET STRING	Normal High Low	Indicates whether the supply voltage is normal.
PTxPower	OCTET STRING	-40 to 10	Far-end sent optical power. Unit: dBm. A dash (–) will be returned if no optical power is sent.
PRxPower	OCTET STRING	-40 to 10	Far-end received optical power. Unit: dBm. A dash (–) will be returned if no optical power is received.

Example

Example 1, query the optical module information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-OMDDM::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:05:05
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
List of Optical Power Info
```

```
-----
```

```
ONUID  RxPower  RxPowerR  TxPower  TxPowerR  CurrTxBias
```

```
CurrTxBiasR  Temperature  TemperatureR  Voltage  VoltageR
```

```
PTxPower  PRxPower
```

```
5      -9.76   Normal  1.76      Normal  15.80   Normal  62.37
```

```
Normal  3.40    Normal  --        --
```

Example 2, query the optical module information of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ **Command**

LST-OMDDM::ONUIP=10.250.18.121:CTAG::;

◆ **Response Message**

```
FH_10.250.18.133 2010-11-02 09:47:44
M  CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
List of Optical Power Info
-----
ONUID   RxPower RxPowerR   TxPower TxPowerR   CurrTxBias
CurrTxBiasR   Temperature   TemperatureR  Voltage VoltageR
PTxPower    PRxPower
2         -13.44  Normal  2.64     Normal  20.00   Normal  41.41
Normal  3.26    Normal  --        --
-----
```

Related Command

None

6.3.7 Querying the Unregistered ONU of a PON Port (LST-UNREGONU)

Function Description

This command is used for querying the status of the unregistered ONU of a OLT PON port.

Command Format

LST-UNREGONU::OLTID=olt-name,PONID=pon_name:CTAG::;

Supported Equipment

◆ OLT: AN5516 series, AN5116 series.

◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = List of unreg onu information

MAC LOID PWD ERROR AUTHTIME DT

Output Parameter

Parameter Name	Data Type	Value Range	Description
MAC	OCTET STRING	Size (128)	MAC address of the EPON ONU or SN of the GPON ONU.
LOID	OCTET STRING	Size (64)	When the MAC authentication is adopted, a dash (–) will be returned.
PWD	OCTET STRING	Size (128)	LOID/GPON password. A dash (–) will be returned if there is no password.
ERROR	OCTET STRING	Size (128) Conflict	Conflict indicates an authentication information conflict.
AUTHTIME	OCTET STRING	Size (128)	ONU authentication time. The time format (Beijing time) is YYYY-MM-DD HH-MM-SS. Optional.
DT	OCTET STRING	Size (255)	ONU equipment model. Optional.

Example

For example, query the status information of the unregistered ONU (having no management IP address). The ONU is connected to the slot 7 - PON 1 port of the OLT whose IP address is 10.78.200.200.

◆ **Command**

```
LST-UNREGONU::OLTID=10.78.200.200,PONID=NA-NA-7-1:CTAG::;
```

◆ **Response Message**

```
FH_10.98.100.16 2014-06-12 16:29:21
M CTAG COMPLD
  total_blocks=0
  block_number=0
  block_records=0
```

List of Unreg Onu information

```
-----
MAC      LOID   PWD   ERROR  AUTHTIME
-----
```

;

Related Command

None

6.3.8 Querying the Wi-Fi Service Information of an ONU (LST-WIFISERVICE)

Function Description

This command is used for querying the Wi-Fi service information of an ONU.

Command Format

```
LST-WIFISERVICE::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location]
[ ,ONUIDTYPE=id-type,ONUID=onu-index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required when querying the ONU that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required when querying the ONU that has no management IP address.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	It is required when querying the ONU that has no management IP address.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = result of wifiservice
SSIDNO WIFILENABLE WILESSAREA WILESSCHANNEL WILESSSTANDARD TPOWER SSIDNAME
SSIDENABLE SSIDVISIBALE AUTHMODE ENCRYPTYPE PRESAREDKEY UPDATEKEYINTERVAL
RADIUSSERVER RADIUSPORT RADIUSKEY WEPENCRYPTIONLEVEL WEPKEYINDEX WEPKEY1
WEPKEY2 WEPKEY3 WEPKEY4
```

Output Parameter

Parameter	Data Type	Value Range	Parameter Description
SSIDNO	INTEGER	1 to 4	SSID index
WIFIENABLE	OCTET STRING	Enable, Disable	Indicates whether to enable the Wi-Fi.
FREQBAND-WIDTH	OCTET STRING	20/40MHz, 20MHz, 40MHz, 80MHz	Bandwith of band
WILESSAREA	OCTET STRING	USA, EURO	Wi-Fi wireless area
WILES-SCHANNEL	INTEGER	If wireless area =0, the value range of this parameter is [0, 13]. If wireless area =1, the value range of this parameter is [0, 11].	Wireless channel number
WILESSTANDARD	OCTET STRING	802.11b, 802.11g, 802.11b/g, 802.11n, 802.11bgn.	Wireless standard
TPOWER	INTEGER	[0, 20]	Launched power
SSIDNAME	OCTET STRING	Size (32)	SSID name
SSIDENABLE	OCTET STRING	Enable, Disable	Indicates whether to enable SSID. Enable indicates enabling SSID and Disable indicates disabling SSID.
SSIDVISIBALE	OCTET STRING	Available, Not-Available	Indicates whether to hide SSID.
AUTHMODE	OCTET STRING	OPEN SHARED WEP AUTO WPA PSK WPA WPA2 PSK WPA2 WPA/WPA2 WPA PSK WPA2 PSK	WLAN authentication mode
ENCRYPTTYPE	OCTET STRING	NONE, WEP, TKIP, AES, TKIPAES	WLAN encryption type
PRESHARED-KEY	OCTET STRING	STRING (64)	WPA pre-shared key
UPDATE-KEYINTERVAL	INTEGER	[0, 4194303]	WPA key update interval Unit: s
RADIUSSERVER	OCTET STRING	Size (128)	RADIUS server
RADIUSPORT	OCTET STRING	STRING (2)	RADIUS server port
RADIUSKEY	OCTET STRING	STRING (32)	RADIUS-KEY
WEPENCRYPTIONLEVEL	INTEGER	1: 40 bit 2: 104 bit	WEP key length
WEPKEYINDEX	INTEGER	[1, 4]	Key index
WEPKEY1	OCTET STRING	STRING (64)	WEP key 1

Parameter	Data Type	Value Range	Parameter Description
WEPKEY2	OCTET STRING	STRING (64)	WEP key 2
WEPKEY3	OCTET STRING	STRING (64)	WEP key 3
WEPKEY4	OCTET STRING	STRING (64)	WEP key 4

Example

For example, query the Wi-Fi service information of the ONU (having no management IP address) with MAC being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
LST-WIFISERVICE::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2017-02-24 16:20:25
```

```
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=4
```

```
result of wifiservice
```

```
-----
SSIDNO WIFIEENABLE FREQBANDWIDTH WILESSAREA WILESSCHANNEL WILESSSTANDARD TPOWER
SSIDNAME SSIDENABLE SSIDVISIBALE AUTHMODE ENCRYPTYPE
PRESHAREDKEY UPDATEKEYINTERVAL RADIUSSERVER RADIUSPORT
RADIUSKEY WEPENCRYPTIONLEVEL WEPKEYINDEX WEPKEY1 WEPKEY2
WEPKEY3 WEPKEY4
1 Enable 20MHz/40MHz USA 5 802.11g 15 Bgolas Disable Not-Available
  WPA2PSK AES 1111111111 3600 -- -- -- 40 bit 1 -- -- --
  --
2 Enable 20MHz/40MHz USA 5 802.11g 15 eeeeea Disable Available WPA2PSK
  AES ru83n55c 3600 -- -- -- 40 bit 1 -- -- --
3 Enable 20MHz/40MHz USA 5 802.11g 15 ghthhhh Disable Available OPEN
  AES -- 86400 -- -- -- 40 bit 1 -- -- --
4 Enable 20MHz/40MHz USA 5 802.11g 15 wwwwww Disable Available WPA2PSK
  AES ru83n55c 3600 -- -- -- 40 bit 1 -- -- --
-----
;
```

Related Command

None

6.3.9 Querying the WAN Service Information of an ONU (LST-ONUWANSERVICECFG)

Function Description

This command is used for querying the WAN connection service information of an ONU.

Command Format

```
LST-ONUWANSERVICECFG::ONUIP=onu_name|OLTID=olt_name[ ,  
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index][ ,  
ONUPORT=port-id] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128)	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional. The LAN port range is NA-NA-NA-1 to NA-NA-NA-4; the Wi-Fi port range is NA-NA-NA-101 to NA-NA-NA-104.

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = List of Onu Wan service cfg
SVCNAME CONNMODE CONNTYPE VLANID VLANCOS NATFLAG IPOBTAINITYPE
STATICIPADDRESS STATICIPSUBNET STATICGATEWAY MASTERDNS SLAVEDNS
PPPOEPROXYFLAG PPPOEUSERNAME PPPOEPASSWD PPPOESVCNAME PPPOEMODE QOSFLAG
BINDPORTNO
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
SVCNAME	OCTET STRING	Size (128)	Name of the WAN connection
CONNMODE	INTEGER	1: TR069 2: INTERNET 3: TR069INTERNE 4: Other	WAN connection mode
CONNTYPE	INTEGER	1: bridge 2: route	WAN connection type
VLANID	INTEGER	1 - 4085. It can be null.	VLAN ID of the WAN connection
VLANCOS	INTEGER	0 - 7. It can be null.	VLAN ID of the WAN connection

Parameter Name	Data Type	Value Range	Description
NATFLAG	INTEGER	1: Enable 2: Disable	Indicates whether to enable NAT for the WAN connection
IPOBTAINTYPE	INTEGER	1: DHCP 2: Static 3: PPPOE	IP obtaining mode of the WAN connection
STATICIPADDRESS	OCTET STRING	It is valid only when IPOBTAINTYPE is set to Static. Otherwise, it is disabled.	Static IP address of the WAN connection
STATICIPSUBNET	OCTET STRING	It is valid only when IPOBTAINTYPE is set to Static. Otherwise, it is disabled.	Subnet mask of the WAN connection
STATICGATEWAY	OCTET STRING	It is valid only when IPOBTAINTYPE is set to Static. Otherwise, it is disabled.	Default gateway of the WAN connection
MASTERDNS	OCTET STRING	It is valid only when IPOBTAINTYPE is set to Static. Otherwise, it is disabled.	Primary DNS of the WAN connection
SLAVEDNS	OCTET STRING	It is valid only when IPOBTAINTYPE is set to Static. Otherwise, it is disabled.	Secondary DNS of the WAN connection
PPPOEPROXYFLAG	INTEGER	1: Enable 2: Disable	Indicates whether to enable PPPoE Proxy for the WAN connection.
PPPOEUSERNAME	OCTET STRING	It is valid only when IPOBTAINTYPE is set to PPPoE. Otherwise, it is disabled.	Username of the PPPoE connection.
PPPOEPASSWD	OCTET STRING	It is valid only when IPOBTAINTYPE is set to PPPoE. Otherwise, it is disabled.	Password of the PPPoE connection.
PPPOESVCNAME	OCTET STRING	It is valid only when IPOBTAINTYPE is set to PPPoE. Otherwise, it is disabled.	PPPoE service name

Parameter Name	Data Type	Value Range	Description
PPPOEMODE	INTEGER	It is valid only when IPOBTAINETYPE is set to PPPoE. Otherwise, it is disabled. 1: Auto connect 2: Connect when traffic is deleted	PPPoE dial-up mode
QOSFLAG	INTEGER	1: Enable 2: Disable	Indicates whether to enable the QoS function for the WAN connection.
BINDPORTNO	INTEGER	1 - 4 indicates LAN1 to LAN4; 101 - 104 indicates SSID1 to SSID4.	Binding LAN port

Example

For example, query the WAN connection service information of the ONU (having no management IP address) with MAC address being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
LST-ONUWANSERVICECFG::OLTID=10.78.191.100,PONID=NA-NA-18-4,
ONUIDTYPE=MAC,ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-05 16:52:02
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
```

List of Onu Wan service cfg:

```
-----
SVCNAME CONNMODE CONNTYPE VLANID VLANCOS NATFLAG
IPOBTAINETYPE STATICIPADDRESS STATICIPSUBNET STATICGATEWAY
MASTERDNS SLAVEDNS PPPOEPROXYFLAG PPPOEUSERNAME
PPPOEPASSWD PPPOESVCNAME PPPOEMODE QOSFLAG BINDPORTNO
route_tr069_internet_vid_2 3 2 2 5 1 2 192.168.1.5
255.255.0.0 192.168.1.1 3.3.3.3 4.4.4.4 2
1234567890123456789012345678901
1234567890123456789012345678901 -- 1 1 1
```

;

Related Command

None

6.3.10 Restarting an ONU (RESET-ONU)

Function Description

This command is used for restarting an ONU.

Command Format

```
RESET-ONU::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,  
ONUIDTYPE=id-type,ONUID=onu_index][,portid=port-id]:CTAG::  
[ RESETTYPE=resettype] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
PORTID	OCTET STRING	Size (128)	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified. Using the NA-NA-X-0 approach to locate the number of the card to be restarted.	Optional. It is required when restarting a line card or the main control unit of the ONU that has a management IP address.
RESETTYPE	INTEGER	0 - 1	The value is 1 or 0. 0 indicates restarting the entire system; 1 indicates restarting a line card or the main control unit.	Optional. If it is not specified, it indicates restarting the entire system.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, restart the ONU (having no management IP address) with MAC address being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
RESET-ONU::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-21 14:52:34
M CTAG COMPLD
  EN=0   ENDESC=No error
;
```

Example 2, restart the ONU (having a management IP address) whose IP address is 10.78.191.119.

◆ Command

```
RESET-ONU::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-21 14:52:34
M CTAG COMPLD
  EN=0   ENDESC=No error
;
```

Related Command

None

6.3.11 Querying the IP Address / Range Allocated to the User by Wi-Fi (LST-USERDHCPSERVER)

Function Description

This command is used for querying the IP address or range allocated to the user by Wi-Fi.

Command Format

```
LST-USERDHCPSERVER::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = List of user DHCP server cfg:

LANIP ENABLE DHCPSTART DHCPEND DHCPPRIDNS DHCPSECDNS DHCPGATEWAY

Output Parameter

Parameter Name	Data Type	Value Range	Description
LANIP	OCTET STRING	Size (128)	The value (IP address) should be in the same network segment as the DHCPPOOLSTART and DHCPPOOLEND.
ENABLE	OCTET STRING	Size (128) Enable; Disable	Indicates whether to enable the configured IP address.

Parameter Name	Data Type	Value Range	Description
DHCPPOOL-START	OCTET STRING	Size (128)	Start IP address of DHCP, which should be smaller than the end IP address of DHCP.
DHCPPOOL-END	OCTET STRING	Size (128)	End IP address of DHCP.
DHCPPRIDNS	OCTET STRING	Size (128)	Primary DNS server of DHCP.
DHCPSECDNS	OCTET STRING	Size (128)	Secondary DNS server of DHCP.
DHCPGATEWAY	OCTET STRING	Size (128)	DHCP default gateway.

Example

For example, query the IP address or range allocated to the user by Wi-Fi of the ONU (having no management IP address) with MAC being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
LST-USERDHCPSEVER::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-22 17:03:25
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
```

List of user DHCP server cfg:

```
-----
LANIP ENABLE DHCPSTART DHCPEND DHCPPRIDNS DHCPSECDNS DHCPGATEWAY
192.168.1.1Enable192.168.1.2 192.168.1.2530.0.0.0 0.0.0.0
192.168.1.1
-----
;
```

Related Command

None

6.3.12 Modifying the IP Address / Range Allocated to the User by Wi-Fi (CFG-USERDHCPSEVER)

Function Description

This command is used for modifying the IP address or range allocated to the user by Wi-Fi.

Command Format

```
CFG-USERDHCPSEVER::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] :CTAG::
LANIP=lan_ip,ENABLE=enable_value,DHCPPPOOLSTART=dhcp_start_value,
DHCPPPOOLEND=dhcp_end_value,DHCPPRIDNS=pri_dns,DHCPSECDNS=sec_dns,
DHCPGATEWAY=gateway_value,DHCPMASK=mask_value;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
LANIP	OCTET STRING	Size (128)	The value (IP address) should be in the same network segment as the DHCPPOOLSTART and DHCPPOOLEND.	Required.
ENABLE	OCTET STRING	Size (128) True; False	Indicates whether to enable the configured IP address.	Required.
DHCPPOOL-START	OCTET STRING	Size (128)	Start IP address of DHCP, which should be smaller than the end IP address of DHCP.	Required.
DHCPPOOLEND	OCTET STRING	Size (128)	End IP address of DHCP.	Required.
DHCPPRIDNS	OCTET STRING	Size (128)	Primary DNS server of DHCP.	Required.
DHCPSECDNS	OCTET STRING	Size (128)	Secondary DNS server of DHCP.	Required.
DHCPGATEWAY	OCTET STRING	Size (128)	DHCP default gateway.	Required.
DHCPMASK	OCTET STRING	Size (128)	DHCP subnet mask.	Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, modify the IP address or range allocated to the user by Wi-Fi of the ONU (having no management IP address) with MAC being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ **Command**

```
CFG-USERDHCPSEVER::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,  
ONUID=FHTT01e821a0:CTAG::LANIP=10.78.11.6,ENABLE=true,  
DHCPPPOOLSTART=10.78.11.3,DHCPPPOOLEND=10.78.11.9,DHCPPRIDNS=6.6.6.6,  
DHCPSECDNS=5.5.5.5,DHCPGATEWAY=10.78.11.1,DHCPMASK=255.255.0.0;
```

◆ **Response Message**

```
FH_10.82.25.73 2013-02-22 17:05:44  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

6.3.13 Querying the Web Interface Username and Password (LST-WEBADMINISTRATOR)

Function Description

This command is used for querying the username and password of the web interface.

Command Format

```
LST-WEBADMINISTRATOR::ONUIP=onu_name|OLTID=olt_name[ ,  
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = List of web administrator cfg:
WEBUSERNAME WEBPASSWORD GROUP
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
WEBUSERNAME	OCTET STRING	Size (128)	Web username
WEBPASSWORD	OCTET STRING	Size (128)	Web password
GROUP	OCTET STRING	Size (128) Admin	Admin indicates the administrator.

Example

For example, query the Web interface username and password of the ONU (having no management IP address) with MAC being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
LST-WEBADMINISTRATOR::OLTID=10.78.191.100,PONID=NA-NA-18-4,
ONUIDTYPE=MAC,ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-22 17:07:31
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
```

List of web administrator cfg:

```
-----
WEBUSERNAME  WEBUSERNAME  GROUP
admin  admin  Admin
-----
;
```

Related Command

None

6.3.14 Modifying the Web Interface Username and Password (CFG-WEBADMINISTRATOR)

Function Description

This command is used for modifying the username and password of the web interface.

Command Format

```
CFG-WEBADMINISTRATOR::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] :CTAG::
[ WEBUSERNAME=user_name][ ,WEBPASSWORD=web_password] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUIDENT	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
WEBUSERNAME	OCTET STRING	Size (128)	Web username, containing the alphanumeric characters and the following characters: . / - _	Optional. Default value: admin.
WEBPASSWORD	OCTET STRING	Size (128)	Web password, containing the alphanumeric characters and the following characters: . / - _	Optional. Default value: admin.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, modify the Web interface username and password of the ONU (having no management IP address) with MAC being FHTT01e821a0. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
CFG-WEBADMINISTRATOR::OLTID=10.78.191.100,PONID=NA-NA-18-4,  
ONUIDTYPE=ONU_NUMBER,ONUID=1:CTAG::WEBUSERNAME=user_name,  
WEBPASSWORD=web_password;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-22 17:07:42  
M CTAG COMPLD  
EN=0 ENDESC=No error  
;
```

Related Command

None

6.3.15 Restoring an ONU to Factory Default Settings (RESTORE-DEFAULTCFG)

Function Description

This command is used for restoring an ONU to factory default settings.

Command Format

```
RESTORE-DEFAULTCFG::ONUIP=onu_name|OLTID=olt_name[ ,  
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5506-04-F1.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

Example 1, restore the ONU (having no management IP address) with MAC address being FHTT01e821a0 to factory default settings. The ONU is connected to the slot 18 - PON 4 port of the OLT whose IP address is 10.78.191.100.

◆ Command

```
RESTORE-DEFAULTCFG::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,
ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.82.25.73 2013-02-22 17:16:32
M CTAG COMPLD
  EN=0   ENDESC=No error
;
```

Related Command

None

6.4 Querying the LAN Information

The following introduces the command and example for querying the LAN information.

6.4.1 Querying the LAN Port Information (LST-ONULANINFO)

Function Description

This command is used for querying the LAN port information.

Command Format

```
LST-ONULANINFO::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index] ,ONUPORT=lanport_index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of lan port info

AdminStatus OperStatus DUPLEX PVID VLANPRIORITY SPEED

Output Parameter

Parameter Name	Data Type	Value Range	Description
AdminStatus	OCTET STRING	UP DOWN	Administration status
OperStatus	-	UP DOWN	Running status
DUPLEX	OCTET STRING	Full Half Auto Auto-Full Auto-Half	Working mode
PVID	OCTET STRING	Integer (1..4094)	VLAN ID. The default VLAN ID is adopted.
VLANPRIORITY	OCTET STRING	Integer (0..7)	VLAN priority level. The default priority level is adopted.
SPEED	INTEGER	Auto-negotiation 10M 100M 1000M Auto-10M Auto-100M Auto-1000M	Port rate

Example

Example 1, query the LAN 1 port information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-ONULANINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-01 10:37:58
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of lan port info
```

```
-----  
AdminStatus  OperStatus  DUPLEX  PVID  VLANPRIORITY  SPEED  
UP    DOWN    --    4088    0    --  
-----
```

Example 2, query the information of the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ **Command**

```
LST-ONULANINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ **Response Message**

```
F FH_10.250.18.133 2010-11-02 10:33:09
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of lan port info
```

```
-----  
AdminStatus  OperStatus  DUPLEX  PVID  VLANPRIORITY  SPEED  
UP    DOWN    Auto-Half  4088    0    Auto-10M  
-----
```

Related Command

None

6.4.2 Querying the LAN Port Rate Control (LST-LANCAR)

Function Description

This command is used for querying the uplink and downlink rate control of the ONU LAN port.

Command Format

```
LST-LANCAR::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,  
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=lanport_index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = list of LAN port rate-limit info
RateLimitUs RateLimitDs
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
RateLimitUs	INTEGER	0 - 1000000	Uplink rate control. Unit: kbps.
RateLimitDs	INTEGER	0 - 1000000	Downlink rate control. Unit: kbps.

Example

Example 1, query the rate control information of the LAN 1 port of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-LANCAR::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-01 10:40:21
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of LAN port rate-limit info
-----
RateLimitUs      RateLimitDs
1024             2048
-----
```

Example 2, query the rate control information of the LAN 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-LANCAR::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 10:33:28
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of LAN port rate-limit info
-----
RateLimitUs      RateLimitDs
```

64 1024

Related Command

None

6.4.3 Querying the ETH Performance (LST-LANPERF)

Function Description

This command is used for querying the ETH performance of the OLT uplink port or ONU LAN port.

Command Format

```
LST-LANPERF::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index] ,PORTID=lanport_index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	The OLT uplink port of ONU LAN port.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = List of Ethernet performance

OutPkts InPkts OutOctets InOctets CRC UnderSizePkts OverSizePkts InErrors
OutErrors InDiscards OutDiscards InUnicastPkts InMulticastPkts
InBroadcastPkts OutUnicastPkts OutMulticastPkts OutBroadcastPkts
StateChangeCounters

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
OutPkts	DOUBLE	0 - 1.85E19	Number of sent packets.	-
InPkts	DOUBLE	0 - 1.85E19	Number of received packets.	-
OutOctets	DOUBLE	0 - 1.85E19	Number of sent bytes	-
InOctets	DOUBLE	0 - 1.85E19	Number of received bytes	-
CRC	DOUBLE	0 - 1.85E19	Number of received CRC error packets	-
UnderSizePkts	DOUBLE	0 - 1.85E19	Number of received undersized packets	-
OverSizePkts	DOUBLE	0 - 1.85E19	Number of received oversized packets	-
InErrors	DOUBLE	0 - 1.85E19	Number of received error packets	-
OutErrors	DOUBLE	0 - 1.85E19	Number of unsent error packets	-
InDiscards	DOUBLE	0 - 1.85E19	Number of discarded received packets	-
OutDiscards	DOUBLE	0 - 1.85E19	Number of discarded sent packets	-
InUnicastPkts	DOUBLE	0 - 1.85E19	Number of received unicast packets	-
InMulticastPkts	DOUBLE	0 - 1.85E19	Number of received multicast packets	-
InBroadcastPkts	DOUBLE	0 - 1.85E19	Number of received broadcast packets	-
OutUnicastPkts	DOUBLE	0 - 1.85E19	Number of sent unicast packets	-
OutMulticastPkts	DOUBLE	0 - 1.85E19	Number of sent multicast packets	-
OutBroad-castPkts	DOUBLE	0 - 1.85E19	Number of sent broadcast packets	-
StateChange-Counters	INTEGER	0 - 4294967295	Number of port status changes	Optional.

Example

Example 1, query the performance information of the No. 1 uplink port located in the No. 29 slot of the OLT whose IP address is 10.250.18.102.

◆ Command

```
LST-LANPERF::OLTID=10.250.18.102,PORTID=NA-NA-29-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 11:01:43
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
```

List of Ethenet performance

```
-----  
OutPkts InPkts OutOctets InOctets CRC UnderSizePkts  
OverSizePkts InErrors OutErrors InDiscards  
OutDiscards InUnicastPkts InMulticastPkts InBroadcastPkts  
OutUnicastPkts OutMulticastPkts OutBroadcastPkts  
StateChangeCounters  
0 0 0 0 0 0 0 0 0 0  
0 0 0 0 -- 0 0 0  
-----
```

Example 2: Query the performance information of port 1 on slot 4 of the ONU
(having a management IP address) whose IP address is 10.250.18.121.

◆ **Command**

LST-LANPERF::ONUIP=10.250.18.121,PORTID=NA-NA-4-1:CTAG::;

◆ **Response Message**

FH_10.250.18.133 2010-11-02 09:44:54

M CTAG COMPLD

total_blocks=1

block_number=1

block_records=1

List of Ethenet performance

```
-----  
OutPkts InPkts OutOctets InOctets CRC UnderSizePkts  
OverSizePkts InErrors OutErrors InDiscards  
OutDiscards InUnicastPkts InMulticastPkts InBroadcastPkts  
OutUnicastPkts OutMulticastPkts OutBroadcastPkts  
StateChangeCounters  
0 0 0 0 0 0 0 0 0 0  
0 0 0 0 0 0 0 0  
-----
```

Related Command

None

6.4.4 Conducting the Broadband Dial-up Emulation Test (TEST-PPPOESIMULATION)

Function Description

The broadband dial-up emulation test is conducted on a LAN port or DSL port of the MDU, SFU or HGU (bridge) to simulates a user initiating the PPPoE dial-up so as to verify whether the user dial-up service connection can be normally established.

Command Format

```
TEST-PPPOESIMULATION::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] ,
ONUPORT=post_index:CTAG::ACTION=action-type,USERNAME=username,
PASSWORD=password[ ,VPI=vpi,VCI=vci][ ,UV=user_vlan][ ,AUTHMODE=authmode]
[ timeout=timeout] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOI ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-
ACTION	OCTET STRING	Start: starting the test. Stop: ending the test. Query: Indicates query	Testing type.	-
USERNAME	OCTET STRING	Size (1 to 64)	Username of the bandwidth dial-up account.	-
PASSWORD	OCTET STRING	Size (1 to 16)	Password of the bandwidth dial-up account.	-
VPI	INTEGER	0 to 255	The VPI corresponding to the bandwidth access service of the DSL port.	Optional
VCI	INTEGER	0 to 65535	The VCI corresponding to the bandwidth access service of the DSL port.	Optional.
UV	INTEGER	1 to 4094	VLAN at user side	Optional. By default, it is not specified (simulating the UNTAG application).
AUTHMODE	OCTET STRING	AUTO CHAP PAP	Dial-up authentication mode	Optional. Default value: AUTO.
TIMEOUT	INTEGER	0 to 300	Testing time duration. Unit: s.	Optional.

Response Format

The format of the response for starting the test is the same as the operation-command response format in [Response Message Format](#). The format of the response for querying and ending the test is the same as the query-command response format in [Response Message Format](#).

```
Title = result of pppoe simulation
State Conclusion FailReason
```

Output Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
State	OCTET STRING	In Progress: Indicates it is in the process of testing. Testend: Indicates testing is ended.	Current status	This parameter is returned when the input parameter "Action" is "Stop" or "Query".
Conclusion	INTEGER	1 Success	Indicates the test is successfully.	These two parameters are returned when the input parameter "Action" is "Stop" or "Query". If testing status is In Progress, the testing result returns –; if the test result is successful, the failed reason returns –.
		2 Failed	Failed	
FailReason	INTEGER	1 PADTimeout	PADI request timeout.	
		2 PADRTimeout	PADR request timeout.	
		3 LCPNegotiationFail	PPP establishing link failed.	
		4 WrongUsernameOrPassword	Username or password error.	
		5 CanNotGetIPAddress	Unable to obtain the IP address.	
		10 TestTimeout	Testing timeout.	
		12: Other	Other reasons.	

Example

For example, conduct the outgoing call emulation test on the No. 1 POTS port of the ONU (has no management IP address) with ONUID being aaa_bbb_ccc_111_222. The ONU is connected to the slot 3 PON port 1 of the OLT whose IP address is 10.250.18.100.

◆ Command

```
TEST-PPPOESIMULATION::OLTID=10.171.0.16,PONID=NA-NA-1-1,ONUIDTYPE=MAC,
ONUID=FHTT03317368,ONUPORT=NA-NA-NA-1:CTAG::ACTION=Start,USERNAME=t,
PASSWORD=y;(Start testing)
TEST-PPPOESIMULATION::OLTID=10.171.0.16,PONID=NA-NA-1-1,ONUIDTYPE=MAC,
ONUID=FHTT03317368,ONUPORT=NA-NA-NA-1:CTAG::ACTION=Query,USERNAME=t,
PASSWORD=y;(query status)
```

◆ Response Message

```
FH_10.170.4.237 2015-12-25 09:52:06
M CTAG COMPLD
    EN=0    ENDESC=No error
;
```

```
FH_10.98.100.16 2014-06-12 17:07:20
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1

result of PPPoESimulation
-----
State Conclusion FailReason
Test end --
-----
;
```

Related Command

None

6.5 Querying the DSL Information

The following introduces the command and example for querying the DSL information.

6.5.1 Querying the ADSL2+ Port Information (LST-ADSLINFO)

Function Description

This command is used for querying the status and configuration information of the ADSL port.

Command Format

```
LST-ADSLINFO::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=adslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of adsl port info

OPERSTATUS ADMINSTATUS TM LineType AturRateMode AtucRateMode TGTSNRMGND
MAXSNRMGND MINSNRMGND TGTSNRMGNUS MAXSNRMGNUS MINSNRMGNUS FASTMINRATEDS
FASTMAXRATEDS FASTMINRATEUS FASTMAXRATEUS INTVMINRATEDS INTVMAXRATEDS
INTVMINRATEUS INTVMAXRATEUS INTVDELAYDS INTVDELAYUS

Output Parameter

Parameter Name	Data Type	Value Range	Description
OPERSTATUS	String	UP DOWN	Running status
ADMINSTATUS	String	UP DOWN	Administration status
TM	OCTET STRING	See the The List of Parameters .	Actual transfer mode.
LineType	OCTET STRING	Fast Interleaved	Line type.
AturRateMode	OCTET STRING	Fixed: Indicates fixed rate. AutoAdaptAtStartup: Indicates automatically adapting on startup. AutoAdaptAtRunning: Indicates automatically adapting during running.	Atur rate adaptation mode.
AtucRateMode	OCTET STRING	Fixed: Indicates fixed rate. AutoAdaptAtStartup: Indicates automatically adapting on startup. AutoAdaptAtRunning: Indicates automatically adapting during running.	Atuc rate adaptation mode.
TGTSNRMGND	INTEGER	0 - 310	Downlink target noise tolerance Unit: 0.1dB.
MAXSNRMGND	INTEGER	0 - 310	Maximum downlink noise tolerance Unit: 0.1dB.
MINSNRMGND	INTEGER	0 - 310	Minimum downlink noise tolerance Unit: 0.1dB.
TGTSNRMGNU	INTEGER	0 - 310	Uplink target noise tolerance Unit: 0.1dB.
MAXSNRMGNU	INTEGER	0 - 310	Maximum uplink noise tolerance Unit: 0.1dB.
MINSNRMGNU	INTEGER	0 - 310	Minimum uplink noise tolerance Unit: 0.1dB.
FASTMINRATED	INTEGER	32 - 32000	Minimum rate of the fast downlink channel. Unit: kbit/s.

Parameter Name	Data Type	Value Range	Description
FASTMAXRATEDS	INTEGER	32 - 32000	Maximum rate of the fast downlink channel. Unit: kbit/s.
FASTMINRATEUS	INTEGER	32 - 32000	Minimum rate of the fast uplink channel. Unit: kbit/s.
FASTMAXRATEUS	INTEGER	32 - 32000	Maximum rate of the fast uplink channel. Unit: kbit/s.
INTVMINRATEDS	INTEGER	32 - 32000	Minimum rate of the interleaved downlink channel. Unit: kbit/s.
INTVMAXRATEDS	INTEGER	32 - 32000	Maximum rate of the interleaved downlink channel. Unit: kbit/s.
INTVMINRATEUS	INTEGER	32 - 32000	Minimum rate of the interleaved uplink channel. Unit: kbit/s.
INTVMAXRATEUS	INTEGER	32 - 32000	Maximum rate of the interleaved uplink channel. Unit: kbit/s.
INTVDELAYDS	INTEGER	0 - 255	Interleaved downlink delay. Unit: ms
INTVDELAYUS	INTEGER	0 - 255	Interleaved uplink delay. Unit: ms

Example

For example, query the information of the No. 1 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-ADSLINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:54:42
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
list of adsl port info
-----
OPERSTATUS ADMINSTATUS  TM LineType AturRateMode
```

```
AtucRateMode TGTSNRMGND  MAXSNRMGND  MINSNRMGND
TGTSNRMGNUS  MAXSNRMGNUS  MINSNRMGNUS  FASTMINRATEDS
FASTMAXRATEDS  FASTMINRATEUS  FASTMAXRATEUS  INTVMINRATEDS
INTVMAXRATEDS  INTVMINRATEUS  INTVMAXRATEUS  INTVDELAYDS
INTVDELAYUS
DOWN DOWN 3 Interleaved AutoAdaptAtStartup
AutoAdaptAtStartup 6.00 31 0 6.00 31 0 0
100000 0 100000 0 100000 0 100000 16 16
-----
```

Related Command

None

6.5.2 Querying the ADSL2+ Port Performance (LST-ADSLPERF)

Function Description

This command is used for querying the ADSL link traffic and line real-time information. Before using the command, ensure the ONU is online and the ADSL port is enabled.

Command Format

```
LST-ADSLPERF::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=adslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of adsl port performance

InOctets OutOctets SnrMgnDs SnrMgnUs AtnDs AtnUs OutputPwrDs OutputPwrUs
ChanTxRateDs ChanTxRateUs AttainableRateDs AttainableRateUs

Output Parameter

Parameter Name	Data Type	Value Range	Description
InOctets	INTEGER	0 - 2147483647	Number of received bytes
OutOctets	INTEGER	0 - 2147483647	Number of sent bytes
SnrMgnDs	INTEGER	-640 - 640	Downlink noise tolerance Unit: 0.1dB.
SnrMgnUs	INTEGER	-640 - 640	Uplink noise tolerance Unit: 0.1dB.
AtnDs	INTEGER	0 - 630	Downlink power attenuation Unit: 0.1dB.
AtnUs	INTEGER	0 - 630	Uplink power attenuation Unit: 0.1dB.
OutputPwrDs	FLOAT	-310 - 310	Downlink output power Unit: 0.1dBm.
OutputPwrUs	FLOAT	-310 - 310	Uplink output power Unit: 0.1dBm.
ChanTxRateDs	INTEGER	32 - 32000	Sent Rate of the downlink channel. Unit: kbit/s.
ChanTxRateUs	INTEGER	32 - 32000	Sent Rate of the uplink channel. Unit: kbit/s.
AttainableRateDs	INTEGER	32 - 32000	Maximum attainable downlink rate. Unit: kbit/s.
AttainableRateUs	INTEGER	32 - 32000	Maximum attainable uplink rate. Unit: kbit/s.

Example

For example, query the information of the No. 1 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-ADSLPERF::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:54:51
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of adsl port performance
```

```
-----
```

```

InOctets  OutOctets  SnrMgnDs  SnrMgnUs  AtnDs
AtnUs  OutputPwrDs  OutputPwrUs  ChanTxRateDs  ChanTxRateUs
AttainableRateDs  AttainableRateUs
0  1736  0  0  0  0  0  0  0  0  0  0
-----

```

Related Command

None

6.5.3 Querying the ADSL2+ Port Statistics Information (LST-ADSLSTAT)

Function Description

This command is used for querying the ADSL link quality information, including the initialization information, statistics information and channel statistics information over the current 15 minutes, the current day as well as the past day. Before using the command, ensure the ONU is online and the performance statistics switch is on.

Command Format

```

LST-ADSLSTAT:: NUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=adslport_num:CTAG::;

```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_ NAME, MAC, LOID, ONU_ NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = list of adsl statistics
AtucPerfCurr15MinTimeElapsed Curr15MinInits Curr15MinAtucEss
Curr15MinAtucLoss Curr15MinAtucSes AtucPerfCurr1DayTimeElapsed
Curr1DayInits Curr1DayAtucEss Curr1DayAtucLoss Curr1DayAtucSes
AtucPerfPrev1DayTimeElapsed Prev1DayInits Prev1DayAtucEss
Prev1DayAtucLoss Prev1DayAtucSes
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
AtucPerfCurr15MinTimeE-lapsed	INTEGER	0 - 900	Elapsed time of the current 15 minutes.
Curr15MinInits	INTEGER	0 - 2147483647	Initialization times over the current 15 minutes.

Parameter Name	Data Type	Value Range	Description
Curr15MinAtucEss	INTEGER	0 - 900	ATUC side errored seconds over the current 15 minutes.
Curr15MinAtucLoss	INTEGER	0 - 900	ATUC side signal-loss seconds over the current 15 minutes.
Curr15MinAtucSes	INTEGER	0 - 900	ATUC side severely errored seconds over the current 15 minutes.
AtucPerfCurr1DayTimeE-lapsed	INTEGER	0 - 86400	Elapsed time of the current day.
Curr1Day Inits	INTEGER	0 - 2147483647	Initialization times over the current day.
Curr1Day AtucEss	INTEGER	0 - 86400	ATUC side errored seconds over the current day.
Curr1Day AtucLoss	INTEGER	0 - 86400	ATUC side signal-loss seconds over the current day.
Curr1Day AtucSes	INTEGER	0 - 86400	ATUC side severely errored seconds over the current day.
AtucPerfPrev1DayTimeE-lapsed	INTEGER	0 - 86400	Elapsed time of the past day
Prev1Day Inits	INTEGER	0 - 2147483647	Initialization times over the past day.
Prev1Day AtucEss	INTEGER	0 - 86400	ATUC side errored seconds over the past day.
Prev1Day AtucLoss	INTEGER	0 - 86400	ATUC side signal-loss seconds over the past day.
Prev1Day AtucSes	INTEGER	0 - 86400	ATUC side severely errored seconds over the past day.

Example

For example, query the performance statistics information over the current 15 minutes, the current day and the past day of the No. 1 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-ADSLSTAT::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:55:02
M CTAG COMPLD
  total_blocks=1
  block_number=1
```

```
block_records=1
list of adsl statistics
-----
AtucPerfCurr15MinTimeElapsed   Curr15MinInits   Curr15MinAtucEss
Curr15MinAtucLoss   Curr15MinAtucSes
AtucPerfCurr1DayTimeElapsed   Curr1DayInits   Curr1DayAtucEss
Curr1DayAtucLoss   Curr1DayAtucSes AtucPerfPrev1DayTimeElapsed
Prev1DayInits   Prev1DayAtucEss Prev1DayAtucLoss   Prev1DayAtucSes
444  0    0    0    0    10746   --    4.29497e+09
4.29497e+09  0    0    0    0    0    0    0
-----
```

Related Command

None

6.5.4 Querying the VDSL2 Port Information (LST-VDSLINFO)

Function Description

This command is used for querying the status and configuration information of the VDSL2 port.

Command Format

```
LST-VDSLINFO::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index] ,ONUPORT=adslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of vdsl port info

AdminStatus OPERSTATUS INPDS INPUS RateModeDs RateModeUs ChannelTMode

MAXRATEUS MINRATEUS MAXRATEDS MINRATEDS INTVDELAYUS INTVDELAYDS TGTSNRMGNDS

MAXSNRMGNDS MINSNRMGNDS TGTSNRMGNUS MAXSNRMGNUS MINSNRMGNUS

Output Parameter

Parameter Name	Data Type	Value Range	Description
AdminStatus	OCTET STRING	UP DOWN	Administration status
OPERSTATUS	String	UP DOWN	Running status
INPDS	OCTET STRING	0 - 16, 0.5	Downlink pulse noise protection. Unit: symbol.
INPUS	OCTET STRING	0 - 16, 0.5	Uplink pulse noise protection. Unit: symbol.
RateModeDs	OCTET STRING	Fixed: Indicates fixed rate. AutoAdaptAtStartup: Indicates automatically adapting on startup. AutoAdaptAtRunning: Indicates automatically adapting during running.	Downlink rate adaptation mode.
RateModeUs	OCTET STRING	Fixed: Indicates fixed rate. AutoAdaptAtStartup: Indicates automatically adapting on startup. AutoAdaptAtRunning: Indicates automatically adapting during running.	Uplink rate adaptation mode.
ChannelTMode	OCTET STRING	ATM PTM BOTH	Data channel mode of channel 1
MAXRATEUS	INTEGER	-	Maximum uplink rate of channel 1. Unit: kbps.
MINRATEUS	INTEGER	-	Minimum uplink rate of channel 1. Unit: kbps.
MAXRATEDS	INTEGER	-	Maximum downlink rate of channel 1. Unit: kbps.
MINRATEDS	INTEGER	-	Maximum downlink rate of channel 1. Unit: kbps.
INTVDELAYUS	INTEGER	0 - 63	Maximum uplink interleaved delay. Unit: ms.
INTVDELAYDS	INTEGER	0 - 63	Maximum downlink interleaved delay. Unit: ms.

Parameter Name	Data Type	Value Range	Description
TGTSNRMGND	INTEGER	0 - 310	Downlink target noise tolerance. Unit: 0.1dB.
MAXSNRMGND	INTEGER	0 - 310	Maximum downlink noise tolerance. Unit: 0.1dB.
MINSNRMGND	INTEGER	0 - 310	Minimum downlink noise tolerance. Unit: 0.1dB.
TGTSNRMGNUS	INTEGER	0 - 310	Uplink target noise tolerance. Unit: 0.1dB.
MAXSNRMGNUS	INTEGER	0 - 310	Maximum uplink noise tolerance. Unit: 0.1dB.
MINSNRMGNUS	INTEGER	0 - 310	Minimum uplink noise tolerance. Unit: 0.1dB.

Example

For example, query the information of the No. 1 VDSL port located in the No. 1 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-VDSLINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-1-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:55:14
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
list of vdsl port info
-----
AdminStatus  OPERSTATUS  INPDS  INPUS  RateModeDs
RateModeUs   ChannelTMode MAXRATEUS  MINRATEUS
MAXRATEDS    MINRATEDS    INTVDELAYUS  INTVDELAYDS
TGTSNRMGND   MAXSNRMGND   MINSNRMGND   TGTSNRMGNUS
MAXSNRMGNUS  MINSNRMGNUS
DOWN  DOWN  0.00  0.00  AutoAdaptAtStartup
AutoAdaptAtStartup  PTM  28000  64  128000  64  16
16   6.00  31.00  0.006.00  31.00  0.00
-----
```

Related Command

None

6.5.5 Querying the VDSL2 Port Performance (LST-VDSLPERF)

Function Description

This command is used for querying VDSL link traffic and line real-time information.

Command Format

```
LST-VDSLPERF::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,  
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=vdslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of vdsl port performance

InOctets OutOctets SnrMgnDs SnrMgnUs AtnDs AtnUs OutputPwrDs OutputPwrUs
CH1ACTDATARATEDS CH1ACTDELAYDS CH1ACTDATARATEUS CH1ACTDELAYUS

Output Parameter

Parameter Name	Data Type	Value Range	Description
InOctets	INTEGER	0 - 2147483647	Number of received bytes
OutOctets	INTEGER	0 - 2147483647	Number of sent bytes
SnrMgnDs	INTEGER	-640 - 630	Downlink noise tolerance Unit: 0.1dB.
SnrMgnUs	INTEGER	-640 - 630	Uplink noise tolerance Unit: 0.1dB.
AtnDs	INTEGER	0 - 1270	Downlink power attenuation Unit: 0.1dB.
AtnUs	INTEGER	0 - 1270	Uplink power attenuation Unit: 0.1dB.
OutputPwrDs	FLOAT	-310 - 310	Downlink output power Unit: 0.1dBm.
OutputPwrUs	FLOAT	-310 - 310	Uplink output power Unit: 0.1dBm.
CH1ACTDATARATEDS	INTEGER	0 - 200000	Channel - downlink rate. Unit: kbps.
CH1ACTDE-LAYDS	INTEGER	0 - 200	Channel - downlink delay. Unit: ms

Parameter Name	Data Type	Value Range	Description
CH1ACTDE-LAYDS	INTEGER	0 - 200000	Channel - uplink rate. Unit: kbps.
CH1ACTDE-LAYUS	INTEGER	0 - 200	Channel - uplink delay. Unit: ms

Example

For example, query the information of the No. 1 VDSL port located in the No. 1 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-VDSLPERF::ONUIP=10.250.18.121,ONUPORT=NA-NA-1-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:55:22
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
list of vdsl port performance
-----
InOctets   OutOctets   SnrMgnDs   SnrMgnUs   AtnDs
AtnUs      OutputPwrDs OutputPwrUs CH1ACTDATARATEDS
CH1ACTDELAYDS CH1ACTDATARATEUS CH1ACTDELAYUS
0 1860 0.00 0.00 0 0 0 0 0 0
0 0
-----
```

Related Command

None

6.5.6 Querying the VDSL2 Port Statistics Information (LST-VDSLSTAT)

Function Description

This command is used for querying the VDSL link quality information, including the initialization information, statistics information and channel statistics information over the current 15 minutes, the current day as well as the past day.

Command Format

```
LST-VDSLSTAT::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUID=onu_index] ,ONUPORT=vdslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = list of vdsl statistics
xdsl2PMLCurr15MTimeElapsed xdsl2PMLCurr15MLoss
xdsl2PMLCurrInit15MFullInits Curr15MinAtucEss xdsl2PMLCurr15MSes
xdsl2PMLCurrInit15MFailedFullInits xdsl2PMLCurr1DayTimeElapsed
xdsl2PMLCurrInit1DayFullInits xdsl2PMLCurr1DayEs xdsl2PMLCurr1DayLoss
xdsl2PMLCurr1DaySes xdsl2PMLCurrInit1DayFailedFullInits
xdsl2PMLHist1DMonitoredTime xdsl2PMLHistinit1DFullInits
xdsl2PMLHistinit1DFailedFullInits xdsl2PMLHist1DEs xdsl2PMLHist1DLoss
xdsl2PMLHist1DSes
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
xdsl2PMLCurr15MTimeE-lapsed	INTEGER	0 - 900	Elapsed time of the current 15 minutes.
xdsl2PMLCurr15MLoss	INTEGER	0 - 900	Signal-loss seconds over the current 15 minutes.
xdsl2PMLCurrInit15MFullInits	INTEGER	0 - 2147483647	Initialization times over the current 15 minutes.
Curr15MinAtucEss	INTEGER	0 - 900	Errored seconds over the current 15 minutes.
xdsl2PMLCurr15MSes	INTEGER	0 - 900	Severely errored seconds over the current 15 minutes.
xdsl2PMLCurrInit15MFailedFullInits	INTEGER	0 - 2147483647	Initialization failures over the current 15 minutes.
xdsl2PMLCurr1DayTimeE-lapsed	INTEGER	0 - 86400	Elapsed time of the current day.
xdsl2PMLCurrInit1DayFullInits	INTEGER	0 - 2147483647	Initialization times over the current day.
xdsl2PMLCurr1DayEs	INTEGER	0 - 86400	Errored seconds over the current day.
xdsl2PMLCurr1DayLoss	INTEGER	0 - 86400	Signal-loss seconds over the current day.
xdsl2PMLCurr1DaySes	INTEGER	0 - 86400	Severely errored seconds over the current day.
xdsl2PMLCurrInit1DayFailedFullInits	INTEGER	0 - 2147483647	Initialization failures over the current day.
xdsl2PMLHist1DMonitored-Time	INTEGER	0 - 86400	Elapsed time of the past day
xdsl2PMLHistinit1DFullInits	INTEGER	0 - 2147483647	Initialization times over the past day.
xdsl2PMLHistinit1DFailed-FullInits	INTEGER	0 - 2147483647	Initialization failures over the past day.

Parameter Name	Data Type	Value Range	Description
xdsl2PMLHist1DEs	INTEGER	0 - 86400	Errored seconds over the past day.
xdsl2PMLHist1DLoss	INTEGER	0 - 86400	Signal-loss seconds over the past day.
xdsl2PMLHist1DSes	INTEGER	0 - 86400	Severely errored seconds over the past day.

Example

For example, query the performance statistics information over the current 15 minutes, the current day and the past day of the No. 1 VDSL port located in the No. 1 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-VDSLSTAT::ONUIP=10.250.18.121,ONUPORT=NA-NA-1-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:55:30
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of vdsl statistics
-----
xdsl2PMLCurr15MTimeElapsed      xdsl2PMLCurr15MLoss
xdsl2PMLCurrInit15MFullInits    Curr15MinAtucEss
xdsl2PMLCurr15MSes             xdsl2PMLCurrInit15MFailedFullInits
xdsl2PMLCurr1DayTimeElapsed     xdsl2PMLCurrInit1DayFullInits
xdsl2PMLCurr1DayEs             xdsl2PMLCurr1DayLoss      xdsl2PMLCurr1DaySes
xdsl2PMLCurrInit1DayFailedFullInits  xdsl2PMLHist1DMonitoredTime
xdsl2PMLHistinit1DFullInits      xdsl2PMLHistinit1DFailedFullInits
xdsl2PMLHist1DEs               xdsl2PMLHist1DLoss      xdsl2PMLHist1DSes
463  0  0  0  0  0  10714  0  --  0
0    0  0  --  0  0  0      0
-----
```

Related Command

None

6.5.7 Conducting the Single-ended Loop Test (SELT)

Function Description

The command is used for conducting the single-ended loop test on the ADSL2+ / VDSL2 port.

Command Format

```
SELT::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=dslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU_ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU_PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Title = result of self test

LINE_LENGTH LINE_STATUS ATTAINABLE_XTUC_RATE ATTAINABLE_XTUR_RATE

Output Parameter

Parameter Name	Data Type	Value Range	Description
LINE_LENGTH	OCTET STRING	-	Line length. Unit: m.
LINE_STATUS	String	Open Short	Status
ATTAINABLE_XTUC_RATE	Integer	-	Attainable downlink rate (kbps).
ATTAINABLE_XTUR_RATE	Integer	-	Attainable uplink rate (kbps).

Example

For example, conduct the single-ended loop test on the No. 1 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

SELF::ONU_IP=10.250.18.121,ONU_PORT=NA-NA-3-1:CTAG::;

◆ Response Message

```
FH_10.250.18.133 2010-11-02 13:57:37
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
result of selt test
-----
LINE_LENGTH  LINE_STATUS  ATTAINABLE_XTUC_RATE  ATTAINABLE_XTUR_RATE
3910   Short    8260    1264
-----
```

Related Command

None

6.5.8 Conducting the Double-ended Loop Test (DELT)

Function Description

The command is used for conducting the double-ended loop test on the ADSL2+ / VDSL2 port.

Command Format

```
DELT::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=dslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU-PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Title = result of delt test

XTUC_DELT_SATN XTUR_DELT_SATN XTUC_DELT_SNRM XTUR_DELT_SNRM

Output Parameter

Parameter Name	Data Type	Value Range	Description
XTUC_DELT_SATN	OCTET STRING	Size (128)	Uplink signal attenuation (dB).
XTUR_DELT_SATN	OCTET STRING	Size (128)	Downlink signal attenuation (dB).
XTUC_DELT_SNRM	OCTET STRING	Size (128)	Uplink signal-to-noise ratio margin (dB)
XTUR_DELT_SNRM	OCTET STRING	Size (128)	Downlink signal-to-noise ratio margin (dB)

Example

For example, conduct the double-ended loop test on the No. 2 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
DELT::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-2;CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 14:03:01
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
result of delt test
-----
XTUC_DELT_SATN  XTUR_DELT_SATN  XTUC_DELT_SNRM  XTUR_DELT_SNRM
0.00      0.00      0.00      0.00
-----
```

Related Command

None

6.5.9 Querying the xDSL Port PVC Information (LST-PVCINFO)

Function Description

This command is used for querying the PVC information of the ADSL port.

Command Format

```
LST-PVCINFO::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=adslport_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of vdsl statistics

PVCOPESTATUS PVCADMINSTATUS VPI VCI PVID VLANPRIORITY

Output Parameter

Parameter Name	Data Type	Value Range	Description
PVCOPE-STATUS	OCTET STRING	UP DOWN	PVC running status.
PVCADMIN-STATUS	OCTET STRING	UP DOWN	PVC management status.
VPI	INTEGER	-	VPI
VCI	INTEGER	-	VCI
PVID	INTEGER	-	VLAN ID
VLANPRIOR-ITY	OCTET STRING	Integer (0 - 7)	VLAN default priority level.

Example

For example, query the PVC information of the No. 1 ADSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-PVCINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 14:03:21
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=8
```

```
list of PVC info
```

```
-----
```

PVCOPESTATUS	PVCADMINSTATUS	VPI	VCI	PVID	VLANPRIORITY
UP	UP	8	35	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0
DOWN	DOWN	0	0	4088	0

```
-----
```

Related Command

None

6.6 Querying the VLAN Information

The following introduces the command and example for querying the VLAN information.

6.6.1 Querying the VLAN Forwarding (LST-VLANFWDINFO)

Function Description

This command is used for querying the VLAN-based forwarded messages, including messages forwarded based on C VLAN and S+C VLAN.

Command Format

```
LST-VLANFWDINFO::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport-location]
[ ,ONUIDTYPE=id-type,ONUID=onu-id] ,VLANID=svlan-id:CTAG::;
```

◆ Gather statistics of OLT VLAN forwarding information:

```
LST-VLANFWDINFO::OLTID=olt-name,VLANID=vlan-id:CTAG::;
```

◆ Gather statistics of ONU VLAN forwarding information (the ONU has a management IP address):

```
LST-VLANFWDINFO::ONUIP=onu-name,VLANID=vlan-id:CTAG::;
```

◆ Gather statistics of the ONU uplink VLAN tag forwarding on OLT (the ONU has no management IP address):

```
LST-VLANFWDINFO::OLTID=olt-name,PONID=ponport-location,  
ONUIDTYPE=idtype,ONUID=onu-id,VLANID=svlan-id:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
VLANID	INTEGER	0 - 4095	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of VLAN forward info

FramesUs FramesDs OctetsUs OctetsDs DiscardsUs DiscardsDs

Output Parameter

Parameter Name	Data Type	Value Range	Description
FramesUs	DOUBLE	0 - 2147483647	Number of uplink messages.
FramesDs	DOUBLE	0 - 2147483647	Number of downlink messages.
OctetsUs	DOUBLE	0 - 2147483647	Number of uplink bytes.
OctetsDs	DOUBLE	0 - 2147483647	Number of downlink bytes.
DiscardsUs	DOUBLE	0 - 1.85E19	Number of discarded uplink message. Optional.
DiscardsDs	DOUBLE	0 - 1.85E19	Number of discarded downlink message. Optional.

Example

Example 1, query the VLAN 321 forwarding information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-VLANFWDINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1,VLANID=321:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-28 12:01:50
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of VLAN forward info
-----
FramesUs  FramesDs  OctetsUs  OctetsDs  DiscardsUs  DiscardsDs
```

```
0      0      0      0      0      0
-----
```

Example 2, query the VLAN 1 forwarding information of the PON port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ **Command**

```
LST-VLANFWDINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1,VLANID=1:CTAG::;
```

◆ **Response Message**

```
FH_10.250.18.133 2010-11-02 10:37:30
M  CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of VLAN forward info
-----
FramesUs   FramesDs   OctetsUs   OctetsDs   DiscardsUs  DiscardsDs
--      --      --      --      --      --
-----
```

Related Command

None

6.7 Querying the IPTV Information

The following introduces the command and example for querying the IPTV information.

6.7.1 Querying the Multicast Configuration (LST-IPTVCFG)

Function Description

This command is used for querying the multicast configuration information.

Command Format

```
LST-IPTVCFG::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index][ ,ONUPORT=port_index][ ,UV=user-vlan] :
CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_ NAME MAC LOID ONU_ NUMBER	ONU identifier type (ONU_ NAME, MAC, LOID, ONU_ NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_ NAME, MAC, LOID or ONU_ NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = list of IPTV configuration
MVLAN VLANID VPI VCI
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
MVLAN	INTEGER	-	Multicast VLAN
VLANID	INTEGER	-	VLAN at user side. Optional (multicast service VLAN accessed through a home gateway).
VPI	INTEGER	-	VPI. Optional (DSL multicast service).
VCI	INTEGER	-	VCI. Optional (DSL multicast service).

Example

Example 1, query the multicast user information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-IPTVCFG::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-28 11:58:45
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of IPTV configuration
```

```
-----
MVLAN  VLANID  VPI    VCI
321    123     --     --
-----
```

Example 2, query the multicast user information of the No. 1 port located in the No. 4 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-IPTVCFG::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 10:33:57
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of IPTV configuration
```

```
-----
MVLAN  VLANID  VPI    VCI
2525   --      --     --
-----
```

Related Command

None

6.8 Querying the VoIP Information

The following introduces the command and example for querying the VoIP information.

6.8.1 Querying the Voice Quality Statistical Information (LST-VoIPINFO)

Function Description

This command is used for querying the voice quality statistics information of the voice user.

Command Format

```
LST-VOIPINFO::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=pots_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of voip info

tatTime TxPackets RxPackets MeanDelay MeanJitter FractionLoss

Output Parameter

Parameter Name	Data Type	Value Range	Description
StatTime	OCTET STRING	Size (20)	Record generation time, yyyy-mm-dd hh:mm:ss
TxPackets	INTEGER	0 - 4294967295	Number of sent packets
RxPackets	INTEGER	0 - 4294967295	Number of received packets
MeanDelay	INTEGER	0 - 65535	Mean delay
MeanJitter	INTEGER	0 - 65535	Mean jitter
FractionLoss	INTEGER	0 - 100	Packet loss rate. Unit: %.

Example

Example 1, query the quality statistics information of the No. 1 voice port of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-VOIPINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:45:28
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of voip info
```

```
-----
StatTime TxPackets RxPackets MeanDelay
```

```
MeanJitter FractionLoss
```

```
-1008762211 0 0 1630209 0
-----
```

Example 2, query the quality statistics information of the POTS 1 port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-VOIPINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```

FH_10.250.18.133 2010-11-02 09:51:49
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of voip info
-----
StatTime TxPackets RxPackets MeanDelay
MeanJitter FractionLoss
1970-01-01 00:00:00 0 0 0 0 0
-----

```

Related Command

None

6.8.2 Querying the MG Configuration (LST-MGCFG)

Function Description

This command is used for querying the configuration information of the access gateway interface.

Command Format

```

LST-MGCFG::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu-index][ ,MGID=mg-id]:CTAG::;

```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
MGID	INTEGER	0 - 16	MG identifier, used for uniquely identifying the MG module on the ONU. Optional.	If it is not specified, it indicates querying the configurations of all MG modules in use.

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
Title = list of MG port configuration
GID PT EID SIPREGDM SVLAN VOIPVLAN IPMODE IPADDRESS IPMASK IPGATEWAY
PPPOEUSER PPPOEPWD SCOS CCOS MGCIP1 MGCIP2 HEARTBEATMODE HEARTBEATCYCLE
HEARTBEATNUM
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
MGID	INTEGER	0 - 16	MG identifier, used for uniquely identifying the MG module on the ONU.
PT	OCTET STRING	Size (1 - 32)	Voice protocol type (H.248, SIP)
EID	OCTET STRING	Size (1 - 64)	MG gateway domain name in the H248 configuration.
SIPREGDM	OCTET STRING	Size (1 - 64)	SIP register server
SVLAN	INTEGER	0 - 4095	Outer VLAN of the voice service
VOIPVLAN	INTEGER	0 - 4095	Inner VLAN of the voice service

Parameter Name	Data Type	Value Range	Description
IPMODE	OCTET STRING	Size (1 - 64)	IP obtaining mode: DHCP, PPPOE, STATIC.
IPADDRESS	OCTET STRING	Size (1 - 64)	IP address
IPMASK	OCTET STRING	Size (1 - 64)	IP address mask
IPGATEWAY	OCTET STRING	Size (1 - 64)	Gateway address
PPPOEUSER	OCTET STRING	Size (1 - 64)	PPPOE username
PPPOEPWD	OCTET STRING	Size (1 - 64)	PPPOE password.
SCOS	INTEGER	0 - 7	Outer service priority level
CCOS	INTEGER	0 - 7	Inner service priority level
MGCIP1	OCTET STRING	Size (32)	IP address of the active softswitch
MGCIP2	OCTET STRING	Size (32)	IP address of the standby softswitch
HEARTBEAT-MODE	OCTET STRING	Enabled Disable	Heartbeat mode.
HEARTBEAT-CYCLE	Integer	0 to 65535	Heartbeat cycle. Unit: s.
HEARTBEATNUM	Integer	1 to 3	Number of detected heartbeats

Example

Example 1, query the MG configuration of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-MGCFG::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:45:56
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of MG port configuration
-----
MGID PT  EID  SIPREGDM  SVLAN  VOIPVLAN  IPMODE
IPADDRESS  IPMASK  IPGATEWAY  PPPOEUSER  PPPOEPWD
SCOS  CCOSMGCIP1  MGCIP2  HEARTBEATMODE  HEARTBEATCYCLE
HEARTBEATNUM
0  H.248  10.37.0.1  65535  1515  STATIC  10.37.0.1
255.255.255.0  10.37.0.254  65535  7
```

```
10.37.0.103 Enable 30 3
```

Example 2, query the MG configuration of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-MGCFG::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:52:03
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of MG port configuration
-----
MGID PT EID SIPREGDM SVLAN VOIPVLAN IPMODE
IPADDRESS IPMASK IPGATEWAY PPPOEUSER PPPOEPWD
SCOS CCOSMGCIPI1 MGCIP2 HEARTBEATMODE HEARTBEATCYCLE
HEARTBEATNUM
0 H.248 12345678 1515 STATIC 0.0.0.0
0.0.0.0 0.0.0.0 7 0 Enable 30 3
-----
```

Related Command

None

6.8.3 Querying the MG Interface Information (LST-MGINFO)

Function Description

This command is used for querying the running status of the access gateway interface.

Command Format

```
LST-MGINFO::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu-index][,MGID=mg-id]:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
MGID	INTEGER	0 to 16	MG identifier, used for uniquely identifying the MG module on the ONU. Optional.	If it is not specified, it indicates querying the configurations of all MG modules in use.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of MG port info
MGID OperState

Output Parameter

Parameter	Data Type	Value Range	Parameter Description
MGID	INTEGER	0 to 16	-
OperState	OCTET STRING	Registering UP Fault Deregistered Restarting Other	Registering. Registered successfully. IAD failure. Logout IAD restarting. Others

Example

Example 1, query the status of the MGID 0 on the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 PON port 1 of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-MGINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,MGID=0:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:46:12
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
list of MG port info
```

```
-----
```

```
MGID      OperState
```

```
0         UP
```

```
-----
```

Example 2, query the running status of the MG on the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-MGINFO::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:52:14
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
list of MG port info
-----
MGID      OperState
0         Fault
-----
```

Related Command

None

6.8.4 Querying the Port Fax Parameter (LST-FAXINFO)

Function Description

This command is used for querying the fax parameter of the POTS port.

Command Format

```
LST-FAXINFO::ONUIP=onu_name|OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index] ,ONUPORT=pots_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPOINT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

```
list of ONU pots info
FAXMODE CONTROLMODE
```

Output Parameter

Parameter Name	Data Type	Value Range	Description
FAXMODE	String	T30 T38	Fax mode
CONTROLMODE	String	NONE SS AUTOVBD	Control mode Voice channel Full control Auto-negotiation

Example

Example 1, query the fax parameter of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-FAXINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:46:39  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
list of ONU pots info
```

```
-----  
FAXMODE CONTROLMODE  
T30      NONE  
-----
```

Example 2, query the fax parameter of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-FAXINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:52:25  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
list of ONU pots info
```

```
-----  
FAXMODE CONTROLMODE  
T30      AUTOVBD  
-----
```

Related Command

None

6.8.5 Querying the POTS Port Information (LST-POTSINFO)

Function Description

This command is used for querying the POTS port information, including the line status, service status, impedance and gain.

Command Format

```
LST-POTSINFO::onu_name[OLTID=olt_name[ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index] ,ONUPORT=pots_num:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of VOIP pots info

LineState ServiceState EchoCancel ReversedPolarity RxGain TxGain PN TID

SIPUSERNAME SIPUSERPWD MGID

Output Parameter

Parameter Name	Data Type	Value Range	Description
LineState	OCTET STRING	Registering Idle Off-hook Dialing Ringing Ringing-back Connecting Connected Releasing Register-failed Deactivated Other	Line status: Registering port. Port is idle. Off-hook, Dialing. Ringing. Ring back. Connecting. Connected. Releasing the connection. Registering port failed. Port is not activated. Others.
ServiceState	OCTET STRING	EndLocal EndRemote EndAuto Normal	Service status: endLocal: The service is terminated by the local end due to the port disabled by the user. endRemote: The service is terminated by the far end due to the command sent by MGC. endAuto: The service is terminated automatically due to the MGC failure. normal: The service is normal.
EchoCancel	OCTET STRING	Enabled Disable	Echo suppression.
ReversedPolarity	OCTET STRING	Enabled Disable	Polarity reversal signal.
RxGain	Float	-20 - 20	Receive gain. Unit: dB.
TxGain	Float	-20 - 20	Send gain. Unit: dB.
PN	OCTET STRING	Size (1 - 32)	SIP telephone number.
TID	OCTET STRING	Size (1 - 64)	H248 user terminal identifier
SIPUSERNAME	OCTET STRING	Size (1 - 32)	Username corresponding to the SIP user port
SIPUSERPWD	OCTET STRING	Size (1 - 32)	Password corresponding to the SIP user port
MGID	INTEGER	0 - 16	MG identifier, identifying the MG module being used by the user.

Example

Example 1, query the No. 1 POTS port information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-POTSINFO::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,  
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:47:14  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
list of pots info  
-----  
LineState  ServiceState  EchoCancel  ReversedPolarity  
RxGain  TxGain  PN    TID  SIPUSERNAME  SIPUSERPWD  
Idle  Normal  Enable  Enable  0    0    a1  
-----
```

Example 2, query the information of the No. 1 POTS port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-POTSINFO::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:52:36  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
list of pots info  
-----  
LineState  ServiceState  EchoCancel  ReversedPolarity  
RxGain  TxGain  PN    TID  SIPUSERNAME  SIPUSERPWD  
Register-failed EndAuto Enable  Disable  0    0    --  
-----
```

Related Command

None

6.8.6 Conducting the Outer Line Test (MELT)

Function Description

This command is used for testing the outer line of the voice or DSL user to detect whether line errors occur.

Command Format

```
MELT::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu_index],ONUPOST=fttbpost_index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	The port of the voice service corresponding to the bandwidth.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of outside line test

onclusion ACAG ACBG ACAB DCAG DCBG DCAB RAG RBG RAB CapAG CapBG CapAB

Output Parameter

Parameter Name	Data Type	Value Range	Description
Conclusion	INTEGER	0 - 100	Testing result.
ACAG	INTEGER	-	T568A-pair-to-ground voltage. Unit: mV.
ACBG	INTEGER	-	T568B-pair-to-ground AC voltage. Unit: mV.
ACAB	INTEGER	-	T568A/T568B AC voltage. Unit: mV.
DCAG	INTEGER	-	T568A-pair-to-ground DC voltage. Unit: mV.
DCBG	INTEGER	-	T568B-pair-to-ground DC voltage. Unit: mV.
DCAB	INTEGER	-	T568A/T568B DC voltage. Unit: mV.
RAG	INTEGER	-	T568A-pair-to-ground resistance. Unit: ohm.
RBG	INTEGER	-	T568B-pair-to-ground resistance. Unit: ohm.
RAB	INTEGER	-	T568A/T568B resistance. Unit: ohm.

Parameter Name	Data Type	Value Range	Description
CapAG	INTEGER	-	T568A-pair-to-ground capacitance. Unit: nF.
CapBG	INTEGER	-	T568B-pair-to-ground capacitance. Unit: nF.
CapAB	INTEGER	-	T568A/T568B capacitance. Unit: nF.

Example

Example 1, test the outer line of the No. 1 POTS port of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
MELT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:52:26
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of outside line test
-----
Conclusion ACAG ACBG ACAB DCAG DCBG DCAB RAG
RBG RAB CapAG CapBG CapAB
22 15 15 21 477 485 14 >10M
>10M >10M 1365005500 1365204625 2031075
-----
```

Example 2, test the outer line of the No. 1 POTS port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
MELT::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:53:59
M CTAG COMPLD
    total_blocks=1
    block_number=1
```

```

        block_records=1
list of outside line test
-----
Conclusion  ACAG  ACBG  ACAB  DCAG  DCBG  DCAB  RAG
           RBG  RAB   CapAG  CapBG  CapAB
22   124    219   190   410   410
58  >10M >10M >10M 1365300000  1365400000  2000000
-----

```

Related Command

None

6.8.7 Conducting the Inner Line Test (TEST-POTSCIRCUIT)

Function Description

This command is used for testing the inner line of the voice or DSL user to detect whether line errors occur.

Command Format

```

TEST-POTSCIRCUIT::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] ,
ONUPOST=fttbpost_index:CTAG::;

```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter	Data Type	Value Range	Parameter Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	The port of the voice service corresponding to the bandwidth.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Title = list of pots inside line test

LoopCurrent FeedV RingV FeedVValue RingVValue LoopCurrentValue

Output Parameter

Parameter	Data Type	Value Range	Parameter Description
LoopCurrent	OCTET STRING	Normal Abnormal	indicates whether the loop current is normal.
FeedV	OCTET STRING	Normal Abnormal	Indicates whether the feed voltage is normal.
RingV	OCTET STRING	Normal Abnormal	Indicates whether the ring voltage is normal.
FeedVValue	INTEGER	-	Feed voltage Unit: mV.
RingVValue	INTEGER	-	Ring voltage Unit: mV.
LoopCurrentValue	INTEGER	-	Loop current Unit: mA.

Example

Example 1, test the inner line of the No. 1 POTS port of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
TEST-POTSCIRCUIT::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:52:52
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of pots inside line test
-----
LoopCurrent FeedV RingV FeedVValue RingVValue LoopCurrentValue
Normal Normal Normal 48444 58557 18
-----
```

Example 2, test the inner line of the No. 1 POTS port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
TEST-POTSCIRCUIT::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 09:55:02
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
list of pots inside line test
-----
LoopCurrent FeedV RingV FeedVValue RingVValue LoopCurrentValue
Normal Normal Abnormal 39278 64314 22
-----
```

Related Command

None

6.8.8 Conducting the Incoming Call Emulation Test (TEST-CALLEESIMULATION)

Function Description

This command is used for conducting the incoming call emulation test.

The incoming call emulation test simulates an incoming call during which a program acts as the called party and automatically completes all the operations that should be responded by the called party to the caller. The testing personnel will check whether the ringing of the called party can be heard so as to verify whether the called port is ringing and being called normally.

Note: If the system does not send the ending test command after a certain period of time since the sending of the starting test command, the test will be automatically ended.

Command Format

```
TEST-CALLEESIMULATION::ONUIP=onu_name|OLTID=olt_name[ ,
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] ,
ONUPORT=pots_num:CTAG:: ACTION=action-type[ ,TIMEOUT=timeout] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-
ACTION	OCTET STRING	Start: starting the test. Stop: ending the test. Query: querying the test.	Testing type.	Returned status of the call upon query: 1. The port is idle. 2. Off-hook. 3. Ringing. 4. Call connected. 5. Busy tone. 6. On-hook. 7. Testing is ended.
TIMEOUT	INTEGER	60 - 300	Testing time duration. Unit: s.	-

Response Format

The format of the response for starting the test is the same as the operation-command response format in [Response Message Format](#). The format of the response for querying and stopping the test is the same as the query-command response format in [Response Message Format](#).

Title = result of callin simulation

STATE Conclusion FailReason

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
STATE	OCTET STRING	1: The port is idle. 2: Off-hook. 3: Ringing. 4: Connected. 5: On-hook. 6: Testing is ended.	Current status of the call.	This parameter is returned when the input parameter Action is Stop or Query .
Conclusion	INTEGER	1	Successful	These two parameters are returned when the input parameter Action is Stop .
		2	Failed.	
FailReason	INTEGER	3	The call connection is established, but the testing personnel has not confirmed the call connection status.	
		1	No signaling interaction.	
		2	The called party hooks off, but SS does not respond the off-hook signaling.	
		3	MG internal reason.	
		4	Others.	

Example

Example 1, conduct the incoming call emulation test on the No. 1 POTS port on the ONU (has no management IP address) with ONUID being aaa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
TEST-CALLEESIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,
ONUIDTYPE=LOID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::
ACTION=Start,TIMEOUT=60;
TEST-CALLEESIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,
ONUIDTYPE=LOID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::
ACTION=Stop,TIMEOUT=60;
```

◆ Response Message

FH_10.250.18.133 2010-10-27 14:54:09

M CTAG COMPLD

EN=0 ENDESC=No error

FH_10.250.18.133 2010-10-27 14:55:42

M CTAG COMPLD

total_blocks=1

block_number=1

block_records=1

result of callin simulation

```
-----
STATE   Conclusion   FailReason
6       2           1
-----
```

Example 2, conduct the incoming call emulation test on the No. 1 POTS port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
TEST-CALLEESIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::
ACTION=Start,TIMEOUT=60;
TEST-CALLEESIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::
ACTION=Stop,TIMEOUT=60;
```

◆ Response Message

FH_10.250.18.133 11/2/2010 15:11:04

M CTAG COMPLD

EN=0 ENDESC=No error

FH_10.250.18.133 11/2/2010 15:11:22

M CTAG COMPLD

total_blocks=1

block_number=1

block_records=1

result of callin simulation

```
-----
STATE   Conclusion   FailReason
6       2           1
-----
```

Related Command

None

6.8.9 Conducting the Outgoing Call Emulation Test (TEST-CALLERSIMULATION)

Function Description

This command is used for conducting the outgoing call emulation test.

The outgoing call emulation test simulates an outgoing call during which a program acts as the caller and automatically completes all the operations that should be responded by the caller to the called party. After the call is connected, the testing personnel will check whether the ringing of the caller can be heard so as to verify whether the calling emulation port is ringing and calling normally.

Note: If the system does not send the ending test command after a certain period of time since the sending of the starting test command, the test will be automatically ended.

Command Format

```
TEST-CALLERSIMULATION::ONUIP=onu_name|OLTID=olt_name[ ,  
PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu_index] ,  
ONUPORT=post_index:CTAG::ACTION=action-type,TEL=tel-number[ ,  
TIMEOUT=timeout] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	-
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	-
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	-
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	-
ACTION	OCTET STRING	Start: starting the test. Stop: ending the test. Query: querying the test.	Testing type.	-
TEL	OCTET STRING	Size (20)	The telephone number dialed for testing. It is entered when starting the test.	-
TIMEOUT	INTEGER	60 - 300	Testing time duration. Unit: s.	-
262				Version: C

Response Format

The format of the response for starting the test is the same as the operation-command response format in [Response Message Format](#). The format of the response for querying and stopping the test is the same as the query-command response format in [Response Message Format](#).

Title = result of call out simulation

STATE DIALNUMBER TARGETNUMBER FAILEDIG Conclusion FailReason

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
STATE	OCTET STRING	1: The port is idle. 2: Off-hook. 3: Dial tone. 4: Receiving (digit collection). 5: ReceiveEnd (digit collection completed). 6: Ringing back. 7: Connected. 8: Busy tone. 9: On-hook. 10: Testing is ended.	Current status of the call.	This parameter is returned when the input parameter Action is Stop or Query .
DIALNUMBER	OCTET STRING	Size (32)	Telephone number dialed for testing.	-
TARGETNUMBER	OCTET STRING	Size (32)	Telephone number reported to softswitch.	-
FAILEDIG	OCTET STRING	Size (128)	The specific error signaling returned when establishing the channel failed.	-
Conclusion	INTEGER	1	Successful	These two parameters are returned when the input parameter Action is Stop .
		2	Failed.	
		3	The call connection is established, but the testing personnel has not confirmed the call connection status.	
FailReason	INTEGER	1	The SS off-hook response signaling is not received.	
		2	The SS dial tone sending signaling is not received.	

Parameter Name	Data Type	Value Range	Description	Remark
		3	The dialed telephone number is not consistent with that reported to SS.	
		4	The ring back tone is not received.	
		5	The other party has not hooked off.	
		6	Establishing the channel failed.	
		7	SS has not responded the on-hook signaling.	
		8	Others.	

Example

Example 1, conduct the outgoing call emulation test on the No. 1 POTS port of the ONU (has no management IP address) with ONUID being aaa_bbb_ccc_111_222. The ONU is connected to the slot 3 - PON 1 port of the OLT whose IP address is 10.250.18.100.

◆ Command

```
TEST-CALLERSIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,
ONUITYPE=LOID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::
ACTION=Start,TEL=1110,TIMEOUT=60;
TEST-CALLERSIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,
ONUITYPE=LOID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::
ACTION=Stop,TEL=1110,TIMEOUT=60;
```

◆ Response Message

```
FH_10.250.18.133 2010-10-27 14:56:53
M CTAG COMPLD
  EN=0  ENDESC=No error
  FH_10.250.18.133 2010-10-27 14:57:02
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
result of call out simulation
-----
STATE DIALNUMBER  TARGETNUMBER  FAILED SIG
Conclusion FailReason
10 1110  port_register_failed    2    8
-----
```

Example 2, conduct the outgoing call emulation test on the No. 1 POTS port located in the No. 2 slot of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
TEST-CALLERSIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::
ACTION=Start,TEL=1110,TIMEOUT=60;
TEST-CALLERSIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::
ACTION=Stop,TEL=1110,TIMEOUT=60;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 15:11:27
M CTAG COMPLD
  EN=0   ENDESC=No error
  FH_10.250.18.133 2010-11-02 15:11:40
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
result of call out simulation
-----
STATE DIALNUMBER  TARGETNUMBER  FAILED SIG
Conclusion FailReason
10   1110   no response from ss   2   1
-----
```

Related Command

None

6.9 Querying the Alarm Information

The following introduces the command and example for querying the alarm information.

6.9.1 Querying Alarms (QUERY-ALARM)

Function Description

The command is used for querying the recovered / unrecovered alarms of the specified NE.

Command Format

```
QUERY-ALARM::ONUIP=onu-name|OLTID=olt-name[ ,PONID=ponport_location][ ,
ONUIDTYPE=id-type,ONUID=onu-index] :CTAG::[ BEGINTIME=begin-time][ ,
ENDTIME=end-time][ , FAULTFLAG=flag] ;
```

◆ Query the ONU that has a management IP address:

```
QUERY-ALARM::ONUIP=onu-name:CTAG::[ BEGINTIME=begin-time][ ,ENDTIME=end-
time][ , FAULTFLAG=flag] ;
```

◆ Query the ONU that has no management IP address:

```
QUERY-ALARM::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=id-type,
ONUID=onu-index:CTAG::[ BEGINTIME=begin-time][ ,ENDTIME=end-time][ ,
FAULTFLAG=flag] ;
```

◆ Query the OLT PON port:

```
QUERY-ALARM::OLTID=olt-name,PONID=ponport_location:CTAG::
[ BEGINTIME=begin-time][ ,ENDTIME=end-time][ , FAULTFLAG=flag] ;
```

◆ Query the OLT:

```
QUERY-ALARM::OLTID=olt-name:CTAG::[ BEGINTIME=begin-time][ ,ENDTIME=end-
time][ , FAULTFLAG=flag] ;
```

Supported Equipment

All sets of equipment.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	It is required when querying the ONU that has no management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required when querying the ONU that has no management IP address.

Parameter Name	Data Type	Value Range	Description	Remark
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	It is required when querying the ONU that has no management IP address.
ONUIDENTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	It is required when querying the ONU that has no management IP address.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.
BEGINTIME	String	Size (32)	Format of start time (Beijing time) YYYY-MM-DD HH-MM-SS	Optional.
ENDTIME	String	Size (32)	Format of end time (Beijing time) YYYY-MM-DD HH-MM-SS	Optional.
FAULTFLAG	STRING	Fault-Only ALL	Alarm status. Default value: Fault-Only. Fault-Only contains events and does not contain recovered alarms.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

```

Title=list of alarm info
SERIALID ALARMNAME DIP DNAME DTYPE POSITION SEVERITY FaultFlag HAPPENTIME
RECOVERTIME ALARMTYPE AdditionalInfo EVENT_CODE PROBABLE_CAUSE_DESC
PROBABEL_CAUSE_CODE PROPOSED_ADVISE

```

Output Parameter

Parameter Name	Data Type	Value Range	Description	Remark
SERIALID	String	Size (0 - 100)	Alarm ID.	Required.
ALARMNAME	String	Size (0 - 256)	Alarm name, corresponding to the alarm code parameter (EVENT_CODE).	Required.

Parameter Name	Data Type	Value Range	Description	Remark
DIP	String	IP address	NE IP address.	Required.
DNAME	String	Size (0 - 100)	NE name.	Required.
DTYPE	String	Size (0 - 100)	NE type.	Required.
POSITION	String	RACK: rackid SHELF: shelfid SLOT: slotid PORT: portid ONUNUM: onunumber ONUNAME: onuname ONUPORTTYPE: onuporttype ONUPORT: onuportid EMUNUM: emunum	The position that triggers the alarm. RACK: rack SHELF: shelf SLOT: slot PORT: port number ONUNUM: ONU number ONUNAME: ONU name ONUPORTTYPE: ONU port type (LAN, E1, DSL, POTS and PON) ONUPORT: ONU port number EMUNUM: environment monitoring unit	Required.
SEVERITY	String	Critical Major Minor Warning	Alarm Level	Required.
FaultFlag	String	Fault Recovery Event	Alarm status	Required.
HAPPENTIME	String	Size (0 - 32)	Alarm generation time. Format: YYYY-MM-DD HH:MM:SS.	Required.
RECOVERTIME	String	Size (0 - 32)	Alarm recovery time. Format: YYYY-MM-DD HH:MM:SS.	Optional.
ALARMTYPE	String	communicationsA-larm, qualityOfServiceA-larm, processingErrorA-larm, equipmentAlarm, environmentalAlarm.	Alarm type.	Required.
AdditionalInfo	String	Size (0 - 256)	Additional information, describing additional information related to the alarm.	Optional.
EVENT_CODE	Integer	-	Alarm code, corresponding to the alarm name parameter (ALARMDESC).	Optional.

Parameter Name	Data Type	Value Range	Description	Remark
PROBABLE_CAUSE_DESC	String	Size (0 - 256)	Alarm reason.	Optional.
PROBABEL_CAUSE_CODE	Integer	-	Alarm reason code.	Optional.
PROPOSED_ADVISE	String	Size (0 - 512)	Handling suggestion.	Optional.

Example

Example 1, query alarm information of the ONU (having no management IP address) with ONUID being aa_bbb_ccc_111_222. The ONU is connected to the slot 15 - PON 1 port of the OLT whose IP address is 10.78.200.200.

◆ Command

```
QUERY-ALARM::OLTID=10.78.200.200,PONID=NA-NA-15-1,ONUIDTYPE=LOID,
ONUID=aaa_bbb_ccc_111_222:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-01 15:31:06
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=14
Alarm
-
SERIALID  ALARMNAME  DIP  DNAME  DTYPE  POSITION
SEVERITY   FaultFlag  HAPPENTIME  RECOVERTIME
ALARMTYPE  ADITIONALINFO      EVENT_CODE
PROBABLE_CAUSE_DESC
135      ONU H.248 broken link  10.250.18.100
AN5006-04  AN5006-04
RACK:NA, SHELF:NA, SLOT:3, PORT:1, ONUNUM:5, ONUNAME:AN5006-04
Critical  Faul2010-11-01 14:51:51  --  CommunicationAlarm
-- 320001  ONU H.248 broken link 99  ONU H.248 broken link 10.250.18.100
AN5006-04  AN5006-04
```

Example 2, query the alarm information of the ONU (having a management IP address) whose IP address is 10.78.200.203.

◆ Command

```
QUERY-ALARM::ONUIP=10.78.200.203:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-02 10:34:38
M CTAG COMPLD
  total_blocks=2
  block_number=2
  block_records=3
Alarm
-
SERIALID ALARMNAME DIP  DNAME  DTYPE  POSITION
SEVERITY  FaultFlag  HAPPEMTE  RECOVERTE
ALARMTYPE ADITIONALINFO EVENT_CODE  PROBABLE_CAUSE_DESC
2 ONU H.248 broken link  10.250.18.121  system2  AN5006-20
RACK:NA,SHELF:NA,SLOT:5,PORT:0 Critical Recovery
2010-10-28 09:13:14 2010-11-01 09:48:13 CommunicationAlarm --
320001 ONU H.248 broken link3 Abnormal OLT card status 10.250.18.121 system2
AN5006-20 RACK:NA,SHELF:NA,SLOT:4 Critical Recovery
2010-11-01 11:06:42 2010-11-01 11:15:34 EquipmentAlarm --
110003 Abnormal OLT card status, including (running abnormally,
not activated, inconsistency between card and configured type.)4
Abnormal OLT card status 10.250.18.121 system2 AN5006-20
RACK:NA,SHELF:NA,SLOT:4 Critical Recovery 2010-11-01
15:11:06 2010-11-01 15:19:14 EquipmentAlarm -- 110003
Abnormal OLT card status, including (running abnormally, not activated,
inconsistency between card and configured type.)-
```

Related Command

None

7

Integrated Query Interface

The following introduces the commands for physical resource query, service resource query, resource change notification and resource file export.

- ☒ Querying the Equipment Information
- ☒ Querying Service Resources
- ☒ Resource Change Notification
- ☒ Resource Data Full Export

7.1 Querying the Equipment Information

The following introduces the commands and examples for querying the equipment information.

7.1.1 Querying the OLT Equipment Information (LST-DEVICE)

Function Description

This command is used for querying the information of a specified set or all sets of OTL equipment.

Command Format

```
LST-DEVICE::[ OLTID=olt-name] :CTAG::;
```

Supported Equipment

OLT: AN5516 series, AN5116 series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address or name.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
DEVNAME	OCTET STRING	Size (128)	Equipment name
DEVIP	OCTET STRING	Size (128)	Equipment IP address
DT	OCTET STRING	Size (255)	Equipment model
DEVER	OCTET STRING	Size (255)	Software version

Example

For example, query the information of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-DEVICE::OLTID=10.250.18.100:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:37:35
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1

-----
DEVNAME  DEVIP    DT      DEVER
system1   10.250.18.100  AN5516_01  RP0121
-----
```

Related Command

```
LST-DEVINFO
```

7.1.2 Querying the ONU Equipment Information (LST-ONU)

Function Description

This command is used for querying the information of a specified ONU or all ONUs connected to the OLT.

Command Format

```
LST-ONU::ONUIP=onu-name| (OLTID=olt-name[ ,PONID=ponport_location[ ,
ONUIDTYPE=onuidtype,ONUID=onu-index] ] ) :CTAG::;
```

◆ Query all ONUs connected to the OLT:

```
LST-ONU::OLTID=olt-name:CTAG::;
```

◆ Query all ONUs connected to a specified PON port of the OLT:

```
LST-ONU::OLTID=olt-name,PONID=ponport_location:CTAG::;
```

◆ Query the information of the ONU that has a management IP address:

```
LST-ONU::ONUIP=onu-name:CTAG::;
```

◆ Query the information of the ONU that has no management IP address:

```
LST-ONU::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,  
ONUID=onuindex:CTAG::;
```

Supported Equipment

ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Optional.
ONUIDTYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Optional.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUNO	INTEGER	0 - 512	ONU authorization code
NAME	OCTET STRING	Size (128)	ONU name
DESC	OCTET STRING	Size (128)	ONU description information.
ONUTYPE	OCTET STRING	Size (128)	ONU type
IP	OCTET STRING	Size (128)	The management IP address of the ONU.
AUTHTYPE	OCTET STRING	MAC LOID LOIDONCEON	Authentication mode. When no authentication mode is specified, a dash (–) will be returned.
MAC	OCTET STRING	Size (128)	The registered MAC information of the ONU.
LOID	OCTET STRING	Size (64)	When the MAC authentication is adopted, a dash (–) will be returned.
PWD	OCTET STRING	Size (128)	LOID password. If no password is specified, a dash (–) will be returned.
SWVER	OCTET STRING	Size (128)	Software version

Example

Example 1, query the information of the ONU (having no management IP address) with ONUID being aa_whdx04. The ONU is connected to the shelf 0 - slot 4 - PON 1 port of the OLT whose IP address is 10.250.18.102.

◆ Command

```
LST-ONU::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,  
ONUID=whdx04:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:06:08  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
  
-----  
OLTID  PONID  ONUNO  NAME    DESC    ONUTYPE IP    AUTH    MAC  
LOID   PWD    SWVER  
10.250.18.102  NA-1-4-1    2      AN5006-04    --  
AN5006-04    --  LOID  54-4b-40-0c-79-a8  whdx04  --  
R4.05.60.25  
  
-----
```

Example 2, query the information of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-ONU::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:53:54  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
  
-----  
OLTID  PONID  ONUNO  NAME    DESC    ONUTYPE IP    AUTH    MAC  
LOID   PWD    SWVER  
10.250.18.100  NA-1-1-1    2      AN5006-20    --  
AN5006-20    10.250.18.121  MAC    54-4b-17-00-00-80  
whdx2020    --    b230  
  
-----
```

Related Command

```
LST-ONUCFG
```

7.1.3 Querying the ONU Hardware / Software Version (LST-ONUVERSION)

Function Description

This command is used for querying the ONU hardware / software version information.

Command Format

```
LST-ONUVERSION::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=id-type,ONUID=onu-index:CTAG::;
```

Supported Equipment

ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Optional.

Parameter Name	Data Type	Value Range	Description	Remark
ONUIDTYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Optional.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID	OCTET STRING	Size (128)	ONU identifier type, used for uniquely identifying the ONU on the PON port. The value is ONU_Number.
SWVER	OCTET STRING	Size (128)	Software version
HWVER	OCTET STRING	Size (128)	Hardware Version

Example

For example, query the version information of the ONU (having no management IP address) with ONUID being 54-4B-70-03-FB-98. The ONU is connected to the shelf 0 - slot 11 - PON 4 port of the OLT whose IP address is 10.78.200.200.

◆ Command

```
LST-ONUVERSION::OLTID=10.78.200.200,PONID=NA-NA-11-4,ONUIDTYPE=MAC,
ONUID=54-4B-70-03-FB-98:CTAG::;
```

◆ Response Message

```
FH_10.98.30.151 2014-07-07 14:32:20
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
```

list of ONU version:

```
-----
OLTID   PONID   ONUID   SWVER   HWVER
10.78.200.200 1-1-11-4 3 R3.07.05.64 WKE2.119.195R1B
-----
```

;

Related Command

None

7.1.4 Querying the Shelf Information (LST-SHELF)

Function Description

This command is used for querying the shelf information of a specified OLT, a specified ONU or all sets of equipment in the entire network.

Command Format

```
LST-SHELF::[ ONUIP=onu-name] [[ OLTID=olt-name[ ,PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ] :CTAG::;
```

◆ Query the shelf information of all sets of equipment in the entire network:

```
LST-SHELF:::CTAG::;
```

- ◆ Query the shelf information of a specified OTL:

```
LST-SHELF::OLTID=olt-name:CTAG::;
```

- ◆ Query the shelf information of an ONU that has a management IP address:

```
LST-SHELF::ONUIP=onu-name:CTAG::;
```

- ◆ Query the shelf information of an ONU that has no management IP address:

```
LST-SHELF::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuidthype,  
ONUID=onu-index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU- TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_ NUMBER.	The ONU that has no management IP address. Required.
ONU- ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_ NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONU- IP	OCTET STRING	Size (128)	When querying a single ONU, the input parameter will be returned (when querying all ONUs in the entire network, the ONU-IP will be returned if the ONU-IP exists; otherwise, the OLTID, PONID or ONU-ID will be returned).
OLT- ID	OCTET STRING	Size (128)	OLT IP address or name. When querying the equipment in the entire network, the IP address will be returned.
PON- ID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONU- ID	OCTET STRING	Size (128)	When querying a single ONU, the input parameter will be returned; when querying all ONUs in the entire network, the ONU-NO will be returned.

Parameter Name	Data Type	Value Range	Description
SHELFID	OCTET STRING	Size (128) Cabinet rack - shelf	Locates the shelf through the approach of cabinet rack - shelf number. Enter NA if the corresponding information is not specified.
SHELF-TYPE	OCTET STRING	Size (128)	Shelf type.

Example

Example 1, query the information of all the shelves of the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-SHELF::OLTID=10.250.18.100:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:37:54
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
-----
ONUIP   OLTID   PONID   ONUID   SHELFID  SHELFTYPE
--      10.250.18.100   --      --      NA-1     AN5116-06B
-----
```

Example 2, query the information of all the shelves of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-SHELF::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:54:02
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
-----
ONUIP   OLTID   PONID   ONUID   SHELFID  SHELFTYPE
10.250.18.121  10.250.18.100   NA-1-1-1     NA-1     AN5006-20
-----
```

Related Command

None

7.1.5 Querying the Card Information (LST-BOARD)

Function Description

This command is used for querying the shelf information of a specified OLT or a specified ONU or all sets of equipment in the entire network.

Command Format

```
LST-BOARD::[ ONUIP=onu-name] |[ [ OLTID=olt-name[ , PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index] ] [ , BOARDID=BOARD_location] ] :
CTAG::;
```

- ◆ Query the card information of all sets of equipment in the entire network:

```
LST-BOARD:::CTAG::;
```

- ◆ Query the card information of a specified OLT:

```
LST-BOARD::OLTID=olt-name[ , BOARDID=BOARD_location] :CTAG::;
```

- ◆ Query the card information of the ONU that has a management IP address:

```
LST-BOARD::ONUIP=onu-name[ , BOARDID=BOARD_location] :CTAG::;
```

- ◆ Query the card information of the ONU that has no management IP address:

```
LST-BOARD::OLTID=olt-name, PONID=ponport_location, ONUIDTYPE=onuidtype,
ONUID=onu-index[ , BOARDID=BOARD_location] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
BOARDID	OCTET STRING	Size (128) Cabinet rack - shelf - slot	Locates the card through the approach of cabinet rack - shelf - slot. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	When querying a single ONU, the input parameter will be returned (when querying all ONUs in the entire network, the ONUIP will be returned if the ONUIP exists; otherwise, the OLTID, PONID or ONUID will be returned).
OLTID	OCTET STRING	Size (128)	OLT IP address or name. When querying the equipment in the entire network, the IP address will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID	OCTET STRING	Size (128)	When querying a single ONU, the input parameter will be returned; when querying all ONUs in the entire network, the ONUNO will be returned.
BOARDID	OCTET STRING	Size (128) Cabinet rack - shelf - slot	Locates the card through the approach of cabinet rack - shelf - slot. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA.
BOARDTYPE	OCTET STRING	Size (128)	Card Type
BSERVICE	OCTET STRING	1. Power 2. ETH 3. ADSL 4. VDSL 5. POTS 6. E1 7. GPON 8. EPON 9. Control (main control unit) 10. Other	Card service type.
PNUM	INTEGER	0 - 64	Number of ports

Parameter Name	Data Type	Value Range	Description
SWVER	OCTET STRING	Size (255)	Software version
HWVER	OCTET STRING	Size (255)	Hardware Version

Example

Example 1, query the information of a card on the OLT whose IP address is 10.250.18.100.

◆ Command

```
LST-BOARD::ONUIP=10.250.18.100:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:38:05
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=10
-----
ONUIP OLTID PONID ONUID BOARDID BOARDTYPE BSERVICE
PNUM SWVER HWVER
-- 10.250.18.100 -- -- NA-1-1 EC4B EPON 4
RP0121 WKE2.119.318R1A
-- 10.250.18.100 -- -- NA-1-2 EC4B EPON 4
RP0121 WKE2.119.318R2A
-- 10.250.18.100 -- --NA-1-3 EC4B EPON 4
RP0121 WKE2.119.318R2A
-- 10.250.18.100 -- -- NA-1-9 HSWA SCU 3
RP0121 WKE2.115.334R1A
-- 10.250.18.100 -- -- NA-1-18 PUBA Other 2
RP0107 WKE2.167.177R1A
-- 10.250.18.100 -- -- NA-1-19 HU1A Other 5
RP0103 WKE2.170.846R3A
-- 10.250.18.100 -- --NA-1-20 HU1A Other 5
RP0103 WKE2.170.846R3A
-- 10.250.18.100 -- -- NA-1-21 FAN Other 2
-- --
-- 10.250.18.100 -- -- NA-1-22 FAN Other 2
-- --
-- 10.250.18.100 -- -- NA-1-23 FAN Other 2
```


-- --

Example 2, query the information of a card connected with the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-BOARD::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:54:12
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=7
```

```
-----
ONUIP OLTID  PONID  ONUID  BOARDID BOARDTYPE  BSERVICE
PNUM  SWVER   HWVER
10.250.18.121  --  --  --  NA-1-1  VD24  VDSL  24
RP0105  WKE2.170.853R2A
10.250.18.121  --  --  --  NA-1-2  POTS64-20  POTS
64      RP0104  WKE2.170.815R2A
10.250.18.121  --  --  --  NA-1-3  AD32-20  ADSL  32
RP0106  WKE2.170.814R2C
10.250.18.121  --  --  --  NA-1-4  ETH  ETH  16
RP0100  WKE2.170.813R2A
10.250.18.121  --  --  --  NA-1-5  MCU  SCU  3
RP0106  WKE2.119.372R2A
10.250.18.121  --  --  --  NA-1-6  PWR  Power  1
--      --
10.250.18.121  --  --  --  NA-1-7  FAN-1  Other  2
--      --
-----
```

Related Command

```
LST-BRDINFO
```

7.1.6 Querying ONU Distance Value in a Batch Manner (LST-ONUDISTANCE)

Function Description

This command is used to query the ONU distance in a batch manner.

Prerequisite

The PON traffic switch is enabled in the EMS.

Command Format

```
LST-ONUDISTANCE::OLTID=olt-name:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter	Data Type	Value Range	Parameter Description
OLTID	OCTET STRING	Size (128)	OLT IP address or name. When querying the equipment in the entire network, the IP address will be returned.
ONUNO	INTEGER	0 to 512	ONU authorization code.
NAME	OCTET STRING	Size (128)	ONU name.

Parameter	Data Type	Value Range	Parameter Description
MAC	OCTET STRING	Size (128)	The registered MAC information of the ONU.
LOID	OCTET STRING	Size (128)	When the MAC authentication is adopted, a dash – will be returned.
PWD	OCTET STRING	Size (128)	LOID password. If no password is specified, a dash – will be returned.
Length	DOUBLE	0 to 100	Optical fiber length (i.e. the ONU distance value). The unit is km.

Example

Example 1: query the distance value of all the ONUs on the OLT with the IP address of 10.250.18.100.

◆ Command

```
LST-ONUDISTANCE::OLTID=10.190.42.3:CTAG::;
```

◆ Response Message

```
FH_10.170.162.23 2017-02-17 10:35:34
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=2
```

```
list of onu distance
```

```
-----
OLTID  PONID  ONUNO  NAME  MAC  LOID  PWD  Length
10.190.42.3  1-1-4-1 1  --  --  --  --  0.000
10.190.42.3  1-1-14-1 3 PON[ 1] -AN5506-07-A1[ 3] FHTT0002010f -- -- 0.000
-----
```

7.2 Querying Service Resources

The following introduces the command and example for querying service resources.

7.2.1 Querying the Media Gateway Information (LST-MG)

Function Description

This command is used for querying the media gateway information of a specified set of equipment.

Command Format

```
LST-MG::ONUIP=onu-name | (OLTID=olt-name, PONID=ponport_location,  
ONUIDTYPE=idtype, ONUID=onu-index) :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU-ID-TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU-ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.

Response Format

It complies with the response format in [Resource Change Notification](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONU-IP	OCTET STRING	Size (128)	The input parameter will be returned.
OLT-ID	OCTET STRING	Size (128)	The input parameter will be returned.
PON-ID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONU-ID	OCTET STRING	Size (128)	The input parameter will be returned.
MG-ID	INTEGER	0 - 16	MG identifier, used for uniquely identifying the MG module on the ONU.
PT	OCTET STRING	Size (32)	Voice protocol type (H.248, SIP)
EID	OCTET STRING	Size (64)	MG gateway domain name in the H248 configuration.
SIP-REGDM	OCTET STRING	Size (64)	SIP register server
VLAN	INTEGER	0 - 4095	Voice VLAN
PRI	INTEGER	0 - 7	Voice priority level.

Parameter Name	Data Type	Value Range	Description
IPMODE	OCTET STRING	Size (64)	IP obtaining mode: DHCP, PPPOE, STATIC.
IPADDRESS	OCTET STRING	Size (64)	IP address
IPMASK	OCTET STRING	Size (64)	IP address mask
IPGATEWAY	OCTET STRING	Size (64)	Gateway address
MGCIP1	OCTET STRING	Size (64)	IP address of the active softswitch
MGCIP2	OCTET STRING	Size (64)	IP address of the standby softswitch

Example

Example 1, query the MG interface information of the ONU (having no management IP address) with ONUID being whdx04. The ONU is connected to the shelf 0 - slot 4- port 1 of the OLT whose IP address is 10.78.200.200.

◆ Command

```
LST-MG::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,
ONUID=whdx04:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:06:36
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
-----
ONU|IP|OLTID|PONID|ONU|MGID|PT|EID|SIPREGDM|
VLAN|PRI|IPMODE|IPADDRESS|IPMASK|IPGATEWAY|MGCIP1|
MGCIP2|
-- 10.250.18.102|NA-1-4-1|whdx04|0|H.248|a1|
1515|255|--|222.222.222.4|255.255.255.0|0.0.0.0|
222.222.222.222|
-----
```

Example 2, query the MG interface information of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-MG::ONUIP=10.250.18.121:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:54:21
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
-----
ONUIP OLTID  PONID  ONUID  MGID  PT  EID  SIPREGDM
VLAN  PRI    IPMODE IPADDRESS  IPMASK  IPGATEWAY MGCIP1
MGCIP2
10.250.18.121 -- -- -- 0 H.248 222.222.222.3
-- 1515 7  STATIC 222.222.222.3 255.255.255.0 0.0.0.0
222.222.222.222
-----
```

Related Command

```
LST-MGCFG
```

```
LST-MGINFO
```

7.2.2 Querying the Voice Port Information (LST-POTS)

Function Description

This command is used for querying the voice port information of a specified set of equipment.

Command Format

```
LST-POTS::ONUIP=onu-name| (OLTID=olt-name, PONID=ponport_location,
ONUIDTYPE=onuidtype, ONUID=onu-index)[ ,ONUPORT=onu-port] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONUID	OCTET STRING	Size (128)	The input parameter will be returned.
ONU-PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. NA is displayed if no information is located.
MGID	INTEGER	0 - 16	MG identifier, used for uniquely identifying the MG module on the ONU.
TID	OCTET STRING	Size (1 - 64)	H248 user terminal identifier
PN	OCTET STRING	Size (1 - 32)	SIP telephone number.
SIPU-SER-NAME	OCTET STRING	Size (1 - 32)	Username corresponding to the SIP user port.
SIPU-SERP-WD	OCTET STRING	Size (1 - 32)	Password corresponding to the SIP user port.
FAX-MODE	String	T30 T38	Fax mode.
CONTROL-MODE	String	NONE SS AUTOVBD	Control mode.

Example

Example 1, query the POTS 1 port information of the ONU (having no management IP address) with ONUID being whdx04. The ONU is connected to the shelf 0 - slot 4- port 1 of the OLT whose IP address is 10.250.18.102.

◆ **Command**

```
LST-POTS::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,  
ONUID=whdx04,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ **Response Message**

```
FH_10.250.18.133 2010-11-04 11:06:46  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
  
-----  
ONUIP OLTID PONID ONUID  ONUPORT MGID  TID   PN  
SIPUSERNAME SIPUSERPWD FAXMODE CONTROLMODE  
-- 10.250.18.102 NA-1-4-1 whdx04 NA-NA-NA-1  
0   a1   a1       T30     AUTOVBD  
  
-----
```

Example 2, query the POTS 1 port information on the shelf 0 - slot 2 - port 1 of the ONU whose IP address is 10.250.18.121.

◆ **Command**

```
LST-POTS::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::;
```

◆ **Response Message**

```
FH_10.250.18.133 2010-11-04 10:54:32  
M CTAG COMPLD  
    total_blocks=1  
    block_number=1  
    block_records=1  
  
-----  
ONUIP OLTID PONID ONUID  ONUPORT MGID  TID   PN  
SIPUSERNAME SIPUSERPWD FAXMODE CONTROLMODE  
10.250.18.121 --  --  --    NA-NA-2-1  0  
--      --  
  
-----
```

Related Command

```
LST-POTSINF  
LST-POTSINFO
```

7.2.3 Querying the Multicast Service Information (LST-IPTV)

Function Description

This command is used for querying the multicast service information of a specified set of equipment. If the query result is null, a null list will be returned.

Command Format

```
LST-IPTV::ONUIP=onu-name| (OLTID=olt-name,PONID=ponport_location,  
ONUIDTYPE=onuidtype,ONUID=onu-index)[ ,ONUPORT=onu-port] :CTAG::;
```

- ◆ Query the multicast service information of the ONU that has a management IP address:

```
LST-IPTV::ONUIP=onu-name[ ,ONUPORT=onu-port] :CTAG::;
```

- ◆ Query the multicast service information of the ONU that has no management IP address:

```
LST-IPTV:: (OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuidtype,  
ONUID=onu-index)[ ,ONUPORT=onu-port] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	The ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONU- TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU- ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONU- PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONU- IP	OCTET STRING	Size (128)	The input parameter will be returned.
ONU- ID	OCTET STRING	Size (128)	The input parameter will be returned.
PON- ID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONU- ID	OCTET STRING	Size (128)	The input parameter will be returned.
ONU- PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. NA is displayed if no information is located.
MVLAN	INTEGER	0 - 4095	Multicast VLAN.
VPI	INTEGER	0 - 65535	VPI. Optional (DSL multicast service).
VCI	INTEGER	0 - 65535	VCI. Optional (DSL multicast service).

Parameter Name	Data Type	Value Range	Description
UV	INTEGER	0 - 4095	VLAN at user side. Optional (multicast service VLAN accessed through a home gateway).
FLMODE	OCTET STRING	Size (32)	Fast leave mode: Enabled Disabled
MAXGRP	INTEGER	0 - 255	Maximum number of multicast programs that a port can join simultaneously.

Example

Example 1, query the multicast service information of the ONU (having no management IP address) with ONUID being whdx04. The ONU is connected to the shelf 0 - slot 4- PON 1 port of the OLT whose IP address is 10.250.18.102.

◆ Command

```
LST-IPTV::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,
ONUID=whdx04,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:06:56
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
-----
ONUIP OLTID PONID ONUID ONUPORT MVLAN  VPI  VCI  UV
FLMODE  MAXGRP
-- 10.250.18.102 NA-1-4-1 whdx04 NA-NA-NA-1 432
-- -- 123 -- --
-----
```

Example 2, query the multicast service information of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-IPTV::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:54:41
M CTAG COMPLD
  total_blocks=1
```

```
block_number=1
block_records=1
-----
ONU|IP|OLT|ID|PON|ID|ONU|ID|ONU|PORT|MVLAN|VPI|VCI|UV
FLMODE|MAXGRP
10.250.18.121|--|--|--NA-NA-4-1|569|--|--
--|--|--
-----
```

Related Command

LST-IPTVCFG

7.2.4 Querying the LAN Port Information (LST-LANPORT)

Function Description

This command is used for querying the LAN port information of a specified OLT or ONU.

Command Format

```
LST-LANPORT::ONU|IP=onu-name| (OLT|ID=olt-name[ ,PON|ID=ponport_location,
ONU|ID|TYPE=onuid-type,ONU|ID=onu-index] ) [ ,PORT|ID=port_index] :CTAG::;
```

◆ Query the uplink port information of the OLT:

```
LST-LANPORT::OLT|ID=olt-name[ ,PORT|ID=port_index] :CTAG::;
```

◆ Query the LAN port information of the ONU that has a management IP address:

```
LST-LANPORT::ONU|IP=onu-name[ ,PORT|ID=port_index] :CTAG::;
```

◆ Query the LAN port information of the ONU that has no management IP address:

```
LST-LANPORT::OLT|ID=olt-name,PON|ID=ponport_location,ONU|ID|TYPE=onuidtype,
ONU|ID=onu-index[ ,PORT|ID=port_index] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONUID	OCTET STRING	Size (128)	The input parameter will be returned.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. NA is displayed if no information is located.
ADMINSTATUS	OCTET STRING	1. UP 2. DOWN	Management status.
DUPLEX	OCTET STRING	3. Full 4. Half 5. Auto 6. Auto-Full 7. Auto-Half	Working mode
SPEED	INTEGER	Auto 10M 100M 1000M Auto-10M Auto-100M Auto-1000M	Port rate.
RateLimitUs	INTEGER	0 - 1000000	Uplink rate control. Unit: kbps.
RateLimitDs	INTEGER	0 - 1000000	Downlink rate control. Unit: kbps.

Example

Example 1, query the Ethernet port information of the ONU (having no management IP address) with ONUID being whdx04. The ONU is connected to the shelf 0 - slot 4- PON 1 port of the OLT whose IP address is 10.250.18.102.

◆ Command

```
LST-LANPORT::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,
ONUID=whdx04,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:07:05
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
-----
ONUIP  OLTID  PONID  ONUID  PORTID ADMINSTATUS  DUPLEX  SPEED
RateLimitUs  RateLimitDs
--  10.250.18.102  NA-1-4-1  whdx04  NA-NA-NA-1  DOWN
Full 100M  --  --
-----
```

Example 2, query the Ethernet port information of the ONU (having a management IP address) whose IP address is 10.250.18.121.

◆ Command

```
LST-LANPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:55:00
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
-----
ONUIP  OLTID  PONID  ONUID  PORTID ADMINSTATUS  DUPLEX  SPEED
RateLimitUs  RateLimitDs
10.250.18.121  --  --  --  NA-NA-4-1  --  --  --
--  --
-----
```

Related Command

None

7.2.5 Querying the DSL Port Information (LST-DSLPORT)

Function Description

This command is used for querying the DSL port information of a specified set of equipment.

Command Format

```
LST-DSLPORT::ONUIP=onu-name| (OLTID=oltname, PONID=ponport_location,  
ONUIDTYPE=onuid-type, ONUID=onu-index)[ ,ONUPORT=onuport] :CTAG::;
```

At present, the FiberHome equipment only supports the command of the following format:

```
LST-DSLPORT::ONUIP=onu-name[ ,ONUPORT=onu-port] :CTAG::;
```

Supported Equipment

AN5006-15, AN5006-16, AN5006-20.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.	The ONU that has a management IP address. Required.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	OLT or the ONU that has no management IP address. Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	The ONU that has no management IP address. Required.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	The ONU that has no management IP address. Required.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	The ONU that has no management IP address. Required.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONUID	OCTET STRING	Size (128)	The input parameter will be returned.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. NA is displayed if no information is located.
ADMINSTATUS	STRING	UP DOWN	Management status.

Example

For example, query the information of the No. 2 DSL port located in the No. 3 slot of the ONU whose IP address is 10.250.18.121.

◆ Command

```
LST-DSLPORT::ONUIP=10.250.18.121,ONUPORT=NA-NA-3-2:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:54:50
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1

-----
ONUIP   OLTID   PONID   ONUID   ONUPORT  ADMINSTATUS
10.250.18.121  --      --      --      NA-NA-3-2  --
-----
```

Related Command

None

7.2.6 Querying the Port VLAN Information (LST-PORTVLAN)

Function Description

This command is used for querying the port VLAN information of a specified ONU.

Command Format

```
LST-PORTVLAN::ONUIP=onu-name| (OLTID=oltname, PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUID=onu-index)[ ,ONUPORT=onuport] :CTAG::;
```

- ◆ Query the port VLAN information of the ONU that has a management IP address:

```
LST-PORTVLAN::ONUIP=onu-name[ ,ONUPORT=onu-port] :CTAG::;
```

- ◆ Query the port VLAN information of the ONU that has no management IP address:

```
LST-PORTVLAN:: (OLTID=olt-name, PONID=ponport_location,
ONUIDTYPE=onuidtype,ONUID=onu-index)[ ,ONUPORT=onu-port] :CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA-NA. To specify the card, enter it in format of NA-0-6-NA. To specify the port number, enter it in format of NA-0-6-5.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.
ONUID	OCTET STRING	Size (128)	The input parameter will be returned.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates card port through the approach of cabinet rack - shelf - slot - port number. NA is displayed if no information is located.
SVLAN	INTEGER	0 - 4095	SVLAN
CVLAN	INTEGER	0 - 4095	CVLAN
VPI	INTEGER	0 - 65535	VPI
VCI	INTEGER	0 - 65535	VCI
UV	INTEGER	0 - 4095	VLAN at user side

Example

Example 1, query the VLAN information of the No. 1 port on the ONU (having no management IP address) with ONUID being whdx04. The ONU is connected to the shelf 0 - slot 4- PON 1 port of the OLT whose IP address is 10.250.18.102.

◆ Command

```
LST-PORTVLAN::OLTID=10.250.18.102,PONID=NA-NA-4-1,ONUIDTYPE=LOID,
ONUID=whdx04,ONUPORT=NA-NA-NA-1:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:07:15
```

```
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=2
```

```
-----
ONUIP OLTID  PONID  ONUID  ONUPORT  SVLAN  CVLAN  VPI  VCI
```

```

UV
-- 10.250.18.102 NA-1-4-1 whdx04 NA-NA-NA-1 --
123 -- -- 123
-- 10.250.18.102 NA-1-4-1 whdx04 NA-NA-NA-1 --
-- -- -- --
-----

```

Example 2, query the service port information of the LAN 1 port on the ONU (having a management IP address) whose IP address is 10.250.18.121. The ONU is connected to the shelf 0 - slot 4 - port 1 of the OLT.

◆ Command

```
LST-PORTVLAN::ONUIP=10.250.18.121,ONUPORT=NA-NA-4-1:CTAG::;
```

◆ Response Message

```

FH_10.250.18.133 2010-11-04 10:55:10
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=1
-----
ONUIP OLTID PONID ONUID ONUPORT SVLAN  CVLAN  VPI  VCI
UV
10.250.18.121  --  --  --  NA-NA-4-1  569  --  --
--  --
-----

```

Related Command

None

7.2.7 Querying the VLAN Information (LST-VLAN)

Function Description

This command is used for querying the VLAN information.

Command Format

```
LST-VLAN::ONUIP=onu-name|OLTID=olt-name:CTAG::[ VLAN=vlanid] ;
```

Supported Equipment

OLT: AN5516 series, AN5116 series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
VLAN	INTEGER	0 - 4094	VLANID

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
VLAN	INTEGER	0 - 4094	VLANID
DESC	OCTET STRING	Size (128)	VLAN alias
VLAN-MODE	OCTET STRING	COMMON STACKING QINQ	VLAN attribute.
PORTLIST	OCTET STRING	Cabinet rack - shelf - slot - port number	Port list.
MVLAN-FLAG	INTEGER	0: Non-multicast VLAN 1: Multicast VLAN	Indicates whether it is a multicast VLAN or non-multicast VLAN.

Parameter Name	Data Type	Value Range	Description
MVLANPRI	INTEGER	0 - 7	Priority level of the IGMP message.
SERVICE	OCTET STRING	HSI (Internet access) IPTV (unicast) VOIP (voice)	Service type of the VLAN

Example

For example, query the VLAN information of the OLT whose IP address is 10.78.200.200 (the ONU has no management IP address).

◆ Command

```
LST-VLAN::OLTID=10.78.200.200:CTAG::;
```

◆ Response Message

```
FH_10.98.12.1 2014-06-13 14:33:36
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=38
```

```
-----
ONU|IP|OLT|IP|VLAN|DESC|VLANMODE|PORTLIST|MULANFLAG|MVLANPRI|SERVICE
--|---|---|---|---|---|---|---|---|---|---
-- 10.78.200.200 2 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 3 -- -- -- 0 0 HSI
-- 10.78.200.200 50 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 122 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 224 -- -- 1-1-19-1 0 0 IPTV
-- 10.78.200.200 225 -- -- -- 0 0 IPTV
-- 10.78.200.200 226 -- -- -- 0 0 IPTV
-- 10.78.200.200 333 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 1111 -- -- 1-1-19-1 0 0 VOIP
-- 10.78.200.200 2006 -- -- 1-1-19-1 0 0 VOIP
-- 10.78.200.200 2008 -- -- 1-1-19-1 0 0 VOIP
-- 10.78.200.200 2222 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 2223 -- -- -- 0 0 HSI
-- 10.78.200.200 3333 -- -- 1-1-19-1 0 0 VOIP
-- 10.78.200.200 3334 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 3997 -- -- 1-1-19-1 0 0 VOIP
-- 10.78.200.200 3998 -- -- 1-1-19-1 0 0 --
```

```
-- 10.78.200.200 3999 -- -- -- 0 0 --
-- 10.78.200.200 4001 -- -- 1-1-19-1 0 0 HSI
-- 10.78.200.200 4002 -- -- -- 0 0 HSI
-- 10.78.200.200 4003 -- -- -- 0 0 HSI
-- 10.78.200.200 4004 -- -- -- 0 0 HSI
-- 10.78.200.200 4005 -- -- -- 0 0 HSI
-- 10.78.200.200 4006 -- -- -- 0 0 HSI
-- 10.78.200.200 4007 -- -- -- 0 0 HSI
-- 10.78.200.200 4008 -- -- -- 0 0 HSI
-- 10.78.200.200 4009 -- -- -- 0 0 HSI
-- 10.78.200.200 4010 -- -- -- 0 0 HSI
-- 10.78.200.200 4011 -- -- 1-1-19-1 0 0 IPTV
-- 10.78.200.200 4012 -- -- -- 0 0 IPTV
-- 10.78.200.200 4013 -- -- -- 0 0 IPTV
-- 10.78.200.200 4014 -- -- -- 0 0 IPTV
-- 10.78.200.200 4015 -- -- -- 0 0 IPTV
-- 10.78.200.200 4016 -- -- -- 0 0 IPTV
-- 10.78.200.200 4017 -- -- -- 0 0 IPTV
-- 10.78.200.200 4018 -- -- -- 0 0 IPTV
-- 10.78.200.200 4019 -- -- -- 0 0 IPTV
-- 10.78.200.200 4020 -- -- -- 0 0 IPTV
-----

;
-----
```

Related Command

None

7.2.8 Querying the ONU Port Service Information (LST-ONUSERVICESTATUS)

Function Description

This command is used for querying the broadband and voice services configured on a specified ONU.

Command Format

```
LST-ONUSERVICESTATUS::ONUIP=onu-name|OLTID=oltname,
PONID=ponport_location,ONUIDTYPE=onuid-type,ONUID=onu-index:CTAG::;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.
ONUID-TYPE	OCTET STRING	Size (128)	ONU_NAME, MAC, LOID, ONU_NUMBER
ONUID	OCTET STRING	Size (128)	ONU identifier. The value is ONU_NAME, MAC, LOID or ONU_NUMBER. It is used for uniquely identifying the ONU connected to the PON port.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	The input parameter will be returned.

Parameter Name	Data Type	Value Range	Description
ONUID	OCTET STRING	Size (128)	The input parameter will be returned.
DATASERVICE	INTEGER	0 - 24	Number of broadband services
VOICESERVICE	INTEGER	0 - 24	Number of voice services

Example

For example, query the port service information of the ONU (having no management IP address) with ONUID being FHTT01e821a0. The ONU is connected to the shelf 0 - slot 7 - PON 4 port of the OLT whose IP address is 10.78.200.200.

◆ Command

```
LST-ONUSERVICESTATUS::OLTID=10.78.200.200,PONID=NA-NA-7-4,
ONUIDTYPE=MAC,ONUID=FHTT01e821a0:CTAG::;
```

◆ Response Message

```
FH_10.78.12.155 2014-07-15 18:54:10
M CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
```

list of ONU service status:

```
-----

ONUIP OLTIP PONID ONUID DATASERVICE VOICESERVICE

-- 10.78.200.200 1-1-7-4 FHTT01e821a0 0 0

-----

;
```

Related Command

None

7.2.9 Querying the VLAN Service Port (LST-SERVICEPORT)

Function Description

This command is used for querying the VLAN service port.

Command Format

```
LST-SERVICEPORT::OLTID=olt-name:CTAG:[ VLAN=cvlan,][ SVLAN=svlan,]  
[ PORTTYPE=porttype] ;
```

Supported Equipment

◆ OLT: AN5116-06B.

Input Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	Required.
CVLAN	INTEGER	0 to 4095	Inner VLAN.	Optional
SVLAN	INTEGER	0 to 4095	Outer VLAN.	Optional
PORT-TYPE	OCTET STRING	Size (128)	Port Type FXS: voice user port LAN: data user port ALL: all user ports	Optional. The default value is FXS.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	Size (128)	OLT IP address or name.	Required.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through cabinet rack - shelf - slot - PON port number. Enter NA if the corresponding information is not specified.	Required.
ONUID	INTEGER	0 to 512	ONU authorization code	Required.
ONU-PORT	INTEGER	0 to 512	ONU port number	Required. The port number should be the sequence number on the ONU numbered according to the pot type.
CVLAN	INTEGER	0 to 4095	Inner VLAN.	Required.
SVLAN	INTEGER	0 to 4095	Outer VLAN.	Required. "-" is allowed for single VLAN configuration scenario.
PORT-TYPE	OCTET STRING	Size (128)	Port Type FXS: voice port LAN: data port	Required.

Example

For example,

Command

```
LST-SERVICEPORT::OLTID=172.29.215.4:CTAG::VLAN=3333;
```

Response Message

```
FH_172.29.215.4 2015-03-06 15:42:18
M CTAG COMPLD
```

```

total_blocks=1
block_number=1
block_records=3

OLTID PONID ONUIDTYPE ONUNO PORTID VLANID PORTTYPE
172.29.215.4 1-1-1-7 MAC 1 1-1-1-1 3333 FXS
172.29.215.4 1-1-1-7 MAC 2 1-1-1-1 3333 FXS
172.29.215.4 1-1-1-7 MAC 3 1-1-1-2 3333 FXS

```

Related Command

None

7.2.10 Querying the Flow Policy (LST-PORTPVCFLOWPOLICY)

Function Description

This command is used for querying the PORTPVCFLOWPOLICY information.

Command Format

```

LST-PORTPVCFLOWPOLICY::ONUIP=| (OLTID=oltname, PONID=ponport_location,
ONUIDTYPE=onuid-type,ONUOID=onu-index)[ ,ONUPORT=onuport] :CTAG::;

```

Supported Equipment

ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.

Parameter Name	Data Type	Value Range	Description
ONU- TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONU- ID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
ONU- PORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
PORT- ID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA-NA. To specify the card, enter it in format of NA-0-6-NA. To specify the port number, enter it in format of NA-0-6-5.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONU- IP	OCTET STRING	Size (128)	The input parameter will be returned.
OLT- ID	OCTET STRING	Size (128)	The input parameter will be returned.
VLAN	INTEGER	0 - 4094	VLANID
DESC	OCTET STRING	Size (128)	VLAN alias
VLAN- MODE	OCTET STRING	COMMON STACKING QINQ	VLAN attribute.
PORT- LIST	OCTET STRING	Cabinet rack - shelf - slot - port number	Port list.

Parameter Name	Data Type	Value Range	Description
MVLAN-FLAG	INTEGER	0: Non-multicast VLAN 1: Multicast VLAN	Indicates whether it is a multicast VLAN or non-multicast VLAN.
MVLANPRI	INTEGER	0 - 7	Priority level of the IGMP message.
SERVICE	OCTET STRING	HSI (Internet access) IPTV (unicast) VOIP (voice)	Service type of the VLAN

Example

For example,

◆ Command

```
LST-PORTPVCFLOWPOLICY::ONUIP=172.28.148.58,ONUPORT=1-1-2-63:CTAG::;
```

◆ Response Message

```
FH_10.62.165.42 2015-03-19 01:55:32
M CTAG COMPLD
total_blocks=1
block_number=1
block_records=8
```

```
list of port pvc flow policy
```

```
-----
PVCNO UPFLOWPOLICYID DOWNFLOWPOLICYID CIRUP CIRDOWN
0 ubrPcr_1024K ubrPcr_1024K 1024 1024
1 ubrPcr_1024K ubrPcr_1024K 1024 1024
2 -- -- -- --
3 -- -- -- --
4 -- -- -- --
5 -- -- -- --
6 -- -- -- --
7 -- -- -- --
-----
```

Related Command

None

7.2.11 Querying the Template Information (RTRV-TEMPLATE-ALL)

Function Description

This command is used for querying the PORTPVCFLOWPOLICY information.

Command Format

```
RTRV-TEMPLATE-ALL::ONUIP=onu-name|OLTID=olt-name:CTAG::;
```

Supported Equipment

ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.

Example

For example,

◆ Command

```
RTRV-TEMPLATE-ALL::ONUIP=172.28.148.58:CTAG::;
```

◆ Response Message

```
FH_10.62.165.42 2015-03-19 01:58:44
M CTAG COMPLD
total_blocks=1
block_number=1
block_records=48
```

```
-----
TEMPLATENAME DOWNMAXBW UPMAXBW CHANNELMODE
NULL 0 0 0
P_03584_1024 3584 1024 0
P_05120_1280 5120 1280 0
P_05632_1024 5632 1024 0
P_07168_1280 7168 1280 0
P_07680_1536 7680 1536 0
P_100M_50M 102400 51200 0
P_1024_256 1024 256 0
P_1024_512 1024 512 0
P_10M_2M 10240 2048 0
.....
```

Related Command

None

7.2.12 Querying the Port Template Information (RTRV-TEMPLATE-PORT)

Function Description

This command is used for querying the port template information of a specified device.

Command Format

```
RTRV-TEMPLATE-PORT::ONUIP=onu-name| (OLTID=oltname,
PONID=pontport_location,ONUIDTYPE=onuid-type,ONUID=onu-index)[ ,
ONUPORT=onuport] :CTAG::;
```

Supported Equipment

ONU: AN5006-20, AN5006-30.

Input Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address or name of the ONU that has a management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address or name.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locate through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID-TYPE	OCTET STRING	Size (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.
ONUPORT	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
PORTID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA-NA. To specify the card, enter it in format of NA-0-6-NA. To specify the port number, enter it in format of NA-0-6-5.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	The input parameter will be returned.
OLTID	OCTET STRING	Size (128)	The input parameter will be returned.
VLAN	INTEGER	0 - 4094	VLANID
DESC	OCTET STRING	Size (128)	VLAN alias
VLANMODE	OCTET STRING	COMMON STACKING QINQ	VLAN attribute.
PORTLIST	OCTET STRING	Cabinet rack - shelf - slot - port number	Port list.
MVLANFLAG	INTEGER	0: Non-multicast VLAN 1: Multicast VLAN	Indicates whether it is a multicast VLAN or non-multicast VLAN.
MVLANPRI	INTEGER	0 - 7	Priority level of the IGMP message.
SERVICE	OCTET STRING	HSI (Internet access) IPTV (unicast) VOIP (voice)	Service type of the VLAN

Example

Command

```
RTRV-TEMPLATE-PORT::ONUIP=172.28.148.55,ONUPORT=1-1-2-4:CTAG::;
```

Response Message

```
FH_10.62.165.42 2015-03-19 02:00:52
M CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
```

```
-----
TEMPLATENAME DOWNMAXBW UPMAXBW CHANNELMODE
```

P_03584_1024 3584 1024 0

Related Command

ADD-FLOWPOLICY
LST-POTSINFO

7.3 Resource Change Notification

The following introduces the command and example for resource change notification.

7.3.1 Registering the Resource Change Notification (SUBSCRIBE)

Function Description

This command is used for registering the resource change notification after the TCP connection is successfully established. After the register successes, the FiberHome EMS will report the change notification of the physical resources (equipment, subracks, cards, etc.) to the OSS automatically.

Command Format

SUBSCRIBE:::CTAG::FLAG=flag;

Supported Equipment

All sets of equipment.

Input Parameter

Parameter Name	Data Type	Value Range	Description
FLAG	OCTET STRING	RES	RES indicates registering the reporting of resource change notification.

Response Format

It complies with the response format in [Resource Change Notification Format](#).

Output Parameter

None

Example

For example, register the resource change notification for the current user.

◆ Command

```
SUBSCRIBE:::CTAG::FLAG=RES;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:45:19
M CTAG COMPLD
  EN=0   ENDESC=No error
```

Related Command

```
UNSUBSCRIBE
```

7.3.2 Deregistering the Resource Change Notification (UNSUBSCRIBE)

Function Description

After deregistering the resource change notification successfully, the FiberHome EMS will not report the change notification of the physical resources (equipment, subracks, cards, etc.) to the OSS automatically.

Command Format

```
UNSUBSCRIBE:::CTAG::FLAG=flag;
```

Supported Equipment

All sets of equipment.

Input Parameter

Parameter Name	Data Type	Value Range	Description
FLAG	OCTET STRING	RES	RES indicates registering the reporting of resource change notification.

Response Format

It complies with the response format in [Resource Change Notification Format](#).

Output Parameter

None

Example

For example, deregister the resource change notification.

◆ Command

```
UNSUBSCRIBE:::CTAG::FLAG=RES;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:44:11
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
SUBSCRIBE
```

7.3.3 Querying the Resource Change Notification (LST-RESNOTIFY)

Function Description

This command is used for querying the resource change notification reported.

Command Format

```
LST-RESNOTIFY:::CTAG::BEGINTIME=initial-time[ ,ENDTIME=last-time] ;
```


Supported Equipment

All sets of equipment.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
BEGINTIME	String	Size (32)	Start time. Format (Beijing time): YYYY-MM-DD HH-MM-SS.	Required.
ENDTIME	String	Size (32)	End time. Format (Beijing time): YYYY-MM-DD HH-MM-SS.	Optional.

Response Format

It complies with the response format in [Resource Change Notification Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
HAPPEN-TIME	OCTET STRING	Size (128)	Resource change time. Format: YYYY-MM-DD HH:MM:SS.
MARK	OCTET STRING	ADD DEL MOD	Resource change reason.
OBJECT	OCTET STRING	OLT ONU SHELF BOARD	Resource object type.
INFO	OCTET STRING	Size (512)	Resource change information. See the Resource Change Notification for the format of returned information.

Example

For example, query the resource change notification information in a specified period of time.

◆ Command

```
LST-RESNOTIFY:::2::BEGINTIME=2010-12-30 07-34-00,ENDTIME=2010-12-30 10-00-00;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 11:44:22
M CTAG COMPLD
    total_blocks=1
    block_number=1
    block_records=12
list resource notify
-----
HAPPENTIME MARK OBJECT INFO
2010-11-01 11:15:18 ADD BOARD ONUIP=10.250.18.121
OLTID=0.0.0.0 PONID=-- ONUID=0 BOARDID=2-1-4
BOARDTYPE=ETH BSERVICE=ETH PNUM=16 SWVER=-- HWVER=--
2010-11-01 11:15:34 ADD BOARD ONUIP=10.250.18.121
OLTID=0.0.0.0 PONID=-- ONUID=0 BOARDID=2-1-801
BOARDTYPE=HCU-20 BSERVICE=-- PNUM=0 SWVER=-- HWVER=--
2010-11-01 11:22:36 ADD ONU OLTID=10.250.18.102
PONID=3-1-4-1 ONUNO=1 NAME=AN5006-10B DESC=-- ONUTYPE=AN5006-10B
IP=0.0.0.0 AUTH=LOID MAC=544b10406b60 LOID=whdx10b
PWD=-- SWVER=--
2010-11-01 11:22:36 ADD ONU OLTID=10.250.18.102
PONID=3-1-4-1 ONUNO=2 NAME=AN5006-04 DESC=-- ONUTYPE=AN5006-04
IP=0.0.0.0 AUTH=LOID MAC=544b400c79a8 LOID=whdx04
PWD=-- SWVER=--
-----
```

Related Command

```
SUBSCRIBE
```

7.3.4 Resource Change Notification Interface

Function Description

The resource change notification interface reports the notification messages upon adding / modifying / deleting a set of equipment, adding / modifying / deleting a shelf as well as adding / modifying / deleting a card.

Command Format

None

Supported Equipment

All sets of equipment.

Input Parameter

None

Response Format

It complies with the response format in [Resource Change Notification Format](#).

Output Parameter

- ◆ OTL adding / modifying / deleting notification: The resource change notification will be reported only when the name of the OLT is changed.

Parameter Name	Data Type	Value Range	Description
DEVNAME	OCTET STRING	Size (128)	Equipment name
DEVIP	OCTET STRING	Size (128)	Equipment IP address
DT	OCTET STRING	Size (255)	Equipment model
DEVER	OCTET STRING	Size (255)	Software version

- ◆ ONU adding / modifying / deleting notification: The resource change notification will be reported only when the ONU name, description, authentication mode or authentication information is changed.

Parameter Name	Data Type	Value Range	Description
OLTID	OCTET STRING	Size (128)	OLT IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUNO	INTEGER	0 - 512	ONU authorization code
NAME	OCTET STRING	Size (128)	ONU name
DESC	OCTET STRING	Size (128)	ONU description information.
ONUTYPE	SWVER	OCTET STRING	ONU type
IP	OCTET STRING	Size (128)	The management IP address of the ONU.
AUTH	OCTET STRING	MAC LOID HYBRID	Authentication mode. When no authentication mode is specified, a dash (–) will be returned.
MAC	OCTET STRING	Size (128)	The registered MAC information of the ONU.
LOID	OCTET STRING	Size (64)	When the MAC authentication is adopted, a dash (–) will be returned.
PWD	OCTET STRING	Size (128)	LOID password. If no password is specified, a dash (–) will be returned.
SWVER	OCTET STRING	Size (128)	Software version

- ◆ Shelf adding / deleting notification: The resource change notification will be reported only when a shelf is added or deleted.

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address of the ONU. When the ONU has no management IP address, the OLTID, PONID and ONUID will be reported.
OLTID	OCTET STRING	Size (128)	OLT IP address.

Parameter Name	Data Type	Value Range	Description
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID	OCTET STRING	Size (128)	ONU authorization code
SHELFID	OCTET STRING	Size (128) Cabinet rack - shelf	Locates the shelf through the approach of cabinet rack - shelf number. Enter NA if the corresponding information is not specified.
SHELFTYPE	OCTET STRING	Size (128)	Shelf type.

- ◆ Card adding / deleting notification: The resource change notification will be reported only when a card is added or deleted.

Parameter Name	Data Type	Value Range	Description
ONUIP	OCTET STRING	Size (128)	IP address of the ONU. When the ONU has no management IP address, the OLTID, PONID and ONUID will be reported.
OLTID	OCTET STRING	Size (128)	OLT IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - port number	Locates the card through the approach of cabinet rack - shelf - slot - port number. Enter NA if the corresponding information is not specified.
ONUID	OCTET STRING	Size (128)	ONU authorization code
BOARDID	OCTET STRING	Size (128) Cabinet rack - shelf - slot	Locates the card through the approach of cabinet rack - shelf - slot. Enter NA if the corresponding information is not specified. To only specify the shelf number, enter it in format of NA-0-NA.
BOARD-TYPE	OCTET STRING	Size (128)	Card Type

Parameter Name	Data Type	Value Range	Description
BSERVICE	OCTET STRING	Power ETH ADSL VDSL POTS E1 GPON EPON Control (main control unit) Other	Card service type.
PNUM	INTEGER	0 - 64	Number of ports
SWVER	OCTET STRING	Size (255)	Software version
HWVER	OCTET STRING	Size (255)	Hardware Version

Example

Example 1, when the equipment with the IP address being 10.78.11.102 is added, the corresponding resource change notification will be received.

◆ Command

None

◆ Response Message

```
FH_10.98.11.77 2011-02-21 10:32:07
A 2 REPT RES ADD_OLT
DEVNAME= system 9   DEVIP=10.78.11.102   DT=AN5116-06B   DEVER=---
```

Example 2, when the ONU with ONUID being 123 is added, the corresponding resource change notification will be received.

◆ Command

None

◆ Response Message

```
FH_10.98.11.77 2011-02-21 10:35:42
A 9 REPT RES ADD_ONU
```

```
OLTID=10.78.11.118  PONID=4-1-14-1  ONUNO=6  NAME=PON[ 1] -AN5506-04B[ 6]
DESC=--  ONUTYPE=AN5506-04-B  IP=0.0.0.0  AUTH=HYBRID  MAC=--  LOID=123
PWD=--  SWVER=--
```

Example 3, when a shelf is added for the OLT with the IP address being 10.78.11.102, the corresponding resource change notification will be received.

◆ Command

None

◆ Response Message

```
FH_10.98.11.77 2011-02-21 10:32:07
A 3 REPT RES ADD_SHELF
ONUIP=0.0.0.0  OLTID=10.78.11.102  PONID=--  ONUID=0  SHELFID=9-1
SHELFTYPE=AN5116-06B_NODE
```

Example 4, when a card is added in the No. 9 slot of the OLT whose IP address is 10.78.11.102, the corresponding resource change notification will be received.

◆ Command

None

◆ Response Message

```
FH_10.98.11.77 2011-02-21 10:27:17
A 1 REPT RES ADD_BOARD
ONUIP=0.0.0.0  OLTID=10.78.11.102  PONID=--  ONUID=--  BOARDID=
7-1-9  BOARDTYPE=HWSA  BSERVICE=SCU  PNUM=0  SWVER=--  HWVER=--
```

Related Command

```
SUBSCRIBE
```

7.4 Resource Data Full Export

The following introduces the command and example for full export of resource data.

7.4.1 Resource Full Export Interface (DUMP-RESOURCEINFO)

Function Description

This command is used for exporting the equipment information and service configuration information in the entire network to an XML file. The file is named in format of DUMP_RES_YYYY-MM-DD-HH-MM-SS.xml.

Command Format

```
DUMP-RESOURCEINFO:::CTAG::[ RESTYPE=resource-type] ;
```

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
RESTYPE	OCTET STRING	PHY SRV ALL	Resource type. PHY: equipment information SRV: service configurations ALL: all equipment information and service configurations	Optional. Default value: ALL.

Response Format

It complies with the response format in [Resource Change Notification](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
FILENAME	OCTET STRING	Size (128)	File name.
RESULT	OCTET STRING	Success Failure	Export result.

Example

For example, When the physical resources in the entire network are exported, the corresponding notification will be received, indicating the resource file is exported successfully.

◆ Command

```
DUMP-RESOURCEINFO:::CTAG::;
```

◆ Response Message

```
FH_10.98.11.77 2010-11-21 09:48:21
```

```
M CTAG COMPLD
```

```
total_blocks=1
```

```
block_number=1
```

```
block_records=1
```

```
dump resource info
```

```
-----  
FILENAME
```

```
DUMP_RES_2010-11-21-09-48-21.xml  
-----
```

Related Command

```
SUBSCRIBE
```

```
DUMP-RESOURCEINFO
```

7.4.2 Resource Full Export Notification

Function Description

It indicates the message notifying the export result of the reported data files.

Command Format

None

Supported Equipment

- ◆ OLT: AN5516 series, AN5116 series.
- ◆ ONU: AN5006 series, AN5506 series, HG series.

Input Parameter

None

Response Format

It complies with the response format in [Resource Change Notification](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
FILENAME	OCTET STRING	Size (128)	File name.
RESULT	OCTET STRING	Success Failure	Export result.

Example

For example, report the export result.

◆ Command

None

◆ Response Message










```
FH_10.98.11.77 2010-11-21 09:48:58
A  -- REPT RES DUMP_FILE
FILENAME=DUMP_RES_2010-11-21-09-48-21.xml  RESULT=Success
```

Related Command

DUMPRE-RESNOTIFY

8 Integrated Alarm Interface

The following introduces the commands for subscribing to the alarm, setting alarm filter conditions, obtaining alarms, confirming alarms and clearing alarms.

-  Subscribing to Alarms (SUBSCRIBE)
-  Enabling the Alarm Filter (ACT-ALARM-FILTER)
-  Disabling the Alarm Filter (DACT-ALARM-FILTER)
-  Modifying the Alarm Filter Configuration (CHG-ALARM-FILTER)
-  Viewing the Alarm Filter Configuration (LST-ALARM-FILTER)
-  Querying Alarms (LST-ALARM)
-  Confirming an Alarm (ACK-ALARM)
-  Canceling the Confirmation for an Alarm (UNACK-ALARM)
-  Clearing an Alarm (CLR-ALARM)

8.1 Subscribing to Alarms (SUBSCRIBE)

Function Description

This command is used for subscribing to alarms after the TCP connection is successfully established. After the subscription successes, the FiberHome EMS will receive alarms automatically and report them to the OSS in real time.

For supported alarms, see [The List of Alarms](#).

Command Format

```
SUBSCRIBE:::CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

None

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, subscribe to the alarm.

◆ Command

```
SUBSCRIBE:::CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:50:30
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

None

8.2 Enabling the Alarm Filter (ACT-ALARM-FILTER)

Function Description

This command is used for enabling the alarm filter function.



Note:

To enable the alarm filter function, first execute the **CHG-ALARM-FILTER** command to configure the alarm filter conditions and then execute the **ACT-ALARM-FILTER** command to validate the alarm filter conditions.

Command Format

```
ACT-ALARM-FILTER:::CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

None

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

Success or failure.

Example

For example, enable the alarm filter conditions.

◆ Command

```
ACT-ALARM-FILTER:::CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 10:31:47
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
DACT-ALARM-FILTER
```

8.3 Disabling the Alarm Filter (DACT-ALARM-FILTER)

Function Description

This command is used for disabling the alarm filter function.

Command Format

```
DACT-ALARM-FILTER:::CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

None

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

None

Example

For example, disable the alarm filter conditions.

◆ Command

```
DACT-ALARM-FILTER:::CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 9:50:38
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

ACT-ALARM-FILTER

8.4 Modifying the Alarm Filter Configuration (CHG-ALARM-FILTER)

Function Description

This command is used for modifying the alarm filter conditions and configure the alarms to be reported.



Note:

After executing this command, it is required to execute the "ACT-ALARM-FILTER" command to make the alarm filter conditions take effect.

Command Format

```
CHG-ALARM-FILTER:::CTAG::[ ALARMID=alarmcode] [ , SEVERITY=alarm-severity] ;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

Parameter Name	Data Type	Value Range	Parameter Description
SEVERITY	String	Critical Major Minor Warning	Alarm level. Multiple alarm levels can be configured and should be separated by vertical bars.
ALARMID	String	Size (0 to 1000)	Alarm ID. Multiple alarm IDs can be configured and should be separated by vertical bars.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

Success or failure.

Example

For example, modify the alarm filter conditions to only query and subscribe to the alarm whose ID is 310009.

◆ Command

```
CHG-ALARM-FILTER:::CTAG:: ALARMID=310009;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:50:47
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
ACT-ALARM-FILTER
```


8.5 Viewing the Alarm Filter Configuration (LST-ALARM-FILTER)

Function Description

This command is used for viewing the current alarm filter conditions.

Command Format

```
LST-ALARM-FILTER:::CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

None

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Description
ENABLE	String	True false	Enable / Disable.
SEVERITY	String	Critical Major Minor Warning	Alarm level. Multiple alarm levels can be configured and should be separated by vertical bars.
ALARM-CODE	String	Size (0 - 1000)	Alarm ID. Multiple alarm IDs can be configured and should be separated by vertical bars.

Example

For example, view the current alarm filter conditions.

◆ Command

```
LST-ALARM-FILTER::CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:51:00
M CTAG COMPLD
  total_blocks=1
  block_number=1
  block_records=1
Alarm Filter
ENABLE SEVERITY ALARMCODE
false - 310009
```

Related Command

```
CHG-ALARM-FILTER
```

8.6 Querying Alarms (LST-ALARM)

Function Description

This command is used for querying the alarm information in the specified time of period (including the recovered or unrecovered alarms).

For supported alarms, see [The List of Alarms](#).

Command Format

```
LST-ALARM::[ ONUIP=onu-name] | ([ OLTID=olt-name][ ,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu-index] ):CTAG::BEGINTIME=begin-time[ ,
ENDTIME=end-time][ , FAULTFLAG=flag] ;
```

◆ Query the ONU**► The ONU that has a management IP address:**

```
LST-ALARM::ONUIP=onu-name:CTAG::BEGINTIME=begin-time[ ,ENDTIME=end-time]
[ , FAULTFLAG=flag] ;
```

► The ONU that has no management IP address:

```
LST-ALARM::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=id-type,
ONUID=onu-index:CTAG::BEGINTIME=begin-time[ ,ENDTIME=end-time][ ,
FAULTFLAG=flag] ;
```

► The OLT PON port:

```
LST-ALARM::OLTID=olt-name,PONID=ponport_location:CTAG::BEGINTIME=begin-time[,ENDTIME=end-time][,FAULTFLAG=flag];
```

◆ Query the OLT:

```
LST-ALARM::OLTID=olt-name:CTAG::BEGINTIME=begin-time[,ENDTIME=end-time][,FAULTFLAG=flag];
```

◆ Query all:

```
LST-ALARM:::CTAG::BEGINTIME=begin-time[,ENDTIME=end-time][,FAULTFLAG=flag];
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

Parameter Name	Data Type	Value Range	Description	Remark
ONUIP	OCTET STRING	Size (128)	IP address, name or ID of the ONU that has a management IP address.	It is required when querying the ONU that has no management IP address.
OLTID	OCTET STRING	Size (128)	OLT IP address, name or ID.	It is required when querying the OLT or the ONU that has no management IP address.
PONID	OCTET STRING	Size (128) Cabinet rack - shelf - slot - PON port number	PON port information location. Locating through the approach of cabinet rack - shelf - slot - PON port number. NA is displayed if no information is located.	It is required when querying the ONU that has no management IP address.
ONUIDTYPE	OCTET STRING	ONU_NAME MAC LOID ONU_NUMBER	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER).	It is required when querying the ONU that has no management IP address.

Parameter Name	Data Type	Value Range	Description	Remark
ONUID	OCTET STRING	Size (128)	ONU identifier, used for uniquely identifying the ONU connected to the PON port. The value is ONU_NAME, MAC, LOID or ONU_NUMBER.	It is required when querying the ONU that has no management IP address.
BEGINTIME	String	Size (32)	The format of start time (Beijing time): YYYY-MM-DD HH-MM-SS.	Required.
ENDTIME	String	Size (32)	The format of end time (Beijing time): YYYY-MM-DD HH-MM-SS.	Optional.
FAULTFLAG	STRING	Fault-Only ALL	Alarm status. Default value is Fault-Only. Fault-Only contains events and does not contain recovered alarms.	Optional.

Response Format

It complies with the query-command response format in [Response Message Format](#).

Output Parameter

Parameter Name	Data Type	Value Range	Required / Optional	Description
SERIALID	String	Size (0 - 100)	Required.	Alarm ID.
ALARMNAME	String	Size (0 - 256)	Required.	Alarm name, corresponding to the alarm code parameter (ALARMID).
DIP	String	IP address	Required.	NE IP address.
DNAME	String	Size (0 - 100)	Required.	NE name.
DTYPE	String	Size (0 - 100)	Required.	NE type.

Parameter Name	Data Type	Value Range	Required / Optional	Description
POSITION	String	RACK: rackid SHELF: shelfid SLOT: slotid PORT: portid ONUNUM: onunumber ONUNAME: onuname ONUPORT- TYPE: onuporttype ONUPORT: onuportid EMUNUM: emunum	Required.	The position that triggers the alarm. RACK: rack SHELF: shelf SLOT: slot PORT: port number ONUNUM: ONU number ONUNAME: ONU name ONUPORTTYPE: ONU port type (LAN, E1, DSL, POTS and PON) ONUPORT: ONU port number EMUNUM: environment monitoring unit AUTHINFO: ONU authentication information (MAC or LOID)
SEVERITY	String	Critical Major Minor Warning	Required.	Alarm Level
FaultFlag	String	Fault Recovery Event	Required.	Alarm status
HAPPENTIME	String	Size (0 - 32)	Required.	Alarm generation time. Format: YYYY-MM-DD HH:MM:SS.
RECOVER-TIME	String	Size (0 - 32)	Optional.	Alarm recovery time. Format: YYYY-MM-DD HH:MM:SS.
ALARMTYPE	String	communication- sAlarm, qualityOfServiceAlarm, processingError- Alarm, equipmentAlarm and environmentalA- larm.	Required.	Alarm type.
AdditionalInfo	String	Size (0 - 256)	Optional.	Additional information, describing additional information related to the alarm.

Parameter Name	Data Type	Value Range	Required / Optional	Description
ALARMID	Integer	-	Optional.	Alarm code, corresponding to the alarm name parameter (ALARMDESC).
PROBABLE_CAUSE_DESC	String	Size (0 - 256)	Optional.	Alarm reason.
PROBABEL_CAUSE_CODE	Integer	-	Optional.	Alarm reason code.
PROPOSED_ADVISE	String	Size (0 - 512)	Optional.	Handling suggestion.

Example

For example, query all the alarms and events occurred after 2014-09-09 00:00:00 (for the response messages, only some of them are listed as as example).

◆ Command

```
LST-ALARM:::CTAG::BEGINTIME=2010-12-28 01-00-00,FAULTFLAG=ALL;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:51:13
M CTAG COMPLD
    total_blocks=2
    block_number=1
    block_records=3
Alarm
-
SERIALID  ALARMNAME  DIP  DNAME  DTYPE  POSITION
SEVERITY  FaultFlag  HAPPEMTE  RECOVERTIME
ALARMTYPE  ADITIONALINFO  EVENT_CODE
PROBABLE_CAUSE_DESC
135 ONU H.248 broken link  10.250.18.100  system1  AN5516_01
RACK:NA, SHELF:NA, SLOT:3, PORT:1, ONUNUM:5, ONUNAME:AN5006-04
Critical  Faul2010-11-01 14:51:51  --
CommunicationAlarm  --  320001  ONU H.248 broken link
6 OLT PON pot has no optical signal 10.250.18.100  AN5006-04[ 1]  system1
RACK:NA, SHELF:NA, SLOT:3, PORT:1, ONUNUM:1, ONUNAME:AN5006-04[ 1]
Critical  Recovery  2010-10-28 15:02:17  2010-11-03
00:15:39  CommunicationAlarm  --  310004  (1)Backbone fiber breaks
```

Related Command

CHG-ALARM-FILTER
ACT-ALARM-FILTER

8.7 Confirming an Alarm (ACK-ALARM)

Function Description

Confirming an alarm means the alarm is already processed or is to be processed. When an alarm is confirmed, it changes from the unconfirmed status into the confirmed status.

Command Format

ACK-ALARM::ALARMID=alarm-ID:CTAG::;

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

Parameter Name	Data Type	Value Range	Description
ALARMID	String	Size (0 - 32)	Alarm ID, corresponding to the returned field ALARMID of the LST-ALARM command.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

Success or failure.

Example

For example, confirm the alarm whose ID is 95.

◆ Command

```
ACK-ALARM::ALARMID=95:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:50:30
M CTAG COMPLD
EN=0 ENDESC=No error
```

Related Command

```
UNACK-ALARM
```

8.8 Canceling the Confirmation for an Alarm (UNACK-ALARM)

Function Description

This command is used for canceling the confirmation operation performed on an alarm so as to re-focus on the alarm. After the cancellation, the alarm changes from the confirmed status to the unconfirmed status.

Command Format

```
UNACK-ALARM:: SERIALID=SERIAL-ID:CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

Parameter Name	Data Type	Value Range	Description
SERIALID	String	Size (0 - 32)	Alarm ID, corresponding to the returned field SERIALID of the LST-ALARM command.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

Success or failure.

Example

For example, cancel the confirmation performed on the alarm whose ID is 12429.

◆ Command

```
UNACK-ALARM::SERIALID=12429:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 09:50:30  
M CTAG COMPLD  
EN=0 ENDESC=No error
```

Related Command

ACK-ALARM

8.9 Clearing an Alarm (CLR-ALARM)

Function Description

This command is used for deleting alarms manually when the alarms cannot be automatically cleared or they are confirmed no longer existing on the NE.

Prerequisite

Make sure the failure resulting in the alarm is eliminated before executing the command.

Command Format

```
CLR-ALARM:: SERIALID =SERIAL-ID:CTAG::;
```

Supported Equipment

- ◆ Equipment type: all
- ◆ Equipment version: all

Input Parameter

Parameter Name	Data Type	Value Range	Description
SERIALID	String	Size (0 - 32)	Alarm ID, corresponding to the returned field SERIALID of the LST-ALARM command.

Response Format

It complies with the operation-command response format in [Response Message Format](#).

Output Parameter

Success or failure.

Example

For example, clear the alarm whose ID is 107.

◆ Command

```
CLR-ALARM::SERIALID=107:CTAG::;
```

◆ Response Message

```
FH_10.250.18.133 2010-11-04 9:53:29
M CTAG COMPLD
  EN=0  ENDESC=No error
```

Related Command

None

9

Common Error Codes

Error Code	Error Type	Meaning
IRNE	INPUT	The resource does not exist.
IRAE	INPUT	The resource already exists.
IRC (ONUID/O- NUNO/NA- ME/PWD/SV- LAN/CVLAN)	INPUT	Resource conflict. The specific conflicting items are shown in parenthesis.
IANE	INPUT	The alarm does not exist.
IMP	INPUT	The parameter is missing.
IIPF	INPUT	Parameter format error or it is not entered.
IIFE	INPUT	Parameter value error.
DDNS	DEVICE	The operation is not supported by the equipment.
DDOF	DEVICE	Equipment operation failure.
DDB	DEVICE	Equipment busy.
SENS	SYSTEM	The operation is not supported by the EMS.
SEOF	SYSTEM	Operating the EMS failed, possibly because the user has not logged in.
EEEE	EXCEPTION	EMS abnormal.
TUB	TEST	The user is busy.
TUT	TEST	The user is doing the test.
TTMB	TEST	The testing module is busy.

10 The List of Parameters

◆ Impedance parameter

Parameter Name	Data Type	Value	Description
Impedance	INTEGER	1	200+680 100nf: Bureau machine in China ()
		2	200+560 100nf: User machine in China
		3	600-ohm

◆ Outer line test conclusion parameter

Parameter Name	Data Type	Value	Description
Conclusion	INTEGER	0	Normal
		11	Abnormal AC voltage.
		12	Abnormal DC voltage.
		13	Abnormal loop current.
		14	Abnormal loop resistance.
		15	Abnormal insulation resistance.
		16	Abnormal capacitance.
		17	Abnormal impedance.
		21	Bad line insulation.
		22	Line breakage (including intra-office and extra-office line breakage).
		23	Mixed line (including intra-office and extra-office mixed line).
		24	Bad line ground.
		25	Line interfere.
		26	Electricity leakage.
		27	Not hooked on.

◆ Incoming / outgoing call emulation test conclusion parameter

Parameter Name	Data Type	Value	Description
Conclusion	INTEGER	1	Successful
		2	Failed.

Parameter Name	Data Type	Value	Description
		3	The call connection is established, but the testing personnel has not confirmed the call connection status.

◆ Incoming call emulation failure reason parameter

Parameter Name	Data Type	Value	Description
FailReason	INTEGER	1	No signaling interaction.
		2	The called party hooks off, but SS does not respond the off-hook signaling.
		3	MG internal reason.
		4	Others.

◆ Outgoing call emulation failure reason parameter

Parameter Name	Data Type	Value	Description
FailReason	INTEGER	1	The SS off-hook response signaling is not received.
		2	The SS dial tone sending signaling is not received.
		3	The dialed telephone number is not consistent with that reported to SS.
		4	The ring back tone is not received.
		5	The other party has not hooked off.
		6	Establishing the channel failed.
		7	SS has not responded the on-hook signaling.
		8	Others.

◆ DSL transfer mode parameter

Parameter Name	Data Type	Value	Description
FailReason	INTEGER	1	Regional Std. (ANSI T1.413)
		2	Regional Std. (ETSI DTS/TM06006)
		3	G.992.1 POTS non-overlapped
		4	G.992.1 POTS overlapped
		5	G.992.1 ISDN non-overlapped
		6	G.992.1 ISDN overlapped

Parameter Name	Data Type	Value	Description
		7	G.992.1 TCM-ISDN non-overlapped
		8	G.992.1 TCM-ISDN overlapped
		9	G.992.1 TCM-ISDN symmetric
		10	G.992.2 POTS non-overlapped
		11	G.992.2 POTS overlapped
		12	G.992.2 with TCM-ISDN non-overlapped
		13	G.992.2 with TCM-ISDN overlapped
		14	G.992.3 POTS non-overlapped
		15	G.992.3 POTS overlapped
		16	G.992.3 ISDN non-overlapped
		17	G.992.3 ISDN overlapped
		18	G.992.3 Annex I All-Digital non-overlapped
		19	G.992.3 Annex I All-Digital overlapped
		20	G.992.3 Annex J All-Digital non-overlapped
		21	G.992.3 Annex J All-Digital overlapped
		22	G.992.3 Annex L POTS non-overlapped, mode 1, wide U/S
		23	G.992.3 Annex L POTS non-overlapped, mode 2, narrow U/S
		24	G.992.3 Annex L POTS overlapped, mode 3, wide U/S
		25	G.992.3 Annex L POTS overlapped, mode 4, narrow U/S
		26	G.992.3 Annex M POTS non-overlapped
		27	G.992.3 Annex M POTS overlapped
		28	G.992.4 POTS non-overlapped
		29	G.992.4 POTS overlapped
		30	G.992.4 Annex I All-Digital non-overlapped
		31	G.992.4 Annex I All-Digital overlapped
		32	G.992.5 POTS non-overlapped
		33	G.992.5 POTS overlapped
		34	G.992.5 ISDN non-overlapped
		35	G.992.5 ISDN overlapped
		36	G.992.5 Annex I All-Digital non-overlapped
		37	G.992.5 Annex I All-Digital overlapped

Parameter Name	Data Type	Value	Description
		38	G.992.5 Annex J All-Digital non-overlapped
		39	G.992.5 Annex J All-Digital overlapped
		40	G.992.5 Annex M POTS non-overlapped
		41	G.992.5 Annex M POTS overlapped
		42	G.993.1
		43	G.993.2 Annex A POTS
		44	G.993.2 Annex A ISDN
		45	G.993.2 Annex B POTS
		46	G.993.2 Annex B ISDN
		47	G.993.2 Annex C POTS
		48	G.993.2 Annex C ISDN

11 The List of Alarms

The list of alarms reported by the integrated alarm system is as follows:

◆ Alarm definition list (OLT)

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment event	Critical alarm	110001	OLT-START	The OLT is cold-started / hot-started.
Equipment alarm	Critical alarm	110002	OLT-BOARD-OFF-LINE	The OLT card is off-line.
Equipment alarm	Critical alarm	110003	OLT-BOARD-STATE-ABNORMAL	The OLT card status is abnormal, including abnormal running, the card not being activated, and card type being inconsistent with the configured type.
Equipment alarm	Major alarm	110004	ILEGAL_ONU_REGISTE	An invalid ONU tries to register.
Equipment alarm	Major alarm	110005	OLT-REMOTE-ONU-CONFIG-FAILURE	The OLT failed to send the configuration to the ONU.
Equipment alarm	Minor alarm	110006	CPU_USAGE_OVER_THRESHOLD	The CPU usage exceeds the preset threshold.
Equipment alarm	Critical alarm	110007	LASER_ALWAYS_ON	A certain ONU connected to the OLT constantly emits light.
Equipment alarm	Critical alarm	110008	ONU_Power_Fail	The OLT detects a certain connected ONU is powered off.
Equipment event	Major alarm	110009	BOARD_INVERSION_SUCCESSFUL	The active / standby switching occurs on the SCU and PON cards of the OLT.
Equipment event	Major alarm	110010	PORT_INVERSION_SUCCESSFUL	The active / standby switching occurs on the uplink and PON ports of the OLT.
Communication alarm	Critical alarm	310001	OLT_PON_Optical_Module_Fail	The optical module of the EPON OLT PON port fails.
Communication alarm	Critical alarm	310002	OLT_Uplink_Optical_Module_Fail	The optical module of the EPON OLT uplink port fails.

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Communication alarm	Critical alarm	310003	NO_OPTICS_SIGNAL (uplink port)	The optical path between the Tx part of the EPON uplink OLT and the Rx part of the OLT uplink port fails.
Communication alarm	Critical alarm	310004	NO_OPTICS_SIGNAL (optical port)	(1) The trunk optical fiber is cut. (2) The splitter fails.
Communication alarm	Critical alarm	310005	ONU_OFF_LINE	The probable reasons include: (1) The optical path between the splitter and the ONU is abnormal. (2) The ONU works abnormally.
Communication alarm	Critical alarm	310006	OLT_OFF_Adminis	The EMS cannot communicate with the OLT.
Communication alarm	Major alarm	310007	RX_POWER_ALARM (for the optical module of the OLT uplink port)	The Rx optical power of the OLT uplink port exceeds the threshold. The probable reasons include: (1) The Ethernet optical module of the equipment uplinked with the OLT is abnormal. (2) The optical path between the equipment uplinked with the OLT and the OLT Rx end fails.
Communication alarm	Major alarm	310008	TX_POWER_ALARM (for the optical module of the OLT uplink port)	The Tx optical power of the OLT uplink port exceeds the threshold. The probable reasons include: (1) The optical module of the OLT uplink port works abnormally. (2) The OLT uplink card or port is abnormal.
Communication alarm	Major alarm	310009	RX_POWER_ALARM (for the OLT PON port)	The Rx optical power of the OLT PON port is abnormal. The probable reasons include: (1) The optical power exceeds the threshold. (2) The ONU PON optical module is abnormal.
Communication alarm	Major alarm	310010	TX_POWER_ALARM (for the OLT PON port)	The Tx optical power of the OLT PON port is abnormal. The probable reasons include: (1) The optical power exceeds the threshold. (2) The ONU PON optical module is abnormal.

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Communication alarm	Major alarm	310011	ONU_Uplink_Error-Frame_Too_Many	The optical path between the OLT and the ONU is abnormal. The probable reasons include: (1) The optical path between the OLT and the splitter is abnormal. (2) The optical path between the splitter and a certain ONU is abnormal. (3) The ONU PON module is abnormal.
Communication alarm	Warning alarm	310012	LACP_LINK_Failure	The LACP link fails.
Environment alarm	Critical alarm	210001	OLT_POWER_FAILURE	The OLT power supply card is abnormal.
Environment alarm	Critical alarm	210002	OLT_POWER_OFF_LINE	The OLT power supply card is off-line.
Environment alarm	Major alarm	210003	LOCAL_INPUT_POWER_FAILURE	The local subrack power input fails.
Environment alarm	Critical alarm	210004	TEMP_HIGH_ALARM (the core switch card)	The temperature of the core switch card is too high.
Environment alarm	Critical alarm	210005	TEMP_HIGH_ALARM (the OLT card)	The temperature of an OLT card is too high.
Environment alarm	Critical alarm	210006	TEMP_LOW_ALARM (the OLT card)	The temperature of an OLT card is too low.
Environment alarm	Major alarm	210007	AC Failure	The AC power supply fails.
Environment alarm	Major alarm	210008	Battery Failure	The circuit of the battery group fails.
Environment alarm	Major alarm	210009	LOADFUSE	The load fuse is blown.
Environment alarm	Major alarm	210010	Rectifier Module Failure	The rectifier module fails.
Environment alarm	Major alarm	210011	FANFAIL	The ONU fan is abnormal.
Environment alarm	Major alarm	210012	FAN_OFF_LINE	The OLT fan is off-line.
Environment alarm	Critical alarm	210013	TEMP_ALARM (the OLT optical module)	The OLT optical module works abnormally.
Environment alarm	Major alarm	210014	MEMORY_USAGE_OVER_THRESHOLD	The working load of the system is excessive.

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Environment alarm	Critical alarm	210015	Dry_CONTACT_Alarm	The external environment alarms, including the abnormality of the access control system, the power supply, the temperature, the humidity, etc.
QoS alarm	Major alarm	410001	ETH_STATISTICS_TRAFFIC_OVER_LIMIT	The number of traffic cross-threshold times of the statistics gathered based on the Ethernet.
QoS alarm	Major alarm	410002	ETH_STATISTICS_CONFLICT_OVER_LIMIT	The number of conflict cross-threshold times of the statistics gathered based on the Ethernet.
QoS alarm	Warning alarm	410003	ONU-OPTICAL-SIGNALDEGRADATION	The ONU optical channel generates errors.
QoS alarm	Major alarm	410004	ETH_CRC_ERROR_OVER_LIMIT	The number of CRC errors occurred on the OLT Ethernet port exceeds the threshold.

◆ Alarm definition list (FTTB ONU)

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment alarm	Critical alarm	120000	ONU-BOARD-OFF-LINE	The card connected with the ONU is off-line.
Equipment alarm	Critical alarm	120001	ONU-BOARD-STATE-ABNORMAL	The status of the card connected with the ONU is abnormal, including abnormal running, the card not being activated, and card type being inconsistent with the configured type.
Equipment alarm	Major alarm	120002	ETH_PORT_LOOP	A loop is detected on the user port.
Equipment alarm	Major alarm	120003	DoS_ATTACK	A DoS attack is detected on the user port.
Equipment alarm	Minor alarm	120004	CPU_USAGE_OVER_THRESHOLD	The CPU usage exceeds the preset threshold.
Communication alarm	Critical alarm	320001	ONU_H248_BREAKOUT	The ONU H.248 link fails.
Communication alarm	Critical alarm	320002	ONU_MGCP_BREAKOUT	The ONU MGCP link fails.

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Communication alarm	Critical alarm	320003	ONU_SIP_BREAKOUT	The SIP link fails.
Communication alarm	Major alarm	320004	ENVIRONMENT_MONITOR_UNIT_COMMUNICATION_FAILURE	The connection between the external environment monitoring unit and the ONU is abnormal.
Communication alarm	Major alarm	320005	RX_POWER_ALARM (for the ONU PON port)	The Rx optical power of the ONU PON port is abnormal.
Communication alarm	Major alarm	320006	TX_POWER_ALARM (for the ONU PON port)	The Tx optical power of the ONU PON port is abnormal.
Communication alarm	Major alarm	320007	ONU_OFF_Adminis	The EMS cannot communicate with the ONU.
Environment alarm	Critical alarm	220001	AC Failure (ONU)	The AC power supply of the ONU fails.
Environment alarm	Critical alarm	220002	BATTERY_VOLTAGE_LOW (ONU)	The ONU backup battery runs out.
Environment alarm	Critical alarm	220003	TEMP_ALARM (ONU)	The ONU temperature is abnormal.
Environment alarm	Critical alarm	220004	FANFAIL (ONU)	The ONU fan is abnormal.
Environment alarm	Critical alarm	220005	TEMP_ALARM (ONU optical module)	The optical module temperature is abnormal.
Environment alarm	Critical alarm	220006	Dry_CONTACT_Alarm	The external environment alarms, including the abnormality of the access control system, the power supply, the temperature, the humidity, etc.

◆ Alarm definition list (EMS)

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment alarm	Major alarm	130001	SERVER_EXCEPTION	The EMS internal process is abnormal.
Equipment alarm	Major alarm	130002	CPU_OVER_THRESHOLD	The CPU usage of the EMS network management server is too high.
Equipment alarm	Major alarm	130003	MEM_OVER_THRESHOLD	The memory usage of the EMS network management server is too high.
Equipment alarm	Major alarm	130004	HD_OVER_THRESHOLD	The hard disk usage of the EMS network management server is too high.

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment alarm	Major alarm	130005	DBSPACE_OVER_THRESHOLD	The database usage of the EMS server is too high.
Equipment alarm	Major alarm	130006	LIC_OVER_THRESHOLD	The EMS license agreement usage is too high.

12 Abbreviations

BOSS	Business Operation Supporting System
CPE	Customer-premises Equipment
DSL	Digital Subscriber Line
DSLAM	Digital Subscriber Line Access Multiplexer
EMS	Element Management System
EPON	Ethernet Passive Optical Network
FTTB	Fiber to the Building
FTTC	Fiber to the Curb
FTTH	Fiber to the Home
FTTO	Fiber to the Office
FTTX	Fiber to the X
HGU	Home Gateway Unit
LAN	Local Area Network
MDU	Multi-Dwelling Unit
MTU	Multi-Tenant Unit
MSAN	Multiple Service Access Network
ITMS	Integrated Terminal Management System
IPTV	IP Television
OAM	Operation, Administration & Maintenance
OLT	Optical Line Terminal
ONT	Optical Network Terminal
ONU	Optical Network Unit
SBU	Single Business Unit
SFU	Single Family Unit
SNI	Service Network Interface
STB	Set Top Box
UNI	User Network Interface
VoIP	Voice over IP

Product Documentation Customer Satisfaction Survey

Thank you for reading and using the product documentation provided by FiberHome. Please take a moment to complete this survey. Your answers will help us to improve the documentation and better suit your needs. Your responses will be confidential and given serious consideration. The personal information requested is used for no other purposes than to respond to your feedback.

Name	
Phone Number	
Email Address	
Company	

To help us better understand your needs, please focus your answers on a single documentation or a complete documentation set.

Documentation Name	
Code and Version	

Usage of the product documentation:

1. How often do you use the documentation?

☐ Frequently ☐ Rarely ☐ Never ☐ Other (please specify) _____

2. When do you use the documentation?

☐ in starting up a project ☐ in installing the product ☐ in daily maintenance ☐ in trouble shooting ☐ Other (please specify) _____

3. What is the percentage of the operations on the product for which you can get instruction from the documentation?

☐ 100% ☐ 80% ☐ 50% ☐ 0% ☐ Other (please specify) _____

4. Are you satisfied with the promptness with which we update the documentation?

☐ Satisfied ☐ Unsatisfied (your advice) _____

5. Which documentation form do you prefer?

☐ Print edition ☐ Electronic edition ☐ Other (please specify) _____

Quality of the product documentation:

1. Is the information organized and presented clearly?

☐ Very ☐ Somewhat ☐ Not at all (your advice) _____

2. How do you like the language style of the documentation?

☐ Good ☐ Normal ☐ Poor (please specify) _____

3. Are any contents in the documentation inconsistent with the product?

4. Is the information complete in the documentation?

☐ Yes

☐ No (Please specify) _____

5. Are the product working principles and the relevant technologies covered in the documentation sufficient for you to get known and use the product?

☐ Yes

☐ No (Please specify) _____

6. Can you successfully implement a task following the operation steps given in the documentation?

☐ Yes (Please give an example) _____

☐ No (Please specify the reason) _____

7. Which parts of the documentation are you satisfied with?

8. Which parts of the documentation are you unsatisfied with?Why?

9. What is your opinion on the Figures in the documentation?

☐ Beautiful ☐ Unbeautiful (your advice) _____

☐ Practical ☐ Unpractical (your advice) _____

10. What is your opinion on the layout of the documentation?

☐ Beautiful ☐ Unbeautiful (your advice) _____

11. Thinking of the documentations you have ever read offered by other companies, how would you compare our documentation to them?

Product documentations from other companies:_____

Satisfied (please specify) _____

Unsatisfied (please specify) _____

12. Additional comments about our documentation or suggestions on how we can improve:

Thank you for your assistance. Please fax or send the completed survey to us at the contact information included in the documentation. If you have any questions or concerns about this survey please email at edit@fiberhome.com