ANM2000 Network Management System

Northbound Interface (TL1)

Operation Manual

FiberHome Telecommunication Technologies Co., Ltd.

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Preface

As a commonly used access network management protocol, TL1 (Transaction Language 1) has been widely used on the FiberHome access platforms. This manual introduces the application range and operation methods of the TL1 interface on the FiberHome EPON equipment.

Intended Readers

This manual is intended for the following readers:

- Planning and designing engineers
- Commissioning engineers
- Operation and maintenance engineers

To utilize this manual, these prerequisite skills are necessary:

- Data communication technologies
- Access network technologies

Conventions

Terminology Conventions

Terminology	Meaning
ANM2000	FiberHome e-Fim ANM2000 Broadband Access Network Management System

Symbol Conventions

Symbol	Refer to	Meaning
	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.

Operation Safety Rules

Network management computer should be placed away from direct sunlight, electromagnetic interference, heat source, humidity and dust, and with at least 8 cm distance from other objects in order to keep good ventilation.

Use UPS power supply to avoid loss of network management data caused by accidental power failure.

To shut down the network management computer, first exit the operating system normally and then shut off the power supply.

The computer crust, UPS power supply and switch (or hub) should be connected to protection earth ground.

Do not visit Internet via the network management computer with the ANM2000. Otherwise, it may increase data flow in the net card and hence affects normal network management data transmission or results in other accidents.

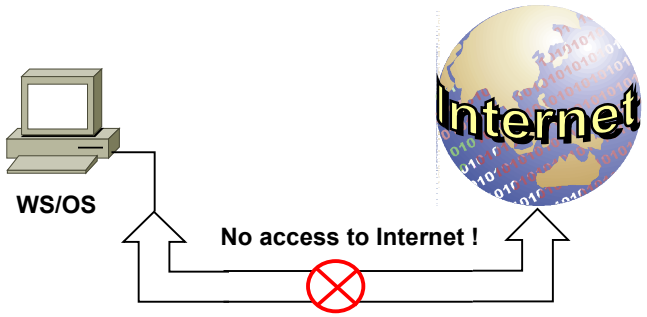

Figure 1 No access to Interne

To exit the ANM2000 normally does not make equipment out of control of the network management system.

Use of unidentified memory devices should be prohibited so as to avoid computer virus.

Do not delete any file in the network management system randomly or copy any irrelevant file into the network management computer.

Do not perform service configuration or expansion in service rush hours via network management system.

Network management computer cannot be used for purposes other than network management. Do not modify network management computer's protocol setting, computer name or LAN setting randomly. Otherwise, it may result in abnormal operation of network management system.

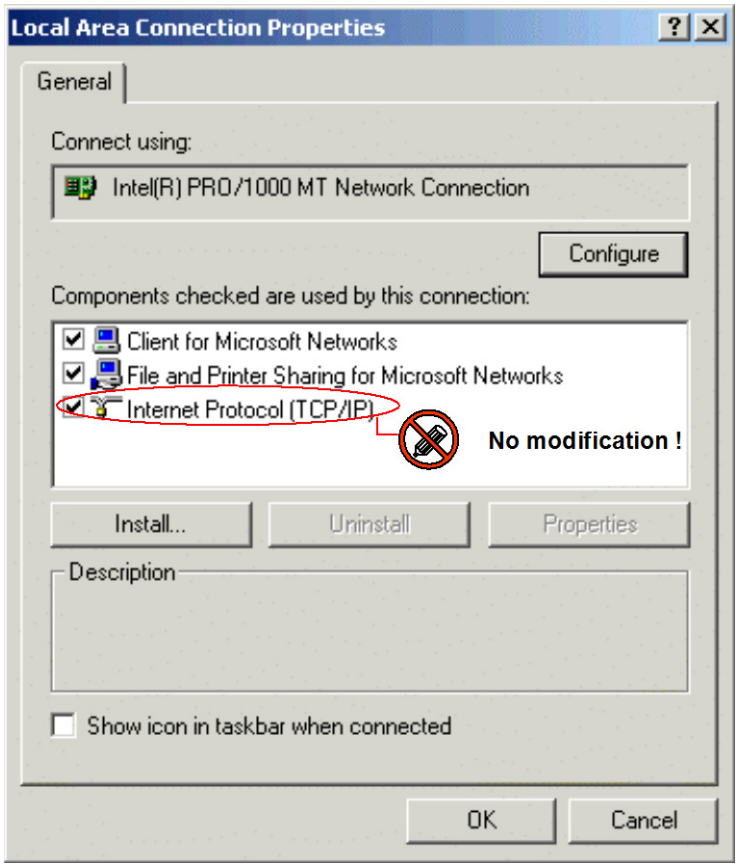

Figure 2 Not permitted to modify protocol setting randomly (1)

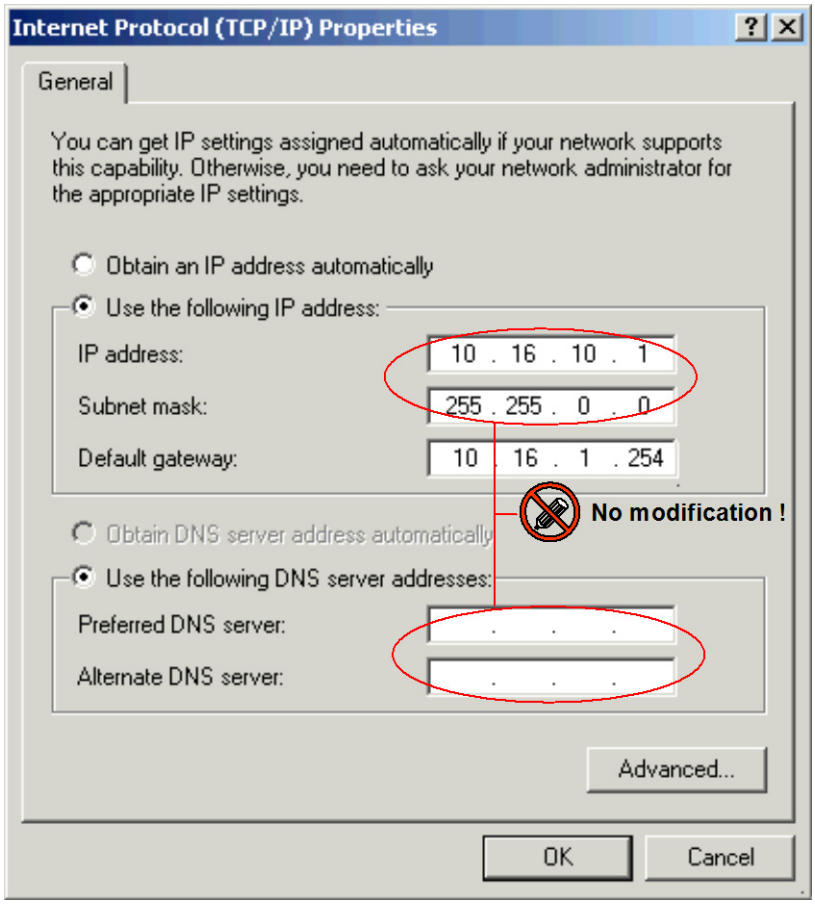

Figure 3 Not permitted to modify protocol setting randomly (2)

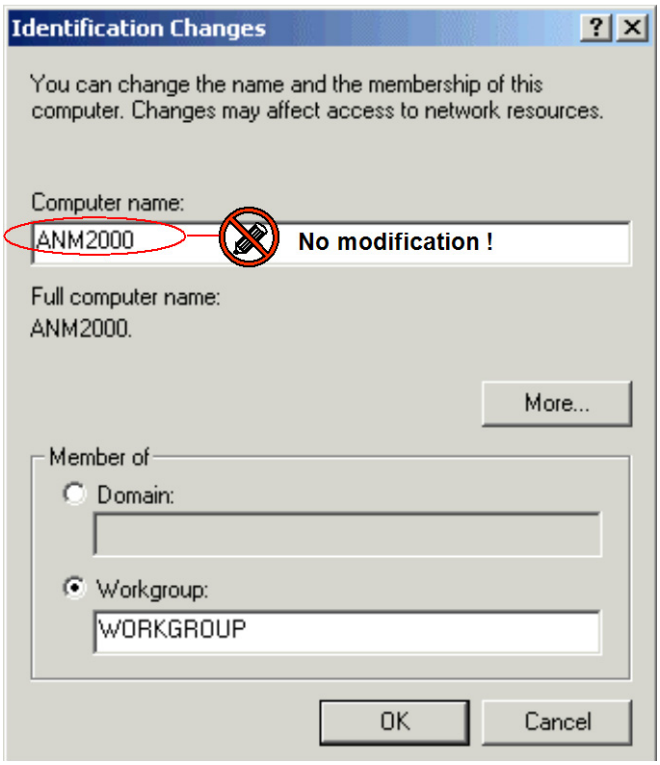

Figure 4 Not permitted to modify computer name randomly

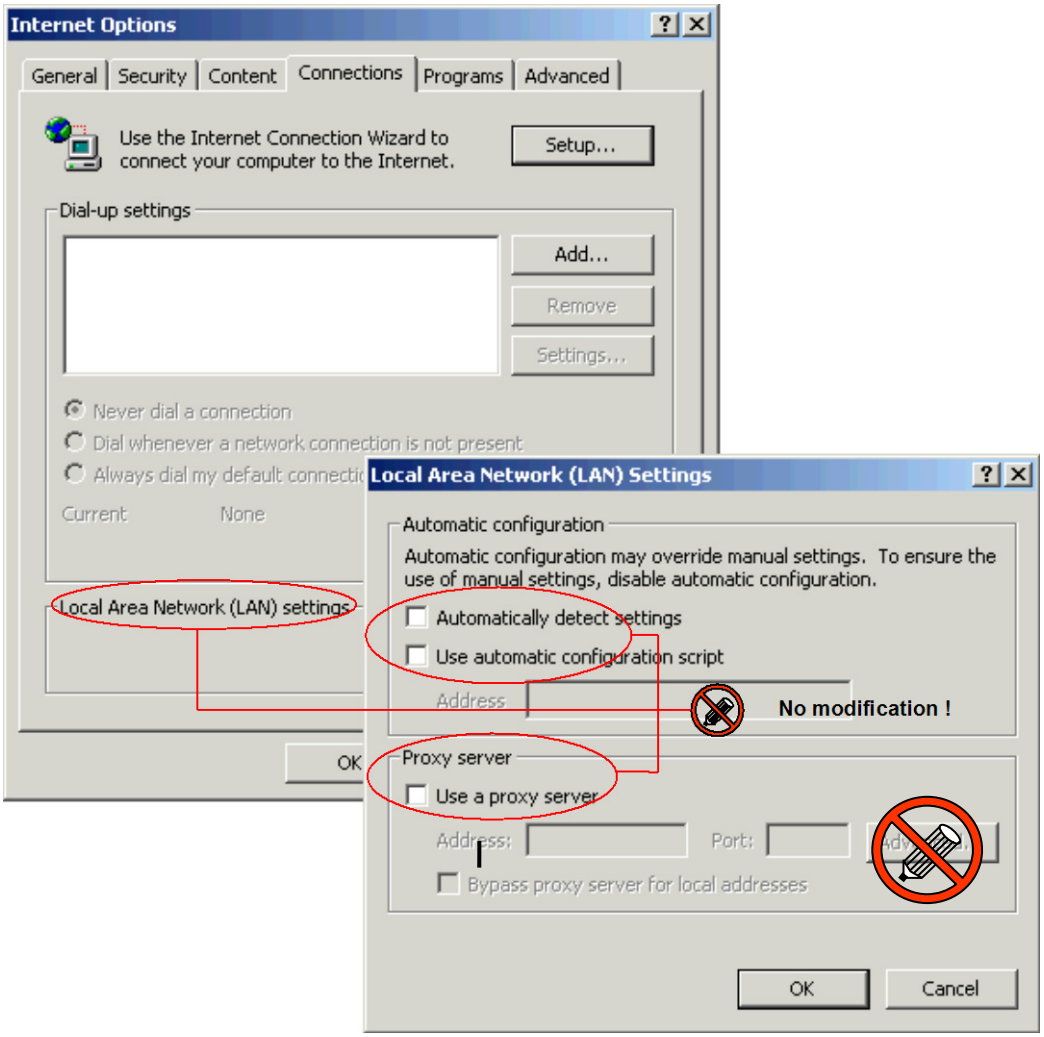

Figure 5 Not permitted to modify LAN setting randomly

Contents

1 Overview

This chapter introduces four types of northbound interfaces of the ANM2000, and includes the following sections.

- ☑ Service provisioning interface
- ☑ Integrated test interface
- ☑ Integrated alarm interface
- ☑ Resource query interface

1.1 Service Provisioning Interface

The automatic activation system receives the FTTx service activation workorder from the upper level service provisioning system, splits the workorder, and then maps the sub-task into the detailed NE configuration commands. By accessing the PON EMS service provisioning interface and relevant FTTx product platforms / NEs (such as the AAA authentication system, the softswitch, the SHLR, the IPTV management platform, etc.), the system delivers various NE configuration commands, so as to implement the automatic activation of the FTTx service.

The overall architecture of the PON service provisioning system is shown in the following figure:

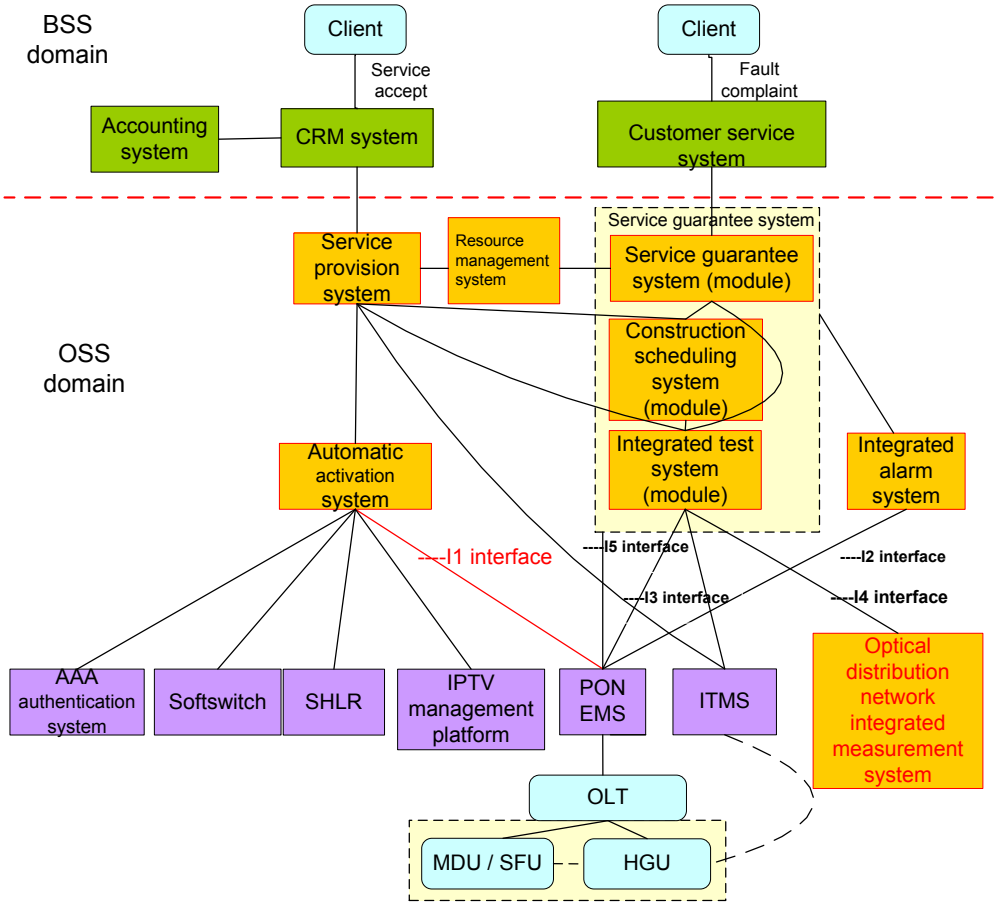

Figure 1-1 The overall architecture of the PON IT support system

As Figure 1-1 shows, the systems involved with the FTTx service provisioning flow include: the CRM system, the billing system, the service provisioning system, the automatic activation system, the resource management system, the construction scheduling system, the integrated test system, the PON EMS system, the AAA authentication system, the softswitch system, the SHLR system, the IPTV management platform.

The related interface is described as follows:

The I1 interface: the PON EMS northbound interface, providing the service automatic activation function.

1.2 Integrated Test Interface

The integrated test system implements the tests of the following aspects: the troubleshooting of the PON, the routine monitor, the provisioning and completion test of the PON. It initiates the test of the PON access network, and implements the network fault reason diagnosis or network quality active monitor of the equipment and the line by accessing the PON EMS integrated test interface or the PON integrated measurement system.

The overall architecture of the PON integrated test system is shown in the following figure:

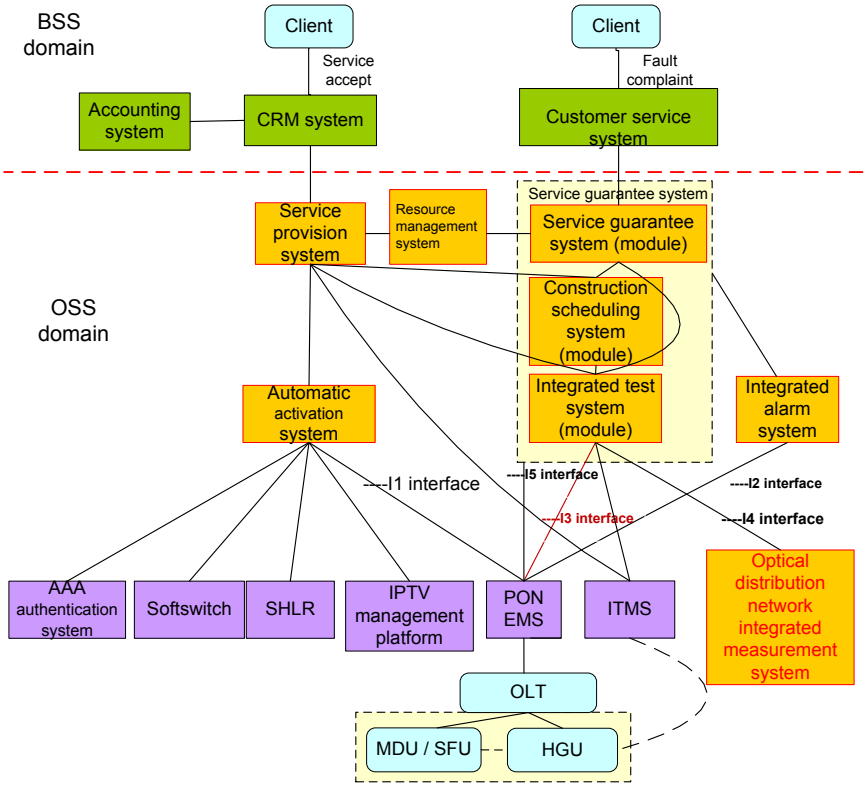

Figure 1-2 The overall architecture of the PON integrated test system

As Figure 1-2 shows, the systems involved with the FTTx integrated test include: the customer service system, the service guarantee system, the resource management system, the construction scheduling system, the integrated test system, the PON EMS system, the PON integrated test system, etc.

The related interfaces are described as follows:

The I3 interface: the PON EMS northbound interface, providing the service fault diagnosis and routine monitor functions.

The I2 interface: the PON EMS alarm report interface, completing the NE equipment alarm report functions.

The I4 interface: the northbound interface of the PON integrated test system, used to isolate and test various faults caused by the passive equipment (including the optical fiber, the optical cable, the splitter, etc.) in the ODN rapidly and effectively.

In general, the FTTX integrated test system can perform the following three functions: the troubleshooting of the PON, the routine monitor of the PON, and the provisioning and completion test of the PON.

1.3 Integrated Alarm Interface

The northbound interface between the PON EMS and the integrated alarm system reports the severe alarms influencing multiple subscribers in a batch manner. The PON EMS reports the following alarms via this interface: various major alarms at the network level (the MDU and the equipment of higher level), including hardware faults alarms (such as the faults of the OLT equipment card and the power supply module), severe alarms of the MDU software and hardware, abnormal power-off alarms, trunk fiber breakout alarms, and the MDU environment parameters and relevant alarms in the FTTB mode.

The overall architecture of the PON integrated alarm system is shown in the following figure:

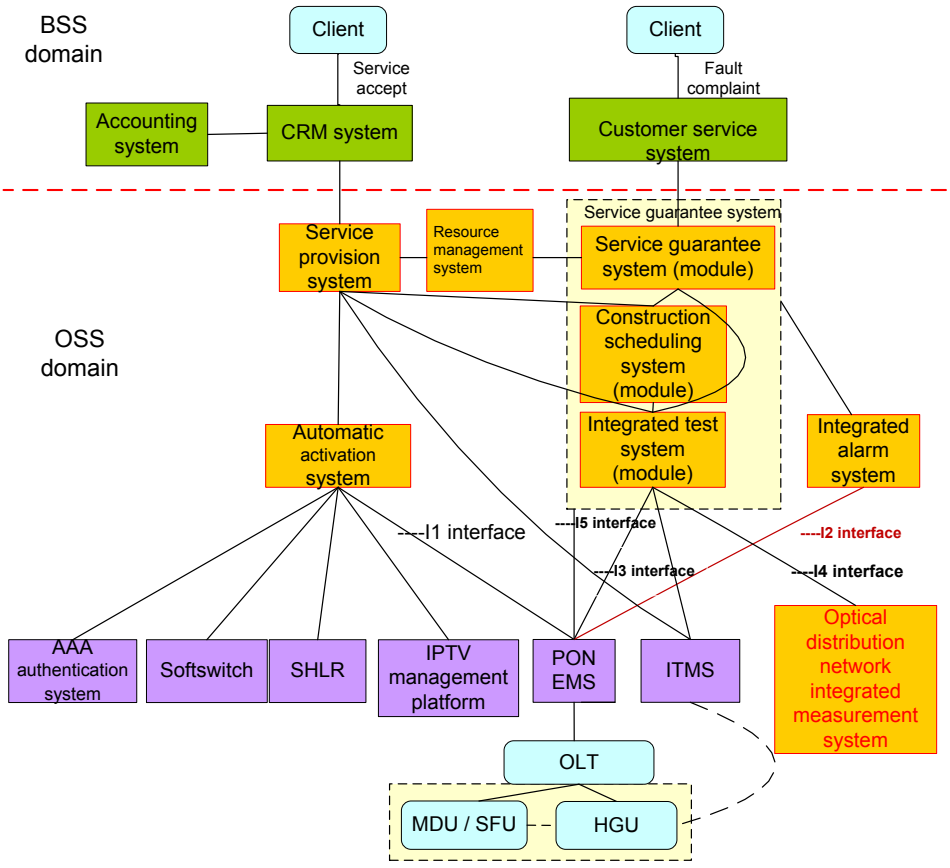

Figure 1-3 The overall architecture of the PON integrated alarm system

As part of the service guarantee IT system, the integrated alarm system is the convergence center of the monitored alarms and events. It performs the following functions:

- Alarm collection function: In PON, the system can collect severe alarms that influence multiple subscribers in a batch manner and environment alarms on the PON equipment via the alarm northbound interface of the PON EMS; can initiate the alarm synchronization with the PON EMS system, so as to implement the completeness of alarms.

- Alarm handling function: In PON, the system can compress the PON alarms according to the alarm compression rules configured by the operation and maintenance division; can provide the detailed alarm information via the association between the alarms and resources information (by analyzing the association relationship between the alarms and resources information, obtains the association relationship between the alarms and the services / subscribers, and obtains the source and result relationships between alarms); can deliver the workorder to the service guarantee system automatically according to the workorder delivering rules.

- Alarm operation function: In PON, users can confirm alarms, confirm deleting alarms, and clear alarms; in addition, users can directly confirm, delete, and clear the alarms in the PON EMS via the PON EMS alarm northbound interface.

1.4 Resource Query Interface

The PON EMS northbound interface performs the following resource query functions: Exports all resource data in PON, queries the network resource data in PON, and reports the changing condition of the network resource; among them, exporting all resource data in PON is implemented via the file and the FTP, and querying the network resource data in PON and reporting the changing condition of the network resource are implemented via the TL1 protocol.

Users can query the following resource data via the PON EMS northbound interface: the PON physical resource data, the service resource data, etc. The OSS system can synchronize and check the data via the PON EMS northbound interface, so as to keep the consistency between the OSS system data and the PON EMS data.

The overall architecture of the PON resource query system is shown in the following figure:

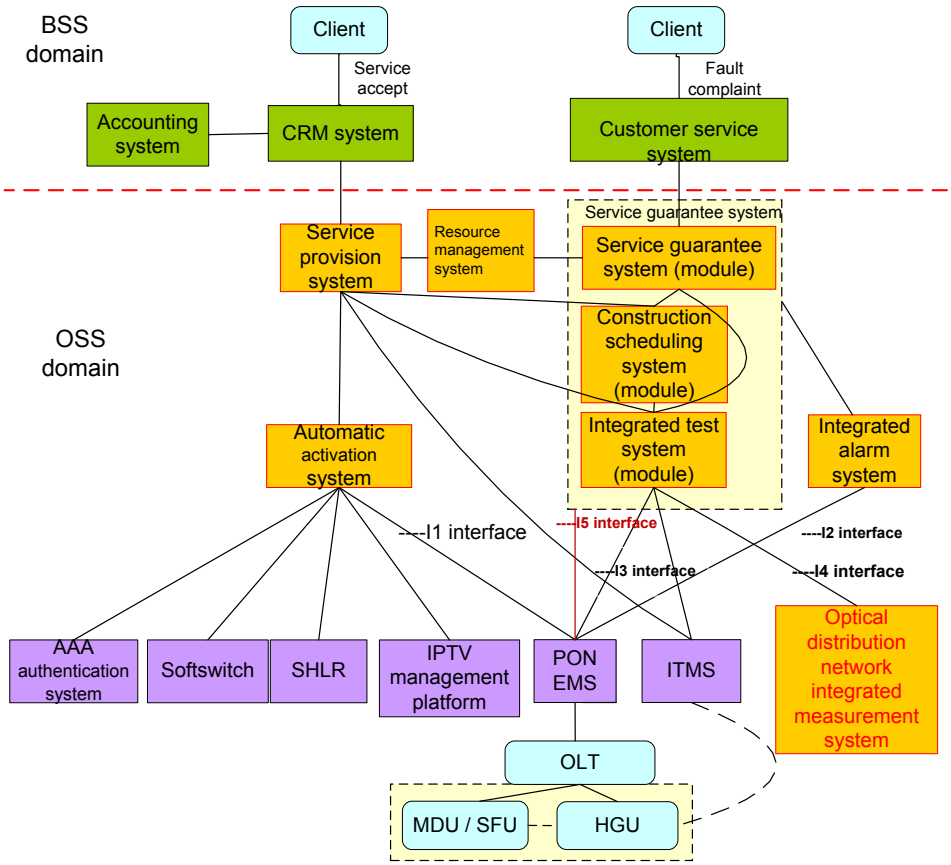

Figure 1-4 The overall architecture of the PON resource query system

As Figure 1-4 shows, the OSS systems involved with the PON EMS resource query include: the service guarantee system, the resource management system, etc.

The related interface is described as follows:

The I5 interface: the PON EMS northbound interface, providing the resource data query and resource changing notification functions.

2 Interface Format

This chapter introduces the command format of the TL1 interface, and includes the following sections.

- ☑ Format overview
- ☑ Input command message format
- ☑ Acknowledgement message
- ☑ Response message format
- ☑ Definition of returned error codes

2.1 Format Overview

Command format

Refers to the format for a user to input a command. The matching mode to execute a command includes the following conditions:

- Execute an operational command: All character strings are matched exactly.
- Execute a query command: For an optional parameter whose data type is character string, users can execute the fuzzy query; for a compulsory parameter whose data type is character string, users should execute the exact matching. If the filtering conditions set by a user cannot identify a unique record, and there are multiple records complying with the filtering conditions, the northbound interface will return all records to the user in a list.

Response format

Refers to the format of the information which is returned to users. A corresponding command input is required to bring up an expected response.

Remarks

For descriptions on symbols used in various formats, please see the following table.

Symbol	Description
< >	Encloses a certain identifier symbol. For example, <int-num> can indicate a random integer.
[ ]	Encloses a certain optional symbol or message entry.
' '	Encloses a certain identifier letter. For example, ‘a' indicates the English letter a, instead of a variable symbol.
( )	Encloses a group of compulsory symbols or message entries.
*	Refers to the postfix, indicating that the current symbol or symbol group appears 0 or multiple times.
+	Refers to the postfix, indicating that the current symbol or symbol group appears once or multiple times.
^	Refers to a space.
cr	Refers to a carriage return operation.
lf	Refers to a line feed operation.
|	Is used to separate multiple options, indicating that users can select only one option. For example, a|b|c indicates to select a or b or c.
::=	In a certain syntax rule, separate the left and right parts. For example, <TESTit> ::= (0|1|-|9) indicates that the value of <TESTit> is a certain digital number from 0 to 9 (including 0 and 9).

2.2 Input Command Message Format

Input command message format

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

Remark

The following table describes various parameters of the command:

Parameter	Remark
command_code	Refers to the codes of a command, indicating the operations to be performed. Commonly this parameter complies with the following format: <verb>[-<modifier>[-<modifier>]] verb: Is a compulsory parameter, indicating the command name. Usually it is a verb or abbreviation describing the operation type. modifier: Is used to modify the input command . A verb can include two optional modifiers, seperated with “-”.
staging_blocks	Refers to the task identifier block. Commonly this parameter complies with the following format: [<target identifier>]:<access identifier(s)>:<ctag>: target identifier: It is not needed here. access identifier: Refers to the identity information, used to identify the operation object of the command. ctag (correlation tag): Refers to the command identifier code, used to match the input and output commands. In the response meassage and the input message, this value should be the same.
payload_blocks	Refers to the transferring parameter block, and can be null. Commonly this parameter complies with the following format: <datablock1>, <datablock2>… Among them, each parameter block (datablock) has the following format: parameter name = parameter value, and two parameter blocks are seperated with “,”.

2.3 Acknowledgement Message

The format of the acknowledgement message is described as follows:

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

For the acknowledgement message, its response time should not exceed two seconds generally. Otherwise users can regard the status as the transmission error or the equipment fault. In addition, some commands do not need the acknowledgement message; for a command that can be responded immediately (such as the setting command and the stopping command), the system gives the response message directly.

2.4 Response Message Format

Response message format

Mainly includes the following two response formats:

Response format of operational commands:

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

Response format of query commands:

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

Remark

For the remarks in the command response result, please see the following table.

Parameter	Remark
header	Refers to the message header, meaning the public parts of all response and report messages. It includes the equipment ID (sid), date, and time, and commonly complies with the following format: <cr><lf><lf>^^^<sid>^<year>-<month>-<day>^<hour>:<minute>:<second> sid: abbreviation of the manufacturer name _network mangement server IP address. For exmple, it can be one of the following items: HW_IP ZTE_IP FH_IP
response_id	Refers to the response ID, and commonly complies with the following format: <cr><lf>M^^<ctag>^<completion code> Ctag: Refers to the command ID, used to match the input and output commands. In the response meassage and the input message, this value should be the same. completion code: Refers to the response completion ID, with its range as follows: COMPLD: The command is executed correctly. DELAY: The command execution is delayed. DENY: The command execution fails. PRTL: The command is executed partially. RTRV: Returns the results of the executed tests in the command, and other test items are being performed.
response_block	Refers to the contents of the response message. EN: Refers to the error code. ENDESC: Refers to the description of an error. quoted line: Refers to the returned parameters. When the queried information includes too many data, the northbound interface will send the queried data to the client end in packets. total_blocks indicates the total number of data packets, block_number indicates the serial Number of the current data packet, and block_records indicates how many data entries are in the current data packet. title: Is a character string, meaning the title of the result. attrib: Is a character string, meaning the arribute name. value: Is a character string, meaning the arribute value. If it is not supported, “- “will be returned.
terminator	Is indicated with “>” or “;”. “>” indicates that the data sending is not completed, and there is a next packet to be received. “;” indicates that the data sending is completed. There can be only one “;” in the returned data.

2.5 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

3 TL1 Commands

This chapter introduces the operation methods of various TL1 interfaces, and includes the following sections.

- ☑ Session control
- ☑ Service provisioning interface
- ☑ Integrated test interface
- ☑ Integrated alarm interface
- ☑ Resource query interface

3.1 Session Control

The session control is used to manage the communication between the integrated test system and the PON EMS, so as to prevent access of illegal users.

3.1.1 Logging in PON EMS (LOGIN)

Functions

After establishing the TCP connection successfully, a user can log in the PON EMS via this command. When logging in successfully, a user can deliver northbound interface commands to operate the equipment.

Command format

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

Response format

Complies with the response format of operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
UN	OCTET STRING	SIZE (20)	The username
PWD	OCTET STRING	SIZE (16)	The password

Output parameter

None

Example

Command:

```
LOGIN:::CTAG::UN=1,PWD=1;
```

Response:

```
FH_133.5.35.238 2010-05-26 19:23:18
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

The user has logged in successfully.

3.1.2 Logging out PON EMS (LOGOUT)

Functions

A user logs out the PON EMS.

Command format

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

Response format

Complies with the response format of operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

None

Example

Command:

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

Response:

```
FH_133.5.35.238 2010-05-26 19:23:23
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

The user has logged out successfully.

3.1.3 Handshaking Command (SHAKEHAND)

Functions

If there are no communications on a certain TCP connection in a 10-minute interval, the system will disconnect this TCP connection automatically. To maintain this connection without any other operation, users can deliver a handshaking command.

Command format

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

Response format

Complies with the response format of operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

None

Example

Command:

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

Response:

```
FH_133.5.35.238 2010-05-26 19:23:20
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

The user has handshaked successfully.

3.2 Service Provisioning Interface

3.2.1 Activating a VoIP Port

Functions

This command is used to activate a VoIP port.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number In the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128) cabinet -subrack-slot-port Number	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING		A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

```
AN5006-20:
ACT-VOIPPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-1-1:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-22 18:00:37
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command activates the NA-NA-1-1 port on the 133.5.35.237 ONU.

3.2.2 Deactivating a VoIP Port

Functions

This command is used to deactivate 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::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

```
AN5006-20:
DACT-VOIPPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-1-1:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-23 10:31:22
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command deactivates the NA-NA-1-1 port on the 133.5.35.237 ONU.

3.2.3 Configuring the Voice Service of a VoIP Port

Functions

This command is used to configure 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::[PHONENU
MBER=phone number,]PT=protocol type[,SLVAN=voip outer
vlan][,VOIPVLAN=voip inner
vlan][,SCOS=outer-qos][,CCOS=innerqos][,EID=equipment-id][TID=Terminal
-ID][SIPREGDM=sip register domain,SIPUSERNAME=sip- user-
name][,SIPUSERPWD=sip user password][MGCIP1=active bac
ip][,MGCIP2=standby bac ip][,IPMODE=ip mode][,IP=ip
address,IPMASK=ip-mask,IPGATEWAY=ip-gateway][,PPPOEUSER=pppoe-user,
PPPOEPWD=pppoe password];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
PHONENUMBER	OCTET STRING	SIZE (1 to 32)	The telephone number
PT	OCTET STRING	SIZE (1 to 32)	The voice protocol type (H.248, SIP)
EID	OCTET STRING	SIZE (1 to 64)	The MG gateway domain name in the H.248 protocol configuration
TID	OCTET STRING	SIZE (1 to 64)	The H.248 subscriber terminal ID
SIPREGDM	OCTET STRING	SIZE (1 to 32)	The SIP register server
SIPUSERNAME	OCTET STRING	SIZE (1 to 32)	The username corresponding to the SIP subscriber port
SIPUSERPWD	OCTET STRING	SIZE (1 to 32)	The password corresponding to the SIP subscriber port
SVLAN	INTEGER	0 to 4095	The voice service outer VLAN
VOIPVLAN	INTEGER	0 to 4095	The voice service inner VLAN
IPMODE	OCTET STRING	SIZE (1 to 32)	The IP obtaining mode: DHCP, PPPoE, static
IP	OCTET STRING	SIZE (1 to 32)	The IP address
IPMASK	OCTET STRING	SIZE (1 to 32)	The IP address mask
IPGATEWAY	OCTET STRING	SIZE (1 to 32)	The gateway address
PPPOEUSER	OCTET STRING	SIZE (1 to 32)	The PPPoE username
PPPOEPWD	OCTET STRING	SIZE (1 to 32)	The PPPoE password
SCOS	INTEGER	0 to 7	The outer service priority
CCOS	INTEGER	0 to 7	The inner service priority
MGCIP1	OCTET STRING	SIZE (32)	The active softswitch IP address
MGCIP2	OCTET STRING	SIZE (32)	The standby softswitch IP address

Example

Command:

The AN5006-07B:

```
CFG-VOIPSERVICE::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONU
ID=551607,ONUPORT=NA-NA-NA-1:CTAG::PHONENUMBER=77777777,PT=H.248,VOIPV
LAN=650,CCOS=0,EID=eid,TID=tid,IPMODE=STATIC,IP=14.14.14.7,IPMASK=255.
255.0.0,IPGATEWAY=14.14.14.1;
```

Response:

```
FH_133.5.35.238 2010-05-23 10:31:22
M  CTAG COMPLD
EN=0   ENDESC=No error
```

This command is used to configure the voice service of the NA-NA-4-4 VoIP port on the 133.5.35.235 OLT.

3.2.4 Activating a LAN Port

Functions

This command is used to activate a LAN port.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..

Example

Command:

The AN5006-20:

```
ACT-LANPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to activate the NA-NA-2-1 LAN port on the 133.5.35.237 ONU.

3.2.5 Deactivating a LAN Port

Functions

This command is used to deactivate a LAN port.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

The AN5006-20:

```
DACT-LANPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to deactivate the NA-NA-2-1 LAN port on the 133.5.35.237 ONU.

3.2.6 Configuring the Bandwidth of a LAN Port

Functions

This command is used to configure the bandwidth of a LAN port.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
BW	OCTET STRING	SIZE (128)	The bandwidth profile name

Example

Command:

The AN5006-20:

```
CFG-LANPORTBW::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::BW=4M;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the bandwidth of the NA-NA-2-1 LAN port on the 133.5.35.237 ONU.

3.2.7 Adding a LAN Port into a Multicast Group

Functions

This command is used to add a LAN port into a multicast group.

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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID TYPE (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
UV	INTEGER	0 to 4095	The subscriber side VLAN
MVLAN	INTEGER	0 to 4095	The related multicast VLAN

Example

Command:

The AN5006-20:

```
ADD-LANIPTVPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::UV=100,MVL
AN=88;
```

Response:

```
   10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
   EN=0   ENDESC=No error
```

Meaning:

This command is used to add the NA-NA-2-1 LAN port on the 133.5.35.237 ONU into a multicast group.

3.2.8 Deleting a LAN Port from a Multicast Group

Functions

This command is used to delete a LAN port from a multicast group.

Command format

```
DEL-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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
UV	INTEGER	0 to 4095	The subscriber side VLAN
MVLAN	INTEGER	0 to 4095	The related multicast VLAN

Example

Command:

The AN5006-20:

```
DEL-LANIPTVPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::UV=100,MVL
AN=88;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to delete the NA-NA-2-1 LAN port on the 133.5.35.237 ONU from a multicast group.

3.2.9 Configuring the IPTV Service Information of a LAN Port

Functions

This command is used to configure the IPTV service information 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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
FLMODE	OCTET STRING	SIZE (32)	The fast leave mode: Enabled Disabled
MAXGRP	INTEGER	0 to 255	Means the maximum multicast program number a port is allowed to join at a time.

Example

Command:

The AN5006-20:

```
CFG-LANIPTVPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::FLMODE=1,M
AXGRP=35;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the IPTV service information of the NA-NA-2-1 LAN port on the 133.5.35.237 ONU.

3.2.10 Configuring the VLAN Information of a LAN Port

Functions

This command is used to configure 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=o
uter vlan],CVLAN=Inner vlan[,SCOS=outer qos][,CCOS=inner qos];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE(128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE(128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE(128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
SVLAN	INTEGER	0 to 4095	The SVLAN
CVLAN	INTEGER	0 to 4095	The CVLAN
SCOS	INTEGER	0 to 7	The priority information carried by the SVLAN
CCOS	INTEGER	0 to 7	The priority information carried by the CVLAN

Example

Command:

The AN5006-07B:

```
CFG-LANPORTVLAN::OLTID=133.5.35.234,PONID=NA-NA-4-1,ONUIDTYPE=LOID,ONU
ID=511607,ONUPORT=NA-NA-NA-1:CTAG::CVLAN=1301,CCOS=1;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the VLAN information of the NA-NA-4-1 LAN port on the 133.5.35.234 ONU.

3.2.11 Deleting the VLAN Information from a LAN Port

Functions

This command is used to delete the VLAN information from a LAN port on an FTTH ONU.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

```
DEL-LANPORTVLAN::ONUIP=133.5.35.237,ONUPORT= NA-NA-4-1:CTAG::;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to delete the VLAN information of the NA-NA-4-1 LAN port on the 133.5.35.237 FTTH ONU.

3.2.12 Activating a DSL Port

Functions

This command is used to activate 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::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot- port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

The AN5006-15:

```
ACT-DSLPORT::ONUIP=133.5.35.236,ONUPORT=NA-NA-14-1:CTAG::;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to activate the NA-NA-14-1 DSL port on the 133.5.35.236 ONU.

3.2.13 Deactivating a DSL Port

Functions

This command is used to deactivate 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::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Example

Command:

The AN5006-15:

```
DACT-DSLPORT::ONUIP=133.5.35.236,ONUPORT=NA-NA-14-1:CTAG::;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to deactivate the NA-NA-14-1 DSL port on the 133.5.35.236 ONU.

3.2.14 Configuring the Bandwidth of a DSL Port

Functions

This command is used to configure the bandwidth of a DSL port.

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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
BW	OCTET STRING	SIZE (32)	The bandwidth profile name

Example

Command:

The AN5006-15:

```
CFG-DSLPORTBW::ONUIP=133.5.35.236,ONUPORT=NA-NA-14-1:CTAG::BW=4M;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the bandwidth of the NA-NA-14-1 DSL port on the 133.5.35.236 ONU.

3.2.15 Adding a DSL Port in a Multicast Group

Functions

This command is used to add a DSL port in a multicast group.

Command format

```
ADD-DSLIPTVPORT::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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
VPI	INTEGER	0 to 4095	The VPI
VCI	INTEGER	32 to 65535	The VCI
UV	INTEGER	0 to 4095	The subscriber side VLAN
MVLAN	INTEGER	SIZE (32)	The related multicast VLAN

Example

Command:

The AN5006-15:

```
ADD-DSLIPTVPORT::ONUIP=133.5.35.236,ONUPORT=NA-NA-14-1:CTAG::UV=100,MV
LAN=88;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to add the NA-NA-14-1 DSL port on the 133.5.35.236 ONU in a multicast group.

3.2.16 Deleting a DSL Port from a Multicast Group

Functions

This command is used to delete a DSL port from a multicast group.

Command format

```
DEL-DSLIPTVPORT::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];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
VPI	INTEGER	0 to 4095	The VPI
VCI	INTEGER	32 to 65535	The VCI
UV	INTEGER	0 to 4095	The subscriber side VLAN
MVLAN	INTEGER	SIZE (32)	The related multicast VLAN

Example

Command:

The AN5006-20:

```
AD
DEL-DSLIPTVPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::UV=100,VPI
=8,VCI=35,MVLAN=88;
```

Response:

```
   10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
   EN=0   ENDESC=No error
```

Meaning:

This command is used to delete the NA-NA-14-1 DSL port on the 133.5.35.237 ONU from a multicast group.

3.2.17 Configuring the IPTV Service Information of a DSL Port

Functions

This command is used to configure the IPTV service information of a DSL port.

Command format

```
CFG-DSLIPTVPORT::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location
,ONUIDTYPE=onuid-type,ONUID=onu-index],ONUPORT=onu-port:CTAG::
[VPI=vpi][,VCI=vci][,FLMODE=iptv-fastleave-mode][,MAXGRP=Max-group-num
ber];
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE(128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE(128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE(128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE(128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE(128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE(128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Parameter Name	Data Type	Value Range	Remark
VPI	INTEGER	0 to 4095	The VPI
VCI	INTEGER	32 to 65535	The VCI
UV	INTEGER	0 to 4095	The subscriber side VLAN
FLMODE	OCTET STRING	SIZE (32)	The fast leave mode: Enabled Disabled
MAXGRP	INTEGER	0 to 255	Means the maximum multicast program number a port is allowed to join at a time.

Example

Command:

The AN5006-20:

```
CFG-DSLIPTVPORT::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::FLMODE=1,M
AXGRP=20;
```

Response:

```
   10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
   EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the IPTV service information of the NA-NA-14-1 DSL port on the 133.5.35.237 ONU.

3.2.18 Configuring the VLAN Information of a DSL Port

Functions

This command is used to configure 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;
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE(128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE(128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE(128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE(128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE(128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE(128) Cabinet -subrack-slot-port Number	A card port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
VPI	INTEGER	0 to 4095	The VPI
VCI	INTEGER	32 to 65535	The VCI
SVLAN	INTEGER	0 to 4095	The SVLAN
CVLAN	INTEGER	0 to 4095	The CVLAN

Example

Command:

The AN5006-20:

```
CFG-DSLPORTVLAN::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-4:CTAG::VPI=8,VCI=
35,CVLAN=29;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
   EN=0   ENDESC=No error
```

Meaning:

This command is used to configure the VLAN information of the NA-NA-14-1 DSL port on the 133.5.35.237 ONU.

3.2.19 Adding an ONU

Functions

This command is used to add an ONU.

Command format

```
ADD-ONU::OLTID=olt-name,PONID=ponport_location:CTAG::ONUID=onu-index[,
PWD=onupassword][,ONUNO=onu-no][,NAME=name][,DESC=onudescription],ONUT
YPE=onu type;
```

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUID	OCTET STRING	SIZE (128)	The ONU ID (LOID)
PWD	OCTET STRING	SIZE (128)	The LOID password
ONUNO	INTEGER	1 to 512	The ONU authorization Number
NAME	OCTET STRING	SIZE (128)	The ONU name
DESC	OCTET STRING	SIZE (64)	The ONU description.
ONUTYPE	OCTET STRING	SIZE (32)	The ONU type

Example

Command:

The AN5116-06B:

```
ADD-ONU::OLTID=133.5.35.235,PONID=NA-NA-4-4:CTAG::ONUTYPE=AN5006-03,ON
UID=551603;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
   EN=0   ENDESC=No error
```

Meaning:

This command is used to add an AN5006-03 ONU to the 133.5.35.235 OLT.

3.2.20 Deleting an ONU

Functions

This command is used to delete an ONU.

Command format

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

Response format

Complies with the response format mentioned in Section 2.4.

Parameters

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Example

Command:

The AN5116-06B:

```
DEL-ONU::OLTID=133.5.35.235,PONID=NA-NA-4-4:CTAG::ONUTYPE=AN5006-03,ON
UID=551603;
```

Response:

```
10.22.16.22 2007-03-01 13:35:00
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to delete an AN5006-03 ONU from the 133.5.35.235 OLT.

3.2.21 Configuring the Wi-Fi Service

Functions

This command is used to configure the Wi-Fi service for an ONU which has been authorized by the OLT. Via using this command, you can add SSIDs, and configure 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-C
HANNEL=channel,WILESS-STANDARD=standard,T-POWER=tpower,SSID=ssid,SSID-
ENABLE=ssid-enable,SSID-NAME=name,SSID-VISIBALE=visible,AUTH-MODE=mode
,ENCRYP-TYPE=type[,PRESHARED-KEY=key,UPDATEKEY-INTERVAL=interval][,RAD
IUS-SERVER=server,RADIUS-PORT=port,RADIUS-KEY=key][,WEP-ENCRYPTIONLEVE
L=level,WEP-KEYINDEX=index,WEPKEY1=key1,WEPKEY2=key2,WEPKEY3=key3,WEPK
EY4=key4];
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	SIZE (128)	The OLT IP address or name, ID	-
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port number, and in the absence of any of the cabinet, subrack, slot, PON port number, fill with NA.	-
ONUIDTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	The ONU identifier type (NAME, MAC, LOID, ONU_Number)	-
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	-

Parameter Name	Data Type	Value Range	Parameter Description	Remark
WILESS-AREA	INTEGER	0-Europe 1-the USA	The wireless area	
WILESS-CHANNEL	INTEGER	When WILESS-AREA is 0, this parameter should be set to [0,13]. When WILESS-AREA is 1, this parameter should be set to [0,11].	The wireless channel number	
WILESS-STANDARD	OCTET STRING	802.11b, 802.11g, 802.11b/g, 802.11n 802.11bgn	The wireless standard	
T-POWER	INTEGER	[0,20]	The transmitted power	
SSID	INTEGER	1 to 4	The SSID index	
SSID-ENABLE	INTEGER	0,1	Means whether the SSID is enabled. 0 means that the SSID is disabled; 1 means that the SSID is enabled.	
SSID-NAME	OCTET STRING	SIZE (32)	The SSID name	
SSID-VISIBALE	INTEGER	0: available 1: not available	The available status of the SSID	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
AUTH-MODE	OCTET STRING	OPEN SHARED WEPAUTO WPAPSK WPA WPA2PSK WPA2 WPA/WPA2 WPAPSK WPA2PSK	The WLAN authentication mode	
ENCRYP-TYPE	OCTET STRING	NONE: WEP: TKIP: AES: TKIPAES	The WLAN encryption type	
PRESHARED-KEY	OCTET STRING	STRING (64)	The WPA pre-shared key	
UPDATEKEY-INTERVAL	INTEGER	[0,4194303]	The WPA key update interval Unit: s	
RADIUS-SERVER	OCTET STRING	SIZE (128)	The RADIUS server	
RADIUS-PORT	OCTET STRING	STRING (2)	The RADIUS server port	
RADIUS-KEY	OCTET STRING	STRING (32)	The RADIUS key	
WEP-ENCRYPTIONLEVEL	INTEGER	1: 40 bit 2: 104 bit	The WEP key length	
WEP-KEYINDEX	INTEGER	[1,4]	The key index	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
WEPKEY1	OCTET STRING	STRING (64)	The WEP key 1	
WEPKEY2	OCTET STRING	STRING (64)	The WEP key 2	
WEPKEY3	OCTET STRING	STRING (64)	The WEP key 3	
WEPKEY4	OCTET STRING	STRING (64)	The WEP key 4	

Response format

Complies with the response format mentioned in Section 2.4.

Output parameters

None

Example

Example 1: The ONU whose ID is 999999999997 is under PON port 1 of the card in slot 3 of the OLT whose IP address is 10.250.18.100. The ONU uses the physical identifier authentication mode, and the WEP encryption mode is configured.

- The delivered commands:

```
CFG-WIFISERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,ONU
ID=999999999997:CTAG::WILESS-AREA=1,WILESS-CHANNEL=0,WILESS-STANDARD=8
02.11b,T-POWER=1,SSID=1,SSID-ENABLE=1,SSID-NAME=fiberhome,SSID-VISIBAL
E=0,AUTH-MODE=WEPAUTO,ENCRYP-TYPE=WEP,WEP-ENCRYPTIONLEVEL=1,WEP-KEYIND
EX=1,WEPKEY1=12345,WEPKEY3=34567;
```

- The response information:

```
   FH_10.78.20.120 2012-10-15 13:27:37


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

None

3.2.22 Configuring the WAN Connection Service

Functions

This command is used to configure the WAN connection service for an ONU which has been authorized by the 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,CO
NNTYPE=connecttype[,VLAN=vlan][,COS=cos][,QOS=qos][,NAT=nat[,IPMODE=ip
mode][,WANIP=wanip,WANMASK=mask,WANGATEWAY=gateway,MASTERDNS=maskdns,S
LAVEDNS=slavedns][[,PPPOEPROXY=proxy],PPPOEUSER=pppoeusername,PPPOEPAS
SWD=pppoepassword,PPPOENAME=pppoename[,PPPOEMODE=pppoemode]]],[UPORT=u
port,SSID=ssidno,WANSVC=1];
```

Applicable equipment

OLT: the AN5116-02, the AN5116-06B
ONU: the AN5506-04-F1, the AN5506-04-B2

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
OLTID	OCTET STRING	SIZE (128)	The OLT IP address or name, ID	-
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port number, and in the absence of any of the cabinet, subrack, slot, PON port number, fill with NA.	-
ONUIDTYPE	OCTET STRING	MAC LOID ONU_Number ONU_NAME	The ONU identifier type (NAME, MAC, LOID, ONU_Number)	-
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	-
STATUS	INTEGER	1- add 2- delete	1 means adding, and 2 means deleting.	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
MODE	INTEGER	1-4	The WAN connection mode: 1-TR069, 2-INTERNET, 3-TR069 INTERNET, 4-Other /When CONNTYPE is Bridge, the mode can only be Internet or Other	
CONNTYPE	INTEGER	1-2	The WAN connection type: 1-Bridge, 2-Route	
VLAN	INTEGER	0-4085	The VLAN ID of the WAN connection	
COS	INTEGER	1-7	The VLAN COS of the WAN connection	
QOS	INTEGER	1 Enabled 2 Disabled	The enabling status of the QOS function: 1 Enabled, 2 Disabled	
NAT	INTEGER	1 Enabled 2 Disabled	The enabling status of the NAT function: 1 Enabled, 2 Disabled	
IPMODE	INTEGER	1 to 3	The mode in which the WAN obtains its IP address: 1-DHCP, 2-STATIC, 3-PPPOE	
WANIP	OCTET STRING	SIZE (16)	The static IP address of the WAN connection. It must be a legal IP address, and uses the dotted-decimal format. It is valid when IPMODE is set to STATIC.	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
WANMASK	OCTET STRING	SIZE (16)	The subnet mask of the WAN connection. It must be a legal IP address, and uses the dotted-decimal format. It is valid when IPMODE is set to STATIC.	
WANGATEWAY	OCTET STRING	SIZE (16)	The default gateway of the WAN connection. It must be a legal IP address, and uses the dotted-decimal format. It is valid when IPMODE is set to STATIC.	
MASTERDNS	OCTET STRING	SIZE (16)	The master DNS of the WAN connection. It must be a legal IP address, and uses the dotted-decimal format. It is valid when IPMODE is set to STATIC.	
SLAVEDNS	OCTET STRING	SIZE (16)	The slave DNS of the WAN connection. It must be a legal IP address, and uses the dotted-decimal format. It is valid when IPMODE is set to STATIC.	
PPPOEPROXY	INTEGER	1-2	1 Enabled 2 Disabled	
PPPOEUSER	OCTET STRING	STRING (32)	The user name of the PPPOE connection.	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
PPPOEPASSWD	OCTET STRING	STRING (32)	The password of the PPPOE connection.	
PPPOENAME	OCTET STRING	STRING (32)	The PPPOE service name.	
PPPOEMODE	INTEGER	1-2	The PPPOE dialing mode: 1-automatic, 2-connecting when traffics existing.	
UPORT	INTEGER	1-4	The FE port number, with the value range 1-4. For the UPORT, SSID, and WANSVC parameters, one and only one parameter can be used.	
SSID	INTEGER	1-4	The SSID number, with the value range 1-4. For the UPORT, SSID, and WANSVC parameters, one and only one parameter can be used.	
WANSVC	INTEGER	1	When the mode is TR069, this parameter is valid, and its value is 1. For the UPORT, SSID, and WAN SVC parameters, one and only one parameter can be used.	

Response format

Complies with the response format mentioned in Section 2.4.

Output parameters

None

Example

Example 1: The ONU whose ID is 999999999997 is under PON port 1 of the card in slot 3 of the OLT whose IP address is 10.250.18.100. The ONU uses the physical identifier authentication mode, and the WAN connection in the TR069 mode is configured.

- The delivered commands:

```
SET-WANSERVICE::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=MAC,ONUI
D=999999999997: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,MASTER
DNS=3.3.3.3,SLAVEDNS=4.4.4.4,WANSVC=1;
```

- The response information:

```
   FH_10.78.20.120 2012-10-15 14:36:03


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

```
ADD-ONU
```

3.2.23 Deleting the WAN Connection

Functions

This command is used to delete the WAN connection.

Command format

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

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The OLT IP address or name, ID	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port number, and in the absence of any of the cabinet, subrack, slot, PON port number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type (NAME, MAC, LOID, ONU_Number)	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.
STATUS	INTEGER	1-2	1 means configuring 2 means deleting	Required. Here it is used for deleting, so you should select 2.

Parameter Name	Data Type	Value Range	Parameter Description	Remark
MODE	INTEGER	1: TR069 2: INTEGER 3: TR069 INTEGER 4: Other	The WAN connection mode	Required.
CONNTYPE	INTEGER	1: bridge 2: route	The WAN connection type	Required.
VLAN	INTEGER	1-4085	The VLAN ID of the WAN connection	Required.
COS	INTEGER	0-7	The 802.1p priority of the WAN connection	Required.
UPORT	INTEGER	1-4,101-104	For a bound LAN port, UPORT = 1 to 4 refers to LAN1 to LAN4 respectively, and UPORT = 101 to 104 refers to SSID1 to SSID4 respectively	Required

Response format

Complies with the response format mentioned in Section 2.4.

Output parameters

None

Example

Example 1: (for an ONU not having the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We delete the WAN connection service information of this ONU.

- The delivered commands:

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

- The response information:

```
   FH_10.82.25.73 2013-02-22 17:38:22


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

None

3.2.24 Deleting the Voice Service from a VOIP Port

Functions

This command is used to delete the voice service from a VOIP port.

Command format

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

Applicable equipment

OLT: the AN5116-02, the AN5116-06B
ONU: the AN5006-04, AN5006-04C, AN5005-05, AN5006-06B, AN5006-07B, AN5006-07C, AN5006-09B, AN5006-10B, AN5006-15, AN5006-16, AN5006-20, and HG220

Input parameters

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

Parameter Name	Data Type	Value Range	Parameter Description	Remark
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port number, and in the absence of any of the cabinet, subrack, slot, PON port number, fill with NA.	Required
ONUIDTYPE	OCTET STRING	SIZE (128)	ONU identifier type (ONU_NAME, MAC, LOID, ONU_NUMBER)	Required
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	Required
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port number, and in the absence of any of the cabinet, subrack, slot, PON port number, fill with NA.	Required

Response format

Complies with the response format mentioned in Section 2.4.

Output parameters

None

Example

Example 1: (for an ONU not having the management IP address) The ONU whose ID is 54-4B-40-04-2C-1E is under PON port 1 of the card in slot 3 of the OLT whose IP address is 10.250.18.100. We delete the voice service on voice port 1 of this ONU; the ONU uses the MAC authentication mode.

- The delivered commands:

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

- The response information:

```
   FH_10.78.20.120 2011-02-21 19:06:14


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Example 2: (for an ONU having the management IP address) The IP address of the ONU is 10.78.11.115. We delete the voice service on POTS port 4 of the card in slot 1 on this ONU.

- The delivered commands

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

- The response information

```
   FH_10.78.20.120 2011-02-22 19:08:09


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

```
ACT-VOIPPORT


CFG-VOIPSERVICE
```

3.3 Integrated Test Interface

3.3.1 PON Service

3.3.1.1 Pinging an IP from the Equipment (PING)

Functions

This function is used to test the VoIP channel.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
title = Ping from ONU
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128) ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
IP	OCTET STRING	SIZE (20)	The target IP address of the ping operation

Output parameter

Parameter Name	Data Type	Value Range	Remark
TxPkts	INTEGER	0 to 10	The number of Tx packets
RxPkts	INTEGER	0 to 10	The number of Rx packets
LostPkts	INTEGER	0 to 10	The number of lost packets
LostPktRatio	INTEGER	0 to 100	Packet loss rate
MinDelay	INTEGER	0 to 2000	Minimum delay time Unit: ms
MaxDelay	INTEGER	0 to 2000	Maximum delay time Unit: ms
AvgDelay	INTEGER	0 to 2000	Average delay time Unit: ms

Example

Command:

```
PING::ONUIP=133.5.35.237:CTAG::IP=134.140.55.130;
```

Response:

```
FH_134.140.55.130 2010-07-01 11:19:48
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   16  0   8
```

Meaning:

This command is used to ping the 134.140.55.130 OLT from the 133.5.35.237 ONU.

3.3.1.2 Querying the NE Equipment Information (LST-DEVINFO)

Functions

Query the equipment type, software version, memory, CPU, temperature, and other information of a certain NE (OLT and ONU).

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
title = Ping from ONU
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
DEVNAME	OCTET STRING	SIZE (128)	The equipment name
DEVIP	OCTET STRING	SIZE (128)	The equipment IP address
DT	OCTET STRING	SIZE (255)	The equipment type
DEVER	OCTET STRING	SIZE (255)	The software version
MEM	INTEGER	0 to100	The memory utilization ratio Unit: %
CPU	INTEGER	0 to100	The CPU utilization Unit: %
TEMPERATURE	INTEGER	-50 to 100	The temperature Unit: ℃

Example

Command:

```
LST-DEVINFO::OLTID=133.5.35.234,PONID=NA-NA-4-1,ONUIDTYPE=LOID,ONUID=h
g220sn_1:CTAG::;
```

Response:

```
List of Device Info
------------------------------------------------------------------------
DEVNAME DEVIP   DT  DEVER   MEM CPU TEMPERATURE
--  --  HG220   !!RP0100    --  --  --
```

Meaning:

This command is used to query the NE equipment information of the ONU whose SN is hg220sn_1 connected to the 133.5.35.234 OLT.

3.3.1.3 Querying the Card Information (LST-BRDINFO)

Functions

Query the type, status, version, etc. of a certain card.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
title = Ping from ONU
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
BOARDID	OCTET STRING	SIZE (128) Cabinet -subrack-slot	The card identity information. A card is located in the cabinet -subrack-slot Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
BOARDID	OCTET STRING	SIZE (128) Cabinet -subrack-slot	The card identity information. A card is located in the cabinet -subrack-slot Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
BSTAT	OCTET STRING	Normal Fault Offline	The card status
BOARDTYPE	OCTET STRING	SIZE (128)	The card type
BSERVICE	OCTET STRING	Power ETH ADSL VDSL POTS E1 GPON EPON SCU Other	The card service type (such as the ADSL2P, the SHDSL)
PNUM	INTEGER	0 to 64	The number of ports
SWVER	OCTET STRING	SIZE (255)	The software version
HWVER	OCTET STRING	SIZE (255)	The hardware version
MEM	INTEGER	0 to100	The memory utilization ratio Unit: %
CPU	INTEGER	0 to 100	The CPU utilization Unit: %

Example

Command:

```
LST-BRDINFO::OLTID=133.5.35.235,BOARDID=NA-NA-4:CTAG::;
```

Response:

```
DEVNAME DEVIP   DT  DEVER   MEM CPU TEMPERATURE
237_AN5006-20                                       133.5.35.237
AN5006-20   RP0106  64.29   2.33    38
```

Meaning:

This command is used to query the information of the card in slot 4 of the 133.5.35.235 OLT.

3.3.1.4 Querying the ETH Performance (LST-LANPERF)

Functions

Query the ETH performance of an OLT uplink port or an ONU LAN port.

Command format

```
LST-LANPERF::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index], PORTID=lanport_index:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = List of Ethenet performance
```

Output parameter

Parameter Name	Data Type	Value Range	Remark
OutPkts	DOUBLE	0 to 1.85E19	The number of Tx packets
InPkts	DOUBLE	0 to1.85E19	The number of Rx packets
OutOctets	DOUBLE	0 to1.85E19	The number of Tx bytes
InOctets	DOUBLE	0 to1.85E19	The number of Rx bytes
CRC	DOUBLE	0 to1.85E19	The number of Rx CRC errored messages
UnderSizePkts	DOUBLE	0 to1.85E19	The number of Rx under-size messages
OverSizePkts	DOUBLE	0 to1.85E19	The number of Rx over-size messages
InErrors	DOUBLE	0 to1.85E19	The number of Rx errored messages
OutErrors	DOUBLE	0 to1.85E19	The number of non-Tx errored messages
InDiscards	DOUBLE	0 to1.85E19	The number of discarded Rx messages
OutDiscards	DOUBLE	0 to1.85E19	The number of discarded Tx messages
InUnicastPkts	DOUBLE	0 to1.85E19	The number of Rx unicast packets
InMulticastPkts	DOUBLE	0 to1.85E19	The number of Rx multicast packets
InBroadcastPkts	DOUBLE	0 to1.85E19	The number of Rx broadcast packets
OutUnicastPkts	DOUBLE	0 to1.85E19	The number of Tx unicast packets
OutMulticastPkts	DOUBLE	0 to1.85E19	The number of Tx multicast packets
OutBroadcastPkts	DOUBLE	0 to1.85E19	The number of Tx broadcast packets
StateChangeCounters	INTEGER	0 to 4294967295	The port status changing times

Example

Command:

```
LST-LANPERF::OLTID=133.5.35.234,PORTID=NA-NA-29-1:CTAG::;
```

Response:

```
List of Ethenet performance
---------------------------------------------------------------------------
OutPkts InPkts  OutOctets   InOctets    CRC UnderSizePkts
OverSizePkts    InErrors    OutErrors   InDiscards  OutDiscards
InUnicastPkts   InMulticastPkts InBroadcastPkts OutUnicastPkts
OutMulticastPkts    OutBroadcastPkts    StateChangeCounters

6889643 198010  509876  0   0   0   0   --  0   --  197 37  6655    --
0   98  --
```

Meaning:

This command is used to query the information of the uplink port 29 of the card in slot 1 under the 133.5.35.234 OLT.

3.3.1.5 Querying the PON Port Information (LST-PONINFO)

Functions

Query the status and configuration information of an OLT PON port.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

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

Input parameter

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
AdminState	OCTET STRING	UP DOWN	The management status
OperState	OCTET STRING	UP DOWN	The running status

Example

Command:

```
AN5116-02:

LST-PONINFO::OLTID=133.5.35.234,PONID=NA-NA-4-1:CTAG::;
```

Response:

```
  List of Board Info
------------------------------------------------------------------------
BOARDID BSTAT   BOARDTYPE   BSERVICE    PNUM    SWVER   HWVER   MEM
CPU
NA-1-4  Normal  EC4B    EPON    4   RP0201  WKE2.119.318R1A --  --
```

Meaning:

This command is used to query the information of the PON port 1 of the card in slot 4 under the 133.5.35.234 OLT.

3.3.1.6 Querying the ONU Configuration Information (LST-ONUCFG)

Functions

Query the configuration information of an ONU from the OLT, including the ONU status, the optical fiber length, the authentication information, etc.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of ONU info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Parameter Name	Data Type	Value Range	Remark
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
AdminState	OCTET STRING	UP DOWN	The management status
OperState	OCTET STRING	UP Power-Off LOS	The running status
AUTH	OCTET STRING	MAC LOID	The authentication mode
AUTHINFO	OCTET STRING	SIZE (64)	The authentication information. If AUTH is set to MAC, AUTHINFO means the MAC address; If AUTH is set to LOID, AUTHINFO means the LOID value.
Length	INTEGER	0 to 100	The optical fiber length Unit: km
UsFixedBw	INTEGER	0 to 40000	The uplink fixed bandwidth Unit: Mbit/s
UsAssuredBw	INTEGER	0 to 40000	The uplink assured bandwidth Unit: Mbit/s
UsMaxBw	INTEGER	0 to 40000	The uplink maximum bandwidth Unit: Mbit/s
DsMaxBw	INTEGER	0 to 40000	The downlink maximum bandwidth Unit: Mbit/s

Example

Command:

```
LST-ONUCFG::OLTID=133.5.35.234,PONID=NA-NA-4-1,ONUIDTYPE=LOID,ONUID=51
1603:CTAG::;
```

Response:

```
list of ONU info
------------------------------------------------------------------------
AdminState  OperState   AUTH    AUTHINFO    Length  UsFixedBw
UsAssuredBw UsMaxBw DsMaxBw
UP  UP  LOID    551607  0.002   0   0   1000    1000
```

Meaning:

This command is used to query the configuration information of the ONU under PON port 1 of the card in slot 4 under the 133.5.35.234 OLT.

3.3.1.7 Querying the ONU Status (LST-ONUSTATE)

Functions

Query the status and authentication information of an ONU or all ONUs under the PON port of an OLT.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of ONU state
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value is ONU_Number. It is used to uniquely identify an ONU connected with the appointed PON port.
AdminState	OCTET STRING	UP DOWN	The management status
OperState	OCTET STRING	UP Power-Off LOS	The running status
AUTH	OCTET STRING	MAC LOID	The authentication mode
AUTHINFO	OCTET STRING	SIZE (64)	The authentication information. If AUTH is set to MAC, AUTHINFO means the MAC address; If AUTH is set to LOID, AUTHINFO means the LOID value.
ONUIP	OCTET STRING		The ONU management IP address

Example

Command:

```
LST-ONUSTATE::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=
551607:CTAG::;
```

Response:

```
list of ONU state
------------------------------------------------------------------------
ONUID   AdminState  OperState   AUTH    AUTHINFO    ONUIP
1   UP  UP  LOID    551607  --
```

Meaning:

This command is used to query the configuration status information of the ONU under PON port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.1.8 Querying the Optical Module DDM Information (LST-OMDDM)

Functions

Querying the DDM information of an optical module, and the optical module can be an ETH optical module, an OLT PON optical module, or an ONU PON optical module.

Command format

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

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
PORTID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
PEERFLAG	OCTET STRING	SIZE (128)	True, False

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	When users query the OLT optical module, the system returns -- When users query the ONU optical module, the system returns the ONU ID; and the value is ONU_Number
RxPower	OCTET STRING	-40 to 10	The Rx optical power (dBm)
RxPowerR	OCTET STRING	Normal High Low	Whether the Rx optical power is normal
TxPower	OCTET STRING	-40 to 10	The Tx optical power (dBm)
TxPowerR	OCTET STRING	Normal High Low	Whether the Tx optical power is normal
CurrTxBias	OCTET STRING	0 to 131	The bias current (mA)
CurrTxBiasR	OCTET STRING	Normal High Low	Whether the bias current is normal
Temperature	OCTET STRING	-45 to 90	Temperature (℃)
Temperature	OCTET STRING	Normal High Low	Whether the temperature is normal
Voltage	OCTET STRING	0 to 6.55	The power supply voltage (V)
VoltageR	OCTET STRING	Normal High Low	Whether the power supply voltage is normal
PTxPower	OCTET STRING	-40 to 10	Means the opposite Tx optical power (unit: dBm); if the value is null, the system will return --.
PRxPower	OCTET STRING	-40 to 10	Means the opposite Rx optical power (unit: dBm); if the value is null, the system will return --.

Response format

Complies with the response format on query commands mentioned in Section 2.4.

Title = List of Optical Power Info

Example

Command:

```
LST-OMDDM::OLTID=133.5.35.234,PONID=NA-NA-4-1,ONUIDTYPE=LOID,ONUID=511
603:CTAG::;
```

Response:

```
   List of Optical Power Info
---------------------------------------------------------------------------
ONUID    RxPower RxPowerR    TxPower TxPowerR    CurrTxBias
CurrTxBiasR Temperature TemperatureR    Voltage VoltageR
1    -6.59   Normal  0.84    Normal  134.80  High    63.25   Normal
3.20    Normal
---------------------------------------------------------------------------
```

Meaning:

This command is used to query the information of the optical module under PON port 1 of the card in slot 4 under the 133.5.35.234 OLT.

3.3.1.9 Querying the PON Link Quality (LST-PONPERF)

Functions

Query the statistics data of an PON port under the OLT or ONU, including the number of Tx / Rx packets, the Tx / Rx bytes, the number of errored frames number, etc.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of pon port performance
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
OutPkts	DOUBLE	0 to 1.85E19	The number of Tx packets
InPkts	DOUBLE	0 to 1.85E19	The number of Rx packets
OutOctets	DOUBLE	0 to 1.85E19	The number of Tx bytes
InOctets	DOUBLE	0 to 1.85E19	The number of Rx bytes
CRC	DOUBLE	0 to 1.85E19	The number of Rx CRC errored messages
UnderSizePkts	DOUBLE	0 to 1.85E19	The number of Rx under-size messages
OverSizePkts	DOUBLE	0 to 1.85E19	The number of Rx over-size messages
InErrors	DOUBLE	0 to 1.85E19	The number of Rx errored messages number
OutErrors	DOUBLE	0 to 1.85E19	The number of non-Tx errored messages
InDiscards	DOUBLE	0 to 1.85E19	The number of discarded Rx messages
OutDiscards	DOUBLE	0 to 1.85E19	The number of discarded Tx messages
InUnicastPkts	DOUBLE	0 to 1.85E19	The number of Rx unicast packets
InMulticastPkts	DOUBLE	0 to 1.85E19	The number of Rx multicast packets
InBroadcastPkts	DOUBLE	0 to 1.85E19	The number of Rx broadcast packets
OutUnicastPkts	DOUBLE	0 to 1.85E19	The number of Tx unicast packets
OutMulticastPkts	DOUBLE	0 to 1.85E19	The number of Tx multicast packets
OutBroadcastPkts	DOUBLE	0 to 1.85E19	The number of Tx broadcast packets

Example

Command:

```
LST-PONPERF::OLTID=133.5.35.235,PONID=NA-NA-4-4:CTAG::;
```

Response:

```
  list of ONU info
AdminState  OperState   AUTH    AUTHINFO    Length  UsFixedBw
UsAssuredBw UsMaxBw DsMaxBw

UP  UP  --  --  0.105   0   0   1000    1000
```

Meaning:

This command is used to query the PON link quality under PON port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.1.10 Querying the ONU UNI Port MAC Address Table (LST-PORTMACADDRESS)

Functions

Query the MAC address table learned by the ONU UNI port, and the format of a certain MAC address is XX-XX-XX-XX-XX-XX.

Command format

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

Meaning:

To query a subscriber port:

For an ONU with the management IP, use the following command format:

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

For an ONU without the management IP, use the following command format:

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of MAC Address
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Parameter Name	Data Type	Value Range	Remark
PORTID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
VLAN	INTEGER	0 to 4096	The VLAN ID

Output parameter

Parameter Name	Data Type	Value Range	Remark
VLAN	INTEGER	0 to 4095	The VLAN ID
MAC	OCTET STRING	SIZE (128)	The MAC address XX-XX-XX-XX-XX-XX

Example

Command:

```
LST-PORTMACADDRESS::ONUIP=133.5.35.237,PORTID=NA-NA-1-1,VLAN=21:CTAG::
```

Response:

```
FH_134.140.55.130 2010-07-01 11:21:34
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of MAC Address
------------------------------------------------------------------------
VLANMAC
21
```

Meaning:

This command is used to query the MAC address table of the VLAN 21 under port 1 of the card in slot 1 under the 133.5.35.237 ONU.

3.3.1.11 Querying the Wi-Fi Service Information of an ONU

Functions

This command is used to query 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::;
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type. including ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Respond format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = result of wifiservice


SSIDNO  WIFIENABLE  WILESSAREA  WILESSCHANNEL  WILESSSTANDARD  TPOWER
SSIDNAME    SSIDENABLE  SSIDVISIBALE    AUTHMODE    ENCRYPTYPE
PRESHAREDKEY    UPDATEKEYINTERVAL   RADIUSSERVER    RADIUSPORT
RADIUSKEY   WEPENCRYPTIONLEVEL  WEPKEYINDEX WEPKEY1 WEPKEY2 WEPKEY3
WEPKEY4
```

Output parameters

Parameter Name	Data Type	Value Range	Parameter Description
SSIDNO	INTEGER	1-4	SSID index
WIFIENABLE	OCTET STRING	Enable, Disable	The enabling / disabling status of the Wi-Fi
WILESSAREA	OCTET STRING	USA, EURO	The Wi-Fi wireless area
WILESSCHANNEL	INTEGER	When WILESS-AREA is 0, this parameter should be [0,13]. When WILESS-AREA is 1, this parameter should be [0,11].	Wireless channel number

Parameter Name	Data Type	Value Range	Parameter Description
WILESSSTANDARD	OCTET STRING	802.11b, 802.11g, 802.11b/g, 802.11n 802.11bgn	Wireless standard
TPOWER	INTEGER	[0,20]	The transmitted power
SSIDNAME	OCTET STRING	SIZE (32)	The SSID index
SSIDENABLE	OCTET STRING	Enable, Disable	Means whether the SSID is enabled. 0 means that the SSID is disabled; 1 means that the SSID is enabled.
SSIDVISIBALE	OCTET STRING	Available, Not-Available	The SSID name
AUTHMODE	OCTET STRING	OPEN SHARED WEPAUTO WPAPSK WPA WPA2PSK WPA2 WPA/WPA2 WPAPSK WPA2PSK	The WLAN authentication mode
ENCRYPTYPE	OCTET STRING	NONE: WEP: TKIP: AES: TKIPAES	The WLAN encryption type
PRESHAREDKEY	OCTET STRING	-STRING (64)	The WPA pre-shared key
UPDATEKEYINTERVAL	INTEGER	[0,4194303]	The WPA key update interval Unit: s
RADIUSSERVER	OCTET STRING	SIZE (128)	The RADIUS server

Parameter Name	Data Type	Value Range	Parameter Description
RADIUSPORT	OCTET STRING	STRING (2)	The RADIUS server port
RADIUSKEY	OCTET STRING	STRING (32)	RADIUS-Key
WEPENCRYPTIONLEVEL	INTEGER	1: 40 bit 2: 104 bit	The WEP key length
WEPKEYINDEX	INTEGER	[1,4]	The key index
WEPKEY1	OCTET STRING	STRING (64)	The WEP key 1
WEPKEY2	OCTET STRING	STRING (64)	The WEP key 2
WEPKEY3	OCTET STRING	STRING (64)	The WEP key 3
WEPKEY4	OCTET STRING	STRING (64)	The WEP key 4

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We query the Wi-Fi service information on this ONU.

- The delivered commands:

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

- The response information:

```
   FH_10.82.25.73 2013-02-17 16:20:25


M  CTAG COMPLD


   total_blocks=1
```

```
   block_number=1


   block_records=4




result of wifiservice


---------------------------------------------------------------------
----------


SSIDNO  WIFIENABLE  WILESSAREA  WILESSCHANNEL   WILESSSTANDARD  TPOWER
SSIDNAME    SSIDENABLE  SSIDVISIBALE    AUTHMODE    ENCRYPTYPE
PRESHAREDKEY    UPDATEKEYINTERVAL   RADIUSSERVER    RADIUSPORT
RADIUSKEY   WEPENCRYPTIONLEVEL  WEPKEYINDEX WEPKEY1 WEPKEY2 WEPKEY3
WEPKEY4


1   Enable  USA 5   802.11g 15  Bgolas  Disable Not-Available
WPA2PSK AES 1111111111  3600    --  --  --  40 bit  1   --  --  --  --


2   Enable  USA 5   802.11g 15  eeeeea  Disable Available   WPA2PSK
AES ru83n55c    3600    --  --  --  40 bit  1   --  --  --  --


3   Enable  USA 5   802.11g 15  ghhhhhh Disable Available   OPEN
AES --  86400   --  --  --  40 bit  1   --  --  --  --


4   Enable  USA 5   802.11g 15  wwwwww  Disable Available   WPA2PSK
AES ru83n55c    3600    --  --  --  40 bit  1   --  --  --  --




---------------------------------------------------------------------
----------


;
```

Related commands

None

3.3.1.12 Querying the WAN Connection Service Information

Functions

This command is used to query the WAN connection service information of an ONU.

Command format

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

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type, including ONU_NAME, MAC, LOID, ONU_NUMBER
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUPORT	OCTET STRING	SIZE(128)	A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	It is optional. The value range of a LAN port is NA-NA-NA-1 to NA-NA-NA-4; the value range of a Wi-Fi port is NA-NA-NA-101 to NA-NA-NA-104.

Respond format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = List of Onu Wan service cfg


SVCNAME CONNMODE CONNTYPE VLANID VLANCOS NATFLAG IPOBTAINTYPE
STATICIPADDRESS STATICIPSUBNET STATICGATEWAY MASTERDNS SLAVEDNS
PPPOEPROXYFLAG PPPOEUSERNAME PPPOEPASSWD PPPOESVCNAME PPPOEMODE QOSFLAG
BINDPORTNO
```

Output parameters

Parameter Name	Data Type	Value Range	Parameter Description
SVCNAME	OCTET STRING	SIZE (128)	The WAN connection name
CONNMODE	INTEGER	1- TR069 2- INTERNET 3- TR069INTERNE 4- Other	The WAN connection mode
CONNTYPE	INTEGER	1: bridge 2: route	The WAN connection type
VLANID	INTEGER	1-4085, or null	The WAN connection VLAN ID

Parameter Name	Data Type	Value Range	Parameter Description
VLANCOS	INTEGER	0-7, null	The WAN connection VLAN COS
NATFLAG	INTEGER	1: enable 2: disable	The enabling status of NAT for the WAN connection
IPOBTAINTYPE	INTEGER	1: DHCP 2: Static 3: PPPOE	The address obtaining mode of the WAN connection
STATICIPADDRESS	OCTET STRING	It is valid when IPOBTAINTYPE is STATIC. Otherwise it is 0 (invalid).	The static IP address of the WAN connection. It is valid when IPOBTAINTYPE is STATIC.
STATICIPSUBNET	OCTET STRING	It is valid when IPOBTAINTYPE is STATIC. Otherwise it is 0 (invalid).	The subnet mask of the WAN connection. It is valid when IPOBTAINTYPE is STATIC.
STATICGATEWAY	OCTET STRING	It is valid when IPOBTAINTYPE is STATIC. Otherwise it is 0 (invalid).	The default gateway of the WAN connection
MASTERDNS	OCTET STRING	It is valid when IPOBTAINTYPE is STATIC. Otherwise it is 0 (invalid).	The master DNS of the WAN connection
SLAVEDNS	OCTET STRING	It is valid when IPOBTAINTYPE is STATIC. Otherwise it is 0 (invalid).	The slave DNS of the WAN connection WAN

Parameter Name	Data Type	Value Range	Parameter Description
PPPOEPROXYFLAG	INTEGER	1: enable 2: disable	The PPPOE Proxy enabling status of the WAN connection
PPPOEUSERNAME	OCTET STRING	It is valid when IPOBTAINTYPE is PPPOE. Otherwise it is null (invalid).	The user name of the PPPOE connection
PPPOEPASSWD	OCTET STRING	It is valid when IPOBTAINTYPE is PPPOE. Otherwise it is null (invalid).	The password of the PPPOE connection
PPPOESVCNAME	OCTET STRING	It is valid when IPOBTAINTYPE is PPPOE. Otherwise it is null (invalid).	The PPPOE service name
PPPOEMODE	INTEGER	It is valid when IPOBTAINTYPE is PPPOE. Otherwise it is null (invalid). 1: automatic connection 2: connection when traffic existing	The PPPOE dialing mode
QOSFLAG	INTEGER	1: enable 2: disable	The QoS enabling status of the WAN connection
BINDPORTNO	INTEGER	1-4 refers to LAN1-LAN4, and 101-104 refers to SSID1-SSID4	The bound LAN port

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We query the WAN connection service information on this ONU.

- Delivered commands:

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

- The response information:

```
   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 IPOBTAINTYPE
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
12345678901234567890123456789012345678901234567890123456789012345678901 --  1
1   1


------------------------------------------------------------------------
----------


;
```

Related commands

None

3.3.1.13 Resetting an ONU

Functions

This command is used to reset an ONU.

Command format

```
RESET-ONU::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUID
TYPE=id-type,ONUID=onu_index][,portid=port-id]:CTAG::[RESETTYPE=resett
ype];
```

Applicable equipment

OLT: the AN5116-02, the AN5116-06B
ONU: the AN5506-04-F1, the AN5006-20

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type : ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.
PORTID	OCTET STRING	SIZE (128)	A card is identified by the cabinet -subrack-slot number- port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA. Use the NA-NA-X-0 format to determine the number of the card to be reset.	Optional. To reset a certain line card or the core switch card of an ONU having the management card, it is required.
RESETTYPE	INTEGER	0-1	The value is 0 or 1. 0 means resetting the entire system, and 1 means resetting a line card or the core switch card.	Optional. If it is omitted, the entire system will be reset.

Respond format

Complies with the response format on operation commands mentioned in Section 2.4.

Output parameters

None

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We reset this ONU.

- The delivered commands:

```
RESET-ONU::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC,ONUID=FH
TT01e821a0:CTAG::;
```

- The response information:

```
   FH_10.82.25.73 2013-02-21 14:52:34
```

```
M  CTAG COMPLD

   EN=0   ENDESC=No error

;
```

Example 2: (for an ONU with the management IP address) We reset the ONU whose IP address is 10.78.191.119.

- The delivered commands:

```
RESET-ONU::ONUIP=10.78.191.119:CTAG::RESETTYPE=0;
```

- The response information:

```
   FH_10.82.25.73 2013-02-21 14:55:36

M  CTAG COMPLD

   EN=0   ENDESC=No error

;
```

Related commands

None

3.3.1.14 Modifying IP Address and Range of a Wi-Fi User

Functions

This command is used to modify the IP address and range of a Wi-Fi user.

Command format

```
CFG-USERDHCPSERVER::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_locat
ion,ONUIDTYPE=id-type,ONUID=onu_index]:CTAG::LANIP=lan_ip,ENABLE=enabl
e_value,DHCPPOOLSTART=dhcp_start_value,DHCPPOOLEND=dhcp_end_value,DHCP
PRIDNS=pri_dns,DHCPSECDNS=sec_dns,DHCPGATEWAY=gateway_value,DHCPMASK=m
ask_value;
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type : ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.
LANIP	OCTET STRING	SIZE(128)	Its value should be in the network segment the same as that of the DHCPPOOLSTART and DHCPPOOLEND.	Required
ENABLE	OCTET STRING	SIZE (128) True / false	Enables / disables the configured IP address segment.	Required

Parameter Name	Data Type	Value Range	Parameter Description	Remark
DHCPPOOLSTART	OCTET STRING	SIZE (128)	The DHCP starting address, and must be less than the DHCP ending address.	Required
DHCPPOOLEND	OCTET STRING	SIZE (128)	The DHCP ending address	Required
DHCPPRIDNS	OCTET STRING	SIZE (128)	The DHCP master DNS server	Required
DHCPSECDNS	OCTET STRING	SIZE (128)	The DHCP slave DNS server	Required
DHCPGATEWAY	OCTET STRING	SIZE (128)	The DHCP default gateway	Required
DHCPMASK	OCTET STRING	SIZE (128)	The DHCP mask	Required

Respond format

Complies with the response format on operation commands mentioned in Section 2.4.

Output parameters

None

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We modify the IP address and range of this ONU.

- The delivered commands:

```
CFG-USERDHCPSERVER::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=MAC
,ONUID=FHTT01e821a0:CTAG::LANIP=10.78.11.6,ENABLE=true,DHCPPOOLSTART=1
0.78.11.3,DHCPPOOLEND=10.78.11.9,DHCPPRIDNS=6.6.6.6,DHCPSECDNS=5.5.5.5
,DHCPGATEWAY=10.78.11.1,DHCPMASK=255.255.0.0;
```

- The response information:

```
   FH_10.82.25.73 2013-02-22 17:05:44


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

None

3.3.1.15 Modifying User Name and Password at the Web GUI

Functions

This command is used to modify the user name and password at the Web GUI.

Command format

```
CFG-WEBADMINISTRATOR::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_loc
ation,ONUIDTYPE=id-type,ONUID=onu_index]:CTAG::[WEBUSERNAME=user_name]
[,WEBPASSWORD=web_password];
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot- port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type : ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.
WEBUSERNAME	OCTET STRING	SIZE (128)	The Web user name, including: English letters, digital numbers, / - _	Optional. By default is admin.
WEBPASSWORD	OCTET STRING	SIZE (128)	The Web password, including: English letters, digital numbers, / - _	Optional. By default is admin.

Respond format

Complies with the response format on operation commands mentioned in Section 2.4.

Output parameters

None

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We modify the user name and password at the Web GUI of this ONU.

- The delivered commands:

```
CFG-WEBADMINISTRATOR::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=O
NU_NUMBER,ONUID=1:CTAG::WEBUSERNAME=user_name,WEBPASSWORD=web_password
;
```

- The response information:

```
   FH_10.82.25.73 2013-02-22 17:07:42


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

None

3.3.1.16 Restoring the Default Configuration

Functions

This command is used to restore the default configuration.

Command format

```
RESTORE-DEFAULTCFG::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_locat
ion,ONUIDTYPE=id-type,ONUID=onu_index]:CTAG::;
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot- port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type : ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Respond format

Complies with the response format on operation commands mentioned in Section 2.4.

Output parameters

None

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We restore the default configuration of this ONU.

- The delivered commands:

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

- The response information:

```
   FH_10.82.25.73 2013-02-22 17:16:32


M  CTAG COMPLD


   EN=0   ENDESC=No error


;
```

Related commands

None

3.3.1.17 Querying IP Address and Range of a Wi-Fi User

Functions

This command is used to query the IP address and range of a Wi-Fi user.

Command format

```
LST-USERDHCPSERVER::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_locat
ion,ONUIDTYPE=id-type,ONUID=onu_index]:CTAG::;
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot- port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type: ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE(128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Respond format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = List of user DHCP server cfg:


LANIP ENABLE DHCPSTART DHCPEND DHCPPRIDNS DHCPSECDNS DHCPGATEWAY
```

Output parameters

Parameter Name	Data Type	Value Range	Parameter Description

Parameter Name	Data Type	Value Range	Parameter Description
LANIP	OCTET STRING	SIZE (128)	Its value should be in the network segment the same as that of DHCPPOOLSTART and DHCPPOOLEND
ENABLE	OCTET STRING	SIZE (128) Enable / Disable	Enables / disables the configured IP address segment
DHCPPOOLSTART	OCTET STRING	SIZE (128)	The DHCP starting address. It must be less than the DHCP ending address
DHCPPOOLEND	OCTET STRING	SIZE (128)	The DHCP ending address
DHCPPRIDNS	OCTET STRING	SIZE (128)	The DHCP master DNS server
DHCPSECDNS	OCTET STRING	SIZE (128)	The DHCP slave DNS server
DHCPGATEWAY	OCTET STRING	SIZE (128)	The DHCP default gateway

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We query the IP address and range of a Wi-Fi user of this ONU.

- The delivered commands:

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

- The response information:

```
   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


192.168.1.1 Enable  192.168.1.2 192.168.1.253   0.0.0.0 0.0.0.0
192.168.1.1


------------------------------------------------------------------------
----------


;
```

Related commands

None

3.3.1.18 Querying User Name and Password at the Web GUI

Functions

This command is used to query the user name and password at the Web GUI.

Command format

```
LST-WEBADMINISTRATOR::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_loc
ation,ONUIDTYPE=id-type,ONUID=onu_index]:CTAG::;
```

Applicable equipment

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

Input parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
ONUIP	OCTET STRING	SIZE (128)	The ONU IP address or name, ID (the ONU having the management IP address)	For an ONU having the management IP address, this parameter is required.
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	For an ONU not having the management IP address, this parameter is required.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot- port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU identifier type: ONU_NAME, MAC, LOID, ONU_NUMBER	For an ONU not having the management IP address, this parameter is required.
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Respond format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = List of web administrator cfg:


WEBUSERNAME WEBPASSWORD GROUP
```

Output parameters

Parameter Name	Data Type	Value Range	Parameter Description

Parameter Name	Data Type	Value Range	Parameter Description
WEBUSERNAME	OCTET STRING	SIZE (128)	The Web user name
WEBPASSWORD	OCTET STRING	SIZE (128)	The Web password
GROUP	OCTET STRING	SIZE (128) Admin	Admin means the administrator

Examples

Example 1: (for an ONU without the management IP address) The ONU whose MAC is FHTT01e821a0 is under PON port 4 of the card in slot 18 of the OLT whose IP address is 10.78.191.100. We query the user name and password at the Web GUI of a user on this ONU.

- The delivered commands:

```
LST-WEBADMINISTRATOR::OLTID=10.78.191.100,PONID=NA-NA-18-4,ONUIDTYPE=M
AC,ONUID=FHTT01e821a0:CTAG::;
```

- The response information:

```
   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 WENPASSWORD GROUP


admin    admin    Admin


------------------------------------------------------------------------
----------


;
```

Related commands

None

3.3.2 Voice Service

3.3.2.1 Querying the Voice Quality Statistics Information (LST-VOIPINFO)

Functions

Query the voice quality statistics information based on the voice subscribers, and the information is mainly the RTCP XR statistics information.

Command format

```
LST-VOIPINFO::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ON
UIDTYPE=id-type,ONUID=onu_index],ONUPORT= pots_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of voip info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
StatTime	OCTET STRING	SIZE (20)	The time when the record is generated: yyyy-mm-dd hh:mi:ss
TxPackets	INTEGER	0 to 4294967295	The number of Tx packets
RxPackets	INTEGER	0 to 4294967295	The number of Rx packets
MeanDelay	INTEGER	0 to 65535	The average delay
MeanJitter	INTEGER	0 to 65535	The average jitter
FractionLoss	INTEGER	0 to 100	The packet loss rate Unit: %

Example

Command:

```
LST-VOIPINFO::ONUIP=133.5.35.237,ONUPORT=NA-NA-1-1:CTAG::;
```

Response:

```
list of voip info
------------------------------------------------------------------------
StatTimeTxPackets   RxPackets   MeanDelay   MeanJitter  FractionLoss
1970-01-01 00:00:00 0   0   0   0   0
```

Meaning:

This command is used to query the voice quality statistics information under port 1 of the card in slot 1 under the 133.5.35.237 ONU.

3.3.2.2 Querying the MG Configuration (LST-MGCFG)

Functions

Query the access gateway configuration status.

Command format

```
LST-MGCFG::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location,ONUID
TYPE=id-type,ONUID=onu-index] [,MGID=mg-id]:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of voip info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
MGID	INTEGER	0 to 16	The MG ID, optional. Is used to identify a unique MG module on the ONU.

Output parameter

Parameter Name	Data Type	Value Range	Remark
MGID	INTEGER	0 to 16	The MG ID, optional. Is used to identify a unique MG module on the ONU.
PT	OCTET STRING	SIZE (1 to 32)	The voice protocol type (H.248, SIP)
EID	OCTET STRING	SIZE (1 to 64)	The MG gateway domain name in the H.248 protocol configuration
SIPREGDM	OCTET STRING	SIZE (1 to 64)	The SIP register server
SVLAN	INTEGER	0 to 4095	The voice service outer VLAN
VOIPVLAN	INTEGER	0 to 4095	The voice service inner VLAN
IPMODE	OCTET STRING	SIZE (1 to 64)	The IP address obtaining mode (DHCP, PPPoE, static)
IPADDRESS	OCTET STRING	SIZE (1 to 64)	The IP address
IPMASK	OCTET STRING	SIZE (1 to 64)	The IP address mask
IPGATEWAY	OCTET STRING	SIZE (1 to 64)	The gateway address
PPPOEUSER	OCTET STRING	SIZE (1 to 64)	The PPPoE username
PPPOEPWD	OCTET STRING	SIZE (1 to 64)	The PPPoE password
SCOS	INTEGER	0 to 7	The outer service priority
CCOS	INTEGER	0 to 7	The inner service priority
MGCIP1	OCTET STRING	SIZE (32)	The IP address of the active softswitch
MGCIP2	OCTET STRING	SIZE (32)	The IP address of the standby softswitch
HEARTBEATMODE	OCTET STRING	Enable Disable	The heartbeat mode
HEARTBEATCYCLE	Integer	0 to 65535	The heartbeat cycle (unit: s)
HEARTBEATNUM	Integer	1 to 3	The detected heartbeat number

Example

Command:

```
LST-MGCFG::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=551
607,MGID=0:CTAG::;
```

Response:

```
list of MG port configuration
------------------------------------------------------------------------
MGIDPT  EID SIPREGDM    SVLAN   VOIPVLAN    IPMODE  IPADDRESS   IPMASK
IPGATEWAY   PPPOEUSER   PPPOEPWD    SCOS    CCOS    MGCIP1  MGCIP2
HEARTBEATMODE   HEARTBEATCYCLE  HEARTBEATNUM
0   H.248   fiberhome       65535   601 STATIC      0.0.0.0
65535   7   10.10.10.11     Enable  30  3
```

Meaning:

This command is used to query the MG configuration information under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.3 Querying the MG Interface Information (LST-MGINFO)

Functions

Query the access gateway interface status.

Command format

```
LST-MGINFO::
ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu-index] [,MGID=mg-id]:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of MG port info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
MGID	INTEGER	0 to 16	The MG ID, optional. Is used to identify a unique MG module on the ONU.

Output parameter

Parameter Name	Data Type	Value Range	Remark
MGID	INTEGER	0 to 16	
OperState	OCTET STRING	Registering UP Fault Deregistered Restarting Other	Registering Successful IAD fault Deregistering IAD being restarted Register failure Others

Example

Command:

```
LST-MGINFO::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=55
1604:CTAG::;
```

Response:

```
FH_133.5.35.234 2010-05-23 19:36:20
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    StateChangeCounters
10401386    1.0265e+06  4.85009e+08 0   0   0   0   0   0   0   528 0
858 158 7   875 --
---------------------------------------------------------------------------
```

Meaning:

This command is used to query the MG configuration interface information under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.4 Querying the Port Fax Parameters (LST-FAXINFO)

Functions

Querying the fax parameters of a POTS port.

Command format

```
LST-FAXINFO::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index], ONUPORT=pots_num:CTAG:::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of ONU pots info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
FAXMODE	String	T30 T38	The fax mode
CONTROLMODE	String	NONE SS AUTOVBD	The control mode: Voice path All control Auto-negotiation

Example

Command:

```
LST-FAXINFO::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=5
51604,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
list of ONU pots info
------------------------------------------------------------------------
FAXMODE CONTROLMODE
T30 NONE
```

Meaning:

This command is used to query the fax information of the ONU under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.5 Querying the POTS Port Information (LST-POTSINFO)

Functions

Query the POTS port information, including the line status, the service status, the resistance, and the gain.

Command format

```
LST-POTSINFO::onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYP
E=id-type,ONUID=onu_index],ONUPORT=pots_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
LineState	OCTET STRING	Registering Idle Off-hook Dialing Ringing Ringing-back Connecting Connected Releasing Register-failed Deactived Other	The line status includes the following conditions: Registering Idle Off-hook Dialing Ringing Ringing-back Connecting Connected Releasing Register-failed Deactived Other
ServiceState	OCTET STRING	EndLocal EndRemote EndAuto Normal	The service status is described as follows: EndLocal: The service is terminated locally, caused by a user disabling the port EndRemote: The service is terminated oppositely, caused by the MGC delivering a related command EndAuto: The service is terminated automatically, caused by the MGC fault Normal: The service is normal.
EchoCancel	OCTET STRING	Enable Disable	The echo suppression
ReversedPolarity	OCTET STRING	Enable Disable	The polarity reversal signal
RxGain	Float	-20 to 20	The Rx gain Unit: dB
TxGain	Float	-20 to 20	The Tx gain Unit: dB
PN	OCTET STRING	SIZE (1 to 32)	The SIP telephone number
TID	OCTET STRING	SIZE (1 to 64)	The H.248 subscriber terminal ID
SIPUSERNAME	OCTET STRING	SIZE (1 to 32)	The username corresponding to the SIP subscriber port
SIPUSERPWD	OCTET STRING	SIZE (1 to 32)	The subscriber password corresponding to the SIP subscriber port
MGID	INTEGER	0 to 16	The MG ID. Is used to identify a MG module being used by the subscriber.

Example

Command:

```
LST-POTSINFO::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=
551604,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_133.5.35.235 2010-05-23 19:43:47
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
Deactived   Normal  Enable  Enable  -1  -1
```

Meaning:

This command is used to query the POTS port information of the ONU under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.6 Activating a Voice Port (ACT-VOIPPORT)

Functions

This command is used to activate a POTS port.

For the detailed command format, see Section 3.2.1.

3.3.2.7 Deactivating a Voice Port (DACT-VOIPPORT)

Functions

This command is used to deactivate a POTS port.

For the detailed command format, see Section 3.2.2.

3.3.2.8 External Line Test (MELT)

Functions

Test the external line of a voice or DSL subscriber, so as to diagnose whether the line has faults.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of outside line test
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Parameter Name	Data Type	Value Range	Remark
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
Conclusion	INTEGER	0 to 100	The test conclusion
ACAG	INTEGER	-	The A-line to earth AC voltage Unit: mV
ACBG	INTEGER	-	The B-line to earth AC voltage Unit: mV
ACAB	INTEGER	-	The AC voltage between A-line and B-Line Unit: mV
DCAG	INTEGER	-	The A-line to earth DC voltage Unit: mV
DCBG	INTEGER	-	The B-line to earth DC voltage Unit: mV
DCAB	INTEGER	-	The DC voltage between A-line and B-Line Unit: mV
RAG	INTEGER	-	The A-line to earth resistance Unit: ohm
RBG	INTEGER	-	The B-line to earth resistance Unit: ohm
RAB	INTEGER	-	The resistance between A-line and B-line Unit: ohm
CapAG	INTEGER	-	The A-line to earth capacitance Unit: nF
CapBG	INTEGER	-	The B-line to earth capacitance Unit: nF
CapAB	INTEGER	-	The capacitance between A-line and B-line Unit: nF

Example

Command:

```
MELT::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=551604,O
NUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_133.5.35.235 2010-05-23 19:50:35
M  CTAG COMPLD
total_blocks=1
block_number=1
Conclusion  ACAG    ACBG    ACAB    DCAG    DCBG    DCAB    RAG RBG
RAB CapAG   CapBG   CapAB
22  0.0290          0.1020          0.0950          0.3510
0.3580          0.0000          >10M    1411400.0000    >10M
1365700.0000    1365000.0000    2500.0000
```

Meaning:

This command is used to query the external line test information of the ONU under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.9 Internal Line Test (TEST-POTSCIRCUIT)

Functions

Test the internal line of a POTS line, so as to diagnose whether the internal line has faults.

Command format

```
TEST-POTSCIRCUIT::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_locatio
n,ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=fttbpost_index:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of pots inside line test
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
LoopCurrent	OCTET STRING	Normal Abnormal	Whether the loop current is normal
FeedV	OCTET STRING	Normal Abnormal	Whether the reactive voltage is normal
RingV	OCTET STRING	Normal Abnormal	Whether the ringing current voltage is normal
FeedVValue	INTEGER	-	The reactive voltage Unit: mV
RingVValue	INTEGER	-	The ringing current voltage Unit: mV
LoopCurrentValue	INTEGER	-	The loop current Unit: mA

Example

Command:

```
TEST-POTSCIRCUIT::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ON
UID=551604,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
list of pots inside line test
------------------------------------------------------------------------
LoopCurrent FeedV   RingV   FeedVValue  RingVValue  LoopCurrentValue
Normal   Normal  Normal     39.059      64.651       0.023
```

Meaning:

This command is used to query the internal line test information of the ONU under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.10 Call-in Emulation Test (TEST-CALLEESIMULATION) (Optional)

Functions

The call-in emulation is described as follows: During a call, the program controls the system to complete all operations for a called subscriber to respond the calling party automatically; this means that the operations of the called subscriber are performed by the program. The operator then determines whether the called port can ring normally for the call depending on whether the playback of the called party response can be heard.

Note: If the test system does not deliver a test stopping command after the test starting command is delivered for a certain interval, the test will stop automatically.

Command format

```
TEST-CALLEESIMULATION::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index],
ONUPORT=pots_num:CTAG::ACTION=action-type[,TIMEOUT=timeout];
```

Response format

The response format of the test starting command complies with the response format on operational commands mentioned in Section 2.4.

The response format of the query and test stopping commands complies with the response format on query commands mentioned in Section 2.4.

```
Title = result of callin simulation
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ACTION	OCTET STRING	Start: Starts the test Stop: Stops the test Query: Queries the test result	The test type
TIMEOUT	INTEGER	60 to 300	The test time length (unit: s)

The operation of the test command is described as follows:

1. The test system first delivers a test starting command.
2. The network management system returns a response (starting or rejection).
3. The test system delivers a query command.
4. The network management system returns the current status that has been detected.
5. The test system delivers a test stopping command.
6. The network management system returns the test results.

Output parameter

Parameter Name	Data Type	Value Range	Remark
STATE	OCTET STRING	1.Idle 2.Off-hook 3.Ringing 4.Connected 5.On-hook 6.Testend (test ended)	The current status
Conclusion	INTEGER	1	Successful
		2	Failed
		3	The voice channel has been established, but the test engineer has not confirmed the call conditions.
FailReason	INTEGER	1	There is no interactive signaling.
		2	The called party has picked up the telephone, but the SS does not response to the off-hook signaling.
		3	The internal reasons of the MG
		4	Other reasons

Example

Command:

```
TEST-CALLEESIMULATION::ONUIP=133.5.35.237,ONUPORT=NA-NA-1-1:CTAG::ACTI
ON=Start,TIMEOUT=60;
```
(Description: Starts the test)

```
TEST-CALLEESIMULATION::ONUIP=133.5.35.237,ONUPORT=NA-NA-1-1:CTAG::ACTI
ON=Stop,TIMEOUT=60;(Description：Completes the test)
```

Response:

```
FH_134.140.55.130 2010-07-01 11:23:49
M  CTAG COMPLD
EN=0   ENDESC=No error
FH_134.140.55.130 2010-07-01 11:24:19
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
result of callin simulation
------------------------------------------------------------------------
STATE   Conclusion  FailReason
6   2   1
```

Meaning:

This command is used to query the call-in emulation test information of the ONU under port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.2.11 Call Emulation Test (TEST-CALLERSIMULATION)

Functions

The call emulation is described as follows: During a call, the program controls the system to complete all operations for a calling subscriber to respond the called party automatically; this means that the operations of the calling subscriber are performed by the program. The operator then ascertains whether the calling port can ring normally for the call depending on whether the playback of the calling party response can be heard.
Note: If the test system does not deliver a test stopping command after the test starting command is delivered for a certain interval, the test will stop automatically.

Command format

```
TEST-CALLERSIMULATION::ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_lo
cation,ONUIDTYPE=id-type,ONUID=onu_index],ONUPORT=post_index:CTAG::ACT
ION=action-type,TEL=tel-number[,TIMEOUT=timeout];
```

Applicable equipment

OLT: the AN5116-02, the AN5116-06B
ONU: the AN5006-04, the AN5006-04C, the AN5005-05, the AN5006-06B, the AN5006-07B, the AN5006-07C, the AN5006-09B, the AN5006-10B, the AN5006-15, the AN5006-16, the AN5006-20, the HG220

Input parameters

Parameter Name	Data Type	Value Range	Parameter Name	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name, or ID of an ONU with the management IP address	
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT	
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.	For an ONU not having the management IP address, this parameter is required.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	ONU identifier type : ONU_NAME, MAC, LOID, ONU_NUMBER	
ONUID	OCTET STRING	SIZE (128)	The ONU identifier. Its value can be set to ONU_NAME, MAC, LOID, or ONU_NUMBER. You should select one of the four items, so as to identify a unique ONU under the PON port.	For an ONU not having the management IP address, this parameter is required.

Parameter Name	Data Type	Value Range	Parameter Name	Remark
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, port Number, fill with NA.	
ACTION	OCTET STRING	Start: starting test Stop: stopping test Query: querying	The test type.	
TEL	OCTET STRING	SIZE (20)	The telephone number to be tested. You need to type this number for starting the test.	
TIMEOUT	INTEGER	60 to 300	The test period, unit: s	

Response format

The response format of the test starting command complies with the response format on operational commands mentioned in Section 2.4.

The response format of the query and test stopping commands complies with the response format on query commands mentioned in Section 2.4.

```
Title = result of call out simulation


STATE DIALNUMBER TARGETNUMBER FAILEDSIG Conclusion FailReason
```

Output parameters

Parameter Name	Data Type	Value Range	Parameter Description	Remark
STATE	OCTET STRING	1.Idle: port idle 2.Off-hook: off-hook status 3.Dialtone: the dial tone 4.Receiving: receiving the telephone number 5.ReceiveEnd: the telephone number has been received 6.Ringing-back: the ringing back tone 7.Connected: the connected status 8.Busytone: the busy tone 9.On-hook: on-hook status 10.Testend: test ending	The current status	When the Action parameter is stop or query, the system will return this parameter.
DIALNUMBER	OCTET STRING	SIZE (32)	The telephone number to be tested	
TARGETNUMBER	OCTET STRING	SIZE (32)	The telephone number to be reported to the softswitch	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
FAILEDSIG	OCTET STRING	SIZE (128)	When the system fails in setting up the channel, this parameter is used to return the problem status	
Conclusion	INTEGER	1	Succeeding	When the Action parameter is stop, the system will return this parameter.
		2	Failure	
		3	The telephone channel has been set up, but the test personnel does not confirm the call status	
FailReason	INTEGER	1	The SS off-hook response signaling is not received	
		2	The SS sending dial tone signaling is not received	
		3	The tested number is not the same as the number reported to the SS	
		4	The ringing back tone is not received	
		5	The opposite end is not off-hook	

Parameter Name	Data Type	Value Range	Parameter Description	Remark
		6	The system fails in setting up the channel	
		7	The SS does not respond to the on-hook signaling	
		8	Other conditions	

Examples

Example 1: (for an ONU without the management IP address) The ONU whose ID is aaa_bbb_ccc_111_222 is under PON port 1 of the card in slot 3 of the OLT whose IP address is 10.250.18.100. We perform the call emulation test on POTS port 1 of this ONU.

- The delivered commands:

```
TEST-CALLERSIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=L
OID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::ACTION=Start,TE
L=1110,TIMEOUT=60;


TEST-CALLERSIMULATION::OLTID=10.250.18.100,PONID=NA-NA-3-1,ONUIDTYPE=L
OID,ONUID=aaa_bbb_ccc_111_222,ONUPORT=NA-NA-NA-1:CTAG::ACTION=Stop,TEL
=1110,TIMEOUT=60;
```

- The response information:

```
   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     FAILEDSIG         Conclusion
FailReason

10     1110          port_register_failed    2      8

------------------------------------------------------------
```

Example 2: (for an ONU with the management IP address) The IP address of the ONU is 10.250.18.121. We perform the call emulation test on POTS port 1 under slot 2 of this ONU.

- The delivered commands:

```
TEST-CALLERSIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::ACT
ION=Start,TEL=1110,TIMEOUT=60;


TEST-CALLERSIMULATION::ONUIP=10.250.18.121,ONUPORT=NA-NA-2-1:CTAG::ACT
ION=Stop,TEL=1110,TIMEOUT=60;
```

- The response information:

```
   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     FAILEDSIG         Conclusion
FailReason


10     1110          no response from ss    2      1
```

3.3.3 DSL Service

3.3.3.1 Querying the ADSL Port Information (LST-ADSLINFO)

Functions

Query the status, configuration, etc. of an 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::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of adsl port info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
OPERSTATUS	String	UP DOWN	The running status
ADMINSTATUS	String	UP DOWN	The management status
TM	OCTET STRING	Please see Appendix 4.6	The actual transmission mode
LineType	OCTET STRING	Fast: fast Interleaved: interleaved	The line type
AturRateMode	OCTET STRING	Fixed: fixed AutoAdaptAtStartup: Adapts automatically on start-up AutoAdaptAtRunning: Adapts automatically on running	The Atur rate adapation mode
AtucRateMode	OCTET STRING	Fixed: fixed AutoAdaptAtStartup: Adapts automatically on start-up AutoAdaptAtRunning: Adapts automatically on running	The Atuc rate adapation mode
TGTSNRMGNDS	INTEGER	0 to 310	The downlink target noise threshold Unit: 0.1 dB
MAXSNRMGNDS	INTEGER	0 to 310	The downlink maximum noise threshold Unit: 0.1 dB
MINSNRMGNDS	INTEGER	0 to 310	The downlink minimum noise threshold Unit: 0.1 dB
TGTSNRMGNUS	INTEGER	0 to 310	The uplink target noise threshold Unit: 0.1 dB
MAXSNRMGNUS	INTEGER	0 to 310	The uplink maximum noise threshold Unit: 0.1 dB
MINSNRMGNUS	INTEGER	0 to 310	The uplink minimum noise threshold Unit: 0.1 dB

Example

Command:

```
LST-ADSLINFO::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::;
```

Response:

```
FH_133.5.35.237 2010-05-23 20:14:37
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of adsl port info
OPERSTATUS  ADMINSTATUS TM  LineType    AturRateMode    AtucRateMode
TGTSNRMGNDS MAXSNRMGNDS MINSNRMGNDS TGTSNRMGNUS MAXSNRMGNUS
MINSNRMGNUS FASTMINRATEDS   FASTMAXRATEDS   FASTMINRATEUS
FASTMAXRATEUS   INTVMINRATEDS   INTVMAXRATEDS   INTVMINRATEUS
INTVMAXRATEUS   INTVDELAYDS INTVDELAYUS
DOWNDOWN    3   Interleaved AutoAdaptAtStartup  AutoAdaptAtStartup
6.00    32  31  6.00    31  0   0   100000  0   100000  0   100000  0
100000  16  16
```

Meaning:

This command is used to query the ADSL information of port 1 of the card in slot 4 under the 133.5.35.237 ONU.

3.3.3.2 Querying the ADSL Port Performance (LST-ADSLPERF)

Functions

Query the real time traffic and line information of an ADSL link.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of adsl port performance
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
InOctets	INTEGER	0 to 2147483647	The number of Rx bytes
OutOctets	INTEGER	0 to 2147483647	The number of Tx bytes
SnrMgnDs	INTEGER	-640 to 640	The downlink noise tolerance Unit: 0.1 dB
SnrMgnUs	INTEGER	-640 to 640	The uplink noise tolerance Unit: 0.1 dB
AtnDs	INTEGER	0 to 630	The downlink power attenuation Unit: 0.1 dB
AtnUs	INTEGER	0 to 630	The uplink power attenuation Unit: 0.1 dB
OutputPwrDs	FLOAT	-310 to 310	The downlink output power Unit: 0.1 dBm
OutputPwrUs	FLOAT	-310 to 310	The uplink output power Unit: 0.1 dBm
ChanTxRateDs	INTEGER	32 to 32000	The downlink channel Tx rate Unit: kbit/s
ChanTxRateUs	INTEGER	32 to 32000	The uplink channel Tx rate Unit: kbit/s

Parameter Name	Data Type	Value Range	Remark
AttainableRateDs	INTEGER	32 to 32000	The current attainable maximum downlink rate Unit: kbit/s
AttainableRateUs	INTEGER	32 to 32000	The current attainable maximum uplink rate Unit: kbit/s

Example

Command:

```
LST-ADSLPERF::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::;
```

Response:

```
FH 133.5.35.238 2010-05-27 17:12:23
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of adsl port performance
------------------------------------------------------------------------
InOctetsOutOctets   SnrMgnDs    SnrMgnUs    AtnDs   AtnUs
OutputPwrDs OutputPwrUs ChanTxRateDs    ChanTxRateUs
AttainableRateDs    AttainableRateUs
--  --  0   0   0   0   0   0   0   0   1886676480  1970041976
```

Meaning:

This command is used to query the ADSL performance of port 1 of the card in slot 4 under the 133.5.35.237 ONU.

3.3.3.3 Querying the ADSL Statistics Information (LST-ADSLSTAT)

Functions

Query the quality condition of an ADSL link, including its initiation information, statistics information, and channel statistics information in the current 15 minutes, the current day, and the previous day.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of adsl statistics
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
AtucPerfCurr15MinTimeElapsed	INTEGER	0 to 900	The elapsed time in the current 15 minutes
Curr15MinInits	INTEGER	0 to 2147483647	The initiation times in the current 15 minutes
Curr15MinAtucEss	INTEGER	0 to 900	The number of ATUC side errored seconds in the current 15 minutes
Curr15MinAtucLoss	INTEGER	0 to 900	The number of ATUC side LOS seconds in the current 15 minutes
Curr15MinAtucSes	INTEGER	0 to 900	The number of ATUC side severely errored seconds in the current 15 minutes
AtucPerfCurr1DayTimeElapsed	INTEGER	0 to 86400	The elapsed time in the current day
Curr1Day Inits	INTEGER	0 to 2147483647	The initiation times in the current day
Curr1Day AtucEss	INTEGER	0 to 86400	The number of ATUC side errored seconds in the current day
Curr1Day AtucLoss	INTEGER	0 to 86400	The number of ATUC side LOS seconds in the current day
Curr1Day AtucSes	INTEGER	0 to 86400	The number of ATUC side severely errored seconds in the current day
AtucPerfPrev1DayTimeElapsed	INTEGER	0 to 86400	The escaped time in the previous day
Prev1Day Inits	INTEGER	0 to 2147483647	The initiation times in the previous day
Prev1Day AtucEss	INTEGER	0 to 86400	The number of ATUC side errored seconds in the previous day
Prev1Day AtucLoss	INTEGER	0 to 86400	The number of ATUC side LOS seconds in the previous day
Prev1Day AtucSes	INTEGER	0 to 86400	The number of ATUC side severely errored seconds in the previous day

Example

Command:

```
LST-ADSLSTAT::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::;
```

Response:

```
FH_133.5.35.237 2010-05-23 20:15:32
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of adsl statistics
---------------------------------------------------------------------------
AtucPerfCurr15MinTimeElapsed    AtucPerfCurr15MinLoss   Curr15MinInits
Curr15MinAtucEss    Curr15MinAtucLoss   Curr15MinAtucSes
AtucPerfCurr1DayTimeElapsed AtucPerfCurr1DayLoss    Curr1DayInits
Curr1DayAtucEss Curr1DayAtucLoss    Curr1DayAtucSes
AtucPerfPrev1DayTimeElapsed AtucPerfPrev1DayLoss    Prev1DayInits
Prev1DayAtucEss Prev1DayAtucLoss    Prev1DayAtucSes
20  0   --  0   0   0   393 0   --  0   0   0   393 0   --  0   0   0
```

Meaning:

This command is used to query the ADSL statistics information of port 1 of the card in slot 4 under the 133.5.35.237 ONU.

3.3.3.4 Querying the VDSL Port Information (LST-VDSLINFO)

Functions

Query the status, configuration, etc. of a VDSL port.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of vdsl port info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE 128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
AdminStatus	OCTET STRING	UP DOWN	The management status
OPERSTATUS	String	UP DOWN	The running status
INPDS	OCTET STRING	0 to 16, 0.5	The downlink pulse noise protection Unit: symbol
INPUS	OCTET STRING	0 to 16, 0.5	The uplink pulse noise protection Unit: symbol
RateModeDs	OCTET STRING	Fixed: fixed AutoAdaptAtStartup: Adapts automatically on start-up AutoAdaptAtRunning: Adapts automatically on running	The downlink rate adaptation mode

Parameter Name	Data Type	Value Range	Remark
RateModeUs	OCTET STRING	Fixed: fixed AutoAdaptAtStartup: Adapts automatically on start-up AutoAdaptAtRunning: Adapts automatically on running	The uplink rate adaptation mode
ChannelTMode	OCTET STRING	ATM PTM BOTH	The data channel mode of channel 1
MAXRATEUS	INTEGER		The uplink maximum rate of channel 1 Unit :kbps
MINRATEUS	INTEGER		The uplink minimum rate of channel 1 Unit :kbps
MAXRATEDS	INTEGER		The downlink maximum rate of channel 1 Unit :kbps
MINRATEDS	INTEGER		The downlink minimum rate of channel 1 Unit :kbps
INTVDELAYUS	INTEGER	0 to 63	The uplink maximum interleaved delay Unit: ms
INTVDELAYDS	INTEGER	0 to 63	The downlink maximum interleaved delay Unit: ms
TGTSNRMGNDS	INTEGER	0 to 310	The downlink target noise threshold Unit: 0.1 dB
MAXSNRMGNUS	INTEGER	0 to 310	The downlink maximum noise threshold Unit: 0.1 dB
MINSNRMGNDS	INTEGER	0 to 310	The downlink minimum noise threshold Unit: 0.1 dB
TGTSNRMGNUS	INTEGER	0 to 310	The uplink target noise threshold Unit: 0.1 dB
MAXSNRMGNUS	INTEGER	0 to 310	The uplink maximum noise threshold Unit: 0.1 dB
MINSNRMGNUS	INTEGER	0 to 310	The uplink minimum noise threshold Unit: 0.1 dB

Example

Command:

```
LST-VDSLINFO::ONUIP=133.5.35.237,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-25 22:31:06
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of vdsl port info
------------------------------------------------------------------------
OPERSTATUS  ADMINSTATUS INPDS   INPUS   RateModeDs  RateModeUs
ChannelTMode    MAXRATEUS   MINRATEUS   MAXRATEDS   MINRATEDS
INTVDELAYUS INTVDELAYDS TGTSNRMGNDS MAXSNRMGNDS MINSNRMGNDS
TGTSNRMGNUS MAXSNRMGNUS MINSNRMGNUS
DOWNDOWN    0.00    0.00    AutoAdaptAtStartup  AutoAdaptAtStartup
PTM 128000  64  128000  64  16  16  6.00    31.00   0.00    6.00
31.00   0.00
```

Meaning:

This command is used to query the VDSL information of port 1 of the card in slot 3 under the 133.5.35.237 ONU.

3.3.3.5 Querying the VDSL Port Performance (LST-VDSLPERF)

Functions

Query the real time traffic and line information of a VDSL link.

Command format

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

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of vdsl port performance
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
InOctets	INTEGER	0 to 2147483647	The number of Rx bytes
OutOctets	INTEGER	0 to 2147483647	The number of Tx bytes
SnrMgnDs	INTEGER	-640 to 630	The downlink noise tolerance Unit: 0.1 dB
SnrMgnUs	INTEGER	-640 to 630	The uplink noise tolerance Unit: 0.1 dB
AtnDs	INTEGER	0 to 1270	The downlink power attenuation Unit: 0.1 dB
AtnUs	INTEGER	0 to 1270	The uplink power attenuation Unit: 0.1 dB
OutputPwrDs	FLOAT	-310 to 310	The downlink output power Unit: 0.1 dBm
OutputPwrUs	FLOAT	-310 to 310	The uplink output power Unit: 0.1 dBm
CH1ACTDATARATEDS	INTEGER	0 to 200000	The downlink rate of channel 1 Unit: kbps
CH1ACTDELAYDS	INTEGER	0 to 200	The downlink delay of channel 1 Unit: ms
CH1ACTDATARATEUS	INTEGER	0 to 200000	The uplink rate of channel 1 Unit: kbps
CH1ACTDELAYUS	INTEGER	0 to 200	The uplink delay of channel 1 Unit: ms

Example

Command:

```
LST-VDSLPERF::ONUIP=133.5.35.237,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH 133.5.35.237 2010-05-23 20:15:57
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of vdsl port performance
------------------------------------------------------------------------
InOctetsOutOctets   SnrMgnDs    SnrMgnUs    AtnDs   AtnUs
OutputPwrDs OutputPwrUs CH1ACTDATARATEDS    CH1ACTDELAYDS
CH1ACTDATARATEUS    CH1ACTDELAYUS
0   248 0.00    0.00    0   0   0   0   0   0   0   0
------------------------------------------------------------------------
10.22.16.22 2007-03-01 13:35:00
M  CTAG001 COMPLD
"GSWB,10"
"XA32+,11"
"POTS,12"
"AC16,19"
"EUP2,29"
```

Meaning:

This command is used to query the VDSL performance statistics information of port 1 of the card in slot 3 under the 133.5.35.237 ONU.

3.3.3.6 Querying the VDSL Statistics Information (LST-VDSLSTAT)

Functions

Query the quality condition of a VDSL link, including its initiation information, statistics information, and channel statistics information in the current 15 minutes, the current day, and the previous day.

Command format

```
LST-VDSLSTAT::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUID=onu_index]
,ONUPORT=vdslport_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of vdsl statistics
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
xdsl2PMLCurr15MTimeElapsed	INTEGER	0 to 900	The escaped time in the current 15 minutes
xdsl2PMLCurr15MLoss	INTEGER	0 to 900	The initiation times in the current 15 minutes
xdsl2PMLCurrInit15MFullInits	INTEGER	0 to 2147483647	The number of errored seconds in the current 15 minutes
Curr15MinAtucEss	INTEGER	0 to 900	The number of LOS seconds in the current 15 minutes
xdsl2PMLCurr15MSes	INTEGER	0 to 900	The number of severely errored seconds in the current 15 minutes
xdsl2PMLCurrInit15MFailedFullInits	INTEGER	0 to 2147483647	The escaped time in the current day
xdsl2PMLCurr1DayTimeElapsed	INTEGER	0 to 86400	The initiation times in the current day
xdsl2PMLCurrInit1DayFullInits	INTEGER	0 to2147483647	The number of errored seconds in the current day
xdsl2PMLCurr1DayEs	INTEGER	0 to 86400	The number of LOS seconds in the current day
xdsl2PMLCurr1DayLoss	INTEGER	0 to 86400	The number of severely errored seconds in the current day
xdsl2PMLCurr1DaySes	INTEGER	0 to 86400	The escaped time in the previous day
xdsl2PMLCurrInit1DayFailedFullInits	INTEGER	0 to 2147483647	The initiation times in the previous day
xdsl2PMLHist1DMonitoredTime	INTEGER	0 to 86400	The number of errored seconds in the previous day
xdsl2PMLHistinit1DFullInits	INTEGER	0 to 2147483647	The number of LOS seconds in the previous day
xdsl2PMLHistinit1DFailedFullInits	INTEGER	0 to 2147483647	The number of severely errored seconds in the previous day

Example

Command:

```
LST-VDSLSTAT::ONUIP=133.5.35.237,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-25 22:32:19
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
129 0   0   0   0   --  907 0   --  0   0   --  907 --  0   0   0   --
```

Meaning:

This command is used to query the VDSL statistics information of port 1 of the card in slot 3 under the 133.5.35.237 ONU.

3.3.3.7 Activating a DSL Port (ACT-DSLPORT)

Functions

This command is used to activate and enable a DSL port of the ONU.

For the detailed command format, see Section 3.2.12.

3.3.3.8 Deactivating a DSL Port (DACT-DSLPORT)

Functions

This command is used to deactivate and disable a DSL port of the ONU.

For the detailed command format, see Section 3.2.13.

3.3.3.9 SELT Test (SELT)

Functions

Perform the single-ended loop test of an ADSL2+ / VDSL2 port.

Command format

```
SELT::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index],ONUPORT=dslport_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = result of selt test
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE(128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE(128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE(128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE(128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE(128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
LINE_LENGTH	OCTET STRING		The line length Unit: m
LINE_STATUS	String	Open Short	The status
ATTAINABLE_XTUC_RATE	Integer		The downlink attainable rate (kbps)
ATTAINABLE_XTUR_RATE	Integer		The uplink attainable rate (kbps)

Example

Command:

```
SELT::ONUIP=133.5.35.237,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH_134.140.55.130 2010-07-01 11:38:02
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
3954Open    7852    1244
```

Meaning:

This command is used to query whether the 133.5.35.237 ONU has passed the SELT test.

3.3.3.10 DELT Test (DELT)

Functions

Perform the double-ended loop test of an ADSL2+ / VDSL2 port.

Command format

```
DELT::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index],ONUPORT=dslport_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = result of delt test
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
XTUC_DELT_SATN	OCTET STRING	SIZE (128)	The uplink signal attenuation (dB)
XTUR_DELT_SATN	OCTET STRING	SIZE (128)	The downlink signal attenuation (dB)
XTUC_DELT_SNRM	OCTET STRING	SIZE (128)	The uplink SNR margin (dB)
XTUR_DELT_SNRM	OCTET STRING	SIZE (128)	The downlink SNR margin (dB)

Example

Command:

```
DELT::ONUIP=133.5.35.237,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH_134.140.55.130 2010-07-01 11:43:19
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
0.000.00    0.00    0.00
```

Meaning:

This command is used to query whether the 133.5.35.237 ONU has passed the DELT test.

3.3.3.11 Querying the DSL Port PVC Information (LST-PVCINFO)

Functions

Query the PVC information of a DSL port.

Command format

```
LST-PVCINFO::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index],ONUPORT=adslport_num:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of PVC info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address of an ONU
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
PVCOPERSTATUS	OCTET String	UP DOWN	The PVC running status
PVCADMINSTATUS	OCTET String	UP DOWN	The PVC management status
VPI	INTEGER		The VPI
VCI	INTEGER		The VCI
PVID	INTEGER		The VLAN ID
VLANPRIORITY	OCTET STRING	Integer (0 to 7)	The VLAN default priority

Example

Command:

```
LST-PVCINFO::ONUIP=133.5.35.237,ONUPORT=NA-NA-4-1:CTAG::;
```

Response:

```
FH_134.140.55.130 2010-07-01 11:35:27
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of PVC info
------------------------------------------------------------------------
PVCOPERSTATUS   PVCADMINSTATUS  VPI VCI PVID    VLANPRIORITY
UP  UP  8   35  4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
DOWNDOWN    0   0   4088    0
```

Meaning:

This command is used to query the DSL PVC information of port 1 of the card in slot 4 under the 133.5.35.237 ONU.

3.3.4 LAN Service

3.3.4.1 Querying the LAN Port Information (LST-ONULANINFO)

Functions

Query the status, configuration, etc. of a LAN port on the ONU.

Command format

```
LST-ONULANINFO::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUID=onu_index]
, ONUPORT=lanport_index:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of lan port info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
AdminStatus	OCTET STRING	UP DOWN	The management status
OperStatus		UP DOWN	The running status
DUPLEX	OCTET STRING	Full Half Auto Auto-Full Auto-Half	The working mode
PVID	OCTET STRING	Integer (1 to 4094)	The VLAN ID, with the default VLAN used
VLANPRIORITY	OCTET STRING	Integer (0 to 7)	The VLAN priority, with the default priority used
SPEED	INTEGER	Auto-negotiation 10M 100M 1000M Auto-10M Auto-100M Auto-1000M	The port rate

Example

Command:

```
LST-ONULANINFO::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUI
D=551603,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
list of lan port info
------------------------------------------------------------------------
AdminStatus OperStatus  DUPLEX  PVID    VLANPRIORITY    SPEED
UP  DOWN    Auto-Half   4088    0   Auto-negotiation
```

Meaning:

This command is used to query the LAN information of port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.4.2 Querying the LAN Port Performance (LST-ONULANPERF)

Functions

Query the performance information of a LAN port on the ONU.

Command format

See Section 3.3.1.4.

3.3.4.3 Querying the LAN Port Rate Control (LST-LANCAR)

Functions

Query the rate control configured for the uplink / downlink ports of a LAN port on the ONU.

Command format

```
LST-LANCAR::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUID=onu_index]
, ONUPORT=lanport_index:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of LAN port rate-limit info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE(128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
RateLimitUs	INTEGER	0 to1000000	The uplink limited rate Unit: kbps
RateLimitDs	INTEGER	0 to 1000000	The downlink limited rate Unit: kbps

Example

Command:

```
LST-LANCAR::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=55
1603,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_133.5.35.235 2010-05-23 20:20:15
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of LAN port rate-limit info
------------------------------------------------------------------------
RateLimitUs RateLimitDs
2000100000
------------------------------------------------------------------------
05-23-10 20:22:04,937 [2004] INFO root <tl1processor> - Receive TL1 Msg :
LST-LANCAR::ONUIP=133.5.35.237,ONUPORT=NA-NA-2-1:CTAG::;
05-23-10 20:22:04,937 [2004] INFO rcfserver <tl1processor> - 0x031396e8
05-23-10  20:22:04,984  [2004]  INFO  rcfserver  <tl1processor>  -
RCFClient::RCF_AN_SyncNorthIfCmd! Return Value = 0x00,0x00000000
05-23-10 20:22:04,984 [2004] INFO root <tl1processor> - Send TL1 Msg Result :
FH_133.5.35.237 2010-05-23 20:22:04
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of LAN port rate-limit info
------------------------------------------------------------------------
RateLimitUs RateLimitDs
64  9999
```

Meaning:

This command is used to query the LAN port uplink / downlink rate control information of port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.4.4 Activating a LAN Port (ACT-LANPORT)

Functions

This command is used to activate and enable a LAN port of the ONU.

For the detailed command format, see Section 3.2.4.

3.3.4.5 Deactivating a LAN Port (DACT-LANPORT)

Functions

This command is used to deactivate and disable a LAN port of the ONU.

For the detailed command format, see Section 3.2.5.

3.3.5 IPTV Service

3.3.5.1 Querying the Multicast Configuration (LST-IPTVCFG)

Functions

Query the multicast configuration information on a port.

Command format

```
LST-IPTVCFG::
ONUIP=onu_name|OLTID=olt_name[,PONID=ponport_location,ONUIDTYPE=id-typ
e,ONUID=onu_index], ONUPORT=port_index:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of IPTV configuration
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)

Parameter Name	Data Type	Value Range	Remark
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
MVLAN	INTEGER		The multicast VLAN
VLANID	INTEGER		The subscriber side VLAN, optional (the multicast service VLAN on a home gateway)
VPI	INTEGER		The VPI, optional (the multicast service on DSL)
VCI	INTEGER		The VCI, optional (the multicast service on DSL)

Example

Command:

```
LST-IPTVCFG::OLTID=133.5.35.235,PONID=NA-NA-4-4,ONUIDTYPE=LOID,ONUID=5
51603,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_133.5.35.235 2010-05-23 20:22:21
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
list of IPTV configuration
------------------------------------------------------------------------
userVlanmulticastVlan   vpi vci
700 99  --  --
```

Meaning:

This command is used to query the multicast configuration information of PON port 4 of the card in slot 4 under the 133.5.35.235 OLT.

3.3.6 Alarms

The alarms are defined in Section 3.4.

3.3.7 VLAN Function

3.3.7.1 Querying the VLAN Forwarding Conditions (LST-VLANFWDINFO)

Functions

Query the conditions of messages forwarded based on the VLAN, including messages forwarded based on the C VLAN and the 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::;
```

Meaning:

To gather the ONU VLAN statistics, use the following command format:

```
LST-VLANFWDINFO:: ONUIP=onu-name, VLANID=vlan-id:CTAG::;
```

To gather the OLT VLAN statistics, use the following command format:

```
LST-VLANFWDINFO:: OLTID=olt-name, VLANID=vlan-id:CTAG::;
```

To gather the statistics on the forwarding of the ONU uplink VLAN tag in the OLT, use the following command format:

```
LST-VLANFWDINFO::
OLTID=olt-name,PONID=ponport-location,ONUIDTYPE=id-type,ONUID=onu-id,
VLANID=svlan-id:CTAG::;
```

Response format

Complies with the response format on query commands mentioned in Section 2.4.

```
Title = list of VLAN forward info
```

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
VLANID	INTEGER	0 to 4095	

Output parameter

Parameter Name	Data Type	Value Range	Remark
FramesUs	DOUBLE	0 to 2147483647	The number of uplink packets
FramesDs	DOUBLE	0 to 2147483647	The number of downlink packets
OctetsUs	DOUBLE	0 to 2147483647	The number of uplink bytes
OctetsDs	DOUBLE	0 to 2147483647	The number of downlink bytes
DiscardsUs	DOUBLE	0 to 1.85E19	The number of discarded uplink packets, optional
DiscardsDs	DOUBLE	0 to 1.85E19	The number of discarded downlink packets, optional

Example

Command:

```
LST-VLANFWDINFO::ONUIP=133.5.35.237,VLANID=21:CTAG::;
```

Response:

```
list of VLAN forward info
------------------------------------------------------------------------
FramesUsFramesDs    OctetsUs    OctetsDs    DiscardsUs  DiscardsDs
10002000    0   0   0   0
```

Meaning:

This command is used to query the forwarding information of VLAN 21 under the 133.5.35.237 ONU.

3.4 Integrated Alarm Interface

3.4.1 Subscribing to Alarms (SUBSCRIBE)

Functions

After a user establishes a TCP connection, and logs into the PON EMS system, the integrated alarm system will subscribe to alarms. After subscribing to alarms successfully, the PON EMS will receive the active alarms, and report them in real time.

Command format

```
SUBSCRIBE:::CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

None

Example

Command:

```
SUBSCRIBE:::CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:23:28
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

After subscribing to alarms successfully, the PON EMS will receive the active alarms, and report them in real time.

3.4.2 Enabling the Alarm Filtering Function (ACT-ALARM-FILTER)

Functions

This command is used to enable the alarm filtering function.

Command format

```
ACT-ALARM-FILTER:::CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

None

Example

Command:

```
ACT-ALARM-FILTER:::CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:23:28
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

The command enables the alarm filtering function.

3.4.3 Disabling the Alarm Filtering Function (DACT-ALARM-FILTER)

Functions

This command is used to disable the alarm filtering function.

Command format

```
DACT-ALARM-FILTER:::CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

None

Example

Command:

```
DACT-ALARM-FILTER:::CTAG:::;
```

Response:

```
FH_133.5.35.238 2010-05-26 19:23:30
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to disable the alarm filtering function.

3.4.4 Modifying the Alarm Filtering Configuration (CHG-ALARM-FILTER)

Functions

This command is used to set the alarm filtering conditions. The configured filtering condition parameters are the alarms to be reported.

Command format

```
CHG-ALARM-FILTER:::CTAG::[ALARMCODE=alarmcode][,SEVERITY=alarm-severit
y];
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
SEVERITY	String	Critical, Major, Minor, Warning,	The alarm levels, and users can set multiple alarm levels. Each two alarm levels are separated by a vertical bar.
ALARMCODE	String	SIZE (0-1000)	The alarm IDs, and users can set one multiple alarm IDs. Each two alarm IDs are separated by a vertical bar.

Output parameter

None

Example

Command:

```
CHG-ALARM-FILTER:::CTAG::ALARMCODE=320001;
```

Response:

```
FH_133.5.35.238 2010-05-25 11:13:01
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is to display the alarm whose ID is 320001. For the detailed meaning of this alarm, users can see Appendix C of this manual.

3.4.5 Querying the Current Alarm Filtering Configuration (LST-ALARM-FILTER)

Functions

This command is used to query the currently configured alarm filtering conditions.

Command format

```
LST-ALARM-FILTER:::CTAG:;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

None

Output parameter

Parameter Name	Data Type	Value Range	Remark
ENABLE	String	True / false	Enable / disable
SEVERITY	String	Critical, Major, Minor, Warning	The alarm levels, and users can set multiple alarm levels. Two alarm levels are isolated with an upright line.
ALARMCODE	String	SIZE (0-1000)	The alarm IDs, and users can set one multiple alarm IDs. Two alarm IDs are isolated with an upright line.

Example

Command:

```
LST-ALARM-FILTER:::CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:22:29
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
Alarm Filter
-
ENABLE   SEVERITY   ALARMCODE
true        320001
-
;
```

Meaning:

This command is used to query the current alarm filtering conditions. The queried result is: The 320001 alarm is displayed, and the status is enabled.

3.4.6 Obtaining Alarms (LST-ALARM)

Functions

This command is used to query the alarms during the appointed interval (ended or unended), including all alarms, OLT alarms, OLT PON alarms, and ONU alarms.

Command format

```
LST-ALARM::[ONUIP=onu-name]|([OLTID=olt-name][,PONID=ponport_location,
ONUIDTYPE=id-type,ONUID=onu-index]):CTAG::BEGINTIME=begin-time[,ENDTIM
E=end-time][,FAULTFLAG=flag] ;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
BEGINTIME	String	SIZE (32)	The starting time, and the format is described as follows: YYYY-MM-DD HH-MM-SS
ENDTIME	String	SIZE (32)	The end time, and the format is described as follows: YYYY-MM-DD HH-MM-SS
FAULTFLAG	STRING	Fault-Only, Fault, ALL	The alarm status, with the default being Fault-Only. Fault-Only includes events, but does not include the recovered alarms.

Output parameter

Parameter Name	Data Type	Value Range	Remark
SERIALID	String	SIZE (0-100)	The alarm ID
ALARMNAME	String	SIZE (0-256)	The alarm name, corresponding to the alarm code (EVENT_CODE)
DIP	String	IP address	The NE IP address
DNAME	String	SIZE (0-100)	The NE name
DTYPE	String	SIZE (0-100)	The NE type
POSITION	String	RACK: racked, SHELF: shelfid, SLOT: slotid, PORT: portid, ONUNUM: onunumber, ONUNAME: onuname, ONUPORTTYPE: onuporttype, ONUPORT: onuportid, EMUNUM: emunum	The alarm identity: RACK: cabinet SHELF: subrack SLOT: slot PORT: port Number ONUNUM: ONU Number ONUNAME:ONU name ONUPORTTYPE: ONU port type (LAN, E1, DSL, POTS, PON) ONUPORT: ONU port Number EMUNUM: the environment monitor unit
SEVERITY	String	Critical, Major, Minor, Warning,	The alarm level
FaultFlag	String	Fault Recovery Event	The alarm status
HAPPENTIME	String	SIZE (0-32)	The time when the alarm is generated, and the format is described as follows: YYYY-MM-DD HH-MM-SS
RECOVERTIME	String	SIZE (0-32)	The time when the alarm is cleared, and the format is described as follows: YYYY-MM-DD HH-MM-SS
ALARMTYPE	String	CommunicationAlarm, ProcessingErrorAlarm, QOSAlarm, EquipmentAlarm, EnvironmentalAlarm OMSAlarm, LinkDownAlarm	The alarm type
AditionalInfo	String	SIZE (0-256)	The additional information, describing the related aspects of an alarm
EVENT_CODE	Integer		The alarm code, corresponding to the alarm name (ALARMDESC)
PROBABLE_CAUSE _DESC	String	SIZE (0-256)	The alarm reason
PROBABEL_CAUSE_CODE	Integer		The alarm reason code
PROPOSED_ADVISE	String	Size (0-512)	The handing recommendations

Example

Command:

```
LST-ALARM::ONUIP=133.5.35.236:CTAG::BEGINTIME=2010-05-20
01-01-01,FAULTFLAG=Fault-Only;
```

Response:

```
FH_133.5.35.238 2010-05-23 20:27:53
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
Alarm
-
SERIALID    ALARMNAME   DIP DNAME   DTYPE   POSITION    SEVERITY
FaultFlag   HAPPENTIME  RECOVERTIME ALARMTYPE   ADITIONALINFO
EVENT_CODE  PROBABLE_CAUSE_DESC
12  ONU H.248   133.5.35.236    236_AN5006-15   AN5006_15
RACK:NA,SHELF:NA,SLOT:19    Critical    Fault   2010-05-22 12:42:42 --
CommunicationAlarm  --  320001  ONU H.248
-
;
```

Meaning:

This command is used to query the unended alarms of the AN5005-15 ONU whose IP address is 133.5.35.236, and their starting time is 01:01:01, May 20, 2010.

3.4.7 Acknowledging an Alarm (ACK-ALARM)

Functions

This command is used to acknowledge an alarm.

Command format

```
ACK-ALARM::ALARMID=alarm-ID:CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ALARMID	String	SIZE (0-32)	The alarm ID, corresponding to the ALARMID field in the LST-ALARM command.

Output parameter

None

Example

Command:

```
ACK-ALARM::ALARMID=3726:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:19:09
M  CTAG COMPLD
EN=0   ENDESC=No error
```

Meaning:

This command is used to acknowledge the alarm whose ID is 3726.

3.4.8 Cancelling an Alarm Acknowledgement (UNACK-ALARM)

Functions

This command is used to cancel an alarm acknowledgement.

Command format

```
UNACK-ALARM::ALARMID=alarm-ID:CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ALARMID	String	SIZE (0-32)	The alarm ID, corresponding to the ALARMID field in the LST-ALARM command.

Output parameter

None

Example

Command:

```
UNACK-ALARM::ALARMID=3726:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:19:44
M  CTAG COMPLD
    EN=0   ENDESC=No error

;
```

Meaning:

This command is used to cancel the acknowledgement of the alarm 3726.

3.4.9 Clearing an Alarm (CLR-ALARM)

Functions

This command is used to clear an alarm.

Command format

```
CLR-ALARM:: ALARMID =alarm-ID:CTAG::;
```

Response format

Complies with the response format on operational commands mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ALARMID	String	SIZE (0-32)	The alarm ID, corresponding to the ALARMID field in the LST-ALARM command.

Example

Command:

```
CLR-ALARM::ALARMID=3726:CTAG::;
```

Response:

```
FH_133.5.35.238 2010-05-26 18:20:13
M  CTAG COMPLD
EN=0   ENDESC=No error
;
```

Meaning:

This command is used to clear the alarm whose ID is 3726.

3.5 Resource Query Interface

3.5.1 Querying the OLT Equipment Information

Functions

This command is used to query the information about designated OLT equipment or OLT equipment in the entire network.

Command format

```
LST-DEVICE::[OLTID=olt-name]:CTAG::;
```

Meaning:

Query the equipment information of the entire network:

```
LST-DEVICE:::CTAG::;
```

Query the information of a certain OLT:

```
LST-DEVICE:: OLTID=olt-name:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE(128)	The OLT IP address or name

Output parameter

Parameter Name	Data Type	Value Range	Remark
DEVNAME	OCTET STRING	SIZE (128)	The equipment name
DEVIP	OCTET STRING	SIZE (128)	The equipment IP address
DT	OCTET STRING	SIZE (255)	The equipment type
DEVER	OCTET STRING	SIZE (255)	The softeware version

Example

Query the OLT equipment information of the entire network:

Command:

```
LST-DEVICE:::CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-28 11:04:24
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
------------------------------------------------------------------------
DEVNAME DEVIP   DT     DEVER
```

System 1:

```
10.78.99.201   A
N5516_01       RP0130
```

System 2:

```
10.78.99.210   A
N5006-20       RP0106
```

Query the information of a certain OLT:

Command:

```
LST-DEVICE::OLTID=10.78.99.201:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:31:23
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
------------------------------------------------------------------------
DEVNAME DEVIP   DT     DEVER
```

System 1:

```
10.78.99.201   A
N5516_01       RP0130
------------------------------------------------------------------------
```

3.5.2 Querying the ONU Equipment Information

Functions

This command is used to query the information of all ONUs or the appointed ONU connected with the appointed OLT.

Command format

```
LST-ONU::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location[,ONUIDT
YPE=onuid-type,ONUID=onu-index]]:CTAG::;
```

Meaning:

Query the information of all ONUs under the appointed OLT:

```
LST-ONU::OLTID=olt-name:CTAG::;
```

Query the information of all ONUs under a certain PON port of the appointed OLT:

```
LST-ONU::OLTID=olt-name,PONID=ponport_location:CTAG::;
```

Query an ONU with the management IP address:

```
LST-ONU::ONUIP=onu-name:CTAG::;
```

Query an ONU without the management IP address:

```
LST-ONU::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,ON
UID=onu-index:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128)	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet-subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUNO	INTEGER	0 to 512	The ONU authorization Number
NAME	OCTET STRING	SIZE (128)	The ONU name
DESC	OCTET STRING	SIZE (128)	The ONU description
ONUTYPE	OCTET STRING	SIZE (128)	The ONU type
IP	OCTET STRING	SIZE (128)	The ONU management IP address
AUTH	OCTET STRING	MAC LOID HYBRID	The authentication mode, and – is returned when no authentication mode exits
MAC	OCTET STRING	SIZE (128)	The ONU registered MAC
LOID	OCTET STRING	SIZE (64)	– is returned when the MAC authentication mode is used
PWD	OCTET STRING	SIZE (128)	The LOID PASSWORD, and – is returned when no PASSWORD exits
SWVER	OCTET STRING	SIZE (128)	The software version

Example

Command:

```
LST-ONU::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=12345
:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:38:58
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
------------------------------------------------------------------------
OLTID   PONID   ONUNO   NAME    DESC    ONUTYPE IP      AUTH    MAC     LOID
PWD     SWVER
10.78.99.201    NA-1-1-2        1               --      AN5006-04       --
HYBRID   544b400831d8    12345   --      R4.05.60.23
```

3.5.3 Querying the Subrack Information

Functions

This command is used to query the subrack information of all equipment in the entire network or the subrack information of a certain OLT / MXU.

Command format

```
LST-SHELF::[ONUIP=onu-name]|[OLTID=olt-name[,PONID=ponport_location,ON
UIDTYPE=onuid-type,ONUID=onu-index]]:CTAG::;
```

Meaning:

Query the subrack information of all equipment in the entire network:

```
LST-SHELF:::CTAG::;
```

Query an ONU subrack with the ONU having the management IP address:

```
LST-SHELF::ONUIP=onu-name:CTAG::;
```

Query an ONU subrack with the ONU not having the management IP address:

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

Query an OLT subrack:

```
LST-SHELF:: OLTID=olt-name:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	When users query a single ONU, the input parameter is returned. When users query all ONUs in the entire network, if the IP address exists, the ONUIP is returnrd; If the IP address does not exist, the OLTID, PONID, or ONUID is returnrd.
OLTID	OCTET STRING	SIZE (128)	The IP address or name of an OLT. When users query all equipment in the entire network, the IP address is returned.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUID	OCTET STRING	SIZE (128)	When users query a single ONU, the input parameter is returned. When users query all ONUs in the entire network, the ONUNO is returned.
SHELFID	OCTET STRING	SIZE (128) Cabinet -subrack	A subrack is located in the cabinet -subrack Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
SHELFTYPE	OCTET STRING	SIZE (128)	The subrack type

Example

Command:

```
LST-SHELF::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=123
45:CTAG::;
```

Response:

```
   FH_10.78.11.100 2010-07-27 10:42:47
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
------------------------------------------------------------------------
ONUIP   OLTID   PONID   ONUID   SHELFID SHELFTYPE
10.78.99.201    NA-1-1-2        1       --      --
```

3.5.4 Querying the Card Information

Functions

This command is used to query the card information of all equipment in the entire network or the card information of a certain OLT / MXU.

Command format

```
LST-BOARD::[ONUIP=onu-name]|[OLTID=olt-name[,PONID=ponport_location,ON
UIDTYPE=onuid-type,ONUID=onu-index][,BOARDID=BOARD_location]]:CTAG::;
```

Meaning:

Query the card information of all equipment in the entire network:

```
LST-BOARD:::CTAG::;
```

Query an ONU card with the ONU having the management IP address:

```
LST-BOARD::ONUIP=onu-name[,BOARDID=BOARD_location]:CTAG::;
```

Query an ONU card with the ONU not having the management IP address:

```
LST-BOARD::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,
ONUID=onu-index[,BOARDID=BOARD_location]:CTAG::;
```

Query an OLT card:

```
LST-BOARD:: OLTID=olt-name[,BOARDID=BOARD_location]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
BOARDID	OCTET STRING	SIZE (128) Cabinet -subrack-slot	A card is located in the cabinet -subrack -slot mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA. For the condition that only the subrack is input, the format is NA-0-NA

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	When users query a single ONU, the input parameter is returned. When users query all ONUs in the entire network, if the IP address exists, the ONUIP is returned; If the IP address does not exist, the OLTID, PONID, or ONUID is returnrd.
OLTID	OCTET STRING	SIZE (128)	The IP address or name of an OLT. When users query all equipment in the entire network, the IP address is returned.
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is located in the cabinet -subrack-slot-port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
ONUID	OCTET STRING	SIZE (128)	When users query a single ONU, the input parameter is returned. When users query all ONUs in the entire network, the ONUNO is returned.
BOARDID	OCTET STRING	SIZE (128) Cabinet -subrack-slot	A card is located in the cabinet -subrack –slot mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA. For the condition that only the subrack is input, the format is NA-0-NA
BOARDTYPE	OCTET STRING	SIZE (128)	The card type
BSERVICE	OCTET STRING	Power ETH ADSL VDSL POTS E1 GPON EPON Control Other	The card service type
PNUM	INTEGER	0 to 64	The number of ports
SWVER	OCTET STRING	SIZE (255)	The software version
HWVER	OCTET STRING	SIZE (255)	The hardware version

Example (query an ONU card, the ONU not having the management IP address)

Command:

```
LST-BOARD::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=123
45:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:49:19
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
------------------------------------------------------------------------
ONUIP    OLTID    PONID    ONUID    BOARDID  BOARDTYPE          BSERVICE
PNUM   SWVER    HWVER
10.78.99.201    NA-1-1-2       1      --     --     --     --
```

3.5.5 Querying the Media Gateway Information

Functions

This command is used to query the media gateway information of an appointed equipment set.

Command format

```
LST-MG::ONUIP=onu-name|(OLTID=olt-name,PONID=ponport_location,ONUIDTYP
E=id-type,ONUID=onu-index):CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
MGID	INTEGER	0 to 16	The MG ID, used to identify a unique MG module on the ONU
PT	OCTET STRING	SIZE (32)	The voice protocol type (H.248, SIP)
EID	OCTET STRING	SIZE (64)	The MG gateway domain name in the H.248 protocol configuration
SIPREGDM	OCTET STRING	SIZE (64)	The SIP register server
VLAN	INTEGER	0 to 4095	The voice VLAN
PRI	INTEGER	0 to 7	The voice priority
IPMODE	OCTET STRING	SIZE (64)	The IP obtaining mode (DHCP, PPPoE, static)
IPADDRESS	OCTET STRING	SIZE (64)	The IP address
IPMASK	OCTET STRING	SIZE (64)	The IP IP address mask
IPGATEWAY	OCTET STRING	SIZE (64)	The gateway address
MGCIP1	OCTET STRING	SIZE (64)	The active softswitch IP address
MGCIP2	OCTET STRING	SIZE (64)	The standby softswitch IP address

Example

Command:

```
LST-MG::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=12345:
CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:51:54
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
10.78.99.201    NA-1-1-2       1      0      H.248   FTTHHSSS131117 1
```

```
646     --      --      172.16.254.2    255.255.255.224  172.16.254.1
172.16.9.25
```

3.5.6 Querying the Voice Port Information

Functions

This command is used to query the voice port information of an appointed equipment set.

Command format

```
LST-POTS::ONUIP=onu-name|(OLTID=olt-name,PONID=ponport_location,ONUIDT
YPE=onuid-type,ONUID=onu-index)[,ONUPORT=onu-port]:CTAG::;
```

Meaning:

Query an ONU with the management IP address:

```
LST-POTS::ONUIP=onu-name[,ONUPORT=onu-port]:CTAG::;
```

Query an ONU without the management IP address:

```
LST-POTS::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,O
NUID=onu-index[,ONUPORT=onu-port]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is located in the cabinet -subrack - slot mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A port is identified in the cabinet - subrack - slot - port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
MGID	INTEGER	0 to 16	The MG ID, used to identify a unique MG module on the ONU MG
TID	OCTET STRING	SIZE (1 to 64)	The H.248 subscriber terminal ID
PN	OCTET STRING	SIZE (1 to 32)	The SIP telephone number

Parameter Name	Data Type	Value Range	Remark
SIPUSERNAME	OCTET STRING	SIZE (1 to 32)	The username corresponding to the SIP subscriber port
SIPUSERPWD	OCTET STRING	SIZE (1 to 32)	The password corresponding to the SIP subscriber port
FAXMODE	String	T30 T38	The fax mode
CONTROLMODE	String	NONE SS AUTOVBD	The control mode

Example

Command:

```
LST-POTS::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=1234
5,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:53:00
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
---------------------------------------------------------------------------
ONUIP   OLTID   PONID   ONUID   ONUPORT MGID    TID     PN      SIPUSERNAME
SIPUSERPWD      FAXMODE CONTROLMODE
10.78.99.201    NA-1-1-2        1       NA-NA-NA-1      0       FH000
FH000                T30    AUTOVBD
```

3.5.7 Querying the Multicast Service Information

Functions

This command is used to query the multicast service information of an appointed equipment set.

Command format

```
LST-IPTV::ONUIP=onu-name|(OLTID=olt-name,PONID=ponport_location,ONUIDT
YPE=onuid-type,ONUID=onu-index)[,ONUPORT=onu-port]:CTAG::;
```

Meaning:

Query an ONU with the management IP address:

```
LST-IPTV::ONUIP=onu-name[,ONUPORT=onu-port]:CTAG::;
```

Query an ONU without the management IP address:

```
LST-IPTV::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-type,O
NUID=onu-index[,ONUPORT=onu-port]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	ONU_NAME, MAC, LOID, ONU_NUMBER	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack - slot - port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A port is located in the cabinet –subrack - slot - port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
MVLAN	INTEGER	0 to 4095	The multicast VLAN
VPI	INTEGER	0 to 65535	The VPI, optional (the multicast service on DSL)
VCI	INTEGER	0 to 65535	The VCI, optional (the multicast service on DSL)
UV	INTEGER	0 to 4095	The subscriber side VLAN, the home gateway multicast service VLAN, optional
FLMODE	OCTET STRING	SIZE (32)	The fast leave mode: Enabled Disabled
MAXGRP	INTEGER	0 to 255	Means the maximum multicast program number a port is allowed to join at a time.

Example

Command:

```
LST-IPTV::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=1234
5,ONUPORT=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:54:20
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
ONUIP   OLTID   PONID   ONUID   ONUPORT MVLAN   VPI VCI  UV FLMODE MAXGRP
10.78.99.201    NA-1-1-2        1       NA-NA-NA-1      321     --      -
- 123     --      --
```

3.5.8 Querying the DSL Port Information

Functions

This command is used to query the DSL port information of an appointed equipment set.

Command format

```
LST-DSLPORT::ONUIP=onu-name|(OLTID=olt-name,PONID=ponport_location,ONU
IDTYPE=onuid-type,ONUID=onu-index)[,ONUPORT=onu-port]:CTAG::;
```

Meaning:

Query an ONU with the management IP address:

```
LST-DSLPORT::ONUIP=onu-name[,ONUPORT=onu-port]:CTAG::;
```

Query an ONU without the management IP address:

```
LST-DSLPORT::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-typ
e,ONUID=onu-index[,ONUPORT=onu-port]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE(128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE(128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE(128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE(128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE(128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE(128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ADMINSTATUS	String	UPDOWN	The management status

Example

Command:

```
LST-DSLPORT::ONUIP=10.78.99.210,ONUPORT=NA-NA-3-1:CTAG::;
```

Response:

```
FH 10.78.11.100 2010-07-28 10:42:42
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
ONUIP   OLTID   PONID   ONUID   ONUPORT ADMINSTATUS
10.78.99.210    --      --      --      NA-NA-3-1       --
```

3.5.9 Querying the LAN Port Information

Functions

This command is used to query the LAN port information of an appointed equipment set.

Command format

```
LST-LANPORT::ONUIP=onu-name|OLTID=olt-name[,PONID=ponport_location,ONU
IDTYPE=onuid-type,ONUID=onu-index][,PORTID=port_index]:CTAG::;
```

Meaning:

Query an ONU with the management IP address:

```
LST-LANPORT::ONUIP=onu-name[,PORTID=port_index]:CTAG::;
```

Query an ONU without the management IP address:

```
LST-LANPORT::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-typ
e,ONUID=onu-index[,PORTID=port_index]:CTAG::;
```

Query the uplink port of an OLT:

```
LST-LANPORT::OLTID=olt-name[,PORTID=port_index]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
PORTID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
PORTID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ADMINSTATUS	OCTET STRING	UP DOWN	The management status
DUPLEX	OCTET STRING	Full Half Auto Auto-Full Auto-Half	The working mode
SPEED	INTEGER	Auto 10M 100M 1000M Auto-10M Auto-100M Auto-1000M	The port rate
RateLimitUs	INTEGER	0 to 1000000	The uplink limited rate Unit: kbps
RateLimitDs	INTEGER	0 to 1000000	The downlink limited rate Unit: kbps

Example

Command:

```
LST-LANPORT::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=1
2345,PORTID=NA-NA-NA-1:CTAG::;
```

Response:

```
FH 10.78.11.100 2010-07-27 10:55:16
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
---------------------------------------------------------------------------
ONUIP    OLTID    PONID    ONUID    PORTID  ADMINSTATUS      DUPLEX   SPEED
RateLimitUs     RateLimitDs
10.78.99.201    NA-1-1-2       1      NA-NA-NA-1     UP      Full   1
```

00M	--	--

3.5.10 Querying the Port VLAN Information

Functions

This command is used to query the port VLAN information of an appointed equipment set.

Command format

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

Meaning:

Query an ONU with the management IP address:

```
LST-PORTVLAN::ONUIP=onu-name[,ONUPORT=onu-port]:CTAG::;
```

Query an ONU without the management IP address:

```
LST-PORTVLAN::OLTID=olt-name,PONID=ponport_location,ONUIDTYPE=onuid-ty
pe,ONUID=onu-index[,ONUPORT=onu-port]:CTAG::;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The IP address, name , or ID of an ONU with the management IP
OLTID	OCTET STRING	SIZE (128)	The IP address, name, or ID of an OLT
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-PON port Number	The PON port identity information. A PON port is identified by the cabinet -subrack-slot-PON port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUIDTYPE	OCTET STRING	SIZE (128)	The ONU ID type (ONU_NAME, MAC, LOID, ONU_NUMBER)
ONUID	OCTET STRING	SIZE (128)	The ONU ID, and its value can be one of the following four items: ONU_NAME, MAC, LOID, ONU_NUMBER. It is used to uniquely identify an ONU connected with the appointed PON port.
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA. Input NA-0-NA-NA for a subrack; input NA-0-6-NA for a card; input NA-0-6-5 for a port.
PORTID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA. Input NA-0-NA-NA for a subrack; input NA-0-6-NA for a card; input NA-0-6-5 for a port.

Output parameter

Parameter Name	Data Type	Value Range	Remark
ONUIP	OCTET STRING	SIZE (128)	The input parameter is returned
OLTID	OCTET STRING	SIZE (128)	The input parameter is returned
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	The input parameter is returned
ONUID	OCTET STRING	SIZE (128)	The input parameter is returned
ONUPORT	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card port is located in the cabinet -subrack – slot – port Number mode, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA..
SVLAN	INTEGER	0 to 4095	The SVLAN

Parameter Name	Data Type	Value Range	Remark
CVLAN	INTEGER	0 to 4095	The CVLAN
VPI	INTEGER	0 to 65535	The VPI
VCI	INTEGER	0 to 65535	The VCI
UV	INTEGER	0 to 4095	The subscriber side VLAN

Example

Command:

```
LST-PORTVLAN::OLTID=10.78.99.201,PONID=NA-NA-1-2,ONUIDTYPE=LOID,ONUID=
12345,PORTID=NA-NA-NA-1:CTAG::;
```

Response:

```
FH_10.78.11.100 2010-07-27 10:58:33
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
ONUIP   OLTID   PONID   ONUID   ONUPORT SVLAN   CVLAN   VPI     VCI     UV
10.78.99.201    NA-1-1-2        1       NA-NA-NA-1      --      123     -
-       --      123
```

3.5.11 Subscribing to the Resource Change Notification

Functions

After a user establishes a TCP connection and logs into the PON EMS system, the system will subscribe to resource change notifications. After subscribing resource change notifications successfully, the PON EMS will report the physical resource (equipment, subrack, card) change notifications automatically.

Command format

```
SUBSCRIBE:::CTAG::FLAG=flag;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
FLAG	OCTET STRING	RES	RES indicates to subscribe to the resource change notification

Example

Command:

```
SUBSCRIBE:::CTAG::FLAG=RES;
```

Response:

```
FH_10.78.11.100 2010-07-27 11:02:30
M  CTAG COMPLD
EN=0   ENDESC=No error
```

3.5.12 Unsubscribing to the Resource Change Notification

Functions

After unsubscribing to resource change notifications successfully, the PON EMS will not report the physical resource (equipment, subrack, card) change notifications automatically.

Command format

```
UNSUBSCRIBE:::CTAG::FLAG=flag;
```

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
FLAG	OCTET STRING	RES	RES indicates to unsubscribe to the resource change notification

Example

Command:

```
UNSUBSCRIBE:::CTAG::FLAG=RES;
```

Response:

```
FH_10.78.11.100 2010-07-27 11:04:15
M  CTAG COMPLD
EN=0   ENDESC=No error
```

3.5.13 Querying the Resource Change Notification

Functions

Query the resource change notification.

Command format

```
LST-RESNOTIFY:::CTAG::BEGINTIME=initial-time[,ENDTIME=last-time];
```

Response format:

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
BEGINTIME	String	SIZE (32)	The start time, with the format as follows: YYYY-MM-DD HH-MM-SS
ENDTIME	String	SIZE (32)	The end time, with the format as follows: YYYY-MM-DD HH-MM-SS

Output parameter

Parameter Name	Data Type	Value Range	Remark
HAPPENTIME	OCTET STRING	SIZE (128)	The time when the resource changes, with the format as follows: YYYY-MM-DD HH:MM:SS
MARK	OCTET STRING	ADD DEL MOD	The resource change reason
OBJECT	OCTET STRING	OLT ONU SHELF BOARD	The resource object type
INFO	OCTET STRING	SIZE (512)	The resource change message. For its format, see Section 3.5.14.

Example

Command:

```
LST-RESNOTIFY:::CTAG::BEGINTIME=2010-07-26 00-00-00;
```

Response:

```
2010-07-26  15:31:06           ADD           SHELF       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 SHELFID=1-1    SHELFTYPE=--
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-1   BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0201    HWVER=WKE2.119.318R1A
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-2   BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0105    HWVER=WKE2.119.318R1A
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-9   BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0130    HWVER=WKE2.115.334R1A
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-10  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0110    HWVER=WKE2.115.334R1A
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-18  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0203    HWVER=WKE2.167.177R1A RP0203
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-19  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=RP
0103    HWVER=WKE2.170.846R3A
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-21  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=--
       HWVER=--
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-22  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=--
       HWVER=--
2010-07-26  15:31:06           ADD           BOARD       ONUIP=0.0.0.0
OLTID=201.99.78.10    P
ONID=-- ONUID=0 BOARDID=1-1-23  BOARDTYPE=--    BSERVICE=--     PNUM=0
SWVER=--
       HWVER=--
```

```
2010-07-26  15:31:07         ADD         ONU         OLTID=201.99.78.10
PONID=1-1-1-2  O
NUNO=65 NAME=AN5006-04  DESC=-- ONUTYPE=--     IP=0.0.0.0     AUTH=LOID
M
AC=--   LOID=12345     PWD=--  SWVER=--
2010-07-26  15:31:07         ADD         ONU         OLTID=201.99.78.10
PONID=1-1-1-3  O
NUNO=129          NAME=AN5006-07B  DESC=--  ONUTYPE=--        IP=0.0.0.0
AUTH=MAC
       MAC=--  LOID=--  PWD=--  SWVER=--
2010-07-26  15:36:19         ADD         ONU         OLTID=201.99.78.10
PONID=1-1-1-3  O
NUNO=130          NAME=AN5006-20   DESC=--  ONUTYPE=--        IP=0.0.0.0
AUTH=HYB
RID    MAC=--  LOID=--  PWD=--  SWVER=--
2010-07-27  11:03:07         MOD         ONU         OLTID=201.99.78.10
PONID=1-1-1-2  O
NUNO=65   NAME=PON2-AN5006-04_0727                 DESC=--   ONUTYPE=--
IP=0.0.0.0    A
UTH=LOID       MAC=--  LOID=12345     PWD=--  SWVER=--
2010-07-27  11:04:25         MOD         ONU         OLTID=201.99.78.10
PONID=1-1-1-2  O
NUNO=65  NAME=PON2-AN5006-04       DESC=--  ONUTYPE=--        IP=0.0.0.0
AUTH=LOI
D      MAC=--  LOID=12345     PWD=--  SWVER=--
```

3.5.14 Reporting the Resource Change Notification

Functions

This command is used to report the resource change notifications on the following aspects: adding / modifying / deleting an equipment set, adding / deleting a subrack, adding / deleting a card.

Command format

None

Response format

Complies with the response format mentioned in Section 2.4.

Output parameter (the notification on adding / modifying / deleting an ONU）

Parameter Name	Data Type	Value Range	Remark
OLTID	OCTET STRING	SIZE (128)	The OLT IP address
PONID	OCTET STRING	SIZE (128) Cabinet -subrack-slot-port Number	A card is identified by the cabinet -subrack-slot-port Number, and in the absence of any of the cabinet, subrack, slot, PON port Number, fill with NA.
ONUNO	INTEGER	0 to 512	The ONU authorization Number
NAME	OCTET STRING	SIZE (128)	The ONU name
DESC	OCTET STRING	SIZE (128)	The ONU description
ONUTYPE	SWVER	OCTET STRING	The ONU type
IP	OCTET STRING	SIZE (128)	The ONU management IP address
AUTH	OCTET STRING	MAC LOID HYBRID	The authentication mode. If no authentication mode exists, the system will return --
MAC	OCTET STRING	SIZE (128)	The registered MAC information of the ONU
LOID	OCTET STRING	SIZE (64)	When the MAC authentication mode is used, the system will return --
PWD	OCTET STRING	SIZE (128)	The LOID password. If no password exists, the system will return --
SWVER	OCTET STRING	SIZE (128)	The software version

Example (the notification on adding / modifying / deleting an ONU)

Response:

```
FH_10.78.11.100 2010-07-27 11:03:21
A  14 REPT RES MOD_ONU
OLTID=201.99.78.10                    PONID=1-1-1-2          ONUNO=65
NAME=PON2-AN5006-04_0727    DESC=--   ONUTYPE=--            IP=0.0.0.0
AUTH=LOID      MAC=--  LOID=12345     PWD=--  SWVER=--
```

3.5.15 Exporting the Entire Network Resource Information

Functions

This command is used to export the information of the physical and service resources in the entire network to an XML-format file.

Command format

`DUMP-RESOURCEINFO:::CTAG::[RESTYPE=resource-type];` the file should be named as follows:

`DUMP_RES_YYYY-MM-DD-HH-MM-SS.xml`

Response format

Complies with the response format mentioned in Section 2.4.

Input parameter

Parameter Name	Data Type	Value Range	Remark
RESTYPE	OCTET STRING	PHY SRV ALL	The resource type: PHY: the physical resource SRV: the service resource ALL: all physical resources and service resources

Output parameter

Parameter Name	Data Type	Value Range	Remark
FILENAME	OCTET STRING	SIZE (128)	The file name

Example

Command:

```
DUMP-RESOURCEINFO:::CTAG::RESTYPE=PHY;
```

Response:

```
FH_10.78.11.100 2010-07-27 14:03:53
M  CTAG COMPLD
total_blocks=1
block_number=1
block_records=1
dump resource info
---------------------------------------------------------------------------
FILENAME
DUMP_RES_2010-07-27-14-03-53.xml
```

3.5.16 Querying the Resource Change Notification

Functions

This command is used to report the stock data file exporting result notification.

Command format

None

Response format

Complies with the response format mentioned in Section 2.4.

Output parameter

Parameter Name	Data Type	Value Range	Remark
FILENAME	OCTET STRING	SIZE (128)	The file name
RESULT	OCTET STRING	Success Failure	The exporting result

Example

Response:

```
FH_10.78.11.100 2010-07-27 14:03:55
A  -- REPT RES DUMP_FILE
FILENAME=DUMP_RES_2010-07-27-14-03-53.xml      RESULT=Success;
```

Appendix A ONU Types

ONU Type Name	Type Code	Data Port Number	Voice Port Number
AN5006-02	1	2	0
AN5006-02A	2	2	0
AN5006-03	3	4	0
AN5006-04	4	4	2
AN5006-05	5	2	2
AN5006-05A	6	2	2
AN5006-06A	7	4	0
AN5006-06B	8	4	8
AN5006-06D	10	4	8
AN5006-07A	11	16	0
AN5006-07B	12	16	16
AN5006-03C	19	4	0
AN5006-04C	20	4	2
AN5006-02C	21	2	0
AN5006-05C	22	2	2
AN5006-09A	23	8	0
AN5006-09B	24	8	8
AN5006-10	25	24	0
AN5006-07C	28	16	16
AN5006_15	27		
AN5006_16	29		
OTHER_ONU1	15	1 (GE)	0
OTHER_ONU2	16	4 (FE)	0
OTHER_ONU3	17	2 (1GE,1FE)	0
OTHER_ONU4	18	2 (FE)	0
OTHER_ONU	255	24 (FE)	0

Appendix B Card Types

Card Name	Port Number
GSWB	-
FSWB	-
AC16	-
EUP2	-
EUP2-X	-
XA32+	32
POTS	32

Appendix C The List of Alarms

After receiving alarms from the equipment, the PON EMS will first filter them according to the following table in this section, and then send alarms complying with the definitions in this table to the integrated alarm system. The ID of an alarm should be coded as follows:

1. The ID of an alarm is composed of a 6-digit number

   - The 1st digit: Identifies the alarm type, with the value ranging from 1 to 9;
   - The 2nd digit: Identifies the alarm equipment; 1 means the OLT, and 2 means the ONU;
   - The 3rd digit: Is reversed for the extension; currently users should all type 0.
   - The 4th, 5th , and 6th digits: Identify the detailed alarm information, with the value ranging from 000 to 999.

2. The 1st digit of an alarm ID is defined as follows:

   - 1: Means the equipment alarm
   - 2: Means the environment alarm
   - 3: Means the communication alarm
   - 4: Means the QoS alarm
   - 5: Means the processing error alarm

The list below defines alarms for the OLT

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment event	Urgent alarm	110001	OLT-START	The OLT is cold-started or hot-started
Equipment alarm	Urgent alarm	110002	OLT-BOARD-OFF-LINE	The OLT card is off-line
Equipment alarm	Urgent alarm	110003	OLT-BOARD-STATE-ABNORMAL	The OLT card status is abnormal, including the abnormal running, the card not being activated, the card type not matching the configuration type, etc.
Equipment alarm	Major alarm	110004	ILEGAL_ONU_REGISTE	An illegal ONU tries to register
Equipment alarm	Major alarm	110005	OLT-REMOTE-ONU-CONFIG-FAILURE	The OLT fails to deliver the configuration to the ONU
Equipment alarm	Subordinate alarm	110006	CPU_USAGE_OVER_THRESHOLD	The CPU utilization exceeds the set threshold
Equipment alarm	Urgent alarm	110007	LASER_ALWAYS_ON	The laser of a certain ONU under the OLT is always on
Equipment alarm	Urgent alarm	110008	ONU_Power_Fail	The OLT detects that a certain ONU under it is powered-off
Equipment event	Major alarm	110009	BOARD_INVERSION_SUCCESSFUL	The active / standby switching occurs on the core switching 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	Urgent alarm	310001	OLT_PON_Optical_Module_Fail	The optical module of the EPON OLT PON port fails
Communication alarm	Urgent alarm	310002	OLT_Uplink_Optical_Module_Fail	The optical module of the EPON OLT uplink port fails
Communication alarm	Urgent alarm	310003	NO_OPTICS_SIGNAL (uplink port)	The optical circuit between the Tx part of the EPON uplink OLT and the Rx part of the OLT uplink port fails
Communication alarm	Urgent alarm	310004	NO_OPTICS_SIGNAL (optical port)	(1) The trunk optical fiber is cut; (2) The splitter fails.
Communication alarm	Urgent alarm	310005	ONU_OFF_LINE	The probable reasons include: (1) The optical circuit between the splitter and the ONU fails; (2) The ONU works abnormally.
Communication alarm	Urgent alarm	310006	OLT_OFF_Adminis	The network management system 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

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
				the equipment uplinked with the OLT is abnormal; (2) The optical circuit 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
Communication alarm	Major alarm	310011	ONU_Uplink_Error-Frame_Too_Many	The optical circuit between the OLT and the ONU is abnormal. The probable reasons include: (1) The optical circuit between the OLT and the splitter is abnormal; (2) the optical circuit between the splitter and a certain ONU is abnormal; (3) the ONU PON module is abnormal
Communication alarm	Prompt alarm	310012	LACP_LINK_Failure	The LACP link fails
Environment alarm	Urgent alarm	210001	OLT_POWER_FAILURE	The OLT power supply card is abnormal
Environment alarm	Urgent 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	Urgent alarm	210004	TEMP_HIGH_ALARM (the core switch card)	The temperature of the core switch card is too high
Environment alarm	Urgent alarm	210005	TEMP_HIGH_ALARM (the OLT card)	The temperature of an OLT card is too high
Environment alarm	Urgent 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	Major alarm	210009	LOADFUSE	The load fuse is blown

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
alarm				
Environment alarm	Major alarm	210010	Rectifier Module Failure	The rectifier module fails
Environment alarm	Major alarm	210011	FANFAIL	The OLT fan works abnormally
Environment alarm	Major alarm	210012	FAN_OFF_LINE	The OLT fan is off-line
Environment alarm	Urgent alarm	210013	TEMP_ ALARM (the OLT optical module)	The OLT optical module works abnormally
Environment alarm	Major alarm	210014	MEMORY_USAGE _OVER_THRESHO LD	The working load of the system is excessive
Environment alarm	Urgent alarm	210015	Dry_CONTACT_Ala rm	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_LI MIT	The traffic threshold-exceeding number of the statistics based on the Ethernet
QoS alarm	Major alarm	410002	ETH_STATISTICS_ CONFLICT_OVER_ LIMIT	The confliction threshold-exceeding number of the statistics based on the Ethernet
QoS alarm	Major alarm	410003	ONU-OPTICAL-SIG NAL-DEGRADATIO N	The ONU optical channel generates errors
QoS alarm	Major alarm	410004	ETH_CRC_ERROR _OVER_LIMIT	The CRC errors on an OLT Ethernet port exceeds the threshold

The list below defines alarms for the FTTB ONU

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
Equipment Alarm	Urgent alarm	120000	ONU-BOARD-OFF-LINE	The ONU card is off-line
Equipment Alarm	Urgent alarm	120001	ONU-BOARD-STAT E-ABNORMAL	The ONU card status is abnormal, including the abnormal running, the card not being activated, the card type not matching the configuration type, etc.
Equipment Alarm	Major alarm	120002	ETH_PORT_LOOP	A loop is detected on the subscriber port
Equipment Alarm	Major alarm	120003	DoS_ATTACK	A DOS attack is detected on the subscriber port
Equipment Alarm	Subordinate alarm	120004	CPU_USAGE_OVE R_THRESHOLD	The CPU utilization exceeds the set threshold
Communication Alarm	Urgent alarm	320001	ONU_ H248_BREAKOUT	The ONU H.248 connection fails
Communication Alarm	Urgent alarm	320002	ONU_MGCP_BRE AKOUT	The ONU MGCP connection fails
Communication Alarm	Urgent alarm	320003	ONU_SIP_BREAK OUT	The ONU SIP connection fails
Communication Alarm	Major alarm	320004	ENVIRONMENT_M ONITOR_UNIT_CO	The external environment monitor unit cannot

Alarm Type	Alarm Level	Alarm ID	Alarm Name	Alarm Reason
			MMUNICATION_FAILURE	communicate with the ONU normally
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 network management system cannot communicate with the ONU
Environment alarm	Urgent alarm	220001	AC Failure (ONU)	The AC power supply of the ONU fails
Environment alarm	Urgent alarm	220002	BATTERY_VOLTAGE_LOW (ONU)	The standby battery of the ONU is exhausted
Environment alarm	Urgent alarm	220003	TEMP_ALARM (ONU)	The ONU temperature is abnormal
Environment alarm	Urgent alarm	220004	FANFAIL (ONU)	The ONU fan is abnormal
Environment alarm	Urgent alarm	220005	TEMP_ALARM (ONU optical module)	The optical module temperature is abnormal
Environment alarm	Urgent 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.

Appendix D The List of Parameters

Impedance parameter

Parameter Name	Data Type	Value	Description
Impedance	INTEGER	1	200 + 680 100 nf: bureau machine in China
		2	200 + 560 100 nf: user machine in China
		3	600 ohm

External line test conclusion parameter

Parameter Name	Data Type	Value	Description
Conclusion	INTEGER	0	Normal
		11	The AC voltage is abnormal
		12	The DC voltage is abnormal
		13	The loop current is abnormal
		14	The loop resistance is abnormal
		15	The insulation resistance is abnormal
		16	The capacitance is abnormal
		17	The impedance is abnormal
		21	The line insulation is abnormal
		22	The line is disconnected (including the intra-exchange and extra-exchange line disconnection)
		23	The line is mixed (including the intra-exchange and extra-exchange mixed line)
		24	The line grounding is abnormal
		25	The line has interfere
		26	The line has electric leakage
		27	Not on-hook

Call-in / out emulation test conclusion parameter

Parameter Name	Data Type	Value	Description
Conclusion	INTEGER	1	Successful
		2	Failure
		3	The voice channel has been established, but the test engineer has not confirmed the call conditions.

Call-in emulation failure reason parameter

Parameter Name	Data Type	Value	Description
FailReason	INTEGER	1	There is no interactive signaling
		2	The called party has picked up the telephone, but the SS does not respond to the off-hook signaling
		3	The internal reason of the MG
		4	Other reasons

Call-out emulation failing reason parameter

Parameter Name	Data Type	Value	Description
FailReason	INTEGER	1	The system does not receive the off-hook response signaling from the SS
		2	The system does not receive the sending-dial-tone signaling from the SS
		3	The tested number is not the number reported to the SS
		4	The system does not receive the ring back tone
		5	The opposite end does not pick up the telephone
		6	The channel is not established successfully
		7	The SS does not response to the on-hook signaling
		8	Other reasons

DSL transmission parameter

Parameter Name	Data Type	Value	Refer To
TM	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
		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

Parameter Name	Data Type	Value	Refer To
		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
		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

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 troubleshooting ☐ 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.cn.