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**AN5116-06B**

**Optical Line Terminal Equipment**

**CLI Reference**

**Version: A**

**Code: MN000001060**

**FiberHome Telecommunication Technologies Co., Ltd.**

**March 2012**



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# Preface

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## Related Documentation

Document	Description
AN5116-06B Optical Line Terminal Equipment CLI Reference	Introduces the common commands under the core switch card directory, including the command functions, command formats, parameter descriptions, command examples and result descriptions.
AN5116-06B Optical Line Terminal Equipment EPON Service-CLI Quick Start Guide	Introduces the command line planning data and configuration process for typical services of EPON equipment in the FTTH / FTTB network application scenarios.
AN5116-06B Optical Line Terminal Equipment GPON Service-CLI Quick Start Guide	Introduces the command line planning data and configuration process for typical services of GPON equipment in the FTTH / FTTB network application scenarios.

## Version

Version	Description
A	Initial version This manual corresponds to the AN5116-06B with the version number GEAPON V3.1.

## Intended Readers

This manual is intended for the following readers:

- ◆ Commissioning engineers
- ◆ Operation and maintenance engineers

To utilize this manual, these prerequisite skills are necessary:

- ◆ Access network technology
- ◆ GEAPON theory
- ◆ Ethernet switching technology
- ◆ Computer network technology
- ◆ Basic operation methods for the command line network management system

# Conventions

## Terminology Conventions

Terminology	Convention
AN5116-06B	The AN5116-06B Optical Line Terminal Equipment
EC4B	4×EPON-C Interface Card (type B)
EC8B	8×EPON-C Interface Card (type B)
GC4B	4×GPON-C Interface Card (type B)
GC8B	8×GPON-C Interface Card (type B)
XG2B	2×10G EPON-C Interface Card (type B)
C155A	4×GE + 1×10GE Optical Interface Uplink Card (CES Mode)
CE1B	32×E1 Optical Interface Card (CES mode) (type B)
PUBA	Public Card (type A)
HSPA	Core Switch Card (EPON) (card No.: 2.115.334)
	Core Switch Card (type A) (card No.: 2.115.331)
HU1A	4×GE + 1×10GE Optical Interface Uplink Card
HU2A	2×GE + +2×10GE Optical Interface Uplink Card
GU6F	6×GE Optical Interface Uplink Card

## Symbol Conventions

Symbol	Convention	Description
	Note	Important features or operation guide.
	Caution	Possible injury to persons or systems, or cause traffic interruption or loss.
	Warning	May cause severe bodily injuries.



# Contents

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Preface.....	I
Related Documentation .....	I
Version .....	II
Intended Readers .....	II
Conventions .....	III
<b>1</b> General Introduction to Command Line .....	1-1
<b>1.1</b> Authority Control.....	1-2
<b>1.2</b> Syntax.....	1-2
<b>1.2.1</b> Command Format.....	1-2
<b>1.2.2</b> Parameter Value Type.....	1-2
<b>1.3</b> Intelligent Match .....	1-3
<b>1.3.1</b> Abbreviated Command .....	1-3
<b>1.3.2</b> Question Mark <?> .....	1-4
<b>1.3.3</b> The <Tab> Key .....	1-5
<b>1.4</b> Function Keys.....	1-5
<b>1.4.1</b> <Ctrl + P> .....	1-5
<b>1.4.2</b> The <↑> Key .....	1-6
<b>1.5</b> Directory List .....	1-6
<b>2</b> Common Commands.....	2-1
<b>2.1</b> Switching between Directories .....	2-2
<b>2.2</b> Clearing Screen.....	2-4
<b>2.3</b> System Help Information.....	2-4
<b>2.4</b> Showing All Commands.....	2-5
<b>2.5</b> Showing Command History.....	2-6
<b>2.6</b> Exit.....	2-6
<b>2.7</b> Saving Configuration Data .....	2-7
<b>3</b> Admin Directory Commands .....	3-1

<b>3.1</b>	Clearing System Logs.....	3-3
<b>3.2</b>	Upgrading Software of the Standby Core Switch Card .....	3-3
<b>3.3</b>	Upgrading System File and Importing Configuration File.....	3-4
<b>3.4</b>	Clearing the Configuration Data .....	3-6
<b>3.5</b>	Configuring the System Name.....	3-7
<b>3.6</b>	Reset.....	3-7
<b>3.7</b>	Configuring Alarm on Power Supply .....	3-8
<b>3.8</b>	Configuring the Threshold Value for System Temperature.....	3-9
<b>3.9</b>	Card Authorization .....	3-9
<b>3.10</b>	Authorizing a Designated Card.....	3-10
<b>3.11</b>	Unauthorization .....	3-10
<b>3.12</b>	Configuring the IP Address for Out-of-Band Management of Equipment.....	3-11
<b>3.13</b>	Configuring Fan Control Parameters .....	3-12
<b>3.14</b>	Configuring System Logs .....	3-12
<b>3.15</b>	Configuring System Time .....	3-13
<b>3.16</b>	Showing Information on the IP Address for Out-of-Band Management of Equipment .....	3-14
<b>3.17</b>	Showing Fan Control Parameters.....	3-15
<b>3.18</b>	Showing Current Configuration Information .....	3-15
<b>3.19</b>	Showing the Startup Configuration Information .....	3-17
<b>3.20</b>	Showing Information on System Log .....	3-18
<b>3.21</b>	Showing the System Time.....	3-19
<b>3.22</b>	Showing System Cards.....	3-20
<b>3.23</b>	Upgrading ONU Software .....	3-21
<b>3.24</b>	Upgrading the Line Card Software.....	3-22
<b>3.25</b>	Uploading Files in FTP Mode .....	3-23
<b>3.26</b>	Showing System Software and Hardware Version .....	3-24
<b>4</b>	TDM Directory Commands.....	4-1
<b>4.1</b>	Deleting the E1 Service on ONU .....	4-2
<b>4.2</b>	Configuring E1 Service for ONU.....	4-3

<b>4.3</b>	Configuring System Clock Mode for the TDM Card .....	4-4
<b>4.4</b>	Configuring the Clock Recovery Mode for the TDM Card .....	4-5
<b>4.5</b>	Showing E1 Service of ONU .....	4-6
<b>4.6</b>	Showing the System Clock Mode of the TDM Card.....	4-7
<b>4.7</b>	Showing the Clock Recovery Mode of the TDM Card.....	4-7
<b>5</b>	Device Directory Commands.....	5-1
<b>5.1</b>	Disabling Urgent / Non-urgent Alarms of the Cabinet Top LEDs .....	5-4
<b>5.2</b>	Showing Information on the Uplink Port.....	5-4
<b>5.3</b>	Configuring Performance Classification Switch.....	5-6
<b>5.4</b>	Configuring the Threshold for the Line Card CPU / Memory Utilization Ratio.....	5-7
<b>5.5</b>	Configuring the Alarm Thresholds for the OLT Optical Module .....	5-8
<b>5.6</b>	Configuring User Defined Alarms for the PUBA Card .....	5-9
<b>5.7</b>	Showing the Threshold for the Line Card CPU / Memory Utilization Ratio.....	5-10
<b>5.8</b>	Force Switch.....	5-11
<b>5.9</b>	Disabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression .....	5-11
<b>5.10</b>	Enabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression .....	5-12
<b>5.11</b>	Showing Port Broadcast / Multicast / Unknown Packet Suppression .....	5-13
<b>5.12</b>	Configuring System Slot Separation.....	5-15
<b>5.13</b>	Configuring the Trunk Group Aggregation Mode .....	5-16
<b>5.14</b>	Configuring Reference Parameters for the System Trunk Group ...	5-17
<b>5.15</b>	Configuring System Trunk Group .....	5-17
<b>5.16</b>	Deleting the Trunk Group .....	5-18
<b>5.17</b>	Configuring the Link Recovery Mode for the Dual-Uplink Protection Group .....	5-19
<b>5.18</b>	Configuring Dual-Uplink Protection Group .....	5-19
<b>5.19</b>	Deleting Dual-Uplink Protection Group .....	5-20
<b>5.20</b>	Configuring the Uplink Card Protection Mode .....	5-21

<b>5.21</b>	Enabling / Disabling Uplink Port .....	5-22
<b>5.22</b>	Configuring Basic Attribute of Uplink Port .....	5-22
<b>5.23</b>	Configuring the Interface Mode for the Uplink Port .....	5-23
<b>5.24</b>	Configuring the Learning Function for the Uplink Port .....	5-24
<b>5.25</b>	Enabling / Disabling the Priority of Uplink Port .....	5-25
<b>5.26</b>	Configuring the Priority of Uplink Port .....	5-25
<b>5.27</b>	Configuring WAN / LAN Mode for Uplink Port .....	5-26
<b>5.28</b>	Showing System Trunk Group.....	5-27
<b>5.29</b>	Showing Reference Factors for the System Trunk Group.....	5-27
<b>5.30</b>	Showing the Double-Uplink Protection Group .....	5-28
<b>5.31</b>	Showing the Uplink Card Protection Mode.....	5-29
<b>5.32</b>	Showing Working Mode of PON Port.....	5-29
<b>5.33</b>	Showing Compensation for OLT Optical Power .....	5-30
<b>5.34</b>	Showing the Voice Switch Status .....	5-31
<b>5.35</b>	Showing Traffic Rate Limit.....	5-32
<b>5.36</b>	Showing the Legal ONU MAC Address of a Switch.....	5-33
<b>5.37</b>	Configuring the Working Mode of the PON Interface .....	5-34
<b>5.38</b>	Configuring the OLT Optical Power Compensation Value.....	5-35
<b>5.39</b>	Configuring the Voice Switch.....	5-36
<b>5.40</b>	Configuring Traffic Rate Limit .....	5-36
<b>5.41</b>	Configuring Legal ONU MAC Address Switch.....	5-38
<b>5.42</b>	Adding / Deleting Bandwidth Profile.....	5-39
<b>5.43</b>	Showing Bandwidth Profile.....	5-41
<b>5.44</b>	Binding Bandwidth Profile to ONU .....	5-42
<b>5.45</b>	Showing the Bandwidth Profile Bound to the ONU .....	5-43
<b>5.46</b>	Adding Threshold Profile .....	5-44
<b>5.47</b>	Showing the Threshold Profile.....	5-47
<b>5.48</b>	Deleting the Threshold Profile .....	5-48
<b>6</b>	FDB Directory Commands .....	6-1
<b>6.1</b>	Configuring the MAC Address Aging Time.....	6-2

<b>6.2</b>	Showing the MAC Address Aging Time .....	6-2
<b>6.3</b>	Showing the OLT MAC Address Table.....	6-3
<b>7</b>	<b>EPONONU Directory Commands.....</b>	<b>7-1</b>
<b>7.1</b>	Configuring User Defined Alarms for ONU.....	7-2
<b>7.2</b>	Showing ONU User Defined Alarms .....	7-3
<b>7.3</b>	Showing the Information on ONU Optical Module Parameters .....	7-4
<b>7.4</b>	Showing Limit on MAC Address Number on ONU Port .....	7-5
<b>7.5</b>	Showing Aging time of EPON ONU .....	7-6
<b>7.6</b>	Resetting ONU .....	7-6
<b>7.7</b>	Configuring the Aging Time of the ONU .....	7-7
<b>7.8</b>	Configuring Limit on MAC Address Number on ONU Port.....	7-8
<b>7.9</b>	Configuring the ONU Bandwidth.....	7-9
<b>7.10</b>	Authorizing ONU.....	7-11
<b>7.11</b>	Unauthorizing ONU.....	7-12
<b>7.12</b>	Showing the Information on ONU Authorization .....	7-13
<b>7.13</b>	Showing ONU Authorization Information According to MAC Address.....	7-14
<b>8</b>	<b>Data Directory Commands under EPONONU.....</b>	<b>8-1</b>
<b>8.1</b>	Showing the Port QoS Rule.....	8-2
<b>8.2</b>	Showing Port ACL Rule .....	8-3
<b>8.3</b>	Deleting Port ACL Rule .....	8-4
<b>8.4</b>	Deleting Port QoS Rule.....	8-5
<b>8.5</b>	Configuring ONU Ethernet Switch Queue Scheduling Algorithm .....	8-6
<b>8.6</b>	Configuring Port ACL Rule .....	8-7
<b>8.7</b>	Configuring the Port QoS Rule .....	8-10
<b>9</b>	<b>QinQ Directory Commands under EPONONU .....</b>	<b>9-1</b>
<b>9.1</b>	Configuring WAN Connection Profile .....	9-4
<b>9.2</b>	Binding WAN Connection Profile .....	9-6
<b>9.3</b>	Applying the WAN Connection Binding.....	9-7
<b>9.4</b>	Deleting WAN Connection Profile.....	9-8

<b>9.5</b>	Showing Information on ONU WAN Connection Profile Binding .....	9-8
<b>9.6</b>	Showing Information on ONU WAN Connection Profiles .....	9-9
<b>9.7</b>	Binding Data Service Configuration Profiles in a Batch Mode .....	9-11
<b>9.8</b>	Configuring Rate Control for Single Service at FE Interface .....	9-12
<b>9.9</b>	Configuring Rate Control for FE Interface .....	9-14
<b>9.10</b>	Showing Configuration of Rate Control at a Port .....	9-15
<b>9.11</b>	Showing Content of ONUBR Profiles.....	9-17
<b>9.12</b>	Configuring QinQ Multicast VLAN .....	9-18
<b>9.13</b>	Configuring ONU Port Service.....	9-19
<b>9.14</b>	Configuring TLS Function for an ONU Port.....	9-20
<b>9.15</b>	Configuring ONU Port Service Type .....	9-21
<b>9.16</b>	Configuring ONU QinQ Profile.....	9-22
<b>9.17</b>	Configuring VLAN Translation for ONU Port Service .....	9-24
<b>9.18</b>	Configuring VLAN Mode for ONU Port Service .....	9-25
<b>9.19</b>	Configuring Packet Suppression Profile.....	9-26
<b>9.20</b>	Configuring Traffic Rate Limit Profile.....	9-27
<b>9.21</b>	Configuring Port Attribute Profile .....	9-28
<b>9.22</b>	Configuring Ethernet Switch Queue Scheduling Algorithm Profile .	9-30
<b>9.23</b>	Configuring Parameters Relevant to Service Mode Profiles .....	9-31
<b>9.24</b>	Configuring Traffic Policing Profile .....	9-32
<b>9.25</b>	Configuring SVLAN Profile .....	9-34
<b>9.26</b>	Applying ONU FE Port .....	9-35
<b>9.27</b>	Deleting IP Address of COM Port .....	9-36
<b>9.28</b>	Deleting VLAN of COM Port.....	9-36
<b>9.29</b>	Deleting ONU VEIP Service Configuration.....	9-37
<b>9.30</b>	Configuring ONU VEIP .....	9-38
<b>9.31</b>	Showing ONU VEIP.....	9-40
<b>9.32</b>	Configuring IP of the COM Port .....	9-41
<b>9.33</b>	Showing Information on IP Configuration of COM Port.....	9-42
<b>9.34</b>	Configuring VLAN of COM Port.....	9-43
<b>9.35</b>	Showing VALN Configuration of COM Port .....	9-45

<b>9.36</b>	Configuring ONU Port .....	9-46
<b>9.37</b>	Configuring Service Flow Rule for ONU Port.....	9-47
<b>9.38</b>	Configuring ONU Port Service Number .....	9-49
<b>9.39</b>	Configuring CATV .....	9-49
<b>9.40</b>	Configuring ONU Data Ports in Batch Mode .....	9-50
<b>9.41</b>	Configuring Binding Packet Suppression Profile in ONU Bridge Management .....	9-51
<b>9.42</b>	Showing FE Port Configuration of ONU .....	9-52
<b>10</b>	GPONONU Directory Commands .....	10-1
<b>10.1</b>	Binding ONU Packet Suppression Profile .....	10-4
<b>10.2</b>	Applying ONU Packet Suppression Function.....	10-5
<b>10.3</b>	Showing Information on the Bound ONU Packet Suppression Profile.....	10-6
<b>10.4</b>	Configuring Feed Mode for ONU Port.....	10-7
<b>10.5</b>	Applying Feed Mode for ONU Port .....	10-8
<b>10.6</b>	Showing Power Supply Mode for ONU Port.....	10-9
<b>10.7</b>	Showing Information on Power Supply for ONU Port .....	10-10
<b>10.8</b>	Configuring Management VLAN for ONU VEIP Port .....	10-12
<b>10.9</b>	Configuring ONU VEIP Management Parameters.....	10-15
<b>10.10</b>	Deleting Management VLAN of ONU VEIP .....	10-16
<b>10.11</b>	Applying Management VLAN of ONU VEIP .....	10-17
<b>10.12</b>	Showing ONU VEIP Management VLAN.....	10-18
<b>10.13</b>	Configuring VLAN Mapping of ONU .....	10-20
<b>10.14</b>	Deleting VLAN Mapping of ONU .....	10-21
<b>10.15</b>	Applying VLAN Mapping of ONU.....	10-22
<b>10.16</b>	Showing VLAN Mapping of the ONU .....	10-23
<b>10.17</b>	Binding ONU Port to Traffic Policy .....	10-24
<b>10.18</b>	Showing Traffic Policy Bound to ONU Port .....	10-25
<b>10.19</b>	Binding Ethernet Queue Scheduling Algorithm to ONU .....	10-26
<b>10.20</b>	Check Ethernet Queue Scheduling Mechanism Profile bound to ONU .....	10-27

<b>10.21</b>	Bind Alarm Threshold Profile to ONU and ONU Port .....	10-28
<b>10.22</b>	Check Alarm Threshold Profile bound to ONU and OUN Port.....	10-29
<b>10.23</b>	Configure ONU Service Bandwidth Profile.....	10-30
<b>10.24</b>	Delete ONU Service Bandwidth Profile.....	10-32
<b>10.25</b>	Configure ONU's VLAN Management.....	10-33
<b>10.26</b>	Delete ONU's VLAN Management.....	10-35
<b>10.27</b>	Check ONU's VLAN Management.....	10-35
<b>10.28</b>	Configure ONU Service Bandwidth .....	10-37
<b>10.29</b>	Delete ONU Service Bandwidth .....	10-38
<b>10.30</b>	Check ONU Service Bandwidth.....	10-39
<b>10.31</b>	Configure ONU WLAN Service.....	10-40
<b>10.32</b>	Delete ONU WLAN Service.....	10-43
<b>10.33</b>	Restart ONU FE Port .....	10-44
<b>10.34</b>	Restart ONU.....	10-45
<b>10.35</b>	Configure ONU MAC Address Aging Time.....	10-45
<b>10.36</b>	Check ONU MAC Address Aging Time.....	10-46
<b>10.37</b>	Configure ONU Authorization Type .....	10-47
<b>10.38</b>	Check ONU Authorization Type.....	10-48
<b>10.39</b>	Authorizing an ONU .....	10-49
<b>10.40</b>	Configure ONU Deauthorization.....	10-51
<b>10.41</b>	Check ONU Authorization Table.....	10-51
<b>10.42</b>	Check ONU Discovery Table.....	10-52
<b>10.43</b>	Check ONU Online Table .....	10-53
<b>10.44</b>	Configure ONU Authorization Status .....	10-54
<b>10.45</b>	Configure the MAC Address Limit of the ONU FE Port.....	10-55
<b>10.46</b>	Check the MAC Address Limit Number of the ONU FE Port.....	10-56
<b>10.47</b>	Configure the MAC Address Table of the ONU FE Port.....	10-58
<b>10.48</b>	Configure ONU Feed Mode.....	10-59
<b>10.49</b>	Check ONU Feed Mode.....	10-60
<b>10.50</b>	Check ONU Feed Information .....	10-60
<b>10.51</b>	Configure ONU Remote Management.....	10-61

<b>10.52</b>	Configure ONU Static Router .....	10-63
<b>10.53</b>	Configure ONU Static Router .....	10-64
<b>10.54</b>	Configure ONU White List .....	10-66
<b>10.55</b>	Check the OUN White List .....	10-68
<b>10.56</b>	Check the OUN White List Status .....	10-69
<b>10.57</b>	Configure ONU WIFI Service Parameter .....	10-70
<b>10.58</b>	Check ONU Activation Status .....	10-71
<b>10.59</b>	Check ONU Version Information.....	10-72
<b>10.60</b>	Check ONU FE Interface Status.....	10-73
<b>10.61</b>	Configure Performance Threshold of the ONU LAN Port.....	10-75
<b>10.62</b>	Check the ONU's CPU and Memory Utilization Ratio .....	10-76
<b>10.63</b>	Check the ONU Optical Module Parameter Information .....	10-77
<b>10.64</b>	Check the ONU Multicast Address Table .....	10-79
<b>10.65</b>	Check ONU's Current Time .....	10-80
<b>10.66</b>	Check ONU Ranging Value.....	10-81
<b>11</b>	GPONLINE Directory Command .....	11-1
<b>11.1</b>	Bind QinQ Profile .....	11-3
<b>11.2</b>	Unbind QinQ Profile .....	11-3
<b>11.3</b>	Check QinQ Profile .....	11-4
<b>11.4</b>	Configure Wire Card's PON Interface Packet suppression .....	11-5
<b>11.5</b>	Enforce the Wire Card's PON Port Packet Suppression .....	11-6
<b>11.6</b>	Check the Wire Card's PON Port Packet Suppression .....	11-7
<b>11.7</b>	Bind Alarm Profile to Wire Card and PON Port.....	11-8
<b>11.8</b>	Check Alarm Profile Binding to Wire Card and PON Port .....	11-9
<b>11.9</b>	Configure PON Protection Group .....	11-10
<b>11.10</b>	Delete PON Protection Group .....	11-11
<b>11.11</b>	Check PON Protection Group .....	11-11
<b>11.12</b>	Check PON Protection Status .....	11-12
<b>11.13</b>	Configure Forced Switch of PON Protection Group.....	11-13
<b>11.14</b>	Configure PON Interface Bandwidth.....	11-14
<b>11.15</b>	Check PON Interface Bandwidth.....	11-15

<b>11.16</b>	Configure Alarm Threshold of Wire Card CPU Memory Utilization Ratio.....	11-16
<b>11.17</b>	Check Alarm Threshold of Wire Card CPU Memory Utilization Ratio.....	11-17
<b>11.18</b>	Configure PON Interface Shutdown.....	11-18
<b>11.19</b>	Check PON Interface Shutdown.....	11-19
<b>11.20</b>	Configure ONU Automatic Discovery.....	11-20
<b>11.21</b>	Check ONU Automatic Discovery.....	11-20
<b>11.22</b>	Configure Optical Module Type .....	11-21
<b>11.23</b>	Check Optical Module Type .....	11-22
<b>11.24</b>	Configure Alarm Threshold of Optical Module.....	11-23
<b>11.25</b>	Check Alarm Threshold of Optical Module .....	11-25
<b>11.26</b>	Configure PON Interface Authentication Mode .....	11-27
<b>11.27</b>	Check PON Interface Authentication Mode.....	11-28
<b>11.28</b>	Check ONU Batch Upgrade Status .....	11-29
<b>11.29</b>	Check Wire Card's CPU and Memory Utilization Ratio.....	11-30
<b>11.30</b>	Check Wire Card Multicast Address Table .....	11-31
<b>11.31</b>	Check Parameter Information of the Optical Module on the PON Interface .....	11-32
<b>11.32</b>	Check PON Interface MAC Address Table.....	11-33
<b>11.33</b>	Check Wire Card Current Time.....	11-34
<b>12</b>	IGMP Directory Command .....	12-1
<b>12.1</b>	Create/Delete Multicast Profile .....	12-3
<b>12.2</b>	Add Multicast VLAN .....	12-3
<b>12.3</b>	Delete Multicast VLAN .....	12-4
<b>12.4</b>	Add IP Address for Mapping Source .....	12-4
<b>12.5</b>	Delete IP Address of Multicast Mapping Source.....	12-5
<b>12.6</b>	Configure Multicast Group Parameter.....	12-6
<b>12.7</b>	Configure Maximum Multicast Bandwidth for Uplink Port .....	12-7
<b>12.8</b>	Configure Multicast Protocol Parameter .....	12-7
<b>12.9</b>	Configure Multicast Profile .....	12-10

<b>12.10</b>	Configure Multicast Proxy IP .....	12-11
<b>12.11</b>	Configure Multicast Address Range of the Mapping multicast source address .....	12-12
<b>12.12</b>	Configure Multicast Protocol Version .....	12-12
<b>12.13</b>	Configure Multicast Default VLAN .....	12-13
<b>12.14</b>	Configure Multicast Mode.....	12-14
<b>12.15</b>	Check Multicast Group Information.....	12-14
<b>12.16</b>	Check Multicast Profile.....	12-16
<b>12.17</b>	Check Multicast Global Configuration.....	12-17
<b>12.18</b>	Enable/disable Dynamic VLAN .....	12-18
<b>12.19</b>	Configure Cascade Port.....	12-19
<b>12.20</b>	Check Multicast Group Information on Router Side.....	12-20
<b>12.21</b>	Check Multicast Group Information of Host Side .....	12-22
<b>12.22</b>	Open Commissioning Command.....	12-23
<b>12.23</b>	Close Commissioning Command .....	12-24
<b>13</b>	NGN Directory Command .....	13-1
<b>13.1</b>	Configuring Parameters Relevant to the Soft Switch Platform .....	13-3
<b>13.1.1</b>	Configure Related Parameters of Uplink Interface of the MGCP Protocol.....	13-3
<b>13.1.2</b>	Configure Related Parameters of Uplink Interface of the H.248 Protocol.....	13-5
<b>13.1.3</b>	Configure Related Parameters of Uplink Interface of the SIP Protocol.....	13-8
<b>13.2</b>	Configure MD5 Authentication.....	13-10
<b>13.3</b>	Configure Softswitch Interconnection Profile.....	13-11
<b>13.4</b>	Bind Softswitch Interconnection Profile.....	13-13
<b>13.5</b>	Configure Heartbeat Parameter.....	13-14
<b>13.6</b>	Configure NGN Softswitch Profile Parameter.....	13-15
<b>13.7</b>	Configure NGN Uplink DHCP Parameter.....	13-21
<b>13.8</b>	Configure NGN Uplink PPPoE Parameter .....	13-22
<b>13.9</b>	Configure NGN Uplink User Parameter .....	13-23
<b>13.10</b>	Register / Log out NGN User.....	13-25

<b>13.11</b>	Configure ONU Voice Service Parameter .....	13-26
<b>13.12</b>	Check ONU Voice Service Parameter .....	13-29
<b>13.13</b>	Check Domain Information of the MD5 Authentication .....	13-31
<b>13.14</b>	Check Softswitch Interconnection Profile Binding Parameter .....	13-32
<b>13.15</b>	Check IAD Softswitch Profile Parameter.....	13-33
<b>13.16</b>	Check All Softswitch Interconnection Profile Parameter .....	13-35
<b>13.17</b>	Check NGN Uplink DHCP Parameter.....	13-38
<b>13.18</b>	Check NGN Uplink Interface Parameter .....	13-39
<b>13.19</b>	Check NGN Uplink PPPoE Parameter .....	13-40
<b>13.20</b>	Configure SIP Digitmap.....	13-42
<b>13.21</b>	Check SIP Digitmap Information.....	13-42
<b>13.22</b>	Configure NGN Voice Port's Advanced Profile Parameter .....	13-43
<b>13.23</b>	Check Voice Port's Advanced Profile Parameter.....	13-45
<b>13.24</b>	Delete Voice Port's Advanced Profile.....	13-47
<b>13.25</b>	Configure Voice Management Mode.....	13-47
<b>13.26</b>	Check Voice Management Mode.....	13-48
<b>13.27</b>	Configure Voice Media Stream Parameter.....	13-49
<b>13.28</b>	Check Voice Media Stream Parameter .....	13-51
<b>13.29</b>	Query Uplink User Parameters according to Interface Name.....	13-52
<b>13.30</b>	Query Uplink User Parameters according to Phone Number .....	13-53
<b>13.31</b>	Configure Voice Port Activation Status .....	13-54
<b>13.32</b>	Check Voice Port's Activation Status .....	13-55
<b>13.33</b>	Check MGC Connection Status.....	13-56
<b>14</b>	QoS Directory Command .....	14-1
<b>14.1</b>	Create QoS Profile.....	14-2
<b>14.2</b>	Configure Flow Classification Policy of the QoS Profile .....	14-2
<b>14.3</b>	Configure Router Policy of the QoS Profile .....	14-6
<b>14.4</b>	Delete QoS Profile .....	14-7
<b>14.5</b>	Delete QoS Profile .....	14-8
<b>14.6</b>	Bind/Unbind Wire Card and QoS Profile .....	14-10

<b>14.7</b>	Bind/Unbind Uplink Port and QoS Profile.....	14-11
<b>14.8</b>	Check All QoS Profile Name .....	14-11
<b>14.9</b>	Refresh QoS Profile Status .....	14-12
<b>14.10</b>	Configure Equipment Priority Mode .....	14-13
<b>14.11</b>	Check Equipment Priority Mode Type.....	14-14
<b>15</b>	VLAN Directory Command .....	15-1
<b>15.1</b>	Configure Uplink Port's Service VLAN .....	15-3
<b>15.2</b>	Trunk Group Port's Service VLAN .....	15-5
<b>15.3</b>	Configure Downlink Sub VLAN.....	15-6
<b>15.4</b>	Check Service VLAN .....	15-7
<b>15.5</b>	Configure Super VLAN .....	15-8
<b>15.6</b>	Configure Sub VLAN to Join in the Designated Super VLAN.....	15-9
<b>15.7</b>	Configure IP of the Designated Super VLAN .....	15-10
<b>15.8</b>	Configure the MTU value of the Designated Super VLAN .....	15-10
<b>15.9</b>	Delete a Sub VLAN from the Designated Super VLAN.....	15-11
<b>15.10</b>	Delete the IP of the Designated Super VLAN.....	15-12
<b>15.11</b>	Delete the Designated Super VLAN .....	15-12
<b>15.12</b>	Delete Service VLAN .....	15-13
<b>15.13</b>	Check Sub VLAN.....	15-13
<b>15.14</b>	Check Super VLAN.....	15-14
<b>15.15</b>	Create QinQ Domain .....	15-16
<b>15.16</b>	Configure QinQ Domain Service Entries.....	15-16
<b>15.17</b>	Configure QinQ Domain Service Type .....	15-17
<b>15.18</b>	Configure QinQ Domain Uprules .....	15-18
<b>15.19</b>	Configure Downlink Rules Sentence of the QinQ Domain .....	15-20
<b>15.20</b>	Configure QinQ Domain's VLAN Service Rules .....	15-22
<b>15.21</b>	Create QinQ Profile.....	15-24
<b>15.22</b>	Configure ONU QinQ Profile Rule Domain.....	15-24
<b>15.23</b>	Delete QinQ Domain.....	15-26
<b>15.24</b>	Delete QinQ Profile .....	15-27

<b>15.25</b>	Configure QinQ Domain's ONU Bind/Unbind .....	15-27
<b>15.26</b>	Configure QinQ Domain's PON Bind/Unbind .....	15-28
<b>15.27</b>	Check QinQ Domain Binding Relationship List .....	15-29
<b>15.28</b>	Check QinQ Domain Configuration Information .....	15-30
<b>15.29</b>	Check OLT QinQ Status.....	15-31
<b>15.30</b>	Check ONU QinQ Profile's Configuration Information .....	15-32
<b>15.31</b>	Add Slot VLAN.....	15-33
<b>15.32</b>	Check Slot Add VLAN.....	15-34
<b>16</b>	Route Directory Command.....	16-1
<b>16.1</b>	Configuring Static Routing.....	16-4
<b>16.2</b>	Deleting Static Routing.....	16-4
<b>16.3</b>	Viewing Route Table .....	16-5
<b>16.4</b>	Configuring Key Chain .....	16-6
<b>16.5</b>	Deleting Key Chain .....	16-7
<b>16.6</b>	Configuring Key ID in Key Chain .....	16-7
<b>16.7</b>	Deleting Key ID in Key Chain .....	16-8
<b>16.8</b>	Configuring Key in Key Chain.....	16-9
<b>16.9</b>	Deleting Key in Key Chain.....	16-9
<b>16.10</b>	Configuring Receiving Time in Key Chain .....	16-10
<b>16.11</b>	Deleting Receiving Time in Key Chain.....	16-11
<b>16.12</b>	Configuring Transmitting Time in Key Chain .....	16-12
<b>16.13</b>	Deleting Transmitting Time in Key Chain .....	16-13
<b>16.14</b>	Configuring ACL Name .....	16-13
<b>16.15</b>	Deleting ACL Name .....	16-14
<b>16.16</b>	Configuring ACL Rule .....	16-15
<b>16.17</b>	Deleting ACL Rule .....	16-16
<b>16.18</b>	Viewing All Configured ACL Information .....	16-18
<b>16.19</b>	Configuring Proxy Range of ARP-PROXY .....	16-19
<b>16.20</b>	Viewing Proxy Range of ARP-PROXY .....	16-20
<b>16.21</b>	Viewing Key Chain Configuration .....	16-20

<b>16.22</b>	Viewing Current Configuration Information .....	16-21
<b>16.23</b>	Configuring Printing Debugging Switch of RCAL Module .....	16-22
<b>16.24</b>	Configuring DHCP Function Global Switch .....	16-23
<b>16.25</b>	Viewing DHCP Function Global Switch.....	16-24
<b>16.26</b>	Configuring DHCP Global Ping Function .....	16-25
<b>16.27</b>	Viewing DHCP Global Ping Function.....	16-25
<b>16.28</b>	Configuring Layer3 Interface DHCP Mode.....	16-26
<b>16.29</b>	Viewing Layer3 Interface DHCP Mode .....	16-27
<b>16.30</b>	Configuring Server IP Address under Layer3 Interface DHCP Relay Mode.....	16-28
<b>16.31</b>	Deleting Server IP Address under Layer3 Interface DHCP Relay Mode.....	16-29
<b>16.32</b>	Viewing Server IP Address under Layer3 Interface DHCP Relay Mode.....	16-30
<b>16.33</b>	Configuring DHCP Server Global Address Pool.....	16-31
<b>16.34</b>	Deleting DHCP Server Global Address Pool.....	16-32
<b>16.35</b>	Viewing DHCP Server Global Address Pool .....	16-32
<b>16.36</b>	Configuring Lease Term of DHCP Server Global Address Pool ...	16-34
<b>16.37</b>	Configuring DNS Server.....	16-34
<b>16.38</b>	Deleting DNS Server.....	16-35
<b>16.39</b>	Configuring Forbidden IP Address .....	16-36
<b>16.40</b>	Deleting Forbidden IP Address .....	16-36
<b>16.41</b>	Binding Fixed IP Address for DHCP Client.....	16-37
<b>16.42</b>	Deleting DHCP Client Binding .....	16-38
<b>16.43</b>	Viewing Status of DHCP Client Table .....	16-38
<b>17</b>	RIP Directory Command .....	17-1
<b>17.1</b>	Enabling / Disabling RIP .....	17-3
<b>17.2</b>	Announcing RIP Network.....	17-3
<b>17.3</b>	Deleting Announced RIP Network .....	17-4
<b>17.4</b>	Configuring RIP Timer.....	17-4
<b>17.5</b>	Configuring RIP Distance Value .....	17-6

<b>17.6</b>	Configuring RIP Route Re-allocation .....	17-6
<b>17.7</b>	Deleting RIP Route Re-allocation .....	17-7
<b>17.8</b>	Configuring Receiving Message Version of RIP Interface.....	17-8
<b>17.9</b>	Configuring Transmitting Message Version of RIP Interface .....	17-9
<b>17.10</b>	Configuring RIP Neighbor .....	17-9
<b>17.11</b>	Deleting RIP Neighbor .....	17-10
<b>17.12</b>	Configuring RIP Passive Port.....	17-11
<b>17.13</b>	Deleting RIP Passive Port.....	17-11
<b>17.14</b>	Configuring RIP Authentication Mode to Simple Password.....	17-12
<b>17.15</b>	Configuring RIP Authentication Mode to MD5 .....	17-13
<b>17.16</b>	Deleting RIP Authentication Mode .....	17-13
<b>17.17</b>	Viewing RIP Information.....	17-14
<b>17.18</b>	Viewing Status of RIP Database.....	17-15
<b>17.19</b>	Viewing RIP Interface Information .....	17-16
<b>17.20</b>	Viewing Interface Authentication Information .....	17-17
<b>17.21</b>	Enabling RIP Log Information.....	17-18
<b>17.22</b>	Disabling RIP Log Information.....	17-18
<b>17.23</b>	Enabling / Disabling RIP Event Information.....	17-19
<b>17.24</b>	Enabling Debug Information of RIP Packets .....	17-20
<b>17.25</b>	Disabling Debug Information of RIP Packets .....	17-20
<b>17.26</b>	Enabling / Disabling Zebra Information .....	17-21
<b>17.27</b>	Viewing RIP Debug Summary Information.....	17-21
<b>17.28</b>	Viewing Current RIP Configuration.....	17-22
<b>17.29</b>	Viewing RIP Neighbor Information.....	17-23
<b>17.30</b>	Viewing Network Announced by RIP .....	17-24
<b>18</b>	LACP Directory Command.....	18-1
<b>18.1</b>	Enabling LACP Global Switch .....	18-2
<b>18.2</b>	Disabling LACP Global Switch .....	18-2
<b>18.3</b>	Configuring Priority Level of LACP System.....	18-3
<b>18.4</b>	Configuring Port Priority Level.....	18-3

<b>18.5</b>	Configuring Port Timer .....	18-4
<b>18.6</b>	Viewing LACP Aggregate Group Information .....	18-5
<b>18.7</b>	Viewing LACP Port Information .....	18-5
<b>18.8</b>	Viewing LACP System ID.....	18-7
<b>18.9</b>	Configuring LACP Port Operation Key.....	18-8
<b>19</b>	Service Directory Command .....	19-1
<b>19.1</b>	Creating Management VLAN .....	19-4
<b>19.2</b>	Configuring IP Address of Management VLAN.....	19-5
<b>19.3</b>	Viewing Management VLAN .....	19-5
<b>19.4</b>	Deleting Management VLAN.....	19-6
<b>19.5</b>	Configuring Double-tagged Management VLAN .....	19-7
<b>19.6</b>	Changing Uplink Port of Management VLAN .....	19-8
<b>19.7</b>	Modifying VLAN ID of Management VLAN.....	19-8
<b>19.8</b>	Configuring MTU Value of Management VLAN .....	19-9
<b>19.9</b>	Viewing MTU Value of Management VLAN.....	19-10
<b>19.10</b>	Configuring Static Routing.....	19-10
<b>19.11</b>	Deleting Static Routing.....	19-11
<b>19.12</b>	Viewing Static Routing .....	19-12
<b>19.13</b>	Configuring SNMP Read-write Community .....	19-12
<b>19.14</b>	Configuring Information of Trap Receiver.....	19-13
<b>19.15</b>	Deleting Trap Receiver .....	19-14
<b>19.16</b>	Configuring SNMP Automatic Time Calibration Server.....	19-14
<b>19.17</b>	Viewing SNMP Community Name .....	19-15
<b>19.18</b>	Viewing Information of SNMP Trap Receiver .....	19-16
<b>19.19</b>	Viewing Information of SNMP Automatic Time Calibration Server	19-17
<b>19.20</b>	Configuring Trap Message Format .....	19-17
<b>19.21</b>	Adding Ordinary User .....	19-18
<b>19.22</b>	Configuring Ordinary User as Administrator.....	19-19
<b>19.23</b>	Modifying Password of Administrator.....	19-19
<b>19.24</b>	Configuring Administrator as Ordinary User.....	19-20

<b>19.25</b>	Modifying Password of Ordinary User.....	19-21
<b>19.26</b>	Deleting User.....	19-21
<b>19.27</b>	Viewing Current User and Identity Information .....	19-22
<b>19.28</b>	Enabling / Disabling SNMP Service Function.....	19-23
<b>19.29</b>	Enabling / Disabling SNMP Trap Function .....	19-23
<b>19.30</b>	Viewing Status of Current Service .....	19-24
<b>19.31</b>	Telnet Command .....	19-25
<b>19.32</b>	Viewing Information of User that Establishes Session with Host..	19-25
<b>19.33</b>	Viewing Current User Information.....	19-26
<b>19.34</b>	Ping Command.....	19-27
<b>19.35</b>	Configuring ACL Parameters .....	19-28
<b>19.36</b>	Configuring System Contents of SNMP .....	19-29
<b>19.37</b>	Viewing System Contents of SNMP.....	19-29
<b>19.38</b>	Configuring System Location of SNMP.....	19-30
<b>19.39</b>	Viewing System Location of SNMP .....	19-31
<b>19.40</b>	Configuring Telnet ACL Parameters .....	19-31
<b>19.41</b>	Viewing ACL Information.....	19-32
<b>19.42</b>	Viewing Telnet ACL Information.....	19-33
<b>19.43</b>	Configuring Number of Rows on Terminal Screen.....	19-34
<b>19.44</b>	Trace Route Command.....	19-35
<b>19.45</b>	Configuring Line Identifier / Remote End Identifier Format.....	19-35
<b>19.46</b>	Configuring Line Identifier Access Node Parameters .....	19-36
<b>19.47</b>	Enabling / Disabling DHCP Option18 Function .....	19-37
<b>19.48</b>	Enabling / Disabling DHCP Option82 Function .....	19-38
<b>19.49</b>	Enabling / Disabling DHCP Patch Service .....	19-38
<b>19.50</b>	Enabling / Disabling DHCP Snooping Service .....	19-39
<b>19.51</b>	Configuring DHCP Snooping Trust Port.....	19-40
<b>19.52</b>	Enabling / Disabling PPPoE Plus Service.....	19-40
<b>19.53</b>	Viewing Line Identifier / Remote End Identifier Format .....	19-41
<b>19.54</b>	Viewing Line Identifier Access Node Parameter Value .....	19-42
<b>19.55</b>	Viewing DHCP Interception Record.....	19-43

<b>19.56</b>	Viewing DHCP Snooping Internal Binding Table .....	19-44
<b>19.57</b>	Viewing DHCP Snooping Current Configuration .....	19-45
<b>19.58</b>	Viewing DHCP Snooping Statistics .....	19-46
<b>19.59</b>	Viewing DHCP Status .....	19-48
<b>19.60</b>	Viewing PPPoE Plus Status .....	19-48
<b>19.61</b>	Remote End Identifier Enabling Switch .....	19-49
<b>20</b>	OSPF Directory Command .....	20-1
<b>20.1</b>	Enabling / Disabling OSPF .....	20-4
<b>20.2</b>	Announcing OSPF Network .....	20-4
<b>20.3</b>	Deleting Announced OSPF Network .....	20-5
<b>20.4</b>	Configuring Router ID .....	20-6
<b>20.5</b>	Deleting Router ID .....	20-6
<b>20.6</b>	Configuring OSPF Distance .....	20-7
<b>20.7</b>	Deleting OSPF Distance .....	20-7
<b>20.8</b>	Configuring STUB Domain .....	20-8
<b>20.9</b>	Deleting STUB Domain .....	20-9
<b>20.10</b>	Configuring NSSA Domain .....	20-9
<b>20.11</b>	Deleting NSSA Domain .....	20-10
<b>20.12</b>	Announcing Default Route for All NSSA Domains .....	20-11
<b>20.13</b>	Configuring OSPF Route Re-allocation .....	20-12
<b>20.14</b>	Deleting OSPF Route Re-allocation .....	20-13
<b>20.15</b>	Configuring Interface Failure Interval .....	20-13
<b>20.16</b>	Configuring Hello Message Interval of Interface .....	20-14
<b>20.17</b>	Configuring Re-transmitting LSA Interval of Interface .....	20-15
<b>20.18</b>	Configuring Updating Message Time of Interface .....	20-16
<b>20.19</b>	Configuring COST Value of Interface .....	20-17
<b>20.20</b>	Configuration Priority Level of Interface .....	20-18
<b>20.21</b>	Configuring MTU Value of Interface .....	20-18
<b>20.22</b>	Configuring OSPF Authentication Mode .....	20-19
<b>20.23</b>	Canceling OSPF Authentication .....	20-20

<b>20.24</b>	Viewing OSPF Protocol Information .....	20-21
<b>20.25</b>	Viewing OSPF Neighbor Status .....	20-22
<b>20.26</b>	Viewing Status of OSPF Database .....	20-23
<b>20.27</b>	Viewing OSPF RIB (Routing Information Base) .....	20-25
<b>20.28</b>	Viewing OSPF Interface Information.....	20-26
<b>20.29</b>	Viewing Authentication Mode and Password of OSPF Interface..	20-27
<b>20.30</b>	Viewing Authentication Mode and Related Key Chain of OSPF Interface .....	20-28
<b>20.31</b>	Enabling OSPF Log Information .....	20-28
<b>20.32</b>	Disabling OSPF Log Information .....	20-29
<b>20.33</b>	Enabling Debug Information of OSPF Packets .....	20-30
<b>20.34</b>	Disabling Debug Information of OSPF Packets.....	20-31
<b>20.35</b>	Enabling Debug Information of Interface State Machine.....	20-31
<b>20.36</b>	Disabling Debug Information of Interface State Machine .....	20-32
<b>20.37</b>	Enabling Debug Information of Neighbor State Machine .....	20-33
<b>20.38</b>	Disabling Debug Information of Neighbor State Machine .....	20-34
<b>20.39</b>	Enabling Debug Information of LSA State Machine.....	20-34
<b>20.40</b>	Disabling Debug Information of LSA State Machine .....	20-35
<b>20.41</b>	Viewing Enabling / Disabling Status of Debug Summary Information .....	20-36
<b>20.42</b>	Viewing Current OSPF Protocol Configuration.....	20-37
<b>20.43</b>	Configuring OSPF Routing Filtering Function .....	20-38
<b>20.44</b>	Canceling OSPF Routing Filtering Function.....	20-39
<b>20.45</b>	Configuring Network Type of Interface.....	20-39
<b>20.46</b>	Viewing Network Announced by OSPF.....	20-40

# Tables

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Table 1-1	List of command line directories .....	1-6
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# 1 General Introduction to Command Line

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- Authority Control
- Syntax
- Intelligent Match
- Function Keys
- Directory List

## 1.1 Authority Control

- ◆ The command prompt User> indicates that the system is currently in the common user mode. In this mode, users can only query system information.
- ◆ The command prompt Admin# indicates that the system is currently in the administrator user mode. In this mode, users can perform various system configurations for the equipment.

## 1.2 Syntax

### 1.2.1 Command Format

A complete command comprises command code(s) and argument(s). A valid command may contain one or more command codes and arguments. An argument consists of two parts: the parameter name and the parameter value. For a parameter with a name, enter the parameter name first, and then the parameter value; for a parameter without a name, enter the parameter value only.

### 1.2.2 Parameter Value Type

- ◆ Range of value

When the content in < > are two figures connected by a hyphen, it means that the value of the parameter ranges between these two figures. For instance, <1-255> indicates that users can enter any integer that is no less than 1 and no more than 255. For example, 20 is a legal parameter value.
- ◆ IP Address

When the content in < > is A.B.C.D., the parameter is an IP address. For example, 192.168.8.80 is a valid IP address.
- ◆ Slot list / E1 link list / port list
  - ▶ When the content in < > is e1list, the parameter is an E1 link list. Enter the sequence numbers of E1 links to form the E1 link list.
  - ▶ When the content in < > is slotlist, the parameter is a slot list. Enter the sequence numbers of slots to form the slot list

- ▶ When the content in < > is portlist, the parameter is a port list. Enter "the sequence number of the slot for the card on which the port is located: the sequence number of the port" to form the port list.

All the aforesaid three lists can be expressed in the following three ways:

- ▶ Separate the values with a comma. For example, "1, 2, 3" stands for the cards in the slots 1, 2 and 3 or the E1 links 1, 2 and 3; "1:1, 1:3, 1:5 and 1:7" stands for the ports 1, 3, 5 and 7 of the card in Slot 1.
- ▶ Connect the values with a hyphen to express sequential cards, E1 links or ports. For example, "1-3" stands for the cards in the slots 1 to 3 or the E1 links 1 to 3; "1:1-1:4" stands for the ports 1 to 4 of the card in Slot 1.
- ▶ Combine the aforesaid two formats. For example, "1, 3-5" stands for the cards in the slot 1 and slots 3 to 5 or the E1 link 1 and E1 links 3 to 5; "1:1, 1:3-1:7" stands for the port 1 and ports 3 to 7 of the card in Slot 1.

◆ Character string

When the content in < > is something else than the aforesaid, you may be required to enter a character string. For detailed information about this parameter, type a question mark (?) in the angle bracket. For instance, <name> means that you need to enter a character string as the name of a certain object.

## 1.3 Intelligent Match

### 1.3.1 Abbreviated Command

Abbreviated command syntax allows users to type only the first one or several letters of a command, as long as they are unique and distinguishable from the first several letters of other commands. In this case, the CLI network management system can identify the abbreviated command as well, and users can press the <Enter> key directly to execute the command.

Example 1: Show the information on the CPU usage rate by entering an abbreviated command. The complete command is "show cpuusage", and its abbreviated form is "show c", as shown below.

```
Admin#show c
cpu usage: 2.57(%)
memory usage: 85.10(%)
```

```
Admin#
```

If the abbreviated command entered by users is the same as abbreviations of other commands, the CLI network management system will fail to identify it and give the corresponding notice.

Example 2: Access a directory whose name begins with an "s" under the device directory. Since there are two directories whose name begin with an "s", the system will give the corresponding notice as follows:

```
Admin \device#cd s  
% Ambiguous command.
```

```
Admin \device#
```

## 1.3.2 Question Mark <?>

The CLI network management system offers function key help. Entering a question mark (?) after an incomplete command keyword will display the help information (current available commands).

Example 1: Type "s" after the prompt Admin\VLAN#, and then enter "?", all command codes beginning with "s" will be displayed together with their meanings, as shown below:

```
Admin\vlan#s  
show Show running system information  
save Save system info to flash.  
set Config system's setting.
```

```
Admin\vlan#s
```

In this example, there are three command codes beginning with s under the directory Admin\device#: "set", "save" and "show". "Set" means setting the system parameters; "save" means saving current system information to flash; and "show" means showing current system information.

Users can also press the space key and enter "?" after typing a keyword to view the next keyword and meaning of the complete command.

Example 2: Enter "show" after the prompt Admin\vlan#, press the Space key, and then enter "?", all commands beginning with "show" under this directory will be displayed together with their meanings, as shown below.

```
Admin\vlan#show
  vlan_slot      slot bind vlan info.
  history        Display the session command history.
  oltqinq_domain Show olt domain information.
  pvlan          Show pvlan information.
  qinq_olt       Show OLT QinQ information.
  qinq_profile   Show QinQ profile.
  service        Show service information.
  sub-vlan       Sub vlan.
  super-vlan     Super vlan.
```

```
Admin\vlan#show
```

In this example, there are nine commands beginning with "show" under the directory Admin\VLAN#.

### 1.3.3 The <Tab> Key

When users enter an abbreviated command (the first one or several letters of the command) and then press the <Tab> key, the CLI network management system will identify and complete the command. If there are identical abbreviations, all possible commands will be listed for users to choose.

## 1.4 Function Keys

### 1.4.1 <Ctrl + P>

Using the <Ctrl+P> key combination, users can recall the last command. Pressing the keys a second time will recall the previous command. You can also use the <↑> key or the <↓> key to look upward and downward for the desired command. Press the <Enter> key to execute the command when you have found the desired command.

## 1.4.2 The <↑> Key

Pressing the <↑> key will recall the last command, and pressing the key again will recall the previous command. When you have found the desired command, press the <Enter> key to execute the command.

## 1.5 Directory List

See below for the list of command line directories in the CLI network management system for the AN5116-06B.

Table 1-1 List of command line directories

Directory and Subdirectory		Prompt	Description
device	-	Admin\device#	Equipment configuration directory
	lacp	Admin\device\lacp#	LACP configuration directory
fdb		Admin\fdb#	FDB directory
gpononu		Admin\gpononu#	GPONONU configuration directory
gponlinecard		Admin\gponline#	Line card configuration directory
igmp		Admin\igmp #	Multicast directory
ngn		Admin\ngn#	Voice configuration directory
qos		Admin\qos #	Qos configuration directory
service		Admin\service #	Service configuration directory
stp		Admin\stp #	STP configuration directory
uplink		Admin\uplink#	Uplink card configuration directory
vlan		Admin\vlan #	VLAN configuration directory
epononu	-	Admin\epononu#	EPONONU configuration directory
	data	Admin\epononu\data#	Data configuration directory
	voice	Admin\epononu\voice#	Voice configuration directory
	qinq	Admin\epononu\qinq#	QinQ configuration directory
tdm		Admin\tdm#	TDM service configuration directory
rip		Admin\rip#	RIP configuration directory
ospf		Admin\ospf#	OSPF configuration directory
route		Admin\route#	Route configuration directory

## 2 Common Commands

---

- Switching between Directories
- Clearing Screen
- System Help Information
- Showing All Commands
- Showing Command History
- Exit
- Saving Configuration Data

## 2.1 Switching between Directories

### Command function

This command is used to switch from the current directory to the root directory or another subdirectory.

### Command format

```
cd  
[. |device|fdb|gpononu|gponlinecard|igmp|ngn|qos|service|stp|uplink|  
vlan|epononu|tdm|rip|ospf|route]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[. device fdb  gpononu  gponlinecard  igmp ngn qos  service stp  uplink vlan  epononu tdm  rip ospf route]	<p>Directory</p> <ul style="list-style-type: none"> <li>◆ device: the device management subdirectory. This directory is used to control the switching between the bridge mode and the route mode as well as system configuration and port configuration, including port status' user attribute, port mirroring, port aggregation, and system time.</li> <li>◆ fdb: the FDB subdirectory. This directory is used to set the aging time for the MAC address.</li> <li>◆ gpononu: the GPONONU subdirectory. This directory is used to manage the GPONONU.</li> <li>◆ gponlinecard: the GPON line card subdirectory. This directory is used to manage the GPON.</li> <li>◆ igmp: the multicast management subdirectory. This directory is used to manage the multicast-related settings, including enabling / disabling the multicast snooping function and viewing multicast group status.</li> <li>◆ ngn: the voice management subdirectory. This directory is used to manage the configuration of voice services.</li> <li>◆ qos: the QoS management subdirectory. This directory is used to manage the access control list.</li> <li>◆ service: the service management subdirectory. This directory is used to manage service-related configurations, including Ping commands, Telnet services, upgrading card programs, configuration of SNMP common character strings and receiver of Trap messages.</li> <li>◆ stp: the spanning tree management subdirectory. This directory is used to manage configurations related to the Spanning Tree Protocol, including enabling / disabling the spanning tree, querying the status of the spanning tree at the port, and configuration of the port priority.</li> <li>◆ uplink: the uplink card subdirectory. This directory is used to manage the uplink card.</li> <li>◆ vlan: the VLAN management subdirectory. This directory is used to manage the VLAN-related configurations, including the configuration of the port-based VLAN and the 802.1q VLAN.</li> <li>◆ epononu: the EPONONU subdirectory. This directory is used to manage the EPONONU.</li> <li>◆ tdm: The TDM configuration subdirectory. This directory is used to configure the items relevant to the TDM card.</li> <li>◆ rip: the RIP management subdirectory. This directory is used to configure the RIP route protocol.</li> </ul>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
	<ul style="list-style-type: none"> <li>◆ ospf: the OSPF management subdirectory. This directory is used to configure the OSPF route protocol.</li> <li>◆ route: the Route management subdirectory. This directory is used to configure the route.</li> </ul>	

### Command example

Switch from the QoS directory to the VLAN directory. After the command is executed, the command prompt changes from qos # to vlan # .

```
Admin\qos#cd vlan
Admin\vlan#
```

## 2.2 Clearing Screen

### Command function

This command is used to clear the current screen.

### Command format

```
clear
```

### Command example

Clear the current screen.

```
Admin\vlan#clear
Admin\vlan#
```

## 2.3 System Help Information

### Command function

This command is used to show the help information of the CLI network management system.

## Command format

```
help
```

## Command example

Show the help information of the system.

```
Admin\vlan#help
AN5516 provides help feature as described below.
1. Anytime you need help, just press "?" and don't
press Enter, you can see each possible command argument
and its description.
2. You can also input "list" and then press Enter
to execute this helpful command to view the list of
commands you can use.
Admin\vlan#
```

# 2.4 Showing All Commands

## Command function

This command is used to show all commands under the current directory.

## Command format

```
list
```

## Command example

Show all commands under the STP directory.

```
Admin\stp#list
cd
0.cd[..|device|fdb|gpononu|gponlinecard|igmp|ngn|qos|service|
stp|uplink|vlan|epononu|tdm|rip|ospf|route]
1. clear
2. help
3. list { <search_string>}*3
4. save {[synchronization]}*1
5. set rstp [enable|disable]
6. set rstp port <portlist> pathcost <1-200000000>
7. set rstp port <portlist> priority <0-240>
```

```
8. set rstp priority <0-65535>
9. show history
10. show rstp {port <portlist>}*1
Admin\stp#
```

## 2.5 Showing Command History

### Command function

This command is used to show all commands that have been executed in the CLI network management system after current login. The wrong commands will be displayed as well.

### Command format

```
show history
```

### Command example

Show command history.

```
Admin\stp#show history

a
help
cd stp
list
Admin\stp#
```

## 2.6 Exit

### Command function

This command is used to exit from the current directory and return to an upper level directory or to logout directly.

### Command format

- ◆ exit
- ◆ cd ..

- ◆ quit

### Command example

- ◆ Exit from the current mode.

```
Admin#exit
User>
```

- ◆ Exit from the current directory and return to an upper level directory. Remember that there is a space after cd.

```
Admin\vlan#cd ..
Admin#
```

- ◆ Logout

```
Admin#quit
Quit.
Disconnected.
Thanks for using our product.
Bye!
```

## 2.7 Saving Configuration Data

### Command function

This command is used to save current configuration data, so that the data will not be lost in case of restart or power off of the computer.

### Command format

```
save {configuration}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{configuration}*1	Current configuration data. The configuration data can be saved as well with this command even if no value is entered here for the parameter.	Optional parameter

### Command example

Save the configuration data.

```
Admin#save
```

```
Trying save configuration to flash, please wait .....  
Preparing configuration data to save...Done.  
Starting write configuration data to flash...Done.  
Configuration saved to flash successfully.  
Admin#
```

# 3 Admin Directory Commands

---

- Clearing System Logs
- Upgrading Software of the Standby Core Switch Card
- Upgrading System File and Importing Configuration File
- Clearing the Configuration Data
- Configuring the System Name
- Reset
- Configuring Alarm on Power Supply
- Configuring the Threshold Value for System Temperature
- Card Authorization
- Authorizing a Designated Card
- Unauthorization
- Configuring the IP Address for Out-of-Band Management of Equipment
- Configuring Fan Control Parameters
- Configuring System Logs
- Configuring System Time
- Showing Information on the IP Address for Out-of-Band Management of Equipment
- Showing Fan Control Parameters
- Showing Current Configuration Information
- Showing the Startup Configuration Information

- Showing Information on System Log
- Showing the System Time
- Showing System Cards
- Upgrading ONU Software
- Upgrading the Line Card Software
- Uploading Files in FTP Mode
- Showing System Software and Hardware Version

## 3.1 Clearing System Logs

### Command function

This command is used to clear system logs.

### Command format

```
clear system log
```

### Command example

Clear the system logs.

```
Admin#clear system log
```

```
Admin#
```

## 3.2 Upgrading Software of the Standby Core Switch Card

### Command function

This command is used to download the system software from the FTP server to the core switch card in the FTP mode. When upgrading the core switch card, you can access the upgrade file on the FTP server by issuing the command of upgrading the system file, so as to upgrade the system software to the same version as that of the upgrade file.

### Command format

```
download ftp backup <A.B.C.D> <username> <password> <filename>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D>	The IP address of the FTP server	Compulsory parameter
<username>	The username of the FTP server	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<password>	The user password of the FTP server	Compulsory parameter
<filename>	The name of the system file or the configuration file The maximum filename length is 20 characters (postfix included).	Compulsory parameter

### Command example

Upgrade the software of the standby core switch card. The IP address of the FTP server in which the system file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The file name is hswx.bin.

```
Admin#download ftp backup 10.92.20.223 1 1 hswx.bin
This will need seconds of time, please wait...
Backup GSW update successfully, should reboot to take effect!
Admin#
```

## 3.3 Upgrading System File and Importing Configuration File

### Command function

This command is used to upgrade the system file, import the configuration file and upgrade the boot program. The command can also be used to obtain the file from a specified server, upgrade the card software or import the configuration file.

### Command format

```
download ftp {[system|config|script|ver_file|boot|hotfix] <A.B.C.D>
<username> <password> <filename>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[system config script ver_file boot hotfix]	File type. <ul style="list-style-type: none"> <li>◆ system: the command is used to upgrade the system file.</li> <li>◆ config: the command is used to import the configuration file.</li> <li>◆ script: the command is used to import the script file.</li> <li>◆ ver_file: the command is used to import the version file.</li> <li>◆ boot: the command is used to upgrade the boot file.</li> <li>◆ hotfix: the command is used to upgrade the hotfix.</li> </ul>	Compulsory parameter
<A.B.C.D>	The IP address of the FTP server	Compulsory parameter
<username>	The username of the FTP server	Compulsory parameter
<password>	The user password of the FTP server	Compulsory parameter
<filename>	The name of the system file or the configuration file The maximum filename length is 20 characters (postfix included).	Compulsory parameter

## Command example

### ◆ Upgrade the system file.

The IP address of the FTP server in which the system file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The system file name is hswx.bin.

```
Admin#download ftp system 10.92.20.223 1 1 hswx.bin
Trying download file from ftp server, please wait...
Successfully finished receiving file.
Trying write file to flash.....flash_flag = 1, size 3617564
Finished.
You've successfully download new image file
Now you can type reboot command to reboot system.
Admin#
```

### ◆ Import the configuration file.

The IP address of the FTP server in which the configuration file is located is 10.92.20.223. The user name and password for login to the FTP server are both 1. The configuration file name is config.txt.

```
Admin#download ftp config 10.92.20.223 1 1 config.txt
```

```
Trying download file from ftp server, please wait...
kkkkkk zCompress = 0 inlen = 15679 destlen = 2941
0x4fe2710 (tCli): flash_write: invalid file ID 0.
Successfully finished receiving file.
Trying write file to flash.....flash_flag = 4, size 2946
Finished.
You've successfully download new config file
Now you can type reboot command to reboot system.
Admin#
```

## 3.4 Clearing the Configuration Data

### Command function

This command is used to clear all device configuration data saved in the FLASH memory. When this command is executed, the original device configuration data will be restored in the FLASH memory.

### Command format

```
erase {[startup-config]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{[startup-config]}*1	The configuration data saved after the equipment is powered on.	Optional parameter

### Command example

Clear all the configuration data.

```
Admin#erase startup-config
Are you sure want to erase startup-config? [Y/N]Y
Trying erase all configuration from flash, please wait ..... finished.
Successfully erase all configuration info from flash.
Admin#
```

## 3.5 Configuring the System Name

### Command function

This command is used to configure the name of the AN5116-06B system. When the configuration is completed, the former command prompt will be changed into the set system name.

### Command format

```
hostname <hostname>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<hostname>	The system name. The figures, letters, underlines or the combination of the three can be used. The system name should not exceed 16 characters in length.	Compulsory parameter

### Command example

Set the name of the AN5116-06B system to fiberhome.

```
Admin#hostname fiberhome
fiberhome#
```

## 3.6 Reset

### Command function

This command is used to reset a certain card or the entire system.

### Command format

```
reboot { [<1-26>|system|backup] } *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<1-26>	Reset the card (other than the main switch card). Enter the slot number for the card. If you enter no value after "reboot", the entire system will be reset.	Optional parameter
system	Reset the entire system.	Optional parameter
backup	Reset the standby core switch card.	Optional parameter

## Command example

Reset the card in Slot 12.

```
Admin#reboot 12
Admin#
```

# 3.7 Configuring Alarm on Power Supply

## Command function

This command is used to enable / disable the alarm on power supply.

## Command format

```
set power_alarm enable <0-1>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
enable <0-1>	The function of alarm on power supply. ◆ 0: disable ◆ 1: enable	Compulsory parameter

## Command example

Disable the alarm on power supply.

```
Admin#set power_alarm enable 0
Admin#
```

## 3.8 Configuring the Threshold Value for System Temperature

### Command function

This command is used to set the threshold value for the alarm on system temperature.

### Command format

```
set threshold temperature <30-85>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
temperature <30-85>	Temperature The parameter value ranges between 30 and 85, and the unit is centigrade degree.	Compulsory parameter

### Command example

Set the threshold value for the system temperature to 85.

```
Admin#set threshold temperature <3085>
Admin#
```

## 3.9 Card Authorization

### Command function

This command is used to authorize all cards.

### Command format

```
set card_all_auth
```

### Command example

Authorize all cards.

```
Admin#set card_all_auth
```

Admin#

## 3.10 Authorizing a Designated Card

### Command function

This command is used to authorize a designated card.

### Command format

```
set card_auth slot <1-26> type [hswa | gc4b | gc8b | ec4b | ec8b | ec8a | xg2a | xg2b |
c155a | ce1b | puba | gs8f | gu4e | gu4f | hu2p | hu1p | hu1a | hu2a | gu6e | gu6f | pwr | cio |
fan]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-26>	Slot number The value ranges from 1 to 26.	Compulsory parameter
type [hswa   gc4b   gc8b   ec4b   ec8b   ec8a   xg2a   xg2b   c155a   ce1b   puba   gs8f   gu4e   gu4f   hu2p   hu1p   hu1a   hu2a   gu6e   gu6f   pwr   cio   fan]	Card type. The type of the card to be authorized.	Compulsory parameter

### Command example

Authorize the EC8B card in Slot 1.

```
Admin#set card_auth slot 1 type ec8b
set 1 slot as type ec8b.
Admin#
```

## 3.11 Unauthorization

### Command function

This command is used to unauthorize a designated card.

### Command format

```
set card_unauth slot [<1-26> | all]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-26> all]	Slot number <ul style="list-style-type: none"> <li>◆ &lt;1-26&gt;: stands for the card to be unauthorized.</li> <li>◆ all: means that all cards will be unauthorized.</li> </ul>	Compulsory parameter

### Command example

Unauthorize the card in Slot 1.

```
Admin#set card_unauth slot 1
remove the card 1 authority ok!
Admin#
```

## 3.12 Configuring the IP Address for Out-of-Band Management of Equipment

### Command function

This command is used to configure the IP address for out-of-band management of the equipment.

### Command format

```
set debugip <A.B.C.D> mask <A.B.C.D>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
debugip<A.B.C.D>	The IP address for out-of-band management.	Compulsory parameter
mask <A.B.C.D>	Subnet mask. The subnet mask of the equipment to be configured.	Compulsory parameter

### Command example

Set the equipment IP address to 10.92.20.11, and the subnet mask to 255.255.0.0.

```
Admin#set debugip 10.92.20.11 mask 255.255.0.0
Admin#
```

## 3.13 Configuring Fan Control Parameters

### Command function

This command is used to configure the fan control parameters, including the initial temperature, stepping and speed.

### Command format

```
set fan_control_parameter <0-80> step <1-20> speed <0-7>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
tem <0-80>	Temperature. The parameter is used to configure the initial temperature at which the fan runs at a certain speed. The parameter value ranges between 0 and 80, and the unit is centigrade degree.	Compulsory parameter
step <1-20>	Stepping. The stepping of temperature for the fan rotation speed to be raised to a higher level. The value ranges from 1 to 20.	Compulsory parameter
speed <0-7>	Rotation speed. The parameter is used to configure the initial rotation speed for the fan at the initial temperature. The value ranges from 0 to 7.	Compulsory parameter

### Command example

Configure the fan control parameters, setting the initial temperature to 30, the stepping to 1, and the rotation speed to 1.

```
Admin#set fan_control_parameter 30 step 1 speed 1
```

```
set fan control parameter OK.
```

```
Admin#
```

## 3.14 Configuring System Logs

### Command function

This command is used to enable / disable system logs.

## Command format

```
set log [enable|disable] {priority <0-255>} *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
log [enable disable]	The enable / disable switch for logs. <ul style="list-style-type: none"> <li>◆ enable: enable logs.</li> <li>◆ disable: disable logs.</li> </ul>	Compulsory parameter
{priority <0-255>} *1	The priority of logs to be recorded <ul style="list-style-type: none"> <li>◆ 0: records the logs generated from the task with the highest priority</li> <li>◆ 255: records the logs generated from all tasks with different priorities.</li> </ul> The value ranges from 0 to 255.	Optional parameter

## Command example

Enable logs, and set the priority to 0.

```
Admin#set log enable priority 0
system log : enable
syslog record priority :0
Admin#
```

# 3.15 Configuring System Time

## Command function

This command is used to configure the system time.

## Command format

```
set time <1970-2100> <1-12> <1-31> <HH:MM:SS>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<1970-2100>	The figure stands for the year. The value ranges from 1970 to 2100.	Compulsory parameter
<1-12>	The figure stands for the month. The value ranges from 1 to 12.	Compulsory parameter
<1-31>	The figure stands for the date. The value ranges from 1 to 31.	Compulsory parameter
<HH:MM:SS>	The figures stand for the hour, minute and second respectively. ◆ HH: hour ◆ MM: minute ◆ SS: second	Compulsory parameter

## Command example

Set the system time to 10(M)-11(D)-2011(Y), 16 (H): 02 (M) : 30 (S).

```
Admin#set time 2011 10 11 16:02:30
Admin#
```

## 3.16 Showing Information on the IP Address for Out-of-Band Management of Equipment

### Command function

This command is used to show information on the IP address for out-of-band management of the equipment.

### Command format

```
show debugip
```

### Command example

Show the information on the IP address for out-of-band management of the equipment.

```
Admin#show debugip
Ethernet IP address : 10.92.244.200
Ethernet subnet mask : 255.255.0.0
```

```
MAC Address          : 00-0a-c2-20-7d-7d
Admin#
```

### Result description

Parameter	Parameter Description
Ethernet IP address	The IP address of the Ethernet
Ethernet subnet mask	The subnet mask of the Ethernet
MAC Address	The physical address of the Ethernet

## 3.17 Showing Fan Control Parameters

### Command function

This command is used to show fan control parameters.

### Command format

```
show fan_contol_pra
```

### Command example

Show the fan control parameters.

```
Admin#show fan_contol_pra
start temperature:45C, step:5C, fan start speed:1.
Admin#
```

### Result description

Parameter	Parameter Description
start temperature	The initial temperature
step	Stepping
fan start speed	The initial speed of the fan

## 3.18 Showing Current Configuration Information

### Command function

This command is used to show current configuration information of the equipment.

## Command format

```
show running-config
```

## Command example

Show the current configuration information of the equipment. In this example, only the beginning part and result of the command are provided.

```
Admin#show running-config !WOS system config file
cli debug off
set auto_save disable
set reboot_hook cli
!dba rule profile config-----
set dba_rule_profile 0 de_rule_single 1 1 0 000000000000 4
set dba_rule_profile 1 de_rule_multi1 2 1 7 0 3 2 7 3 2
set dba_rule_profile 2 de_rule_multi2 2 1 7 4 3 2 7 5 2
set dba_rule_profile 3 de_rule_multi3 2 1 7 6 3 2 7 7 2
!switch rule profile config-----
!dba sla profile config-----
set dba_sla_profile 0 de_sla_single 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal
set dba_sla_profile 1 de_sla_multi1 0 1000000 0 65535 6 2 640
1000000 1 5 mode Normal
set dba_sla_profile 2 de_sla_multi2 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal
set dba_sla_profile 3 de_sla_multi3 5000 5000 0 0 65535 0 640
1000000 1 5 mode Normal
!dba config profile config-----
set dba_config_profile 0 de_dba_single 1 1 0 0
set dba_config_profile 1 de_dba_multi 3 1 1 1 2 2 3 3 3
!onu prfile showrun-----
!onu prfile showrun end-----
set card_auth slot 9 type hswa
set card_auth slot 10 type hswa
set card_auth slot 12 type ec4b
set card_auth slot 14 type gc8b
set card_auth slot 20 type gu6f
!pon protect group config-----
set snmp_time_cfg interval 3600 serv_addr 10.94.20.241
set auto_upgrade_flag enable
. . . . .
!route config -----
!route config end -----
```

```

!dhcp config -----
!dhcp config end!-----
!access list config -----
!access list config end!-----
!arp proxy access list config -----
!arp proxy access list config end!-----
!rip config -----
!rip config end!-----
!ospf config -----
!ospf config end!-----
!ospf config end!-----
!end of config -----
Admin#

```

## 3.19 Showing the Startup Configuration Information

### Command function

This command is used to show the configuration information of the equipment when it is started up.

### Command format

```
show startup-config
```

### Command example

Show the configuration information of the equipment when it is started up.

```

Admin#show startup-config!WOS system config
file-----
cli debug off
set auto_save disable
set reboot_hook cli
!dba rule profile config-----
set dba_rule_profile 0 de_rule_single 1 1 0 000000000000 4
set dba_rule_profile 1 de_rule_multi1 2 1 7 0 3 2 7 3 2
set dba_rule_profile 2 de_rule_multi2 2 1 7 4 3 2 7 5 2
set dba_rule_profile 3 de_rule_multi3 2 1 7 6 3 2 7 7 2
!dba sla profile config-----
set dba_sla_profile 0 de_sla_single 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal

```

```
set dba_sla_profile 1 de_sla_multi1 0 1000000 0 65535 6 2 640
1000000 1 5 mode Normal
set dba_sla_profile 2 de_sla_multi2 640 1000000 0 1 5 1 640
1000000 1 5 mode Normal
set dba_sla_profile 3 de_sla_multi3 5000 5000 0 0 65535 0 640
1000000 1 5 mode Normal
!dba config profile config-----
set dba_config_profile 0 de_dba_single 1 1 0 0
set dba_config_profile 1 de_dba_multi 3 1 1 1 2 2 2 3 3 3
!onu prfile showrun-----
!onu prfile showrun end
.....!end of config -----
!System configuration saved from--
!User Name : GEPON
!Address : console
!Through : Cli
!End-----
Admin#
```

## 3.20 Showing Information on System Log

### Command function

This command is used to show the information on current system logs, including the system log switch, priority of system logs to be recorded, and automatic uploading switch.

### Command format

```
show syslog info
```

### Command example

Show relevant information on system logs.

```
Admin#show syslog info
***** show system log info *****
system log : enable
system log record priority :255
auto upload : disable
Admin#
```

## Result description

Parameter	Parameter Description
system log	The enable / disable switch for system logs.
system log record priority	The priority of system logs to be recorded.
auto upload	The automatic uploading switch.

## 3.21 Showing the System Time

### Command function

This command is used to show the current system time and how long the system has been running.

### Command format

```
show time
```

### Command example

Show the current system time (the result is to be displayed in the form of week, month, day, hour, minute, second, year).

```
Admin#show time
Current Date is 2011-10-11
Current Time is 16:03:50
System running time is 0 day 07:30:05
Admin#
```

## Result description

Parameter	Parameter Description
Current Date	The current date
Current Time	The current time
System running time	The system running time

## 3.22 Showing System Cards

### Command function

This command is used to show the types and statuses of all cards in the current system.

### Command format

```
showcard
```

### Command example

Show the types and statuses of all cards in the current system.

```
Admin#showcard
-----AN5116-01-----
CARD  EXIST  CONFIG  DETECT  DETAIL
1    ---  ---  ---  ---
2    ---  ---  ---  ---
3    ---  ---  ---  ---
4    ---  ---  ---  ---
5    ---  ---  ---  ---
6    ---  ---  ---  ---
7    ---  ---  ---  ---
8    ---  ---  ---  ---
9    YES  HSWA  HSWA  MATCH/M
10   YES  HSWA  HSWA  MATCH/S
11   YES  C155A  C155A  MATCH
12   ---  ---  ---  ---
13   ---  ---  ---  ---
14   YES  GC8B  GC8B  MATCH
15   ---  ---  ---  ---
16   ---  ---  ---  ---
19   ---  ---  ---  ---
20   YES  GU6F  GU6F  MATCH
21   YES  FAN   FAN   MATCH
22   YES  ---  POWER  NO_MATCH
23   YES  ---  POWER  NO_MATCH
-----
Current temperature is 44 C.
Power 1 is ON.
FAN 1 is not online, FAN 2 is not online, FAN 3 is not online.
```

Admin#

## Result description

Parameter	Parameter Description
CARD	The slot number for the card
EXIST	Whether the card is present
CONFIG	The type of the card authorized
DETECT	The type of the card detected
DETAIL	Whether the type of the card authorized matches the type of the card detected

## 3.23 Upgrading ONU Software

### Command function

This command is used to upgrade the ONU software, including the ONU\_CPU software, ONU firmware and IAD software.

### Command format

```
upgrade [onu_cpu|onu_firmware|iad] slot <1-18> pon <ponno> onu <onulist> <A.
B.C.D> <username> <pass> <filename>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[onu_cpu  onu_firmware iad]	The options to be updated. ◆ onu_cpu: the ONU_CPU software. ◆ onu_firmware: the ONU firmware. ◆ iad: the voice interface card software.	Compulsory parameter
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponno>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
<A.B.C.D>	The IP address of the FTP server	Compulsory parameter
<username>	The username of the FTP server	Compulsory parameter
<pass>	The password of the FTP server	Compulsory parameter
<filename>	The FTP file name	Compulsory parameter

## Command example

Upgrade the ONU\_CPU file. The slot number corresponding to the ONU is 14; the PON interface number is 1; the IP address of the FTP is 10.92.20.223; the user name and the password for the FTP are both 1; and the FTP file name is gcxb.gz.

```
Admin#upgrade onu_cpu slot 14 pon 1 onu 1 10.92.20.223 1 1 gcxb.gz
ldu_upgrade_batch >>>>> now
upgrade success
Admin#
```

## 3.24 Upgrading the Line Card Software

### Command function

This command is used to upgrade the software of line cards, including the GC8B, GC4B, EC4B, C155A and PUBA cards.

### Command format

```
upgrade xdu <A.B.C.D> <username> <password> <filename> <slotlist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D>	The IP address of the FTP server	Compulsory parameter
<username>	The username of the FTP server	Compulsory parameter
<password>	The password of the FTP server	Compulsory parameter
<filename>	The FTP file name	Compulsory parameter
<slotlist>	Slot number	Compulsory parameter

### Command example

Upgrade the software of the GC8B card. The IP address of the FTP is 10.92.20.223; the FTP user name and password are both 1; the FTP file name is gcxb.gz; and the slot number is 14.

```
Admin#upgrade xdu 10.92.20.223 1 1 gcxb.gz 14
AAAAAAAAAAAAAAAAAAAA macro LDU_SLOT_NUM 18
AAAAAAAAAAAAAAAAAAAA3 ret = ldu_parse (slotlist) 0
It will take a few minutes, just waiting please .....
```

```

AAAAAAAAAAAAAAAAAAAA5 LDU_SLOT_NUM 18
AAAAAAAAAAAAAAAAAAAA6 strlen(fname) 7
card at slot 14 upgrade successfully, need rebooting to take effect!
upgrade success
Admin#

```

## 3.25 Uploading Files in FTP Mode

### Command function

This command is used to upload designated system software, configuration files or multicast logs from the active core switch card to the FTP server in the FTP mode.

### Command format

```

upload ftp [system|config|showrun|igmplog|syslog|ver_file] <A.B.C.D>
<username> <password> <filename>

```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[system config showrun igmplog syslog ver_file]	The object to be uploaded. <ul style="list-style-type: none"> <li>◆ system: the system file.</li> <li>◆ config: the configuration file saved in the Flash.</li> <li>◆ showrun: the configuration file in the running memory.</li> <li>◆ igmplog: the multicast log.</li> <li>◆ syslog: the system log.</li> <li>◆ ver_file: the version file.</li> </ul>	Compulsory parameter
<A.B.C.D>	The IP address of the FTP server	Compulsory parameter
<username>	The username of the FTP server	Compulsory parameter
<password>	The password of the FTP server	Compulsory parameter
<filename>	The FTP file name	Compulsory parameter

## Command example

Upload the configuration file hswx.bin to the FTP server. The IP address of the current FTP server is 10.92.20.223; the user name and password are both 1.

```
Admin#upload ftp config 10.92.20.223 1 1 hswx.bin
Trying upload file to ftp server, please wait...
Successfully finished upload file.
Finished.
You've successfully upload config file.
Admin#
```

## 3.26 Showing System Software and Hardware Version

### Command function

This command is used to show the information on the software and hardware versions of cards in each slot.

### Command format

```
version
```

### Command example

```
Admin#version
-----
CARD   HARDVER   SOFEVER
 1     ----     ----
 2     ----     ----
 3     ----     ----
 4     ----     ----
 5     ----     ----
 6     ----     ----
 7     ----     ----
 8     ----     ----
 9  WKE2.115.331R1A  RP0500
10  WKE2.115.331R1A  RP0402
11     ----     ----
12     ----     ----
13     ----     ----
14  WKE2.200.012R1C  RP0500
```

```
15  ----  ----  
16  ----  ----  
17  ----  ----  
18  ----  ----  
19  ----  ----  
20 WKE2.170.855R1A  RP0200  
Admin#
```

### Result description

Parameter	Parameter Description
CARD	The card number
HARVER	The hardware version
SOFEVER	The software version



# 4 TDM Directory Commands

---

- Deleting the E1 Service on ONU
- Configuring E1 Service for ONU
- Configuring System Clock Mode for the TDM Card
- Configuring the Clock Recovery Mode for the TDM Card
- Showing E1 Service of ONU
- Showing the System Clock Mode of the TDM Card
- Showing the Clock Recovery Mode of the TDM Card

## 4.1 Deleting the E1 Service on ONU

### Command function

This command is used to delete the E1 service that has been configured on the ONU.

### Command format

```
del e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128> e1 <elist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	The slot number for the PON interface card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number. The value ranges from 1 to 128.	Compulsory parameter
e1 <elist>	The E1 port list The port list can be entered in the following three forms: <ul style="list-style-type: none"> <li>◆ Select one by one: select the ports one by one, e.g. 1, 2, 3, 4.</li> <li>◆ Select multiple ones: select multiple ports at a time, e.g. 1-4.</li> <li>◆ Select all: enter "all" to select all the E1 ports under the ONU.</li> </ul>	Compulsory parameter

### Command example

Delete the mapping between the E1 port of the ONU and the E1 port of the TDM card.

```
Admin\tdm#del e1_service slot 5 link 1 onu 1 e1 1
del_onu_e1_service_cmd_fun 1 ok!
Admin\tdm#
```

## 4.2 Configuring E1 Service for ONU

### Command function

This command is used to configure the E1 service for an ONU.

### Command format

```
set e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128> e1 <1-4> tdm [<1-8>|<11-18>] e1 <1-63> {remjit <4-64> lcljit <4-64>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	The slot number for the PON interface card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
e1 <1-4>	The E1 port number The value ranges from 1 to 4.	Compulsory parameter
tdm [<1-8> <11-18>]	The slot number for the TDM card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
e1 <1-63>	The E1 sequence number on the TDM card <ul style="list-style-type: none"> <li>◆ The CE1B corresponds to at most 32 E1 physical ports.</li> <li>◆ The C155A corresponds to at most 63 E1 timeslots.</li> </ul> The value ranges from 1 to 63.	Compulsory parameter
{remjit <4-64> lcljit <4-64>}*1	The remote buffer and the buffer at the central office. <ul style="list-style-type: none"> <li>◆ remjit &lt;4-64&gt;: remote buffer; the value ranges from 4 to 64.</li> <li>◆ cljit &lt;4-64&gt;: the buffer at the central office; the value ranges from 4 to 64.</li> </ul>	Optional parameter

### Command example

Set up the mapping between the first E1 port on the ONU with the authorization number of 1 at No. 1 PON interface in Slot 5 and the first E1 port on the TDM card in Slot 2.

```
Admin\tdm#set e1_service slot 5 link 1 onu 1 e1 1 tdm 2 e1 1
```

```
set_onu_e1_service_cmd_fun ok!
Admin\tdm#
```

## 4.3 Configuring System Clock Mode for the TDM Card

### Command function

This command is used to configure the system clock mode for the TMD card.

### Command format

```
set tdm_clock_mode slot [<1-8>|<11-18>] source [internal|extclock1|
extclock2|e1_recovery|opt_recovery|sysclock|auto]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	The slot number for the TDM card. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
source [internal extclock1 extclock2 e1_recovery opt_recovery sysclock auto]	Synchronization reference source <ul style="list-style-type: none"> <li>◆ internal: internal synchronization reference source</li> <li>◆ extclock1: external synchronization reference source 1</li> <li>◆ extclock2: external synchronization reference source 2</li> <li>◆ e1_recovery: the clock signal extracted from the E1 signal</li> <li>◆ opt_recovery: the clock signal recovered from the optical interface</li> <li>◆ sysclock: the system clock</li> <li>◆ auto: automatic</li> </ul> The default value is the internal synchronization reference source.	Compulsory parameter

### Command example

Set the synchronization reference source of the TDM card as the external synchronization reference source 1.

```
Admin\tdm#set tdm_clock_mode s 2 source extclock1
set tdm system clock mode ok!
Admin\tdm#
```

## 4.4 Configuring the Clock Recovery Mode for the TDM Card

### Command function

This command is used to configure the clock recovery mode for the TDM card.

### Command format

```
set tdm_recovery_mode slot [<1-8>|<11-18>] mode [adaptive|loopback|
differential|enhance]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	The slot number for the TDM card. The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
mode [adaptive loopback differential enhance]	Recovery mode. <ul style="list-style-type: none"> <li>◆ adaptive: the self-adaptive mode</li> <li>◆ loopback: the loopback mode</li> <li>◆ differential: the differential mode</li> <li>◆ enhance: the enhanced mode</li> </ul> When setting the clock recovery mode for the TDM card, make sure that no E1 service has been configured for the TDM card.	Compulsory parameter

### Command example

- ◆ If the E1 service has been configured, the system will give the prompt as follows:

```
Admin\tdm#set tdm_rec s 2 mode loopback
[ ERR -703 ] Tdm E1 is configured!
Admin\tdm#
```

- ◆ When no E1 service has been configured, you can configure the clock recovery mode normally. This example is to set the clock recovery mode to the loopback mode.

```
Admin\tdm#set tdm_rec s 2 mode loopback
set tdm clock recovery mode ok!
Admin\tdm#
```

## 4.5 Showing E1 Service of ONU

### Command function

This command is used to show the mapping relationship between the E1 port that has already been configured on the ONU and the E1 port on the TDM card.

### Command format

```
show e1_service slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Show the mapping relationship between the first E1 port on the ONU with the authorization number of 1 at No. 1 PON interface in Slot 5 and the first E1 port on the TDM card in Slot 2.

```
Admin\tdm#show e1_service s 5 l 1 o 1
SLOT=5, PON=1, ONU=1, ITEM=1
ONU_E1 TDM_SLOT TDM_E1
-----
      1      2      1
Admin\tdm#
```

### Result description

Parameter	Parameter Description
ONU_E1	The E1 port of the ONU
TDM_SLOT	The slot number for the TDM card
TDM_E1	The E1 port of the TDM card

## 4.6 Showing the System Clock Mode of the TDM Card

### Command function

This command is used to show the system clock mode of the TMD card.

### Command format

```
show tdm_clock_mode slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	The slot number for the TDM card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

### Command example

Show the system clock mode of the TDM card in Slot 7.

```
Admin\tdm#show tdm_clock_mode slot 7
System Clock Mode : extclock1
Admin\tdm#
```

### Result description

Parameter	Parameter Description
System Clock Mode	System clock mode

## 4.7 Showing the Clock Recovery Mode of the TDM Card

### Command function

This command is used to show the clock recovery mode of the TDM card.

### Command format

```
show tdm_recovery_mode slot [<1-8>|<11-18>]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	The slot number for the TDM card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command example

Show the clock recovery mode of the TDM card in Slot 2.

```
Admin\tdm#show tdm_recovery_mode slot 2  
Clock Recovery Mode : loopback  
Admin\tdm#
```

## Result description

Parameter	Parameter Description
Clock Recovery Mode	Clock recovery mode

# 5 Device Directory Commands

---

- Disabling Urgent / Non-urgent Alarms of the Cabinet Top LEDs
- Showing Information on the Uplink Port
- Configuring Performance Classification Switch
- Configuring the Threshold for the Line Card CPU / Memory Utilization Ratio
- Configuring the Alarm Thresholds for the OLT Optical Module
- Configuring User Defined Alarms for the PUBA Card
- Showing the Threshold for the Line Card CPU / Memory Utilization Ratio
- Force Switch
- Disabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression
- Enabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression
- Showing Port Broadcast / Multicast / Unknown Packet Suppression
- Configuring System Slot Separation
- Configuring the Trunk Group Aggregation Mode
- Configuring Reference Parameters for the System Trunk Group
- Configuring System Trunk Group
- Deleting the Trunk Group
- Configuring the Link Recovery Mode for the Dual-Uplink Protection Group
- Configuring Dual-Uplink Protection Group
- Deleting Dual-Uplink Protection Group
- Configuring the Uplink Card Protection Mode

- Enabling / Disabling Uplink Port
- Configuring Basic Attribute of Uplink Port
- Configuring the Interface Mode for the Uplink Port
- Configuring the Learning Function for the Uplink Port
- Enabling / Disabling the Priority of Uplink Port
- Configuring the Priority of Uplink Port
- Configuring WAN / LAN Mode for Uplink Port
- Showing System Trunk Group
- Showing Reference Factors for the System Trunk Group
- Showing the Double-Uplink Protection Group
- Showing the Uplink Card Protection Mode
- Showing Working Mode of PON Port
- Showing Compensation for OLT Optical Power
- Showing the Voice Switch Status
- Showing Traffic Rate Limit
- Showing the Legal ONU MAC Address of a Switch
- Configuring the Working Mode of the PON Interface
- Configuring the OLT Optical Power Compensation Value
- Configuring the Voice Switch
- Configuring Traffic Rate Limit
- Configuring Legal ONU MAC Address Switch
- Adding / Deleting Bandwidth Profile

- Showing Bandwidth Profile
- Binding Bandwidth Profile to ONU
- Showing the Bandwidth Profile Bound to the ONU
- Adding Threshold Profile
- Showing the Threshold Profile
- Deleting the Threshold Profile

## 5.1 Disabling Urgent / Non-urgent Alarms of the Cabinet Top LEDs

### Command function

This command is used to disable urgent / non-urgent alarms of the cabinet top LEDs.

### Command format

```
set current alarm [urgent|noturgent] disable
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[urgent noturgent]	<ul style="list-style-type: none"><li>◆ urgent: urgent alarms</li><li>◆ noturgent: non-urgent alarms</li></ul>	Compulsory parameter

### Command example

Disable urgent / non-urgent alarms of the cabinet top LEDs.

```
Admin\device#set current alarm noturgent disable
Admin\device#
```

## 5.2 Showing Information on the Uplink Port

### Command function

This command is used to show the information on the uplink port.

### Command format

```
show port [<portlist>|all] {[configuration|stats]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[<portlist> all]	<ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: the uplink port number</li> <li>◆ all: all the uplink ports</li> </ul>	Compulsory parameter
{[configuration stats]}*1	<ul style="list-style-type: none"> <li>◆ configuration: configuration information</li> <li>◆ stats: data information</li> </ul> <p>The default setting for this item is configuration information.</p>	Optional parameter

## Command example

Show the information on the 19:1 uplink port.

```
Admin\device#show port 19:1
```

```
-----
port:<19:1> 's Configuration Information
Link state      : Up      Port state      : Enabled
AutoNegotiation : On
Speed           : 100M
Duplex          : Full
Learning        : Enabled
Port VLAN ID    : 4088    Port VLAN name   :
PriEn           : Off     PriValue         : 0
interface mode  : SERDES
-----
```

```
Admin\device#
```

## Result description

Parameter	Parameter Description
Link state	Link state
Port state	Whether the uplink port is enabled.
AutoNegotiation	Auto-negotiation of the port
Speed	Port speed
Duplex	Data communication mode of the port
Learning	The state of port address learning being enabled
Port VLAN ID	The VLAN ID of the port
Port VLAN name	The name of the port VLAN
PriEn	The state of priority being enabled

Parameter	Parameter Description
PriValue	The priority value
interface mode	The interface mode

## 5.3 Configuring Performance Classification Switch

### Command function

This command is used to configure the performance classification switch, and is supported by the EPON line card and ONU only.

### Command format

```
set epon perfswitch slot <1-18> pon <> onu <> type [port|opt|env|usage]
statistics [enable|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <>	The PON interface number The value can be set to 1 to 8, or 65535 (set this value to 65535 when you are configuring the OLT performance classification switch).	Compulsory parameter
onu <>	The ONU authorization number The value can be set to 1 to 128, or 65535 (set this value to 65535 when you are configuring the OLT performance classification switch).	Compulsory parameter
type [port opt env usage]	Performance type <ul style="list-style-type: none"> <li>◆ port: port performance statistics</li> <li>◆ opt: detection of optical module parameters</li> <li>◆ env: environmental monitoring switch</li> <li>◆ usage: memory utilization ratio</li> </ul>	Compulsory parameter
statistics [enable disable]	The state of being enabled / disabled <ul style="list-style-type: none"> <li>◆ enable: enable</li> <li>◆ disable: disable</li> </ul>	Compulsory parameter

## Command example

Set the performance type for the ONU with the authorization number of 1 at No.1 PON interface in Slot 12 to port performance statistics, and enable the performance statistics.

```
Admin\device#set epon perfswitch slot 12 pon 1 onu 1 type port statistics enable
Admin\device#
```

## 5.4 Configuring the Threshold for the Line Card CPU / Memory Utilization Ratio

### Command function

This command is used to set the threshold for the line card CPU / memory utilization ratio.

### Command format

```
set epon slot <1-18> cpu_thresh <> memory_thresh <>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
cpu_thresh <>	The threshold for CPU utilization ratio The value ranges from 0 to 10000.	Compulsory parameter
memory_thresh <>	The threshold for memory utilization ratio The value ranges from 0 to 10000.	Compulsory parameter

### Command example

Set the threshold for the CPU utilization ratio of the line card in Slot 12 to 6000, and set the memory utilization ratio of the line card to 8000.

```
Admin\device#set epon slot 12 cpu_thresh 6000 memory_thresh 8000
Admin\device#
```

## 5.5 Configuring the Alarm Thresholds for the OLT Optical Module

### Command function

This command is used to set the alarm thresholds for the OLT optical module, including the thresholds for temperature, voltage, bias current, Tx optical power and Rx optical power.

### Command format

```
set olt optthresh <max_temp> <min_temp> <max_voltage> <min_voltage>
<max_current> <min_current> <max_txpower> <min_txpower> <max_rxpower>
<min_rxpower>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<max_temp>	The alarm threshold for maximum temperature The value ranges between -4000 and 100000; the unit is centigrade degree; and the default value is 10000.	Compulsory parameter
<min_temp>	The alarm threshold for minimum temperature The value ranges between -4000 and 100000; the unit is centigrade degree; and the default value is -4000.	Compulsory parameter
<max_voltage>	The alarm threshold for maximum voltage The value ranges between 300 and 360; the unit is voltage; and the default value is 360.	Compulsory parameter
<min_voltage>	The alarm threshold for minimum voltage The value ranges between 300 and 360; the unit is voltage; and the default value is 300.	Compulsory parameter
<max_current>	The alarm threshold for maximum bias current The value ranges between 0 and 1000; the unit is milliampere; and the default value is 1000.	Compulsory parameter
<min_current>	The alarm threshold for minimum bias current The value ranges between 0 and 1000; the unit is milliampere; and the default value is 0.	Compulsory parameter
<max_txpower>	The alarm threshold for maximum Tx optical power The value ranges between -400 and 1000; the unit is Dbm; and the default value is 1000.	Compulsory parameter
<min_txpower>	The alarm threshold for minimum Tx optical power The value ranges between -400 and 1000; the unit is Dbm; and the default value is -400.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<max_rxpower>	The alarm threshold for maximum Rx optical power The value ranges between -3200 and -100; the unit is Dbm; and the default value is -100.	Compulsory parameter
<min_rxpower>	The alarm threshold for minimum Rx optical power The value ranges between -3200 and -100; the unit is Dbm; and the default value is -3200.	Compulsory parameter

### Command example

Set the alarm thresholds as follows: the maximum temperature threshold to 10000, the minimum temperature threshold to -4000, the maximum voltage threshold to 360, the minimum voltage threshold to 300, the maximum bias current threshold to 1000, the minimum bias current threshold to 0, the maximum Tx optical power threshold to 800, the minimum Tx optical power threshold to 0, the maximum Rx optical power threshold to -500, and the minimum Rx optical power threshold to -3200.

```
Admin\device#set olt optthresh 10000 -4000 360 300 1000 0 800 0 -500 -3200
Admin\device#
```

## 5.6 Configuring User Defined Alarms for the PUBA Card

### Command function

This command is used to configure user defined alarms for the PUBA card.

### Command format

```
set puba user_defined_alarm{interface_num <1-14> alarm_condition <0-1> }*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
interface_num <1-14>	The sequence number of the user defined alarm interface The value ranges from 1 to 14.	Compulsory parameter
alarm_condition <0-1>	Conditions for triggering the alarm ◆ 0: low level ◆ 1: high level	Compulsory parameter

## Command example

Set the sequence number of the user defined alarm interface on the PUBA card to 1, and set the conditions for triggering the alarm to high level.

```
Admin\device#set puba user_defined_alarm interface_num 1 alarm_condition 1
Admin\device#
```

## 5.7 Showing the Threshold for the Line Card CPU / Memory Utilization Ratio

### Command function

This command is used to show the threshold for the line card CPU / memory utilization ratio.

### Command format

```
show epon slot <1-18> cpu_memory_thresh
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	The slot number for the card The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

### Command example

Show the threshold for the CPU / memory utilization ratio of the line card in Slot 12.

```
Admin\device#show epon slot 12 cpu_memory_thresh
slot 12:  cpu thresh : 6000  mem thresh : 8000
Admin\device#
```

### Result description

Parameter	Parameter Description
slot	Slot number
cpu thresh	The threshold for the CPU utilization ratio; 6000 stands for 60%.
mem thresh	The threshold for the memory utilization ratio; 8000 stands for 80%.

## 5.8 Force Switch

### Command function

This command is used to perform forced switch between the active and standby core switch cards. Generally, the command of forced switch between the active and standby core switch cards is executed when you are going to replace the active core switch card or upgrade the software of the active core switch card.

### Command format

```
force switch
```

### Command example

Implement forced switch of No. 9 card and No.10 card.

```
Admin\device#force switch  
Admin\device#
```

## 5.9 Disabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression

### Command function

This command is used to disable the packet suppression at an uplink port. The parameters concerned include the port number and packet type.

### Command format

```
set control uplink port <portlist> [broadcast|multicast|unknown|all]  
disable
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
[broadcast multicast unknown all]	Packet type <ul style="list-style-type: none"> <li>◆ broadcast: broadcast packets</li> <li>◆ multicast: multicast packets</li> <li>◆ unknown: unknown packets</li> <li>◆ all: all packets</li> </ul>	Compulsory parameter

## Command example

Disable the broadcast packet suppression at the 19:1 port.

```
Admin\device#set control uplink port 19:1 broadcast disable
Admin\device#
```

# 5.10 Enabling Uplink Port Broadcast / Multicast / Unknown Packet Suppression

## Command function

This command is used to enable the packet suppression at an uplink port. The parameters concerned include the port number, packet type and number of packets suppressed. The switch chip in the core switch card is used to suppress the broadcast packets, multicast packets and unknown packets sent to the CPU port, so as to ensure the normal work of the CPU.

The uplink port packet suppression refers to the function of suppressing broadcast packets, multicast packets and unknown packets for the downlink. Once the multicast packets are suppressed, the multicast service will be interrupted as well.

## Command format

```
set control uplink port <portlist> [broadcast|multicast|unknown|all] enable
limit <1-262142>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
[broadcast multicast unknown all]	Packet type <ul style="list-style-type: none"> <li>◆ broadcast: broadcast packets</li> <li>◆ multicast: multicast packets</li> <li>◆ unknown: unknown packets</li> <li>◆ all: all packets</li> </ul>	Compulsory parameter
limit <1-262142>	Rate limit, i.e. the number of data packets passing through the uplink port in a second. The value ranges between 1 and 262142; the unit is packet / second; and the default value is 150.	Compulsory parameter

## Command example

Enable the broadcast packet suppression at the 19:1 port; set the rate limit to 64 packets / second.

```
Admin\device#set control uplink port 19:1 broadcast enable limit 64
Admin\device#
```

# 5.11 Showing Port Broadcast / Multicast / Unknown Packet Suppression

## Command function

This command is used to show the packet suppression information of the port, including the packet type, the state of packet suppression being enabled and rate limit.

## Command format

```
show control port all [broadcast|multicast|unknown|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[broadcast multicast unknown all]	Packet type ◆ broadcast: broadcast packets ◆ multicast: multicast packets ◆ unknown: unknown packets ◆ all: all packets	Compulsory parameter

## Command example

Show the information on suppression of all types of packets.

```
Admin\device#show control port all all
uplik port :19:1 broadcast packet control :enable limit :64 pps
uplik port :19:1 multicast packet control :enable limit :100 pps
uplik port :19:1 unknown packet control :enable limit :100 pps
uplik port :19:2 broadcast packet control :enable limit :100 pps
uplik port :19:2 multicast packet control :enable limit :100 pps
uplik port :19:2 unknown packet control :enable limit :100 pps
uplik port :19:3 broadcast packet control :enable limit :100 pps
uplik port :19:3 multicast packet control :enable limit :100 pps
uplik port :19:3 unknown packet control :enable limit :100 pps
uplik port :19:4 broadcast packet control :enable limit :100 pps
uplik port :19:4 multicast packet control :enable limit :100 pps
uplik port :19:4 unknown packet control :enable limit :100 pps
uplik port :19:5 broadcast packet control :enable limit :100 pps
uplik port :19:5 multicast packet control :enable limit :100 pps
uplik port :19:5 unknown packet control :enable limit :100 pps
uplik port :19:6 broadcast packet control :enable limit :100 pps
uplik port :19:6 multicast packet control :enable limit :100 pps
uplik port :19:6 unknown packet control :enable limit :100 pps
uplik port :20:1 broadcast packet control :enable limit :100 pps
uplik port :20:1 multicast packet control :enable limit :100 pps
uplik port :20:1 unknown packet control :enable limit :100 pps
uplik port :20:2 broadcast packet control :enable limit :100 pps
uplik port :20:2 multicast packet control :enable limit :100 pps
uplik port :20:2 unknown packet control :enable limit :100 pps
uplik port :20:3 broadcast packet control :enable limit :100 pps
uplik port :20:3 multicast packet control :enable limit :100 pps
uplik port :20:3 unknown packet control :enable limit :100 pps
uplik port :20:4 broadcast packet control :enable limit :100 pps
uplik port :20:4 multicast packet control :enable limit :100 pps
```

```

uplik port :20:4 unknown packet control :enable limit :100 pps
uplik port :20:5 multicast packet control :enable limit :100 pps
uplik port :20:5 unknown packet control :enable limit :100 pps
uplik port :20:6 broadcast packet control :enable limit :100 pps
uplik port :20:6 multicast packet control :enable limit :100 pps
uplik port :20:6 unknown packet control :enable limit :100 pps
Admin\device#

```

### Result description

Parameter	Parameter Description
uplik port	The number of the uplink port
broadcast packet control	Broadcast packet suppression
multicast packet control	Multicast packet suppression
unknown packet control	Unknown packet suppression
limit	rate limit

## 5.12 Configuring System Slot Separation

### Command function

This command is used to enable / disable the system slot separation.

### Command format

```
set slot_separate [enable|disable] {[multicast_disable]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot_separate [enable disable]	Slot separation ◆ enable: enable the slot separation ◆ disable: disable the slot separation	Compulsory parameter
{[multicast_disable]}	Multicast separation	Optional parameter

### Command example

Configure the system slot separation.

```
Admin\device#set slot_separate enable
```

```
Successfully enable slot separate.
Admin\device#
```

## 5.13 Configuring the Trunk Group Aggregation Mode

### Command function

This command is used to configure the Trunk group aggregation mode.

### Command format

```
set trunking groupno <1-6> mode [static|lacp]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<1-6>	Number of the Trunk group	Compulsory parameter
mode [static lacp]	<p>The Trunk group aggregation mode</p> <ul style="list-style-type: none"> <li>◆ static: manual aggregation. In this mode, multiple member interfaces are added into the aggregation group manually, and all of these interfaces are in the state of forwarding to share the load traffic.</li> <li>◆ lacp: static LACP. In this mode, the interfaces negotiate on the aggregation parameters and determine the active and inactive interfaces based on the LACP (Link Aggregation Control Protocol).</li> </ul>	Compulsory parameter

### Command example

Set the Trunk group number to 1, and set the Trunk group to manual aggregation mode.

```
Admin\device#set trunking groupno 1 mode static
Admin\device#
```

## 5.14 Configuring Reference Parameters for the System Trunk Group

### Command function

This command is used to configure the reference parameters for the system Trunk group.

### Command format

```
set trunking criteria [smac|dmac|sdmac|sip|dip|sdip]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[smac dmac sdmac sip dip sdip]	Reference parameter <ul style="list-style-type: none"> <li>◆ smac: the source MAC address</li> <li>◆ dmac: the destination MAC address</li> <li>◆ sdmac: the source and destination MAC addresses</li> <li>◆ sip: the source IP address</li> <li>◆ dip: the destination IP address</li> <li>◆ sdip: the source and destination IP addresses</li> </ul>	Compulsory parameter

### Command example

Balance the load according to the destination MAC address.

```
Admin\device#set trunking criteria dmac
Admin\device#
```

## 5.15 Configuring System Trunk Group

### Command function

This command is used to configure the system Trunk group. The main function of the Trunk group is to bind multiple physical ports together as a logical path. By binding multiple physical links together, you can enhance the bandwidth of the entire network. Meanwhile, the data are sent via multiple physical links bound together. The links serve as redundant links to each other. When one or several links is (are) broken due to the fault in network or other faults, the remaining links can still work.

## Command format

```
set trunking groupno <1-6> <portmasterNo> grouping <portlist>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<1-6>	Number of the Trunk group	Compulsory parameter
<portmasterNo>	The number of the master port of the Trunk group	Compulsory parameter
<portlist>	The number of the member port	Compulsory parameter

## Command example

Configure a Trunk group. Set the group number to 1, the master port number to 19:2, and the member port number to 20:3.

```
Admin\device#set trunking groupno 1 19:2 grouping 20:3
Admin\device#
```

# 5.16 Deleting the Trunk Group

## Command function

This command is used to delete a designated Trunk group.

## Command format

```
delete trunking <portmasterNo>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
portmasterNo	Number of the master port	Compulsory parameter

## Command example

Delete the Trunk group whose master port number is 19:2.

```
Admin\device#delete trunking 19:2
Admin\device#
```

## 5.17 Configuring the Link Recovery Mode for the Dual-Uplink Protection Group

### Command function

This command is used to configure the link recovery mode for the dual-uplink protection group.

### Command format

```
set upbak_group linkrecovermode [autorecover|nonautorecover]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[autorecover nonautorecover]	<p>The recovery mode</p> <ul style="list-style-type: none"> <li>◆ autorecover: automatic recovery of the link. In this mode, when the working link recovers from a fault, the system will automatically return to the working link.</li> <li>◆ nonautorecover: non-automatic recovery of the link.</li> </ul>	Compulsory parameter

### Command example

Set the link recovery mode for the dual-uplink protection group to automatic recovery.

```
Admin\device#set upbak_group linkrecovermode autorecover
Admin\device#
```

## 5.18 Configuring Dual-Uplink Protection Group

### Command function

This command is used to configure a dual-uplink protection group. That is, set dual-route uplink protection for the equipment. When one of the uplinks is faulty, the system will automatically switch the service to the other uplink without interrupting the service, so as to implement service protection.

The attributes of the master and slave ports should be set consistently.

## Command format

```
set upbak_port <1-6> <masterport> <slaveport>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
upbak_port <1-6>	The number of the dual-uplink protection group The value ranges from 1 to 6.	Compulsory parameter
<masterport>	The number of the active port	Compulsory parameter
<slaveport>	The number of the standby port	Compulsory parameter

## Command example

Configure the dual-uplink protection group 1; set the active port number to 19:1, and the standby port number to 20:2.

```
Admin\device#set upbak_port 1 19:1 20:2
Admin\device#
```

# 5.19 Deleting Dual-Uplink Protection Group

## Command function

This command is used to delete the designated dual-uplink protection group.

## Command format

```
delete upbak_port <1-6>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
upbak_port <1-6>	The number of the dual-uplink protection group The value ranges from 1 to 6.	Compulsory parameter

## Command example

Delete the dual-uplink protection group 1

```
Admin\device#delete upbak_port 1
Admin\device#
```

## 5.20 Configuring the Uplink Card Protection Mode

### Command function

This command is used to configure the protection mode of uplink cards. The available choices for protection modes include the load balancing protection mode, active / standby protection mode, and disabled protection mode. After the uplink card protection is configured, the ports on the uplink cards in Slot 19 and Slot 20 will provide protection correspondingly. Each pair of ports can be considered as a protection group.

Make sure that the two uplink cards of the same type are present when you are configuring the protection.

### Command format

```
set uplink card_protect_mode [loads_balance|master_standby|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[loads_balance  master_standby  disable]	Protection mode <ul style="list-style-type: none"> <li>◆ loads_balance: the load balancing mode. In this mode, both of the two ports corresponding to the protection mode have traffic flow.</li> <li>◆ master_standby: the active / standby protection mode. In this mode, only the active port corresponding to the protection mode has traffic flow, and there is no traffic flow in the standby port.</li> <li>◆ disable: the disabled protection mode. That is, disable the protection function of the uplink card.</li> </ul>	Compulsory parameter

### Command example

Set the uplink cards in the active / standby protection mode.

```
Admin\device#set uplink card_protect_mode master_standby
Admin\device#
```

## 5.21 Enabling / Disabling Uplink Port

### Command function

This command is used to enable / disable an uplink port.

### Command format

```
set uplink port <portlist> [enable|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
[enable disable]	<ul style="list-style-type: none"><li>◆ enable: enable the uplink port</li><li>◆ disable: disable the uplink port</li></ul>	Compulsory parameter

### Command example

Disable the 19:3 uplink port.

```
Admin\device#set uplink port 19:3 disable
Admin\device#
```

## 5.22 Configuring Basic Attribute of Uplink Port

### Command function

This command is used to configure the basic attribute of an uplink port. The configuration parameters include the auto-negotiation switch, port speed, and data communication mode.

## Command format

```
set uplink port <portlist> auto_negotiation [enable|disable] {speed [10m|
100m|1000m|10000m] duplex [full|half]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
[enable disable]	<ul style="list-style-type: none"> <li>◆ enable: enable the port auto-negotiation function, so that the uplink port could negotiate with other equipment ports to obtain the maximum transmission rate. The auto-negotiation function is applicable to electrical interfaces only, and is not supported by optical interfaces.</li> <li>◆ disable: disable the port auto-negotiation function.</li> </ul>	Compulsory parameter
speed [10m 100m 1000m 10000m]	Port speed The values available for choice include 10m, 100m, 1000m and 10000m. The unit is Mbit/s.	Optional parameter
[full half]	The data communication mode at the port <ul style="list-style-type: none"> <li>◆ full: full duplex</li> <li>◆ half: half duplex</li> </ul>	Optional parameter

## Command example

Enable the auto-negotiation function of the 19:1 port; set the port speed to 1000M, and the data communication mode at the port to half-duplex.

```
Admin\device#set uplink port 19:1 auto_negotiation enable speed 1000m duplex half
Admin\device#
```

## 5.23 Configuring the Interface Mode for the Uplink Port

### Command function

This command is used to configure the interface mode for an uplink port.

### Command format

```
set uplink port <portlist> interface_mode [serdes|sgmii]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
interface_mode [serdes sgmii]	The interface mode <ul style="list-style-type: none"> <li>◆ serdes: the SerDes mode Select this mode when you use the interface as an optical interface.</li> <li>◆ sgmii: the SGMIII mode Select this mode when you use the interface as an electrical interface.</li> </ul>	Compulsory parameter

## Command example

Configure the 19:1 interface in the SGMIII mode.

```
Admin\device#set uplink port 19:1 interface_mode sgmii
Admin\device#
```

## 5.24 Configuring the Learning Function for the Uplink Port

## Command function

This command is used to enable / disable the learning function of an uplink port.

## Command format

```
set uplink port <portlist> learning [enable|disable]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
learning [enable disable]	The learning function of the uplink port <ul style="list-style-type: none"> <li>◆ enable: enable the learning function</li> <li>◆ disable: disable the learning function</li> </ul>	Compulsory parameter

### Command example

Enable the learning function of the 19:1 uplink interface.

```
Admin\device#set uplink port 19:1 learning enable
Admin\device#
```

## 5.25 Enabling / Disabling the Priority of Uplink Port

### Command function

This command is used to enable / disable the priority of an uplink port.

### Command format

```
set uplink port <portlist> priority [enable|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
priority [enable disable]	Priority <ul style="list-style-type: none"> <li>◆ enable: enable the priority.</li> <li>◆ disable: disable the priority.</li> </ul>	Compulsory parameter

### Command example

Enable the priority of the 19:1 uplink interface.

```
Admin\device#set uplink port 19:1 priority enable
```

## 5.26 Configuring the Priority of Uplink Port

### Command function

This command is used to configure the priority of an uplink port.

### Command format

```
set uplink port <portlist> privalue <0-7>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
privalue <0-7>	Priority level The value ranges from 0 to 7.	Compulsory parameter

## Command example

Set the priority of the 19:1 uplink interface to 6.

```
Admin\device#set uplink port 19:1 privalue 6
Admin\device#
```

## 5.27 Configuring WAN / LAN Mode for Uplink Port

## Command function

This command is used to configure the WAN / LAN mode for an uplink port, applicable to the 10GE optical port only.

## Command format

```
set uplink port <portlist> wanlan_mode [wan|lan]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<portlist>	The number of the uplink port	Compulsory parameter
wanlan_mode [wan lan]	The interface mode <ul style="list-style-type: none"> <li>◆ wan: the WAN mode Select this mode when the 10GE optical interface is connected to SDH equipment.</li> <li>◆ lan: the LAN mode Select this mode when the 10GE optical interface is connected to ordinary Ethernet equipment.</li> </ul>	Compulsory parameter

### Command example

Configure the 19:1 uplink interface in the WAN mode.

```
Admin\device#set uplink port 19:1 wanlan_mode wan
Admin\device#
```

## 5.28 Showing System Trunk Group

### Command function

This command is used to show the configuration information of the system Trunk group.

### Command format

```
show trunking
```

### Command example

Show the configuration information of the system Trunk group.

```
Admin\device#show trunking
Sharing port group 1 information:
  Master Port: 19:2  Group Ports: 19:2  20:3
Admin\device#
```

### Result description

Parameter	Parameter Description
Master Port	The number of the master port
Group Ports	The numbers of the member ports

## 5.29 Showing Reference Factors for the System Trunk Group

### Command function

This command is used to show the reference factors for the system Trunk group.

## Command format

```
show trunking criteria
```

## Command example

Show the reference factors for the system trunk group.

```
Admin\device#show trunking criteria
trunking selection criteria is destination mac
Admin\device#
```

## Result description

Parameter	Parameter Description
trunking selection criteria	Reference factors for the Trunk group

# 5.30 Showing the Double-Uplink Protection Group

## Command function

This command is used to show the information on the double-uplink protection group.

## Command format

```
show upbak_group
```

## Command example

Show the information on the double-uplink protection group.

```
Admin\device#show upbak_group
link recover mode : link automatic recover to master port
=====uplink backup group=====
Group              :2
group attribute    :port upbak
master port       :19:3
slave port        :19:4
active port       :19:3
Admin\device#
```

## Result description

Parameter	Parameter Description
group	The number of the double-uplink protection group
group attribute	Attribute of the group
master port	The number of the active port
slave port	The number of the standby port
active port	The number of the activated port.

## 5.31 Showing the Uplink Card Protection Mode

## Command function

This command is used to show the information on the uplink card protection mode.

## Command format

```
show uplink card_protect_mode
```

## Command example

Show the uplink card protection mode.

```
Admin\device#show uplink card_protect_mode
uplink card protect mode is master standby mode
Admin\device#
```

## Result description

Parameter	Parameter Description
uplink card protect mode	The protection mode of the uplink card.

## 5.32 Showing Working Mode of PON Port

## Command function

This command is used to view the working mode of the PON port.

## Command format

```
show epon slot <1-18> pon <1-8> 2.5gmode
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON port. That is, the number of the PON in which the ONU is located. The value ranges from 1 to 8.	Compulsory parameter

## Command example

View the working mode of the No.1 PON port of the card in Slot 12.

```
Admin\device#show epon slot 12 pon 1 2.5gmode  
pon 2.5g port state : Enable  
Admin \device#
```

## Result description

Parameter	Parameter Description
pon 2.5g port state	Enabling / disabling the 2.5G mode of the PON port.

## 5.33 Showing Compensation for OLT Optical Power

### Command function

This command is used to show the compensation for the OLT optical power.

### Command format

```
show epon slot <1-18> pon <1-8> OpticalCompensation
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface. That is, the number of the PON where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter

## Command example

Show the compensation information about the optical power of the OLT at No. 1 PON interface on the card in Slot 12. In this example, the optical power compensation value is 10. See below for the information displayed:

```
Admin\device#show epon slot 12 pon 1 opticalcompensation
extern_byte: 0
precision_byte: 2
adjustment value: 1000
Admin\device#
```

## Result description

Parameter	Parameter Description
extern_byte	The extended byte
precision_byte	The precision value
adjustment value	The optical power compensation value

# 5.34 Showing the Voice Switch Status

## Command function

This command is used to show the voice switch status.

## Command format

```
show epon slot <1-18> VoipSwitch
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

## Command example

Show the voice switch status of the card in Slot 12.

```
Admin\device#show epon slot 12 voipswitch
VoipSwitch: 1
Admin\device#
```

## Result description

Parameter	Parameter Description
VoipSwitch	The voice switch ◆ 0: disable ◆ 1: enable

# 5.35 Showing Traffic Rate Limit

## Command function

This command is used to show the traffic rate limit. It is applicable only to the XG2A and XG2B cards.

## Command format

```
show epon slot <1-18> pon <1-2> rate_limit
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 1 to 18.	Compulsory parameter
pon <1-2>	The number of the PON interface The value ranges from 1 to 2.	Compulsory parameter

## Command example

View the traffic rate limit of No.1 PON interface on the card in Slot 12.

```
Admin \device#show epon slot 12 pon 1 rate_limit
seqno = 1 ,rate_limit = 1000.
 0 111111111111 0
Admin\device#
```

## Result description

Parameter	Parameter Description
seqno	The sequence number set for the traffic rate limit
rate_limit	The traffic rate limit
0	Traffic characteristics
111111111111	Traffic characteristic value
0	Operator; 0 stands for =.

## 5.36 Showing the Legal ONU MAC Address of a Switch

### Command function

This command is used to show the ON / OFF state of legal ONU MAC addresses.

### Command format

```
show epon slot <1-18> onu_tbl_state
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter

### Command example

Show the ON/ OFF state of legal ONU MAC addresses of the card in Slot 12.

```
Admin\device#show epon slot 12 onu_tbl_state
```

```
OnuTbl State : Enable
Admin\device#
```

### Result description

Parameter	Parameter Description
OnuTbl State	The ON / OFF state of legal ONU MAC addresses

## 5.37 Configuring the Working Mode of the PON Interface

### Command function

This command is used to configure the working mode of the PON interface.

### Command format

```
set epon slot <1-18> pon <1-8> 2.5gmode [enable|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The number of the PON interface which the ONU is connected to. The value ranges from 1 to 8.	Compulsory parameter
2.5gmode [enable disable]	The 2.5G state of the PON interface ◆ enable: enables the 2.5G working state. ◆ disable: disables the 2.5G working state.	Compulsory parameter

### Command example

Enable the working mode of NO.1 PON of the card in Slot 12.

```
Admin\device#set epon slot 12 pon 1 2.5gmode enable
Admin\device#
```

## 5.38 Configuring the OLT Optical Power Compensation Value

### Command function

This command is used to configure the OLT optical power compensation value. When the Tx optical power / Rx optical power of the OLT is over high / over low, use this command to modify the optical power and keep it in a reasonable range.

### Command format

```
set epon slot <1-18> pon <1-8> extern_byte [0|1|2] precision_byte <1-7>
adjustment <value>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface, i.e., the number of the PON in which the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
extern_byte [0 1 2]	The extended byte The value ranges from 0 to 2. The default value is 0.	Compulsory parameter
precision_byte <1-7>	The precision value The value ranges from 1 to 7. The default value is 2.	Compulsory parameter
adjustment <value>	The optical power compensation value Suppose the precision value is 2; divide the optical power compensation value by 100, and you will get the practical value of compensation for the optical power. The compensation value ranges from -10000 to 10000.	Compulsory parameter

### Command example

Configure the OLT optical power compensation value for No.1 PON interface on the card in Slot 12. Set the extended byte to 0, and the precision value to 2; then the practical value of compensation for the optical power is 1000.

```
Admin\device#set epon slot 12 pon 1 extern_byte 0 precision_byte 2 adjustment 1000
Admin\device#
```

## 5.39 Configuring the Voice Switch

### Command function

This command is used to configure the voice switch.

### Command format

```
set epon slot <1-18> VoipSwitch [0|1]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
VoipSwitch [0 1]	The voice switch ◆ 0: disable ◆ 1: enable	Compulsory parameter

### Command example

Enable the voice switch of the card in Slot 12.

```
Admin\device#set epon slot 12 voipswitch 1
Admin\device#
```

## 5.40 Configuring Traffic Rate Limit

### Command function

This command is used to configure the traffic rate limit.

### Command format

```
set epon slot <1-18> pon <1-2> seqno <1-1024> rate_limit [<0-10000000>|null]
{<streamtype> <value> <operator>}*4
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-2>	The number of the PON interface This parameter is applicable to the XG2A and XG2B card only. The value can be set to 1 or 2.	Compulsory parameter
seqno <1-1024>	The sequence number set for the traffic rate limit	Compulsory parameter
rate_limit [<0-10000000>  null]	The traffic rate limit ◆ <0-10000000>: the value ranges between 0 and 10000000; the unit is Kbit/s. ◆ null: null	Compulsory parameter
<streamtype>	Stream type ◆ 0x00: based on SA MAC classification (SA MAC). ◆ 0x01: based on DA MAC classification (DA MAC). ◆ 0x02: based on the source IP address classification (SAIP). ◆ 0x03: based on the destination IP address classification (DAIP). ◆ 0x0d: based on the SVLAN ID classification (SVLAN ID). ◆ 0x0e: based on the SVLAN COS classification (SVLAN COS). ◆ 0x0f: based on the CVLAN ID classification (CVLAN ID). ◆ 0x10: based on the CVLAN COS classification (CVLAN COS). ◆ 0x05: based on Ethernet type (Ethernet type). ◆ 0x06: based on IP protocol type (IP protocol type). ◆ 0x08: based on IP TOS/DSCP (IPv4) classification (TOS/DSCP (IPv4)). ◆ 0x09: based on L4 source PORT classification (L4 SA PORT). ◆ 0x0a: based on L4 destination PORT classification (L4 DA PORT). ◆ 0x0b: based on classification of Time to Live (TTL). ◆ 0x0c: based on the classification of physical destination ports (Phy Dest Port).	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<value>	Stream type value <ul style="list-style-type: none"> <li>◆ 0x00: based on SA MAC classification (6 bytes).</li> <li>◆ 0x01: based on DA MAC classification (6 bytes).</li> <li>◆ 0x02: based on the source IP address classification (4 bytes).</li> <li>◆ 0x03: based on the destination IP address classification (4 bytes).</li> <li>◆ 0x0d: based on the SVLAN ID classification (2 bytes, 0 to 4085).</li> <li>◆ 0x0e: based on the SVLAN COS classification (1 byte, 0 to 7).</li> <li>◆ 0x0f: based on the CVLAN ID classification (2 bytes, 0 to 4085).</li> <li>◆ 0x10: based on the CVLAN COS classification (1 byte, 0 to 7).</li> <li>◆ 0x05: based on Ethernet type (2 bytes, 0 to 0xffff).</li> <li>◆ 0x06: based on IP protocol type (1 byte, 0 to 0xff).</li> <li>◆ 0x08: based on IP TOS/DSCP (IPv4) classification (1 byte, 0 to 0xff).</li> <li>◆ 0x09: based on L4 source PORT classification (2 bytes, 0 to 0xffff).</li> <li>◆ 0x0a: based on L4 destination PORT classification (2 bytes, 0 to 0xffff).</li> <li>◆ 0x0b: based on classification of Time to Live (1 byte, 1 to 254).</li> <li>◆ 0x0c: based on the classification of physical destination ports (1 byte, 1 to 128).</li> </ul>	Optional parameter
<operator>	Operator 0 stands for =.	Optional parameter

## Command example

Set the seqno of No.1 PON interface on the card in Slot 12 to 1, the rate limit to 1000, the stream type to based on SA MAC classification, the stream type value to 111111111111, and the operator to 0.

```
Admin\device#set epon slot 12 pon 1 seqno 1 rate_limit 1000 0 111111111111 0
Admin\device#
```

## 5.41 Configuring Legal ONU MAC Address Switch

### Command function

This command is used to configure legal ONU MAC address switch and prevent malicious users from attacking the network by forging MAC addresses.

MAC spoofing is a technique for changing a factory-assigned MAC address. The malicious users forge the MAC addresses of legal users and send messages to the equipment, so as to destroy the services of legal users; or send forged messages containing massive varied MAC addresses to the equipment, so as to damage the equipment or even cause network paralysis.

### Command format

```
set epon slot <1-18> onu_tbl [enable|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
onu_tbl [enable disable]	ONU MAC address switch <ul style="list-style-type: none"> <li>◆ enable: enable the ONU MAC address switch.</li> <li>◆ disable: disable the ONU MAC address switch.</li> </ul>	Compulsory parameter

### Command example

Enable the legal ONU MAC address switch of the card in Slot 12.

```
Admin\device#set epon slot 12 onu_tbl enable
Admin\device#
```

## 5.42 Adding / Deleting Bandwidth Profile

### Command function

This command is used to add or delete a bandwidth profile. You need only to configure the bandwidth profile ID to delete the bandwidth profile.

### Command format

```
[add|del] bandwidth prf <1-64> {name <prf_name> up <256-1000000> down <256-1000000>}*1 {up_min <0-1000000> down_min <0-1000000> up_fix <0-1000000>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[add del]	Add or delete <ul style="list-style-type: none"> <li>◆ add: add a bandwidth profile. The parameters below are compulsory when you are adding a bandwidth profile.</li> <li>◆ del: delete a bandwidth profile. Only the profile ID is compulsory and you need not to configure other parameters when you are deleting a profile.</li> </ul>	Compulsory parameter
bandwidth prf	The bandwidth profile	Compulsory parameter
<1-64>	The bandwidth profile ID The value ranges from 1 to 64. The profile ID 1 stands for the default profile.	Compulsory parameter
name <prf_name>	The profile name The profile name is a character string not exceeding 20 bytes.	Compulsory parameter
up <256-1000000>	The maximum allowable uplink bandwidth The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.	Compulsory parameter
down < 256-1000000>	The maximum allowable downlink bandwidth The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.	Compulsory parameter
up_min <0-1000000>	The minimum assured uplink bandwidth The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Compulsory parameter
down_min <0-1000000>	The minimum assured downlink bandwidth The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Compulsory parameter
up_fix <0-1000000>	The fixed allocated uplink bandwidth The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Compulsory parameter

## Command example

Add a bandwidth profile, and set the profile ID to 10, the profile name to aaa, the maximum allowable uplink bandwidth to 1000000, the maximum allowable downlink bandwidth to 1000000, the minimum assured uplink bandwidth to 640, the minimum assured downlink bandwidth to 640, and the fixed allocated uplink bandwidth to 0.

```
Admin\device#add bandwidth prf 10 name aaa up 1000000 down 1000000 up_min 640
down_min 640 up_fix 0
Admin\device#
```

## 5.43 Showing Bandwidth Profile

### Command function

This command is used to show a profile with designated ID or all bandwidth profiles that have been configured.

### Command format

```
show bandwidth prf [all|<prf_index>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[all <prf_index>]	The bandwidth profile ID ◆ all: all bandwidth profiles ◆ <prf_index>: the designated profile ID	Compulsory parameter

### Command example

Show all bandwidth profiles that have been configured.

```
Admin\device#show bandwidth prf all
.....print profile node.....
prf_index = 1 prf_name = default prf_flush = 0
up_max = 1000000 up_min = 640 down_max =1000000
down_min =640 up_fix = 0
ONU Banding Profile:slot = 12,ponno = 1, onuno = 1
ONU Banding Profile:slot = 14,ponno = 1, onuno = 1
.....print profile node.....
prf_index = 10 prf_name = aaa prf_flush = 0
up_max = 80000 up_min = 6000 down_max =300
down_min =300 up_fix = 0
Admin\device#
```

## Result description

Parameter	Parameter Description
prf_index	The bandwidth profile ID
prf_name	The bandwidth profile name
prf_flush	Whether the profile has been updated ◆ 1: updated ◆ 0: not updated
up_max	The maximum allowable uplink bandwidth
up_min	The minimum assured uplink bandwidth
down_max	The maximum allowable downlink bandwidth
down_min	The minimum assured downlink bandwidth
up_fix	The fixed allocated uplink bandwidth
ONU Banding Profile	The bound ONU The slot number, PON number and ONU authorization number for the ONU bound with the profile.

## 5.44 Binding Bandwidth Profile to ONU

### Command function

This command is used to bind a bandwidth profile to an ONU.

### Command format

```
set onu <slotNo> <ponNo> <onuList> bind_profile <prf_index> {service_band
<0-256>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<ponNo>	The number of the PON interface The number of the PON in which the ONU is located.	Compulsory parameter
<onuList>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
bind_profile	Bind the bandwidth profile.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<prf_index>	The bandwidth profile ID The value ranges from 0 to 64. Unbind the bandwidth profile when this parameter is set to 0.	Compulsory parameter
service_band <0-256>	The service bandwidth profile ID The value ranges from 0 to 256. Unbind the bandwidth profile when this parameter is set to 0.	This parameter is not available for an EPON ONU. This parameter is optional for a GPON ONU.

### Command example

Bind the bandwidth profile with the profile ID of 10 to the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\device#set onu 14 1 1 bind_profile 10
Admin\device#
```

## 5.45 Showing the Bandwidth Profile Bound to the ONU

### Command function

This command is used to show the bandwidth profile bound to the ONU.

### Command format

```
show onu <slotNo> <ponNo> <onuNO> bandwidth
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<ponNo>	The number of the PON interface The number of the PON interface where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<onuNO>	The ONU authorization number <ul style="list-style-type: none"> <li>◆ The value ranges from 1 to 64 for an EPON ONU.</li> <li>◆ The value ranges from 1 to 128 for a GPON ONU.</li> </ul>	Compulsory parameter
bandwidth	The bandwidth profile	Compulsory parameter

## Command example

Show the bandwidth profile of the ONU with the authorization number of 1 at No.1 PON port in Slot 14.

```
Admin\device#show onu 14 1 1 bandwidth
show profile context:prf_index = 10,prf_name = aaa,
up_max= 1000000,up_min = 640,down_max = 1000000,down_min = 640,
up_fix = 0
Admin\device#
```

## Result description

Parameter	Parameter Description
prf_index	The bandwidth profile ID
prf_name	The bandwidth profile name
up_max	The maximum allowable uplink bandwidth
up_min	The minimum assured uplink bandwidth
down_max	The maximum allowable downlink bandwidth
down_min	The minimum assured downlink bandwidth
up_fix	The fixed allocated uplink bandwidth

## 5.46 Adding Threshold Profile

### Command function

This command is used to add the threshold profile to a designated object.

## Command format

```
add thresh profile <prf_id> <name> <layer> <objType> {<alarm_code>
<alarmTh_switch> <cAlarmReportprecision> <lAlarmReport>
<cAlarmClearingprecision> <lAlarmClearing>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
add thresh profile	Add the threshold profile.	Compulsory parameter
<prf_id>	The threshold profile ID The value ranges from 1 to 64.	Compulsory parameter
<name>	The threshold profile name The profile name is a character string not exceeding 20 bytes.	Compulsory parameter
<layer>	The object layer. <ul style="list-style-type: none"> <li>◆ When the object is a slot, the object layer is 1.</li> <li>◆ When the object is a port on the slot, the object layer is 2.</li> <li>◆ When the object is an ONU, the object layer is 3.</li> <li>◆ When the object is a port on the ONU, the object layer is 4.</li> </ul>	Compulsory parameter
<objType>	The object type. <ul style="list-style-type: none"> <li>◆ When the object is an ONU, the object type is 0xffff.</li> <li>◆ When the object is a slot, the object type is the type code of the object slot. EC4B corresponds to 508, EC8B corresponds to 514, GC4B corresponds to 502, and GC8B corresponds to 527.</li> <li>◆ When the object is a slot port, a PON interface on an EPON line card corresponds to 727, a PON interface on a GPON line card corresponds to 734, an XFP (10GE optical interface) corresponds to 731, an SFP (GE optical interface) corresponds to 733, a GE interface corresponds to 732, and a 1G interface of the ONU corresponds to 808.</li> <li>◆ When the object is an ONU port, the PON interface on a GPON ONU corresponds to 712, and the PON interface on an EPON ONU corresponds to 263.</li> </ul>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<alarm_code>	<p>The alarm code.</p> <ul style="list-style-type: none"> <li>◆ When the object is an ONU, the alarm codes are 1021 (internal temperature overhigh), 1022 (internal temperature overlow), 1037 (uplink BIP8 alarm threshold) and 1038 (downlink BIP8 alarm threshold).</li> <li>◆ When the object is a PON interface on a GPON ONU or a PON interface on an EPON ONU, the alarm codes are 997 (Rx optical power overhigh), 998 (Rx optical power overlow), 999 (Tx optical power overhigh), 1000 (Tx optical power overlow), 1001 (bias current overhigh), 1002 (bias current overlow), 1003 (bias voltage overhigh), 1004 (bias voltage overlow), 1023 (temperature overhigh), 1024 (temperature overlow), 1007 (early warning of Rx optical power overhigh), 1008 (early warning of Rx optical power overlow), 1009 (early warning of Tx optical power overhigh), 1010 (early warning of Tx optical power overlow), 1011 (early warning of bias current overhigh), 1012 (early warning of bias current overlow), 1013 (early warning of bias voltage overhigh), 1014 (early warning of bias voltage overlow), 1015 (early warning of optical module temperature overhigh), 1016 (early warning of optical module temperature overlow).</li> <li>◆ When the object is a PON interface on an EPON line card, a PON interface on a GPON card, an XFP, SFP or GE interface, the alarm codes are 1026 (uplink speed threshold-crossing alarm), 1027 (downlink speed threshold-crossing alarm), 1036 (early warning of uplink speed threshold-crossing) and 1029 (early warning of downlink speed threshold-crossing).</li> </ul>	Optional parameter
<alarmTh_switch>	<p>The alarm reporting switch.</p> <ul style="list-style-type: none"> <li>◆ 0: do not report the alarm.</li> <li>◆ 1: report the alarm.</li> </ul> <p>The default value is 0.</p>	Optional parameter
<cAlarmReportprecision>	<p>The precision of the alarm's trigger threshold</p> <p>The value is currently kept to 2.</p>	Optional parameter
<lAlarmReport>	<p>The alarm's trigger threshold</p>	Optional parameter
<cAlarmClearingprecision>	<p>The precision of the alarm's clearance threshold</p> <p>The value is currently kept to 2.</p>	Optional parameter
<lAlarmClearing>	<p>The alarm's clearance threshold.</p>	Optional parameter

## Command example

Add a threshold profile, and set the profile ID to 8, the profile name to test, the object layer to 1, the object type to 527, the alarm code to 1021, the alarm reporting switch to 1, the precision of the alarm's trigger threshold to 2, the alarm's trigger threshold to -12800, the precision of the alarm's clearance threshold to 2, and the alarm's clearance threshold to -12800.

```
Admin\device#add thresh profile 8 test 1 527 1021 1 2 -12800 2 -12800
Admin\device#
```

## 5.47 Showing the Threshold Profile

### Command function

This command is used to show the threshold profile with designated profile ID.

### Command format

```
show thresh profile <pro_id>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
thresh profile	The threshold profile.	Compulsory parameter
<pro_id>	The threshold profile ID The value ranges from 1 to 64.	Compulsory parameter

### Command example

Show the threshold profile with the ID 8.

```
Admin\device#show thresh profile 8
show thresh profile 8 context:
name = test objLayer = 1 objType = 527 alarmItem=1 user=0,used=1
AlarmCode = 1021 AlarmtThresholdSwitch = 1
AlarmReportprecision = 2 AlarmReport = -12800
cAlarmClearingprecision = 2 AlarmClearing = -12800
Admin\device#
```

## Result description

Parameter	Parameter Description
name	The threshold profile name
objLayer	The object layer
objType	The object type
alarmItem	The number of alarm items
user	The number of the profile users
used	Whether the profile has been added.
AlarmCode	The alarm code
AlarmThresholdSwitch	The alarm reporting switch
AlarmReportprecision	The precision of the alarm's trigger threshold
AlarmReport	The threshold triggering the alarm
AlarmClearingprecision	The precision of the alarm's clearance threshold.
AlarmClearing	The alarm's clearance threshold.

## 5.48 Deleting the Threshold Profile

### Command function

This command is used to delete the threshold profile with designated profile ID.

### Command format

```
delete thresh profile <pro_id>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
delete thresh profile	The threshold profile.	Compulsory parameter
<pro_id>	The threshold profile ID The value ranges from 1 to 64.	Compulsory parameter

### Command example

Delete the threshold profile with the ID of 8.

```
Admin\device#delete thresh profile 8
Admin\device#
```

# 6 FDB Directory Commands

---

- Configuring the MAC Address Aging Time
- Showing the MAC Address Aging Time
- Showing the OLT MAC Address Table

## 6.1 Configuring the MAC Address Aging Time

### Command function

This command is used to configure the system MAC address table aging time. The time begins when a MAC address is added to the address table. If the ports fail to receive the frames whose source address is the MAC address in the aging time, the MAC address will be deleted from the dynamic MAC address table.

### Command format

```
set fdb agingtime <0-300>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
agingtime <0-300>	The aging time. The value ranges from 0 to 300; the unit is second. When you set the value to 0, the MAC address will never be aged.	Compulsory parameter

### Command example

Set the MAC address aging time to 60 seconds.

```
Admin\fdb#set fdb agingtime 60  
Admin\fdb#
```

## 6.2 Showing the MAC Address Aging Time

### Command function

This command is used to show the MAC address aging time.

### Command format

```
show fdb agingtime
```

### Command example

Show the MAC address aging time.

```
Admin\fdb#show fdb agingtime
```

```
MAC address agetime: 60 seconds.
Admin\fdb#
```

### Result description

Parameter	Parameter Description
MAC address agetime	The MAC address aging time.

## 6.3 Showing the OLT MAC Address Table

### Command function

This command is used to show the OLT MAC address table, that is, to show the MAC address learnt from a card or an uplink port and the VLAN which the MAC address belongs to. Up to 65535 MAC addresses can be displayed.

### Command format

```
show fdb slot <slotno>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotno>	The slot number for the uplink card	Compulsory parameter

### Command example

Show the MAC address table of Slot 20.

```
Admin\fdb#show fdb slot 20
slot:                20
port: 4      Mac: 00:00:ec:8b:20:10      Vid: 4000
port: 4      Mac: 00:01:01:0a:0a:0a      Vid: 4000
port: 4      Mac: 00:01:02:03:04:05      Vid: 4000
port: 4      Mac: 00:02:03:44:f5:23      Vid: 4000
port: 4      Mac: 00:02:55:ff:33:66      Vid: 4000
port: 4      Mac: 00:03:ff:27:3c:cf      Vid: 4000
port: 4      Mac: 00:03:ff:4d:da:11      Vid: 4000
port: 4      Mac: 00:04:67:30:97:02      Vid: 4000
port: 4      Mac: 00:0a:c2:20:44:00      Vid: 4000
port: 4      Mac: 00:0a:c2:20:cc:d5      Vid: 4000
port: 4      Mac: 00:0a:c2:21:2f:c4      Vid: 4000
```

```
port: 4 Mac: 00:0a:c2:21:74:f7 Vid: 4000
port: 4 Mac: 00:0a:c3:20:cc:d4 Vid: 4000
port: 4 Mac: 00:1f:c6:99:83:30 Vid: 4088
port: 4 Mac: 00:1f:c6:99:83:da Vid: 4088
port: 4 Mac: 00:1f:c6:99:a1:be Vid: 4088
port: 4 Mac: 00:1f:d0:48:d9:ce Vid: 4088
port: 4 Mac: 00:1f:d0:4d:ac:e8 Vid: 4088
port: 4 Mac: 00:1f:e2:1a:a6:a8 Vid: 4088
port: 4 Mac: 00:21:70:a7:ba:e8 Vid: 4088
port: 4 Mac: 00:21:86:ed:2c:39 Vid: 4088
port: 4 Mac: 00:21:86:ed:be:51 Vid: 4088
port: 4 Mac: 00:21:86:ed:bf:39 Vid: 4088
port: 4 Mac: 00:21:86:ed:c9:3c Vid: 4088
port: 4 Mac: 00:21:86:ed:c9:a1 Vid: 4088
port: 4 Mac: 00:21:86:ee:02:0d Vid: 4088
port: 4 Mac: 00:21:86:f8:fa:10 Vid: 4088
port: 4 Mac: 00:21:9b:2f:d4:f1 Vid: 4088
port: 4 Mac: 00:22:90:8b:e7:80 Vid: 4088
port: 4 Mac: 00:24:7e:04:21:4e Vid: 4088
port: 4 Mac: 00:24:7e:04:21:7b Vid: 4088
port: 4 Mac: 00:24:7e:04:21:c9 Vid: 4088
port: 4 Mac: 00:24:7e:04:21:cb Vid: 4088
port: 4 Mac: 00:24:7e:05:d7:29 Vid: 4088
port: 4 Mac: 00:24:7e:05:d7:3d Vid: 4088
port: 4 Mac: 08:00:3e:33:02:01 Vid: 4088
port: 4 Mac: 08:1f:f3:77:35:01 Vid: 4088
port: 4 Mac: 12:34:56:78:91:23 Vid: 4088
port: 4 Mac: 3a:45:b6:c2:90:e3 Vid: 4088
port: 4 Mac: 44:37:e6:4d:5c:b4 Vid: 4088
port: 4 Mac: 44:37:e6:4d:c5:29 Vid: 4088
port: 4 Mac: 44:37:e6:4d:c5:47 Vid: 4088
port: 4 Mac: 6c:f0:49:25:3c:cf Vid: 4088
port: 4 Mac: 6c:f0:49:25:42:31 Vid: 4088
port: 4 Mac: 6c:f0:49:28:7d:6f Vid: 4088
port: 4 Mac: 70:f3:95:14:3d:e8 Vid: 4088
port: 4 Mac: 70:f3:95:14:df:e0 Vid: 4088
port: 4 Mac: a4:ba:db:22:36:0a Vid: 4088
port: 4 Mac: c8:0a:a9:8b:8e:4c Vid: 4088
port: 4 Mac: 00:60:f3:21:0f:3e Vid: 4088
port: 4 Mac: 00:1f:c6:99:7f:0c Vid: 4088
mac address num: 120
Admin\fdb#
```

## Result description

Parameter	Parameter Description
slot	Slot number
port	The port number
Mac	The MAC address
Vid	VLAN ID.
mac address num	The number of MAC addresses



# 7 EPONONU Directory Commands

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- Configuring User Defined Alarms for ONU
- Showing ONU User Defined Alarms
- Showing the Information on ONU Optical Module Parameters
- Showing Limit on MAC Address Number on ONU Port
- Showing Aging time of EPON ONU
- Resetting ONU
- Configuring the Aging Time of the ONU
- Configuring Limit on MAC Address Number on ONU Port
- Configuring the ONU Bandwidth
- Authorizing ONU
- Unauthorizing ONU
- Showing the Information on ONU Authorization
- Showing ONU Authorization Information According to MAC Address

## 7.1 Configuring User Defined Alarms for ONU

### Command function

This command is used to enable the access to ONU low level alarm. Once detecting a low level, each access point will generate a low level alarm and report it to the network management system.

The AN5006-04B, AN5006-07B and HG220 support this command.

### Command format

```
set epon slot <1-18> pon <1-8> onu <1-128> user_defined_alarm {interface_num
<1-5> alarm_condition <0-1> }*5
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
interface_num <1-5>	The sequence number of the user defined alarm interfaces ◆ An FTTH ONU can enable up to two alarm interfaces. ◆ An FTTB ONU can enable up to five alarm interfaces. The value ranges from 1 to 5.	Compulsory parameter
alarm_condition <0-1>	Conditions for triggering the alarms ◆ 0: low level ◆ 1: high level	Compulsory parameter

### Command example

Configure user defined alarms for the ONU with the authorization number of 1 at No.1 PON interface in Slot 12. The sequence number of the user defined alarm interface is 4, and the alarm is triggered by low level.

```
Admin\#epononu#set epon slot 12 pon 1 onu 1 user_defined_alarm interface_num 4
alarm_condition 0
Admin\#epononu#
```

## 7.2 Showing ONU User Defined Alarms

### Command function

This command is used to view the ONU user defined alarms. This function is applicable only to EPON ONUs.

### Command format

```
show epon slot <1-18> pon <1-8> onu <1-128> user_defined_alarm
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Show the user defined alarms of the ONU with the authorization number of 1 at No.1 PON in Slot 12.

```
Admin\epononu# show epon slot 12 pon 1 onu 1 user_defined_alarm
onu user defined alarm config : interface_num : 4 alarm_condition : 0
Admin\epononu#
```

### Result description

Parameter	Parameter Description
interface_num	The sequence number of the user defined alarm interfaces.
alarm_condition	Conditions for triggering the alarms

## 7.3 Showing the Information on ONU Optical Module Parameters

### Command function

This command is used to view the information on ONU optical module parameters. This function is applicable only to EPON ONUs.

The precondition is that the optical module of the ONU supports the query of optical power.

### Command format

```
show epon slot <1-18> pon <1-8> onu <1-128> optInfo
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Show the information on the optical module parameters of the ONU with the authorization number of 5 at No. 1 PON interface in Slot 1.

```
Admin\epononu#show epon slot 1 pon 1 onu 5 optinfo
onu type : 20
onu temp : 5485:2
onu voltage : 327:2
onu current : 142:1
onu tx power : 139:2
onu rx power : -1370:2
Admin\epononu#
```

## Result description

Parameter	Parameter Description
onu type	Optical module type
onu temp	Temperature of the optical module
onu voltage	Voltage of the optical module
onu current	Bias current
onu tx power	The transmit optical power.
onu rx power	The receive optical power.

## 7.4 Showing Limit on MAC Address Number on ONU Port

### Command function

This command is used to show the limit on MAC address number on an ONU Port.

### Command format

```
show epon slot <1-18> pon <1-8> onu <1-128> port <portno> mac_limit
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The number of the PON interface in which the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portno>	The number of the PON interface which the ONU belongs to. The value ranges from 1 to 24.	Compulsory parameter

### Command example

Show the limit on the number of MAC addresses on No.1 port of the ONU with the authorization number of 1 at No.1 PON interface in Slot 12.

```
Admin\epononu#show epon slot 12 pon 1 onu 1 port 1 mac_limit
```

```
the slot :12 onu :1 port :1 disable mac_limit_value:64
Admin\epononu#
```

### Result description

Parameter	Parameter Description
slot	Slot number
onu	The ONU authorization number
port	The ONU port number.
mac_limit_value	The limit on the number of MAC addresses.

## 7.5 Showing Aging time of EPON ONU

### Command function

This command is used to show the aging time of an EPON ONU.

### Command format

```
show onu agetime
```

### Command example

Show the aging time of the ONU.

```
Admin\epononu#show onu agetime
the onu agtime :600
Admin\epononu#
```

### Result description

Parameter	Parameter Description
the onu agtime	The aging time of the ONU

## 7.6 Resetting ONU

### Command function

This command is used to reset a designated ONU.

## Command format

```
reset slot <1-18> pon <1-8> onu <1-64>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The number of the PON in which the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
onu <1-64>	The ONU authorization number The value ranges from 1 to 64.	Compulsory parameter

## Command example

Reset the ONU with the authorization number of 1 at No.1 PON in Slot 12.

```
Admin\epononu#reset slot 12 pon 1 onu 1
Admin\epononu#
```

# 7.7 Configuring the Aging Time of the ONU

## Command function

This command is used to configure the aging time for the ONU (the ONU should be replaced at the expiration of the aging time). For an unauthorized ONU, setting the aging time for the EPON ONU will prevent the ONU from being authorized automatically in the specified aging time.

## Command format

```
set onu agetime <300-2147483647>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
agetime <300-2147483647>	The aging time of the ONU. The value ranges between 300 and 2147483647; the unit is second; and the default value is 600.	Compulsory parameter

## Command example

Set the aging time of the ONU to 600.

```
Admin\epononu#set onu agetime 600
Admin\epononu#
```

## 7.8 Configuring Limit on MAC Address Number on ONU Port

### Command function

This command is used to limit the number of MAC addresses on an ONU port. Only a specified number of MAC addresses under each port are allowed to be on line. Restrict the number of computers that use the port at the same time, so as to control the network traffic and avoid congestion.

This command is supported by the AN5006-04B, AN5006-07B and HG220.

### Command format

```
set epon slot <1-18> pon <1-8> onu <1-128> port <portno> [enable|disable]
mac_num_limit <0-8191>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface The number of the PON in which the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portno>	The number of the ONU port. The value ranges from 1 to 24.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
[enable disable]	The MAC address number limit switch <ul style="list-style-type: none"> <li>◆ enable: enable the ONU MAC address switch.</li> <li>◆ disable: disable the ONU MAC address switch.</li> </ul>	Compulsory parameter
mac_num_limit<0-8191>	Limit on the number of MAC addresses, i.e., the maximum number of MAC addresses allowed for each port. The maximum allowable number of MAC addresses under a PON interface refers to the maximum number of MAC addresses allowed to be on line on the entire ONU. The value ranges from 0 to 8191. The default value is 64.	Compulsory parameter

### Command example

Disable the limit on the number of MAC addresses for Port 1 on the ONU with the authorization number of 1 at No.1 PON interface in Slot 12.

```
Admin\epononu#set epon slot 12 pon 1 onu 1 port 1 disable mac_num_limit 64
Admin\epononu#
```

## 7.9 Configuring the ONU Bandwidth

### Command function

This command is used to configure the ONU bandwidth, including the uplink and downlink bandwidth, assured uplink bandwidth and fixed uplink bandwidth.

### Command format

```
set epon slot <slotlist> pon <ponlist> onu <onulist> bandwidth upstream_band
<256-1000000> downstream_band <downband> {upstream_assuredbandwidth
<upstreamassuredbandwidth> upstream_fixedbandwidth
<upstreamfixedbandwidth>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotlist>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponlist>	The number of the PON interface The number of the PON interface where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
upstream_band<256-1000000>	The uplink bandwidth The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.	Compulsory parameter
downstream_band<downband>	The downlink bandwidth ◆ The parameter value ranges between 256 and 1000000 for the 5200 series ONUs; the unit is Kbit/s. ◆ The parameter value ranges between 256 and 1000000 for the ONUs other than 5200 series ones; the unit is Kbit/s.	Compulsory parameter
<upstreamassuredbandwidth>	The assured uplink bandwidth The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Optional parameter
<upstreamfixedbandwidth>	The fixed uplink bandwidth The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Optional parameter

## Command example

Configure the ONU with the authorization number of 1 at No.1 PON interface in Slot 12, setting the uplink bandwidth to 5000, the downlink bandwidth to 5000, the assured uplink bandwidth to 1000, and the fixed uplink fbandwidth to 1000.

```
Admin\epononu#set epon slot 12 pon 1 onu 1 bandwidth upstream_band 5000
downstream_band 5000 upstream_assuredbandwidth 1000 upstream_fixedbandwidth 1000
Admin\epononu#
```

## 7.10 Authorizing ONU

### Command function

This command is used to authorize EPON ONUs. The parameters concerned include ONU type, MAC address, and authorization number.

### Command format

```
set epon slot <1-18> type [5006_02|5006_02A|5006_02C|5006_03|5006_03C|
5006_04|5006_04C|5006_05|5006_05A|5006_05C|5006_06A|5006_06B|5006_06C|
5006_06D|5006_07A|5006_07B|5006_08A|5006_08B|other1|other2|other3|
other4|other_ctc|5006_09A|5006_09B|5006_10|5006_10B|5006_12|5006_15|
5006_16|5006_07C|5006_06A_A|5006_20|unknow|HG220|5006_04P1|5006_04P2|
5006_01_A|5006_11|5006_01_B|5200_04A|5200_10A|5200_10B|HG226|5006_03AK|
5006_09AK ] mac <mac_address> pon <1-8> sequence <1-128> {<logsn_num>
[<sn_password>|null]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
type[.....]	ONU type The ONUs made by EPON / OEM manufacturers. Select NULL for an unspecified ONU type.	Compulsory parameter
mac <mac_address>	MAC address The address is a 12-byte string, such as 123456789012.	Compulsory parameter
pon <1-8>	The number of the PON interface The number of the PON interface where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
sequence <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
<logsn_num>	The logical SN of the ONU. The value is a character string with 1 to 24 characters, such as 12345.	Optional parameter
[<sn_password> null]	The logical password of the ONU. The value is a character string with 1 to 12 bytes, such as 12345. Select NULL for an unspecified logical password.	Optional parameter

## Command example

Set the ONU type in Slot 12 to 5006\_4c, the MAC address to 544b00002222, the authorization number to 18, the logical SN to 12345, and the logical password to 54321.

```
Admin\#epononu#set epon slot 12 type 5006_04c mac 544b00002222 pon 1 sequence 18
12345 54321
Admin\#epononu#
```

## 7.11 Unauthorizing ONU

### Command function

This command is used to unauthorize an authorized EPON ONU.

### Command format

```
set epon slot <1-18> pon <1-8> sequence <onulist> unauthorized
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface The number of the PON interface where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
sequence <onulist>	The ONU authorization number The sequence number of the ONU in the PON interface. The value ranges from 1 to 128. Multiple ONUs can be selected. <ul style="list-style-type: none"> <li>◆ 1-10 stands for the ten ONUs with the sequence numbers from 1 to 10.</li> <li>◆ 11, 13, 15 stands for the three ONUs with the authorization numbers of 11, 13 and 15.</li> </ul>	Compulsory parameter

### Command example

Unauthorize the ONUs with the authorization numbers of 1 to 3 at No.1 PON interface in Slot 1.

```
Admin\epononu#set epon slot 1 pon 1 sequence 1-3 unauthorized
Admin\epononu#
```

## 7.12 Showing the Information on ONU Authorization

### Command function

This command is used to show the authorization information about a designated EPON ONU.

### Command format

```
show epon slot <1-18> pon <1-8> onu <onulist> information
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The number of the PON interface. The number of the PON interface where the ONU is located. The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The sequence number of the ONU in the PON interface. The value ranges from 1 to 128. Multiple ONUs can be selected. <ul style="list-style-type: none"> <li>◆ 1-10 stands for the ten ONUs with the sequence numbers from 1 to 10.</li> <li>◆ 11, 13, 15 stands for the three ONUs with the authorization numbers of 11, 13 and 15.</li> </ul>	Compulsory parameter

### Command example

Show the information on authorization of the ONU with the authorization number of 18 at No. 1 PON interface in Slot 12.

```
Admin\epononu#show epon slot 12 pon 1 onu 18 information
onu sequence:18
onu_type:AN5006_04C
```

```

onu_mac:54:4b:00:00:22:22
logsn_id:12345
logsn_password:54321
onu_status:2
Admin\epononu#

```

## Result description

Parameter	Parameter Description
onu_sequence	The ONU authorization number
onu_type	ONU type
onu_mac	MAC address
logsn_id	The logical SN of the ONU
logsn_password	The logical password of the ONU
onu_status	The ONU authorization status

## 7.13 Showing ONU Authorization Information According to MAC Address

### Command function

This command is used to show the ONU authorization information according to the MAC address.

### Command format

```
show epon onu mac <macnum> information
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
mac <macnum>	MAC address The address is a 12-byte string, such as 123456789012.	Compulsory parameter

### Command example

Show the authorization information of the ONU with the MAC address of 544b00002222.

```
Admin\epononu#show epon onu mac 544b00002222 information
onu slot:12
onu ponno:1
onu num:18
onu_type:AN5006_04C
onu_mac:54:4b:00:00:22:22
Admin\epononu#
```

### Result description

Parameter	Parameter Description
onu slot	Slot number
onu ponno	The PON interface number
onu num	The ONU authorization number
onu_type	ONU type
onu_mac	MAC address



# 8 Data Directory Commands under EPONONU

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- Showing the Port QoS Rule
- Showing Port ACL Rule
- Deleting Port ACL Rule
- Deleting Port QoS Rule
- Configuring ONU Ethernet Switch Queue Scheduling Algorithm
- Configuring Port ACL Rule
- Configuring the Port QoS Rule

## 8.1 Showing the Port QoS Rule

### Command function

This command is used to show the QoS rule for an ONU port.

### Command format

```
show epon slot <1-18> pon <1-8> onu <onulist> port <portno> qos_rule
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter
port <portno>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter

### Command example

Show the QoS rule for Port 1 of the ONU with the authorization number of 1 at No.1 PON interface in Slot 12.

```
Admin\epononu\data#show epon slot 12 pon 1 onu 6 port 1 qos_rule
```

```
show QoS rule information :
slotno : 10  ponno : 1  onuno : 6  portno : 1

rule index : 1
rule precedence: 10
queuemapped: 2  priority: 5
Rule filed : source mac address
Rule value : 98:73:21:15:97:53
operator : no equal
```

```
Admin\epononu\data#
```

## Result description

Parameter	Parameter Description
slotno	Slot number
ponno	The PON interface number
onuno	The ONU authorization number
portno	The ONU port number
rule index	The rule index
rule precedence	The rule precedence
queuemapped	The queue mapped
priority	The priority label
Rule filed	The rule type
Rule value	The rule domain value
operator	Operator

## 8.2 Showing Port ACL Rule

### Command function

This command is used to show the ACL rule for an ONU port.

### Command format

```
show epon slot <1-18> pon <1-8> onu <onulist> port <portno> acl_rule
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter
port <portno>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter

## Command example

Show the ACL rule for Port 1 of the ONU with the authorization number of 6 at No.1 PON interface in Slot 12.

```
Admin\epononu\data#show epon slot 12 pon 1 onu 6 port 1 acl_rule
show ACL rule information :
slotno      :12  ponno: 1  onuno      :6   portno     :1

rule index   :1
action       : forward
Rule filed   : source mac address
Rule value   : 45:69:87:25:86:54
operator     : equal

Admin\epononu\data#
```

## Result description

Parameter	Parameter Description
slotno	Slot number
ponno	The PON interface number
onuno	The ONU authorization number
portno	The ONU port number.
rule index	The rule index
action	The rule action
Rule filed	The rule type
Rule value	The rule domain value
operator	Operator

## 8.3 Deleting Port ACL Rule

### Command function

This command is used to delete the ACL rule for a port.

### Command format

```
delete epon slot <1-18> pon <1-8> onu <onulist> acl_rule
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter

### Command example

Delete the ACL rule for the ONUs with the authorization number of 5 and 6 at No.1 PON interface in Slot 12.

```
Admin\epononu\data#delete epon slot 12 pon 1 onu 5,6 acl_rule
Admin\epononu\data#
```

## 8.4 Deleting Port QoS Rule

### Command function

This command is used to delete the QoS rule for a port.

### Command format

```
delete epon slot <1-18> pon <1-8> onu <onulist> qos_rule
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter

## Command example

Delete the QoS rule for the ONU with the authorization number of 6 at No.1 PON interface in Slot 12.

```
Admin\epononu\data#delete epon slot 12 pon 1 onu 6 qos_rule
Admin\epononu\data#
```

## 8.5 Configuring ONU Ethernet Switch Queue Scheduling Algorithm

### Command function

This command is used to configure the Ethernet switch queue scheduling algorithm for an ONU. You can configure the scheduling algorithms and the corresponding weights used for each queue priority level of the ONU.

The command is supported by the AN5006-07B.

### Command format

```
set epon slot <1-18> pon <1-8> onu <1-128> queue_schedule mode [strict | weight | hybrid] {arithmetic [weight | strict] <weight_value>} *8
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
[strict weight hybrid]	<p>The algorithm mode, i.e., the mode used by the scheduling algorithm.</p> <ul style="list-style-type: none"> <li>◆ strict: strict priority. In this mode, the service with a higher priority is always processed prior to the service with a lower priority.</li> <li>◆ weight: the weighted priority, i.e. a Weighted Round Robin scheduling mechanism. In this mode, the service with a higher priority is processed first. However, the services with lower priorities are not completely blocked, but are processed as per a weighted proportion at the same time.</li> <li>◆ hybrid: hybrid priority, i.e., an algorithm combining the strict priority and weighted priority.</li> </ul>	Compulsory parameter
arithmetic [weight strict]	<p>The queue scheduling algorithm</p> <ul style="list-style-type: none"> <li>◆ weight: the weighted priority algorithm</li> <li>◆ strict: the strict priority algorithm</li> </ul>	Optional parameter
<weight_value>	<p>The weight value for the priority of each queue. The bigger is the value, the bigger is the weight. The value ranges from 1 to 55.</p>	Optional parameter

### Command example

Set the Ethernet switch queue scheduling algorithm for the ONU with the authorization number of 6 at No.1 PON interface in Slot 12 to strict priority algorithm, and set the scheduling algorithm to weighted priority algorithm, with the weight value of 20.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 6 queue_schedule mode strict arithmetic weight 20
Admin\epononu\data#
```

## 8.6 Configuring Port ACL Rule

### Command function

This command is used to configure the ACL rule (the access control rule) for the ONU FE interface. The FE interface will control the data flow according to the defined rule.

Both the AN5006-04 and the AN5006-07B support the command.

## Command format

```
set epon slot <1-18> pon <1-8> onu <onulist> port <portno> acl_rule_index <1-8> action [deny|forward] {<rulefield> <rulevalue><operator>}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter
port <portno>	The ONU port number. The value ranges from 1 to 24.	Compulsory parameter
acl_rule_index <1-8>	The rule index The value ranges from 1 to 8.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
action[deny forward]	<p>The rule action</p> <ul style="list-style-type: none"> <li>◆ deny: drop</li> <li>◆ forward: forward</li> </ul>	Compulsory parameter
{<rulefield> <rulevalue><operator>}*8	<p>The rules defined, i.e., the data flow control rules defined for the FE interface. Up to eight rules can be set.</p> <ul style="list-style-type: none"> <li>◆ &lt;rulefield&gt;: the rule type <ul style="list-style-type: none"> <li>0: SA MAC, i.e., the source MAC address.</li> <li>1: DA MAC, i.e., the destination MAC address.</li> <li>2: SA IP, i.e., the source IP address.</li> <li>3: DA IP, i.e., the destination IP address.</li> <li>4: VLAN ID, i.e., the value of VLAN ID.</li> <li>5: Ethernet type.</li> <li>6: IP protocol type.</li> <li>7: Ethernet priority.</li> <li>8: IP TOS/DSCP, i.e., service type and DSCP.</li> <li>9: L4 source PORT, i.e., Layer 4 source port number.</li> <li>10: L4 destination PORT, i.e., Layer 4 destination port number.</li> <li>11: TTL (Time-to-Live).</li> <li>12: physical destination port</li> </ul> <p>The value ranges from 0 to 12.</p> </li> <li>◆ &lt;rulevalue&gt;: the rule domain value.</li> <li>◆ &lt;operator&gt;: the operator. <ul style="list-style-type: none"> <li>0: (Never) (never match).</li> <li>1: (=) (equal to).</li> <li>2: (!=) (not equal to).</li> <li>3: (&lt;=) (smaller than or equal to).</li> <li>4: (&gt;=) (larger than or equal to).</li> <li>5: (exist) (exist means match).</li> <li>6: (no exist) (no exist means match).</li> <li>7: (always) (always match).</li> </ul> <p>The value ranges from 0 to 7.</p> </li> </ul>	Compulsory parameter

### Command example

Configure Port 1 of the ONUs with the authorization numbers of 5 and 6 at No.1 PON interface in Slot 12, setting the rule index to 1, the rule action to forward, the rule type to the source MAC address, the rule domain value to 456987258654, and the operator to 0.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 5-6 port 1 acl_rule_index 1 action
forward 0 456987258654 0
```

Admin\epononu\data#

## 8.7 Configuring the Port QoS Rule

### Command function

This command is used to configure the QoS rule for the ONU FE interface. The FE interface will control the data flow according to the defined rule.

Both the AN5006-04 and the AN5006-07B support the command.

### Command format

```
set epon slot <1-18> pon<1-8> onu <onulist> port <portno> qos_rule_index <1-8> rule_precedence <0-12> queuemapped <queuemap> priority <0-7> {<rulefield> <rulevalue> <operator>}*8
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128. You can enter 1-10 or 1, 2, 3.	Compulsory parameter
port <portno>	The ONU port number. The value ranges from 1 to 24.	Compulsory parameter
qos_rule_index <1-8>	The rule index The value ranges from 1 to 8.	Compulsory parameter
rule_precedence <0-12>	The rule precedence, i.e., the priority for data flow QoS control rule. The value ranges from 1 to 12.	Compulsory parameter
queuemapped<-queuemap>	The queue mapped, i.e., the sequence numbers of queues set with priorities. <ul style="list-style-type: none"> <li>◆ The value ranges from 1 to 4 for an EPON ONU.</li> <li>◆ The value ranges from 1 to 8 for a 10GEPON ONU.</li> </ul>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
priority <0-7>	The priority label, indicating the priority level of the data flow at the FE interface. The value ranges from 0 to 7.	Compulsory parameter
{<rulefield><rulevalue><operator>} *8	The rules defined, i.e., the data flow control rules defined for the FE interface. Up to eight rules can be set. <ul style="list-style-type: none"> <li>◆ &lt;rulefield&gt;: the rule type <ul style="list-style-type: none"> <li>0: SA MAC, i.e., the source MAC address.</li> <li>1: DA MAC, i.e., the destination MAC address.</li> <li>2: SA IP, i.e., the source IP address.</li> <li>3: DA IP, i.e., the destination IP address.</li> <li>4: VLAN ID, i.e., the value of VLAN ID.</li> <li>5: Ethernet type.</li> <li>6: IP protocol type.</li> <li>7: Ethernet priority.</li> <li>8: IP TOS/DSCP, i.e., service type and DSCP.</li> <li>9: L4 source PORT, i.e., Layer 4 source port number.</li> <li>10: L4 destination PORT, i.e., Layer 4 destination port number.</li> </ul> </li> </ul> The value ranges from 0 to 10. <ul style="list-style-type: none"> <li>◆ &lt;rulevalue&gt;: the rule domain value.</li> <li>◆ &lt;operator&gt;: the operator. <ul style="list-style-type: none"> <li>0: (Never) (never match).</li> <li>1: (=) (equal to).</li> <li>2: (!=) (not equal to).</li> <li>3: (&lt;=) (smaller than or equal to).</li> <li>4: (&gt;=) (larger than or equal to).</li> <li>5: (exist) (exist means match).</li> <li>6: (no exist) (no exist means match).</li> <li>7: (always) (always match).</li> </ul> </li> </ul> The value ranges from 0 to 7.	Compulsory parameter

### Command example

Configure Port 1 of the ONU with the authorization numbers of 6 at No.1 PON interface in Slot 12, setting the rule index to 1, the rule precedence to 10, the queue mapped to 2, the priority label to 5, the rule type to 0, the rule domain value to 987321159753, and the operator to 1.

```
Admin\epononu\data#set epon slot 12 pon 1 onu 6 port 1 qos_rule_index 1
rule_precedence 10 queuemapped 2 priority 5 0 987321159753 1
Admin\epononu\data#
```



# 9 QinQ Directory Commands under EPONONU

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- Configuring WAN Connection Profile
- Binding WAN Connection Profile
- Applying the WAN Connection Binding
- Deleting WAN Connection Profile
- Showing Information on ONU WAN Connection Profile Binding
- Showing Information on ONU WAN Connection Profiles
- Binding Data Service Configuration Profiles in a Batch Mode
- Configuring Rate Control for Single Service at FE Interface
- Configuring Rate Control for FE Interface
- Showing Configuration of Rate Control at a Port
- Showing Content of ONUBR Profiles
- Configuring QinQ Multicast VLAN
- Configuring ONU Port Service
- Configuring TLS Function for an ONU Port
- Configuring ONU Port Service Type
- Configuring ONU QinQ Profile
- Configuring VLAN Translation for ONU Port Service
- Configuring VLAN Mode for ONU Port Service
- Configuring Packet Suppression Profile

- Configuring Traffic Rate Limit Profile
- Configuring Port Attribute Profile
- Configuring Ethernet Switch Queue Scheduling Algorithm Profile
- Configuring Parameters Relevant to Service Mode Profiles
- Configuring Traffic Policing Profile
- Configuring SVLAN Profile
- Applying ONU FE Port
- Deleting IP Address of COM Port
- Deleting VLAN of COM Port
- Deleting ONU VEIP Service Configuration
- Configuring ONU VEIP
- Showing ONU VEIP
- Configuring IP of the COM Port
- Showing Information on IP Configuration of COM Port
- Configuring VLAN of COM Port
- Showing VALN Configuration of COM Port
- Configuring ONU Port
- Configuring Service Flow Rule for ONU Port
- Configuring ONU Port Service Number
- Configuring CATV
- Configuring ONU Data Ports in Batch Mode
- Configuring Binding Packet Suppression Profile in ONU Bridge Management

Showing FE Port Configuration of ONU

## 9.1 Configuring WAN Connection Profile

### Command function

This command is used to configure the WAN connection profile, including the extension field of WAN connection (where the configured profile does not send packets) used at the TL1 interface.

### Command format

```
set onu_wanservice<slot_out> <pon_no> <onu_64> index <1 - 8> mode [tr069|
internet|tr069_internet|other] connect_type [bridge|route] vlanid<vid>
cos<cosid> nat [enable|disable] qos [enable|disable] dsp {[dhcp]}*1
{[static] ip <A.B.C.D> mask <A.B.C.D> gate <A.B.C.D> masterdns <A.B.C.D>
slavedns <A.B.C.D>}*1 {[pppoe] proxy [enable|disable] username<name>
<password> servname<name>mode [auto|payload_connect]}*1}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_64>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
index <1-8>	The WAN connection indexes, which are generated by the equipment automatically according to the sequence of WAN connection generation. The sequence number increases progressively. The value ranges from 1 to 8.	Compulsory parameter
mode [tr069 internet tr069_internet other]	The WAN connection mode	Compulsory parameter
connect_type [bridge route]	The WAN connection type ◆ bridge: bridge connection. ◆ route: route.	Compulsory parameter
vlanid<vid>	The VLAN of the WAN connection The value ranges from 1 to 4085.	Compulsory parameter
cos<cosid>	VLAN COS, the priority of the 802.1P for WAN connection. The value can be set to 0 to 7 or 0xffff. The default value is 0xffff.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
nat [enable disable]	The NAT function <ul style="list-style-type: none"> <li>◆ enable: enable the NAT function.</li> <li>◆ disable: disable the NAT function.</li> </ul>	Compulsory parameter
qos [enable disable]	The QoS function <ul style="list-style-type: none"> <li>◆ enable: enable the QoS function.</li> <li>◆ disable: disable the QoS function.</li> </ul>	Compulsory parameter
dsp {[dhcp]}*1	The way to obtain the address for WAN connection. The DHCP mode can be selected.	Optional parameter
{[static] ip <A.B.C.D> mask <A.B.C.D> gate <A.B.C.D> masterdns <A.B.C.D> slavedns <A.B.C.D>}*1	The way to obtain the address for WAN connection. The STATIC mode can be selected. <ul style="list-style-type: none"> <li>◆ ip &lt;A.B.C.D&gt;: the IP address in the IPV4 format.</li> <li>◆ mask &lt;A.B.C.D&gt;: the mask.</li> <li>◆ gate &lt;A.B.C.D&gt;: the gateway.</li> <li>◆ masterdns &lt;A.B.C.D&gt;: the active DNS.</li> <li>◆ slavedns &lt;A.B.C.D&gt;: the standby DNS.</li> </ul>	Optional parameter
{[pppoe] proxy [enable disable] username<name> <password> servname<name>mode [auto payload_connect]}*1*1	The way to obtain the address for WAN connection. The PPPoE mode can be selected. <ul style="list-style-type: none"> <li>◆ [enable disable] : PPPoE proxy switch, enable / disable.</li> <li>◆ username&lt;name&gt;: the user name for the PPPoE connection. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are all acceptable.</li> <li>◆ &lt;password&gt;: the password for the PPPoE connection. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are all acceptable.</li> <li>◆ servname&lt;name&gt;: the PPPoE service name. It is a character string with the maximum length of 32 bytes. Figures, letters or the underlines are both acceptable.</li> <li>◆ [auto payload]: the PPPoE dialing mode: auto / payload.</li> </ul>	Optional parameter

## Command example

Configure the WAN connection for the ONU with the authorization number of 3 in Slot 12, setting the WAN connection index to 1, the connection mode to INTERNET, the connection type to route, the VLAN ID to 1000, the COS value to 5, the NAT, QoS and translation functions to enabled, the VLAN mode to transparent transmission, the VLAN ID to 2000, the translation COS value to 5, and the DSP to DHCP.

```
Admin\epononu\qinq#set wancfg slot 12 1 3 index 1 mode internet type route 1000 5 nat
enable qos enable vlanmode transparent tvlan enable 2000 5 dsp dhcp
Admin\epononu\qinq#
```

## 9.2 Binding WAN Connection Profile

### Command function

This command is used to bind the configured WAN connection service profile to a designated ONU port.

This command is supported by the HG220.

### Command format

```
set wanbind slot <slot_out> <pon_no> <onu_no> index <wan_index> entries
<bind_num> {[fe1|fe2|fe3|fe4|ssid1|ssid2|ssid3|ssid4]}*8
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_no>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
index <wan_index>	The WAN connection index The value ranges from 1 to 8.	Compulsory parameter
entries <bind_num>	The number of profiles bound to the WAN connection. The value ranges from 0 to 8. The value 0 means clearing all profiles bound to the WAN connection. The other values define the number of profiles bound to the WAN connection.	Compulsory parameter
{[fe1 fe2 fe3 fe4 ssid1 ssid2 ssid3 ssid4]}*8	The port bound to the WAN connection. <ul style="list-style-type: none"> <li>◆ fe1 fe2 fe3 fe4: cable service interfaces FE1 to FE4.</li> <li>◆ ssid1 ssid2 ssid3 ssid4: radio service interfaces SSID1 to SSID4.</li> </ul>	Optional parameter

## Command example

Configure the ONU with the authorization number of 3 in Slot 12, setting the WAN connection index to 1, the number of bound profile to 1, and the bound port to FE1.

```
Admin\epononu\qinq#set wanbind slot 12 1 3 index 1 entries 1 fe1
Admin\epononu\qinq#
```

## 9.3 Applying the WAN Connection Binding

### Command function

This command is used to deliver the WAN connection binding protocol packet to the line card.

### Command format

```
apply wanbind slot <slot_out> <pon_no> <onu_no>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_no>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Apply the WAN connection binding to the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#apply wanbind slot 12 1 3
Admin\epononu\qinq#
```

## 9.4 Deleting WAN Connection Profile

### Command function

This command is used to delete the WAN connection profile (including the extension field of WAN connection at the TL1 interface).

### Command format

```
delete wancfg slot <slot_out> <pon_no> <onu_no> index <index>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_no>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
index <index>	The sequence number of the WAN connection profile The value ranges from 0 to 8. The value 0 means deleting all the profiles; the other values means deleting the profile with the designated sequence number.	Compulsory parameter

### Command example

Delete No. 1 WAN connection profile from the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#del wancfg slot 12 1 3 index 1
Admin\epononu\qinq#
```

## 9.5 Showing Information on ONU WAN Connection Profile Binding

### Command function

This command is used to show the information on ONU WAN connection profile binding.

## Command format

```
show wanbind slot <slot_out> <pon_no> <onu_no> index {<index>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<slot_no>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_no>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
{<index>}*1	The user index number ◆ Type the <enter> key to show the information on all WAN connection profiles on the ONU. ◆ Type index<1-8> to show the information on a designated WAN connection profile. The value ranges from 1 to 8.	Optional parameter

## Command example

Show the information on WAN connection profile binding of the ONU with the index of 1 at No. 1 PON interface in Slot 12.

```
Admin\epononu\qinq#show wanbind slot 12 1 3
show wanbind:slot 12 1 3 1 LanportNO_1:FE1
Admin\epononu\qinq#
```

## Result description

Parameter	Parameter Description
show wanbind	Information on WAN connection profile binding of the ONU.

## 9.6 Showing Information on ONU WAN Connection Profiles

### Command function

This command is used to show the information on ONU WAN connection profiles.

## Command format

```
show wancfg slot <slot_out> <pon_no> <onu_no> index {<index>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onu_64>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
{<index>}*1	The user index number <ul style="list-style-type: none"> <li>◆ Type the &lt;enter&gt; key to show the information on all WAN connection profiles on the ONU.</li> <li>◆ Type index&lt;1-8&gt; to show the information on a designated WAN connection profile.</li> </ul> The value ranges from 1 to 8.	Optional parameter

## Command example

Show the information on the WAN connection profile with the index of 1 for the ONU with the authorization number of 3 at No. 1 PON interface in Slot 12.

```
Admin\epononu\qinq#show wancfg slot 12 1 3 index 1
show wancfg:slot 12 1 3 1 INTERNET route vlan 1000 cos 5 nat enable qos enable
DSP dhcp transparent translate enable tvlan 2000 tcos 5
Admin\epononu\qinq#
```

## Result description

Parameter	Parameter Description
show wancfg	Information on WAN connection profiles of the ONU.

## 9.7 Binding Data Service Configuration Profiles in a Batch Mode

### Command function

This command is used to bind the data service configuration profiles in a batch mode.

### Command format

```
set onu [<1-9>|<11-18>] <1-8> <1-128> port <1-24> service <1-16> cvlan tvlan
svlan [enable|disable] profile mode [<1-128>|<65535>] svlan [<1-128>|
<65535>] diff [<1-128>|<65535>] {[tls] [enable|disable]}*1 {[diff_up] [<1-
128>|<65535>]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
batchserv_bind<1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<onulist>	The ONU authorization number The value can be entered in the following two ways: ◆ Entering the ONU numbers one by one, e.g. 1, 2, 3. ◆ Entering multiple ONU numbers at a time, e.g. 1-3 or 1-3, 4, 5. The value ranges from 1 to 128.	Compulsory parameter
<1-24>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
serv <1-16>	The sequence number of the ONU service The value ranges from 1 to 16.	Compulsory parameter
mode <prf_id>	Index of the service profile The value can be set to 1 to 64, or 65535.	Compulsory parameter
svlan <prf_id>	Index of the SVLAN profile The value can be set to 1 to 64, or 65535.	Compulsory parameter
diff <prf_id>	Index of the downlink traffic classification rule profile The value can be set to 1 to 64, or 65535.	Compulsory parameter
diff_up <prf_id>	Index of the uplink traffic classification rule profile The value can be set to 1 to 64, or 65535.	Compulsory parameter

## Command example

Configure the data service profiles for the ONUs with the authorization numbers of 1, 2 and 3 at No.1 PON interface in Slot 12: setting the service sequence number to 1, the service profile index to 1, the SVLAN profile index to 1, the downlink traffic classification rule profile index to 1, and the uplink traffic classification rule profile index to 2.

```
Admin\epononu\qinq#set batchserv_bind 12 1 1-2,3 1 serv 1 mode 1 svlan 1 diff 1 diff_up
2
Admin\epononu\qinq#
```

## 9.8 Configuring Rate Control for Single Service at FE Interface

### Command function

This command is used to configure the rate control for single service at the FE interface. The command is applicable to the rate control of ONU services in the FTTH mode or the rate control of GPON standard-compliant MIB services.

### Command format

```
set epon slot<slotno> pon<ponno> onu<onuno> port<portno> service<1-16>
upmix <0-1000000> upmax <256-1000000> downstream <0-1000000> {up_max_mib
<0-4294967295> down_max_mib <0-4294967295>} *1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<slotno>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon<ponno>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu<onuno>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port<portno>	The ONU port number. The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of the ONU services. The value ranges from 1 to 16.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<pre>{ [upmin] &lt;0-1000000&gt; upmax &lt;256-1000000&gt; downstream &lt;0-1000000&gt; } *1</pre>	<ul style="list-style-type: none"> <li>◆ [upmin] &lt;0-1000000&gt;: the minimum assured uplink bandwidth for the service. The value ranges from 0 to 1000000.</li> <li>◆ upmax &lt;256-1000000&gt;: the maximum allowable uplink bandwidth for the service. The value ranges from 256 to 1000000.</li> <li>◆ downstream &lt;0-1000000&gt;: For a non-CTC ONU: the value refers to the downlink service bandwidth. For a CTC ONU: the value refers to the minimum assured downlink service bandwidth. The value ranges from 0 to 1000000.</li> </ul>	Optional parameter
<pre>{ up_max_mib &lt;0-4294967295&gt; down_max_mib &lt;0-4294967295&gt; } *1</pre>	<ul style="list-style-type: none"> <li>◆ up_max_mib &lt;0-4294967295&gt; For a GPON ONU, the parameter stands for the maximum uplink bandwidth and the maximum downlink bandwidth for standard MIB services. For a non-GPON ONU (only valid for a CTC ONU), the parameter stands for the fixed allocated uplink bandwidth. The value ranges from 0 to 4294967295.</li> <li>◆ down_max_mib &lt;0-4294967295&gt; For a GPON ONU, the parameter stands for the maximum downlink bandwidth for standard MIB services. For a non-GPON ONU (only valid for a CTC ONU), the parameter stands for the maximum allowable downlink bandwidth. The value ranges from 0 to 4294967295.</li> </ul>	Optional parameter

### Command example

Configure the rate control at Port 1 of the ONU with the authorization number of 5 at No.1 PON interface in Slot 12: setting the service sequence number to 1, the minimum assured uplink service bandwidth to 200, the maximum allowable uplink service bandwidth to 100000, and the minimum assured downlink service bandwidth to 6400.

```
Admin\epononu\qinq#set bandwid slot 12 pon 1 onu 5 port 1 service 1 upmin 200 upmax
100000 downstream 6400
Admin\epononu\qinq#
```

## 9.9 Configuring Rate Control for FE Interface

### Command function

This command is used to configure the rate control at an FE interface, applicable to the rate control at the FE interface of an ONU in the FTTB mode.

### Command format

```
set epon slot <slotlist> pon <ponlist> onu <onulist> bandwidth up stream_band
<256-1000000> downstream_band <256-1000000> {upstream_assuredbandwidth
<upstreamassuredbandwidth> upupstream_fixedbandwidth
<upstreamfixedbandwidth>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotlist>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponlist>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
[upmin] <0-1000000>	The minimum assured uplink bandwidth for the service The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.	Compulsory parameter
upmax <256-1000000>	The maximum allowable uplink bandwidth for the service. The parameter value ranges between 256 and 1000000, and the unit is Kbit/s.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
downstream <0-1000000>	<ul style="list-style-type: none"> <li>◆ For a non-CTC ONU: the parameter refers to the downlink service bandwidth.</li> <li>◆ For a CTC ONU: the parameter refers to the minimum assured downlink service bandwidth.</li> </ul> <p>The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.</p>	Compulsory parameter
{downmax <0-1000000> upfix <0-1000000> } *1	<ul style="list-style-type: none"> <li>◆ downmax &lt;0-1000000&gt; : For a GPON ONU: the parameter refers to the maximum downlink bandwidth for standard MIB services. For a non-GPON ONU (only valid for a CTC ONU), the parameter refers to the maximum allowable downlink bandwidth.</li> <li>◆ upfix &lt;0-1000000&gt;: the assured downlink service bandwidth</li> </ul> <p>The parameter value ranges between 0 and 1000000, and the unit is Kbit/s.</p>	Optional parameter

### Command example

Configure the rate control at Port 1 of the ONU with the authorization number of 5 at No.1 PON interface in Slot 12: setting the minimum assured uplink service bandwidth to 200, the maximum allowable uplink service bandwidth to 100000, and the minimum assured downlink service bandwidth to 6400.

```
Admin\epononu\qinq#set bandwid slot 12 pon 1 onu 5 port 1 upmin 200 upmax 100000
downstream 6400
Admin\epononu\qinq#
```

## 9.10 Showing Configuration of Rate Control at a Port

### Command function

This command is used to show the configuration of rate control at a port.

### Command format

```
show eponslot slot <slotNo> pon <ponNo> onu <onuNo> port <portNo> service
<servNo> bandwid
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onuNo>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portNo>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <servNo>	The sequence number of the ONU service <ul style="list-style-type: none"> <li>◆ Enter 1 for the ONU service in the FTTB mode</li> <li>◆ Enter the practical service number for an ONU in the FTTH mode.</li> </ul> The value ranges from 1 to 16.	Compulsory parameter

## Command example

Show the information on rate control of the service with the sequence number of 1 at Port 1 of the ONU with the authorization number of 3 at No. 1 PON interface in Slot 12.

```
Admin\epononu\qinq#show bandwid slot 12 pon 1 onu 3 port 1 service 1
slot 12 1 3 1 service 1, 200 100000 6400 0 0
Admin\epononu\qinq#
```

## Result description

Parameter	Parameter Description
slot 12 1 3 1	The slot number, PON interface number, ONU number and port number.
service	The sequence number of the ONU service.
200	The minimum assured uplink bandwidth for the service.
100000	The maximum allowable uplink bandwidth for the service.
6400	The minimum assured downlink bandwidth for the service.
0	For a GPON ONU: The maximum downlink bandwidth (for a GPON ONU) or the maximum allowable downlink bandwidth (for a non-GPON ONU) for standard MIB services.
0	The assured downlink bandwidth for the service

## 9.11 Showing Content of ONUBR Profiles

### Command function

This command is used to show the content of the traffic policing profile, packet suppression profile and Ethernet scheduling algorithm profile in the ONUBR.

### Command format

```
show profile [strpcy|pkgcurb|quesche] [all | <index>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
profile [strpcy pkgcurb quesche]	The profile type. <ul style="list-style-type: none"> <li>◆ strpcy: traffic policing profile.</li> <li>◆ pkgcurb: packet suppression profile.</li> <li>◆ quesche: Ethernet scheduling algorithm profile.</li> </ul>	Compulsory parameter
[all   <index>]	The profile number. <ul style="list-style-type: none"> <li>◆ all: all profiles.</li> <li>◆ &lt;index&gt;: the profile sequence number</li> </ul>	Compulsory parameter

### Command example

Show the content of all Ethernet scheduling algorithm profiles.

```
Admin\epononu\qinq#show profile quesche all
prf 0 type 104 using 0 flush 0.
=== context===
quesche name default mode 2 num 0.
pri 0 sche 0 weight 50.
pri 1 sche 0 weight 50.
pri 2 sche 0 weight 50.
pri 3 sche 0 weight 50.
pri 4 sche 0 weight 50.
pri 5 sche 0 weight 50.
pri 6 sche 0 weight 50.
pri 7 sche 0 weight 50.
=== context===
.....
.....
prf 5 type 104 using 0 flush 0.
```

```

=== context===
  quesche name test1 mode 3 num 1.
    pri 7 sche 0 weight 10.
    pri 0 sche 0 weight 0.
    pri 0 sche 0 weight 0.
=== context===
.....
Admin\epononu\qinq#

```

### Result description

Parameter	Parameter Description
name	The name of the Ethernet switch queue scheduling profile
mode	The mode of the Ethernet switch queue scheduling
num	The index of the Ethernet switch queue scheduling profile
pri	The priority of the Ethernet switch queue
sche	The scheduling algorithm
weight	The weight value.

## 9.12 Configuring QinQ Multicast VLAN

### Command function

This command is used to configure the QinQ VLAN, including CVLAN and SVLAN, for an ONU port.

### Command format

```

set epon slot <slotNo> pon <ponNo> onu <onuNo> port <portNo> cvid <cvid> ccos
<cos> ctpid <ctpid> svid <svid> scos <cos> stpid <stpid>

```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onuNo>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portNo>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
cvid <cvid>	CVLAN ID The value ranges from 1 to 4085.	Compulsory parameter
ccos <cos>	CVLAN COS The value ranges from 0 to 7.	Compulsory parameter
ctpid <ctpid>	CVLAN TPID The value ranges from 1 to 65534, or can be set to 0xffff.	Compulsory parameter
svid <svid>	SVLAN ID The value ranges from 1 to 4085, or can be set to 0xffff.	Compulsory parameter
scos <cos>	SVLAN COS The value ranges from 0 to 7, or can be set to 0xffff.	Compulsory parameter
stpid <stpid>	SVLAN TPID The value ranges from 1 to 65534, or can be set to 0xffff.	Compulsory parameter

## Command example

Configure the VLAN of Port 1 on the ONU with the authorization number of 2 at No.1 PON interface in Slot 12, setting the CVLAN ID to 10, CVLAN COS to 7, CVLAN TPID to 100, SLVAN ID to 50, SVLAN COS to 7, and SVLAN TPID to 200.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 cvid 10 ccos 7 ctpid 100 svid 50
scos 7 stpid 200
Admin\epononu\qinq#
```

## 9.13 Configuring ONU Port Service

### Command function

This command is used to configure services at an ONU port, including service type and enabling service flags.

## Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>serv_flag [enable|disable]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
serv_flag [enable disable]	The service flag function ◆ enable: enable the service flag function. ◆ disable: disable the service flag function.	Compulsory parameter

## Command example

Enable the service flag for Service 1 at Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 serv_flag enable
Admin\epononu\qinq#
```

## 9.14 Configuring TLS Function for an ONU Port

### Command function

This command is used to configure the service type at an ONU port, such as enabling / disabling the TLS.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>
tls [enable|disable]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
tls [enable disable]	TLS ◆ enable: enable the TLS. ◆ disable: disable the TLS.	Compulsory parameter

## Command example

Enable the TLS with the service number of 1 at Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 tls enable
Admin\epononu\qinq#
```

## 9.15 Configuring ONU Port Service Type

### Command function

This command is used to configure the ONU port services, including multicast or unicast services.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>
type [multicast|unicast]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number. The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
type [multicast unicast]	Service type ◆ multicast: multicast service ◆ unicast: unicast service	Compulsory parameter

## Command example

Set the service type of Service 1 at Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 12 to multicast.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 type multicast
Admin\epononu\qinq#
```

## 9.16 Configuring ONU QinQ Profile

## Command function

This command is used to configure the QinQ for ONU port services, including enabling / disabling the QinQ profile, COS and SVLAN.

## Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>qinq [enable|disable] {<cos> <tpid> <profile> <service_nam> <s_vlanlist>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
qinq [enable disable]	The QinQ function ◆ enable: enable the QinQ function. ◆ disable: disable the QinQ function.	Compulsory parameter
{<cos> <tpid> <profile> <service_nam> <s_vlanlist>}*1	◆ <cos>: the COS (Class of Service) value. The value can be set to 0 to 7 or 255. ◆ <tpid>: the SVLAN protocol identifier. The value ranges from 0 to 65535. ◆ <profile>: the QinQ profile name. ◆ <service_nam>: the service name. ◆ <s_vlanlist>: the SVLAN value. The value ranges from 1 to 4085.	Optional parameter

## Command example

Enable QinQ for Service 1 at Port 1 of the ONU with the authorization number of 3 at No.1 PON interface in Slot 12; sets the COS value to 5, the SVLAN protocol identifier to 1, the QinQ profile name to 1, the service name to fh, and the SVLAN to 2000.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 service 1 qinq enable 5 1 1 fh
2000
Admin\epononu\qinq#
```

## 9.17 Configuring VLAN Translation for ONU Port Service

### Command function

This command is used to configure the VLAN translation for ONU port services, including enabling / disabling the VLAN translation, COS and translation VLAN.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>translate [enable|disable] {<cos><tpid><trans_vlanlist>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
translate [enable disable]	The translation function <ul style="list-style-type: none"> <li>◆ enable: enable the translation function.</li> <li>◆ disable: disable the translation function.</li> </ul>	Compulsory parameter
{<cos><tpid><trans_vlanlist>}*1	<ul style="list-style-type: none"> <li>◆ &lt;cos&gt;: the COS value of VLAN translation. The value can be set to 0 to 7 or 255.</li> <li>◆ &lt;tpid&gt;: the translation VLAN tag protocol identifier. The value ranges from 0 to 65535.</li> <li>◆ &lt;trans_vlanlist t&gt;: the translation VLAN number. The value ranges from 1 to 4085.</li> </ul>	Optional parameter

### Command example

Enable the VLAN translation for Service 1 at Port 1 on the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 service 1 translate enable 5 1 1
Admin\epononu\qinq#
```

## 9.18 Configuring VLAN Mode for ONU Port Service

### Command function

This command is used to configure the VLAN mode for ONU port services, including TAG or transparent transmission, COS and CVLAN.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <port> service <1-16>vlan_mode [tag|transparent] <cos><tpid><c_vlanlist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
service <1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
vlan_mode [tag transparent]	The VLAN mode ◆ tag: the TAG identifier. ◆ transparent: transparent transmission.	Compulsory parameter
<cos>	The COS value The value ranges from 0 to 7.	Compulsory parameter
<tpid>	The CVLAN TPID value The value ranges from 0 to 65535.	Compulsory parameter
<c_vlanlist>	The CVLAN number The value ranges from 1 to 4085.	Compulsory parameter

## Command example

Configure the VLAN mode for Service 1 at Port 1 on the ONU with the authorization number of 2 at No.1 PON interface in Slot 12, setting the VLAN mode to transparent transmission, the COS value to 7, the CVLAN TPID value to 2, and the CVLAN number to 2.

```
Admin\epnononu\qinq#set epon slot 12 pon 1 onu 2 port 1 service 1 vlan_mode
transparent 7 2 2
Admin\epnononu\qinq#
```

## 9.19 Configuring Packet Suppression Profile

### Command function

This command is used to add or delete a packet suppression profile. The parameters include packet type, enabling / disabling the packet suppression profile and rate control.

### Command format

```
[add|delete] pkgcurb profile index <1-128> {name <name> { [broadcast|
multicast|unknown] [enable|disable] <limite_rate>}*3}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add the packet suppression profile.</li> <li>◆ delete: delete the packet suppression profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number. The value ranges from 1 to 128.	Compulsory parameter
name <name>	The profile name	Compulsory parameter
[broadcast multicast unknown]	The packet type <ul style="list-style-type: none"> <li>◆ broadcast: broadcast packets</li> <li>◆ multicast: multicast packets</li> <li>◆ unknown: unknown packets</li> </ul>	Compulsory parameter
[enable disable]	The packet suppression profile function <ul style="list-style-type: none"> <li>◆ enable: enable the packet suppression profile.</li> <li>◆ disable: disable the packet suppression profile.</li> </ul>	Compulsory parameter
<limite_rate>	Rate limit	Compulsory parameter

## Command example

Add the packet suppression profile, setting the profile index to 2, the profile name to fh, the packet type to broadcast, and the rate limit to 640, and enable the packet suppression profile.

```
Admin\epononu\qinq#add pkgcurb profile index 2 name fh broadcast enable 640
Admin\epononu\qinq#
```

## 9.20 Configuring Traffic Rate Limit Profile

### Command function

This command is used to add or delete a traffic rate limit profile. The parameters include enabling / disabling the traffic rate limit profile, the assured uplink / downlink rate, the uplink burst size and the peak rate.

### Command format

```
[add|delete] policing profile index <0-128> {name <name> up [enable|disable]
cir <cir> cbs <cbs> ebs <ebs> down [enable|disable] cir <cir> pir <pir>} *1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add a traffic limit profile.</li> <li>◆ delete: delete a traffic limit profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 0 to 128.	Compulsory parameter
name <name>	The traffic rate limit profile name.	Compulsory parameter
up [enable disable]	The uplink traffic rate limit profile function <ul style="list-style-type: none"> <li>◆ enable: enable the uplink traffic limit profile.</li> <li>◆ disable: disable the uplink traffic limit profile.</li> </ul>	Compulsory parameter
cir<cir>	The assured uplink rate.	Compulsory parameter
cbs<cbs>	The uplink burst size.	Compulsory parameter
ebs<ebs>	The uplink excess burst size.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
down[enable disable]	The downlink traffic rate limit profile function <ul style="list-style-type: none"> <li>◆ enable: enable the downlink traffic limit profile.</li> <li>◆ disable: disable the downlink traffic limit profile.</li> </ul>	Compulsory parameter
cir <cir>	The assured downlink rate	Compulsory parameter
pir <pir>	The downlink peak cell rate	Compulsory parameter

### Command example

Add a traffic rate limit profile, setting the profile index to 3, the profile name to fhtx, the uplink limit rate profile to enabled, the uplink assured rate to 6400, the uplink burst size to 10, the uplink excess burst size to 5, the downlink traffic rate limit profile to enabled, the assured downlink rate to 100, and the downlink peak cell rate to 640.

```
Admin\epononu\qinq#add policing profile index 3 name fhtx up enable cir 6400 cbs 10
ebs 5 down enable cir 100 pir 640
Admin\epononu\qinq#
```

## 9.21 Configuring Port Attribute Profile

### Command function

This command is used to add or delete an ONU port attribute profile. The parameters include enabling / disabling the auto-negotiation, rate, data communication mode, and enabling / disabling the traffic control port.

### Command format

```
[add|delete] portattr2 profile index <0-128> {name <name> auto [enable|
disable] speed [10M|100M|1000M] duplex [full|half] flow [enable|disable]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add a port attribute profile.</li> <li>◆ delete: delete a port attribute profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 0 to 128.	Compulsory parameter
name <name>	The port attribute profile name	Compulsory parameter
auto [enable disable]	The auto-negotiation function <ul style="list-style-type: none"> <li>◆ enable: enable the auto-negotiation function.</li> <li>◆ disable: disable the auto-negotiation function.</li> </ul>	Compulsory parameter
speed [10M 100M 1000M]	The rate.	Compulsory parameter
duplex [full half]	The data communication mode. <ul style="list-style-type: none"> <li>◆ full: full duplex, bidirectional transmission.</li> <li>◆ half: half duplex, unidirectional transmission.</li> </ul>	Compulsory parameter
flow [enable disable]	The traffic control function <ul style="list-style-type: none"> <li>◆ enable: enable the traffic control function.</li> <li>◆ disable: disable the traffic control function.</li> </ul>	Compulsory parameter

## Command example

Add a port attribute profile, setting the profile index to 4, the profile name to test, the auto-negotiation to enabled, the rate to 100m, the data communication mode to full duplex, and the traffic control to enabled.

```
Admin\epononu\qinq#add portattr2 profile index 4 name test auto enable speed 100m
duplex full flow enable
Admin\epononu\qinq#
```

## 9.22 Configuring Ethernet Switch Queue Scheduling Algorithm Profile

### Command function

This command is used to add or delete an Ethernet switch queue scheduling algorithm profile. The parameters include the relationship between the queue scheduling mode and the queue priority as well as the relationship between the scheduling algorithm and the queue weight.

### Command format

```
[add|delete] quesche profile index <1-128> {name <name> mode [sp|wrr|hybrid]
{pri <pri> method [wrr|sp] weight <weight>}*8}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add an Ethernet switch queue scheduling algorithm profile.</li> <li>◆ delete: delete an Ethernet switch queue scheduling algorithm profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 1 to 128.	Compulsory parameter
name <name>	The Ethernet switch queue scheduling profile name	Compulsory parameter
mode [sp wrr hybrid]	The Ethernet switch queue scheduling mode <ul style="list-style-type: none"> <li>◆ sp: strict priority, with the identifier 1.</li> <li>◆ wrr: Weighted Round Robin, with the identifier 2.</li> <li>◆ hybrid: hybrid priority, with the identifier 3.</li> </ul>	Compulsory parameter
pri<pri>	The Ethernet switch queue priority	Compulsory parameter
method[wrr sp]	The scheduling algorithm <ul style="list-style-type: none"> <li>◆ wrr: Weighted Round Robin algorithm, with the identifier 0.</li> <li>◆ sp: strict priority algorithm, with the identifier 1.</li> </ul>	Compulsory parameter
weight <weight>	The weight value <ul style="list-style-type: none"> <li>◆ The value ranges between 1 to 55 when the Weighted Round Robin algorithm is used.</li> <li>◆ The value ranges between 1 to 55 or can be set to 65535 when the strict algorithm is used.</li> </ul>	Compulsory parameter

## Command example

Add an Ethernet switch queue scheduling algorithm profile, setting the profile index to 5, the profile name to test1, the Ethernet switch queue scheduling mode to hybrid priority, the Ethernet switch queue priority identifier to 7, the scheduling algorithm to weighted algorithm, and the weight value to 10.

```
Admin\epononu\qinq#add quesche profile index 5 name test1 mode hybrid pri 7 method
wrr weight 10
Admin\epononu\qinq#
```

## 9.23 Configuring Parameters Relevant to Service Mode Profiles

### Command function

This command is used to add or delete a service mode profile, including deleting the translation VLAN and the QinQ profile.

### Command format

```
[add|delete] servmode profile index <0-128> {name <name> type [unicast|
multicast|multiup] cvlan [tag|transparent] translate [enable|disable]
qinq [enable|disable] <qinq_profile>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add a service mode profile.</li> <li>◆ delete: delete a service mode profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 1 to 128.	Compulsory parameter
name <name>	The service profile name	Compulsory parameter
type [unicast multicast multiup]	Service type <ul style="list-style-type: none"> <li>◆ unicast: unicast service</li> <li>◆ multicast: multicast service</li> <li>◆ multiup: multicast uplink protocol</li> </ul>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
cvlan[tag transparent]	CVLAN mode <ul style="list-style-type: none"> <li>◆ tag: the TAG identifier.</li> <li>◆ transparent: transparent transmission.</li> </ul>	Compulsory parameter
translate[enable disable]	The translation function <ul style="list-style-type: none"> <li>◆ enable: enable the translation function.</li> <li>◆ disable: disable the translation function.</li> </ul>	Compulsory parameter
qinq [enable disable]	The QinQ function <ul style="list-style-type: none"> <li>◆ enable: enable the QinQ function.</li> <li>◆ disable: disable the QinQ function.</li> </ul>	Compulsory parameter
<qinq_profile>	The QinQ profile name	Compulsory parameter

### Command example

Add a service profile, setting the profile index to 6, profile name to test 2, service type to multicast, CVLAN mode to transparent transmission, the translation function and QinQ profile to enabled, and the QinQ profile name to 1.

```
Admin\epononu\qinq#add servmode profile index 6 name test2 type multicast cvlan
transparent translate enable qinq enable 1
Admin\epononu\qinq#
```

## 9.24 Configuring Traffic Policing Profile

### Command function

This command is used to add or delete a traffic policing profile. The configuring parameters include enabling ACL forwarding function, rate limit, and queue mapping.

### Command format

```
[add|delete] strpcy profile index <1-128> {name <name> rule_index
<rule_index> pri <pri> acl [enable|disable] forward [enable|disable] limit
[enable|disable] cir <cir> cbs <cbs> ebs <ebs> pir <pir> queue [enable|
disable] map <queue> remark [enable|disable] cos <cos>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add a traffic policing profile.</li> <li>◆ delete: delete a traffic policing profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 1 to 128.	Compulsory parameter
name <name>	The traffic policing profile	Compulsory parameter
rule_index <rule_index>	The traffic rule index	Compulsory parameter
pri <pri>	Traffic rule priority	Compulsory parameter
acl [enable disable]	The ACL identifier <ul style="list-style-type: none"> <li>◆ enable: enable the ACL identifier.</li> <li>◆ disable: disable the ACL identifier.</li> </ul>	Compulsory parameter
forward [enable  disable]	The ACL forwarding identifier <ul style="list-style-type: none"> <li>◆ enable: enable the ACL forwarding identifier.</li> <li>◆ disable: disable the ACL forwarding identifier.</li> </ul>	Compulsory parameter
limit [enable  disable]	The rate limit function <ul style="list-style-type: none"> <li>◆ enable: enable the rate limit function.</li> <li>◆ disable: disable the rate limit function.</li> </ul>	Compulsory parameter
cir <cir>	The assured rate	Compulsory parameter
cbs <cbs>	The burst size	Compulsory parameter
ebs <ebs>	The excess burst size	Compulsory parameter
pir<pir>	The peak cell rate	Compulsory parameter
queue [enable disable]	The queue mapping identifier <ul style="list-style-type: none"> <li>◆ enable: enable the queue mapping identifier.</li> <li>◆ disable: disable the queue mapping identifier.</li> </ul>	Compulsory parameter
map<queue>	The queue mapping sequence number	Compulsory parameter
remark[enable  disable]	The remark enable / disable identifier <ul style="list-style-type: none"> <li>◆ enable: enable the remark.</li> <li>◆ disable: disable the remark.</li> </ul>	Compulsory parameter
cos <cos>	The priority label	Compulsory parameter

## Command example

Add a traffic policing profile, setting the profile index to 6, the profile name to test6, the traffic rule index to 1, the traffic rule priority identifier to 5, the AC, ACL forwarding and rate limit functions to enabled, the assured rate to 640, the burst size to 5, the excess burst size to 5, the peak cell rate to 7, the queue mapping identifier to enabled, the queue mapping sequence number to 1, the remark identifier to enabled, and the COS value to 5.

```
Admin\epononu\qinq#add strpcy profile index 6 name test6 rule_index 1 pri 5 acl enable
forward enable limit enable cir 640 cbs 5 ebs 5 pir 7 queue enable map 1 remark enable cos
5
Admin\epononu\qinq#
```

## 9.25 Configuring SVLAN Profile

### Command function

This command is used to add or delete an SVLAN profile.

### Command format

```
[add|delete] svlan profile index <0-128> {name <name> service <name> svlan
<vid> <tpid> <cos>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[add delete]	<ul style="list-style-type: none"> <li>◆ add: add an SVLAN profile.</li> <li>◆ delete: delete an SVLAN profile.</li> </ul>	Compulsory parameter
index <1-128>	The profile index number The value ranges from 1 to 128.	Compulsory parameter
name <name>	The SVLAN profile name	Compulsory parameter
service <name>	The SVLAN service name	Compulsory parameter
svlan <vid>	SVLAN ID The value ranges from 1 to 4085.	Compulsory parameter
<tpid>	SVLAN TPID The value ranges from 0 to 65535.	Compulsory parameter
<cos>	SVLAN COS The value ranges from 0 to 7.	Compulsory parameter

## Command example

Add an SVLAN profile, setting the profile index to 7, profile name to test7, service name to 1, SVLAN ID to 7, SVLAN TPID to 5, and SVLAN COS to 7.

```
Admin\epononu\qinq#add svlan profile index 7 name test7 service 1 svlan 7 5 7
Admin\epononu\qinq#
```

## 9.26 Applying ONU FE Port

### Command function

This command is used to apply the ONU FE port so that it can transmit packets to the video card.

### Command format

```
apply onu <1-18> <1-8> <1-128> vlan
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
onu <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Apply the FE port on the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#apply onu 12 1 3 vlan
Admin\epononu\qinq#
```

## 9.27 Deleting IP Address of COM Port

### Command function

This command is used to delete the IP address(es) of one or all COM ports on the ONU.

### Command format

```
del epon slot <slotNo> pon <ponNo> onu <onuNo> comip port [<portNo>|all]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onuNo>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port [<portNo> all]	The ONU port number ◆ <portNo>: the value ranges from 1 to 24. ◆ all: all ports	Compulsory parameter

### Command example

Delete the IP address of No. 1 COM port on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#del epon slot 12 pon 1 onu 4 comip port 1
del slot 10 pon 1 onu 4 port 1 com ip config success.
Admin\epononu\qinq#
```

## 9.28 Deleting VLAN of COM Port

### Command function

This command is used to delete the VLAN of one or all COM ports on a designated ONU.

## Command format

```
del epon slot <slotNo> pon <ponNo> onu <onuNo> comvlan port [<portNo>|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onuNo>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port [<portNo> all]	The ONU port number ◆ <portNo>: the value ranges from 1 to 24. ◆ all: all ports	Compulsory parameter

## Command example

Delete the VLAN of No.1 COM port on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#del epon slot 12 pon 1 onu 4 comvlan port 1
del slot 10 pon 1 onu 4 port 1 com vlan config success.
Admin\epononu\qinq#
```

## 9.29 Deleting ONU VEIP Service Configuration

### Command function

This command is used to delete the ONU VEIP of an ONU port.

### Command format

```
delete epon slot <1-18> pon <1-8> onu <1-128> port <1-24> onuveip <1-16>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1 - 24>	The ONU port number ◆ <portNo>: the value ranges from 1 to 24. ◆ all: all ports	Compulsory parameter
onuveip <1-16>	The ONU VEIP service sequence number The value ranges from 1 to 16.	Compulsory parameter

## Command example

Delete No. 2 ONU VEIP service at Port 1 of the ONU with the authorization number of 7 at No.1 PON interface in Slot 14.

```
Admin\epononu\qinq#delete epon slot 14 pon 1 onu 7 port 1 onuveip 2
Admin\epononu\qinq#
```

## 9.30 Configuring ONU VEIP

## Command function

This command is used to configure the VEIP at an ONU port. The configuration parameters include the uplink / downlink bandwidth, VLAN and ONU VEIP service flow rule, and the QinQ profile.

## Command format

```
set epon slot <1-18> pon <1-8> onu <1-128> port <1-24> onuveip <1-16> <ctpid>
<cvid> <ccos> <ttpid> <tvid> <tcos> <stpid> <svid> <scos> <tls> <servmode>
<svlan> {[qinq] <qinq> serdiff <serdiff>}*1 {[up_bandwidth] <upbandwidth>
down_bandwidth <down_bandwidth>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1 - 24>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
onuveip <1-16>	The ONU VEIP service sequence number The value ranges from 1 to 16.	Compulsory parameter
<ctpid>	The CVLAN tag protocol identifier The value ranges from 1 to 65535.	Compulsory parameter
<cvid>	CVLAN ID. The value ranges from 1 to 4085.	Compulsory parameter
<ccos>	CVLAN COS The value can be set to 0 to 7, or 65535.	Compulsory parameter
<ttpid>	The translation VLAN tag protocol identifier The value ranges from 1 to 65535.	Compulsory parameter
<tvid>	The translation VLAN ID The value ranges from 1 to 4085.	Compulsory parameter
<tcos>	The translation VLAN COS The value can be set to 0 to 7, or 65535.	Compulsory parameter
<stpid>	The SVLAN tag protocol identifier	Compulsory parameter
<svid>	SVLAN ID The value ranges from 1 to 4085.	Compulsory parameter
<scos>	SVLAN COS The value can be set to 0 to 7, or 65535.	Compulsory parameter
<tls>	The TLS identifier ◆ 0: non-TLS identifier ◆ 1: TLS identifier	Compulsory parameter
<servmode>	The service profile sequence number	Compulsory parameter
<svlan>	SVLAN ID The value ranges from 1 to 4085.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
[qinq] <qinq>	The QinQ profile name	Compulsory parameter
serdiff <servdiff>	The traffic classification profile name	Compulsory parameter
[up_bandwidth] <upbandwidth>	The uplink bandwidth	Compulsory parameter
down_bandwidth <down_bandwidth>	The downlink bandwidth	Compulsory parameter
{ [servname [servlan_name]] } *1	The name of the VLAN profile bound to the central office end	Optional parameter

### Command example

Configure the VEIP at Port 1 of the ONU with the authorization number of 7 at No.1 PON interface in Slot 14, setting the ONU VEIP service sequence number to 2, CVLAN tag protocol identifier to 33024, CVLAN ID to 3, CVLAN COS to 7, the translation VLAN tag protocol identifier to 33024, the translation VLAN ID to 20, the translation VLAN COS to 0, the SVLAN tag protocol identifier to 33024, the SVLAN ID to 40, the SVLAN COS to 65535, the TLS identifier to 0, the service profile sequence number to 1, and the SVLAN ID to 7.

```
Admin\epononu\qinq#set epon slot 14 pon 1 onu 7 port 1 onuveip 2 33024 3 7 33024 20 0
33024 40 65535 0 1 7
Admin\epononu\qinq#
```

## 9.31 Showing ONU VEIP

### Command function

This command is used to show the specific service of the ONU VEIP.

### Command format

```
show epon slot <1-18> pon <1-8> onu <1-128> onuveip servindex {<1-16>} *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu<1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
servindex {<1-16>}	The service index The value ranges from 1 to 16.	Optional parameter

## Command example

Show the information about the No. 2 ONU VEIP service at Port 1 of the ONU with the authorization number of 7 at No.1 PON interface in Slot 14.

```
Admin\epononu\qinq#show epon slot 14 pon 1 onu 7 onuveip servindex 2
slot 14 pon 1 onu 7 serv 2 onuveip info:
  cvlan 33024 3 7 tvlan 33024 20 0 svlan 33024 40 65535 t1s 0 servmode 1
  svlan 7 qinq_name null serv_vlannname null up_bandwidth 0
  down_bandwidth 0
Admin\epononu\qinq#
```

## 9.32 Configuring IP of the COM Port

### Command function

This command is used to configure the IP of an ONU COM port. The IP can be set in a static or dynamic mode. The configuration parameters include the IP address, gateway and IP type.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onuNo> port <portno> comip ipmode
[dhcp|static] {ip <value> gateway <value> <ipaddrtype>} *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onuNo>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portNo>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
ipmode [dhcp static]	The IP address mode	Compulsory parameter
{ip <value> gateway <value> <ipaddrtype>}*1	<ul style="list-style-type: none"> <li>◆ ip &lt;value&gt; : the IP address The value can be set to IPV4 or IPV6.</li> <li>◆ gateway &lt;value&gt;: the gateway value The value can be set to IPV4, IPV6, DNS, and so on.</li> <li>◆ &lt;ipaddrtype&gt;: the IP address type, i.e., IPV4 or IPV6.</li> </ul>	Optional parameter

## Command example

Set the IP mode of No.1 COM port on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12 to DHCP.

```
Admin\epnononu\qinq#set epon slot 12 pon 1 onu 4 port 1 comip ipmode dhcp
Admin\epnononu\qinq#
```

## 9.33 Showing Information on IP Configuration of COM Port

## Command function

This command is used to show the information on IP configuration of the ONU COM port.

## Command format

```
show epon slot <slotNo> pon <ponNo> onu <onuNo> comip port {<portNo>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon< ponNo >	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu< onuNo >	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port {<portNo>}	The ONU port number The value ranges from 1 to 24.	Optional parameter

## Command example

Show the information on IP configuration of No.1 COM port on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#show epon slot 12 pon 1 onu 4 comip port 1
ip type 0, gateway type 0
slot 12 pon 1 onu 4 port 1 com ip info: ip config mode:dhcp
Admin\epononu\qinq#
```

## Result description

Parameter	Parameter Description
ip type	IP type
gateway type	Gateway type
slot	Slot number
pon	The PON interface number
onu	The ONU authorization number
port	The port number
com ip info	The information on IP configuration of the COM port
mode	The IP mode

## 9.34 Configuring VLAN of COM Port

### Command function

This command is used to configure the VLAN of an ONU COM port, including the SVLAN and CVLAN.

## Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> comvlan
{ [svlan] <stpid> <svlan> <scos> } *1 { [cvlan] <ctpid> <cvlan> <ccos> } *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portNo>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
{ [svlan] <stpid> <svlan> <scos> } *1	<ul style="list-style-type: none"> <li>◆ SVLAN TPID The value ranges from 1 to 65535.</li> <li>◆ SVLAN ID The value can be set to 1 to 4085 or 4088.</li> <li>◆ SVLAN COS The value ranges from 0 to 7.</li> </ul>	Optional parameter
{ [cvlan] <ctpid> <cvlan> <ccos> } *1	<ul style="list-style-type: none"> <li>◆ CVLAN TPID The value ranges from 1 to 65535.</li> <li>◆ CVLAN ID The value can be set to 1 to 4085 or 4088.</li> <li>◆ CVLAN COS The value ranges from 0 to 7.</li> </ul>	Optional parameter

## Command example

Configure the COM VLAN of Port 1 on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12, setting the SLVAN TPID to 10, SVLAN ID to 4085, and SVLAN COS to 7.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 comvlan svlan 10 4085 7
Admin\epononu\qinq#
```

## 9.35 Showing VALN Configuration of COM Port

### Command function

This command is used to show the VLAN configuration of one or all COM ports on an ONU.

### Command format

```
show epon slot <slotNo> pon <ponNo> onu <onuNo> comvlan port [<portNo>|all]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon< ponNo >	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu< onuNo >	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
[<portNo> all]	The ONU port number ◆ <portNo>: the value ranges from 1 to 24. ◆ all: all ports	Compulsory parameter

### Command example

Show the VLAN of No.1 COM port on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#show epon slot 12 pon 1 onu 4 comvlan port 1
slot 12 pon 1 onu 4 port 1 com vlan info:stpid 10 svlan 4085 scos
7 ctpid 65535 cvlan 65535 ccos 65535
Admin\epononu\qinq#
```

### Result description

Parameter	Parameter Description
slot	Slot number
pon	The PON interface number
onu	The ONU authorization number
port	The port number

Parameter	Parameter Description
com vlan info	The information on COM VLAN
stpid	SVLAN TPID
svlan	SVLAN ID
scos	SVLAN COS
ctpid	CVLAN TPID
cvlan	CVLAN ID
ccos	CVLAN COS

## 9.36 Configuring ONU Port

### Command function

This command is used to configure the ONU port. The configuration parameters include auto-negotiation, rate, duplex and rate control.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> {[enable|
disable]}*1 {[auto] [enable|disable]}*1 {[speed] [10M|100M|1000M]}*1
{[duplex] [full|half]}*1 {[flowcontrol] [enable|disable]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist >	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portNo>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
{[enable disable]}*1	The port function ◆ enable: enable the port function. ◆ disable: disable the port function.	Optional parameter
{[auto] [enable disable]}*1	The auto-negotiation function. ◆ enable: enable the auto-negotiation function. ◆ disable: disable the auto-negotiation function.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{[speed] [10M 100M 1000M]}*1	Rate	Optional parameter
{[duplex] [full half]}*1	The data communication mode. ◆ full: full duplex ◆ half: half duplex	Optional parameter
{[flowcontrol] [enable disable]}*1	The traffic control function. ◆ enable: enable the traffic control function. ◆ disable: disable the traffic control function.	Optional parameter

### Command example

Configure Port 1 of the ONU with the authorization number of 3 at NO.1 PON interface in Slot 12, setting the port function to enabled, the auto-negotiation function to enabled, the rate to 100m, the data communication mode to full-duplex, and the rate control to enabled.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 port 1 enable auto enable speed 100m
duplex full flowcontrol enable
port 12:3:1 auto negotiation is enabled
port 12:3:1 auto negotiation is enabled
Admin\epononu\qinq#
```

## 9.37 Configuring Service Flow Rule for ONU Port

### Command function

This command is used to configure the service flow rule for the ONU port.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onu> port <port> [service]<1-16>{[up|
down] [da|sa|dip|sip|vid|sport|dport|iptype|eth_type|tos|priority]
<value> <0-6> }*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu < onu >	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <port>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
[service]<1-16>	The sequence number of services The value ranges from 1 to 16.	Compulsory parameter
[up down] [da sa dip sip vid  sport dport iptype  eth_type tos priority]	The service flow rule type for the uplink / downlink flow. <ul style="list-style-type: none"> <li>◆ da: the destination address</li> <li>◆ sa: the source address</li> <li>◆ dip: the destination IP address</li> <li>◆ sip: the source IP address</li> <li>◆ vid: VLAN ID</li> <li>◆ sport: the source port</li> <li>◆ dport: the destination port</li> <li>◆ iptype: the IP type</li> <li>◆ eth_type: the Ethernet type</li> <li>◆ tos: type of service</li> <li>◆ priority: priority</li> </ul>	Compulsory parameter
<value>	The identifier of the service flow rule type	Compulsory parameter
<0-6>	The priority of the service flow rule type The value ranges from 0 to 6.	Compulsory parameter

## Command example

Configure the service flow rule for Port 1 of the ONU with the authorization number of 4 at No.1 PON interface in Slot 12, setting the service index to 1, the uplink service flow rule type to priority type, the identifier to 6, and the priority to 5.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 service 1 up priority 6 5
Admin\epononu\qinq#
```

## 9.38 Configuring ONU Port Service Number

### Command function

This command is used to configure the service number for the ONU port.

### Command format

```
set epon slot <slotNo> pon <ponNo> onu <onulist> port <portno> service number
<0-16>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotNo>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <ponNo>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onulist>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portno>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
number <0-16>	The sequence number of services The value ranges from 1 to 16.	Optional parameter

### Command example

Set the sequence number of the service at Port 1 on the ONU with the authorization number of 4 at No.1 PON interface in Slot 12 to 1.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 4 port 1 service number 1
Admin\epononu\qinq#
```

## 9.39 Configuring CATV

### Command function

This command is used to enable / disable the CATV for the ONU port.

## Command format

```
set epon slot <slot_out> pon <pon_no> onu <onu_64> catv [enable|disable]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slot_out>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
pon <pon_no>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <onu_64>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
catv [enable disable]	The CATV function ◆ enable: enable the CATV function. ◆ disable: disable the CATV function.	Compulsory parameter

## Command example

Enable the CATV function for the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#set epon slot 12 pon 1 onu 3 catv enable
Admin\epononu\qinq#
```

## 9.40 Configuring ONU Data Ports in Batch Mode

### Command function

This command is used to configure the rate control and working mode of ONU data ports. The configuration parameters include the status of port being enabled, binding the ONU port rate control profile and the port attribute profile.

### Command format

```
set onu [<1-9>|<11-18>] <1-8> <1-128> port <1-24> [enable|disable] mac
<limit> profile portattr [<1-128>|<65535>] policing [<1-128>|<65535>]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1 - 24>	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
[enable disable]	The identifier of the FE port being enabled / disabled ◆ enable: enable the FE port function. ◆ disable: disable the FE port function.	Compulsory parameter
mac <limit>	Limit for the number of MAC addresses	Compulsory parameter
portattr [<1-128> <65535>]	The sequence number of the port attribute profile The value can be set to 1 to 128, or 65535.	Compulsory parameter
policing [<1-128> <65535>]	The sequence number of the rate control profile The value can be set to 1 to 128, or 65535.	Compulsory parameter

## Command example

Enable the FE function of Port 1 on the ONU with the authorization number of 3 at No.1 PON interface in Slot 12, setting the limit for the number of MAC addresses to 64, the sequence number for the port attribute profile to 4, and the sequence number for the rate control profile to 3.

```
Admin\epononu\qinq#set onu 12 1 3 port 1 enable mac 64 profile portattr 4 policing 3
Admin\epononu\qinq#
```

## 9.41 Configuring Binding Packet Suppression Profile in ONU Bridge Management

### Command function

This command is used to configure binding packet suppression profile in the ONU Bridge management.

## Command format

```
set onubr [<1-8>|<11-18>] <1-8> <1-128> port <portlist> bind pkgcurb <index>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portlist >	The ONU port number The value ranges from 1 to 24.	Compulsory parameter
<index>	The index of the packet suppression profile	Compulsory parameter

## Command example

Set the index of the packet suppression profile at Port 1 on the ONU with the authorization number of 3 at No.1 PON interface in Slot 12 to 2.

```
Admin\epononu\qinq#set onubr 12 1 3 port 1 bind pkgcurb 2
Admin\epononu\qinq#
```

## 9.42 Showing FE Port Configuration of ONU

### Command function

This command is used to view the information on configuration of the ONU FE port.

### Command format

```
show onufe <1-18> <1-8> <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<1-18>	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
<1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
<1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

## Command example

Show the configuration information relevant to ONU FE port of the ONU with the authorization number of 3 at No.1 PON interface in Slot 12.

```
Admin\epononu\qinq#show onufe 12 1 3
```

```
===== onu 12 1 3 =====
port 1
  port enable 1
  port attr 1 1 1 0
    port batch mac enable 1 0
    port profile attr 65535 policing 65535
  service 1 type 0
  service 1 type 0
    diff ff 00 00 00 00 00 00 00
    diff ff 00 00 00 00 00 00 00
    diff ff 00 00 00 00 00 00 00
  cvlan 65535 255 33024 3
  tvlan 65535 255 33024 0
  svlan 65535 255 33024 0 65535 65535
  data batch profile mode 65535 svlan 65535 diff 65535
  diff_up 65535
port 2
  port enable 1
  port attr 1 1 1 0
    port batch mac enable 1 0
    port profile attr 65535 policing 65535
port 3
  port enable 1
  port attr 1 1 1 0
    port batch mac enable 1 0
    port profile attr 65535 policing 65535
```

```

port 4
  port enable 1
  port attr 1 1 1 0
    port batch mac enable 1 0
    port profile attr 65535 policing 65535
===== end of above =====
Admin\epononu\qinq#

```

### Result description

Parameter	Parameter Description
port	The port number
port enable	The identifier of the FE port being enabled
port attr	Configuration of the FE port attribute
port batch mac	Limit for the number of MAC addresses
port profile	The sequence number of the port attribute profile
policing	The sequence number of the rate control profile

# 10 GPONONU Directory Commands

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- Binding ONU Packet Suppression Profile
- Applying ONU Packet Suppression Function
- Showing Information on the Bound ONU Packet Suppression Profile
- Configuring Feed Mode for ONU Port
- Applying Feed Mode for ONU Port
- Showing Power Supply Mode for ONU Port
- Showing Information on Power Supply for ONU Port
- Configuring Management VLAN for ONU VEIP Port
- Configuring ONU VEIP Management Parameters
- Deleting Management VLAN of ONU VEIP
- Applying Management VLAN of ONU VEIP
- Showing ONU VEIP Management VLAN
- Configuring VLAN Mapping of ONU
- Deleting VLAN Mapping of ONU
- Applying VLAN Mapping of ONU
- Showing VLAN Mapping of the ONU
- Binding ONU Port to Traffic Policy
- Showing Traffic Policy Bound to ONU Port
- Binding Ethernet Queue Scheduling Algorithm to ONU
- Check Ethernet Queue Scheduling Mechanism Profile bound to ONU

- Bind Alarm Threshold Profile to ONU and ONU Port
- Check Alarm Threshold Profile bound to ONU and OUN Port
- Configure ONU Service Bandwidth Profile
- Delete ONU Service Bandwidth Profile
- Configure ONU's VLAN Management
- Delete ONU's VLAN Management
- Check ONU's VLAN Management
- Configure ONU Service Bandwidth
- Delete ONU Service Bandwidth
- Check ONU Service Bandwidth
- Configure ONU WLAN Service
- Delete ONU WLAN Service
- Restart ONU FE Port
- Restart ONU
- Configure ONU MAC Address Aging Time
- Check ONU MAC Address Aging Time
- Configure ONU Authorization Type
- Check ONU Authorization Type
- Authorizing an ONU
- Configure ONU Deauthorization
- Check ONU Authorization Table
- Check ONU Discovery Table
- Check ONU Online Table

- Configure ONU Authorization Status
- Configure the MAC Address Limit of the ONU FE Port
- Check the MAC Address Limit Number of the ONU FE Port
- Configure the MAC Address Table of the ONU FE Port
- Configure ONU Feed Mode
- Check ONU Feed Mode
- Check ONU Feed Information
- Configure ONU Remote Management
- Configure ONU Static Router
- Configure ONU Static Router
- Configure ONU White List
- Check the OUN White List
- Check the OUN White List Status
- Configure ONU WIFI Service Parameter
- Check ONU Activation Status
- Check ONU Version Information
- Check ONU FE Interface Status
- Configure Performance Threshold of the ONU LAN Port
- Check the ONU's CPU and Memory Utilization Ratio
- Check the ONU Optical Module Parameter Information
- Check the ONU Multicast Address Table
- Check ONU's Current Time
- Check ONU Ranging Value

## 10.1 Binding ONU Packet Suppression Profile

### Command function

This command is used to bind the ONU packet suppression profile to a port. The command configures the data structure only, and you need to use the "apply" command to apply the configuration.

### Command format

```
bind packet_control slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
prof_id <0-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter
prof_id <0-128>	The number of the ONU packet suppression profile The value ranges from 0 to 128. Enter 0 to use the default system configuration.	Compulsory parameter

### Command example

Bind the ONU packet suppression profile to Port 1 of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14, and set the number of the ONU packet suppression profile to 1.

```
Admin\gpononu#bind packet_control slot 14 link 1 onu 1 port 1 prof_id 1
bind packet_control ok!
Admin\gpononu#
```

## 10.2 Applying ONU Packet Suppression Function

### Command function

This command is used to apply the packet suppression function to one or more ONU ports.

### Command format

```
applypacket_control slot [<1-8>|<11-18>] link<1-8> onu <1-128> port
<portlist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portlist>	The ONU port number The value ranges from 1 to 32. Users can enter the value for the portlist in the following ways: ◆ Enter 1, 2, 3 to select port one by one. ◆ Enter 1-3 to select multiple ports from 1 to 3. ◆ Enter 1-3, 4, 5 to select ports from 1 to 3, and ports 4 and 5.	Compulsory parameter

### Command example

Apply the packet suppression function to Port 1 of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#apply packet_control slot 14 link 1 onu 1 port 1
apply onu port packet control ok!
Admin\gpononu#
```

## 10.3 Showing Information on the Bound ONU Packet Suppression Profile

### Command function

This command is used to show the ID of the packet suppression profile bound to the ONU port.

### Command format

```
show packet_control slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter

### Command example

Show the information on the packet suppression profile bound to Port 1 of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show packet_control slot 14 link 1 onu 1 port 1
----- ONU PACKET CONTROL 14.1.1 -----
PROFILE ID=1
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
PROFILE ID	The ID of the bound profile

## 10.4 Configuring Feed Mode for ONU Port

### Command function

This command is used to configure the feed mode for one or more ONU ports. The command configures the data structure only, and you need to use the "apply" command to apply the configuration.

### Command format

```
set port_ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
{[status] [enable|disable]}*1 {[pri] [low|medium|high|highest]}*1
{[power_min] <0-3>}*1 {[power_max] <0-3>}*1 {[mode] [force|normal]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32. Users can enter the value for the portlist in the following ways: <ul style="list-style-type: none"> <li>◆ Enter 1, 2, 3 to select port one by one.</li> <li>◆ Enter 1-3, 4, 5 to select ports from 1 to 3, and ports 4 and 5.</li> </ul>	Compulsory parameter
{[status] [enable disable]}*1	The power supply status of the port <ul style="list-style-type: none"> <li>◆ enable: enable the power supply.</li> <li>◆ disable: disable the power supply.</li> </ul> The default setting is disable.	Optional parameter
{[pri] [low medium high highest]}*1	Priority of power supply <ul style="list-style-type: none"> <li>◆ low: low priority</li> <li>◆ medium: medium priority</li> <li>◆ high: high priority</li> <li>◆ highest: highest Priority</li> </ul>	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{[power_min] <0-3>}*1	The minimum value of power supply <ul style="list-style-type: none"> <li>◆ 0: 0W.</li> <li>◆ 1: 4W.</li> <li>◆ 2: 7W.</li> <li>◆ 3: 15.4W.</li> </ul> The default value is 0.	Optional parameter
{[power_max] <0-3>}*1	The maximum value of power supply <ul style="list-style-type: none"> <li>◆ 0: 4W.</li> <li>◆ 1: 7W.</li> <li>◆ 2: 15W.</li> <li>◆ 3: 30.24W.</li> </ul> The default value is 3.	Optional parameter
{[mode] [force normal]}*1	The power supply mode <ul style="list-style-type: none"> <li>◆ force: the force mode</li> <li>◆ normal: the normal mode</li> </ul> The default setting is the normal mode.	Optional parameter

### Command example

Enable the power supply at Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14, and set the power supply priority to low, the minimum value for power supply to 0, the maximum value for the power supply to 3, and the power supply mode to normal.

```
Admin\gpononu#set port_ps_mode_cfg slot 14 link 1 onu 2 port 1 status enable pri low
power_min 0 power_max 3 mode normal
set onu port ps mode cfg ok!
Admin\gpononu#
```

## 10.5 Applying Feed Mode for ONU Port

### Command function

This command is used to apply the feed mode to one or more ONU ports.

### Command format

```
apply port_ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> port
<portlist>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <portlist>	The ONU port number The value ranges from 1 to 32. Users can enter the value for the portlist in the following ways: ◆ Enter 1, 2, 3 to select port one by one. ◆ Enter 1-3, 4, 5 to select ports from 1 to 3, and ports 4 and 5.	Compulsory parameter

## Command example

Apply the feed mode to Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#apply port_ps_mode_cfg slot 14 link 1 onu 2 port 1
apply onu port ps mode cfg ok!
Admin\gpononu#
```

# 10.6 Showing Power Supply Mode for ONU Port

## Command function

This command is used to show the configuration of power supply mode for an ONU port.

## Command format

```
show [ps_mode_cfg] slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter

## Command example

Show the power supply mode for Port 1 of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show ps_mode_cfg slot 14 link 1 onu 2 port 1
PS                : enable
PS Priority        : low
PS Standard Min   : 0 (W)
PS Standard Max   : 30.24 (W)
PS Mode           : normal
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
PS	The power supply status
PS Priority	Priority of power supply
PS Standard Min	Minimum power of the power supply for the port
PS Standard Max	Maximum power of the power supply for the port
PS Mode	The power supply mode

# 10.7 Showing Information on Power Supply for ONU Port

## Command function

This command is used to obtain the information on power supply for an ONU port.

## Command format

```
show [ps_info] slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
ps_info	Information on power supply	Compulsory parameter
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter

## Command example

Show the information on power supply for Port 1 on the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show ps_info slot 14 link 1 onu 2 port 1
STATUS          : disable
DETECT RESULT   : invalid PD
LEVEL           : calss0 (0w-15.4w)
POW POWER       : 0.00 (W)
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
STATUS	The power supply status
DETECT RESULT	The PD detection result
LEVEL	PD level
POW OWER	The practical power of the power supply

## 10.8 Configuring Management VLAN for ONU VEIP Port

### Command function

This command is used to configure the management VLAN for an ONU VEIP port. This function is supported by the HG226 and HG220.

### Command format

```
set veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> mgr_id <mgr_id> {[name] <mgr_name>}*1 {[ip_type] [static|dhcp]}
*1 {[ip_addr] [ipv4|ipv6|ipv4z|ipv6z] <ip_addr> <0-32>}*1 {[gateway] [ipv4|
ipv6|ipv4z|ipv6z] <gateway> <0-32>}*1 {[pri_dns] [ipv4|ipv6|ipv4z|ipv6z]
<pri_dns> <0-32>}*1 {[sec_dns] [ipv4|ipv6|ipv4z|ipv6z] <sec_dns> <0-32>}*1
{[protocol] [tcp|udp]}*1 {[port] <0-65535>}*1 {[priority] <0-63>}*1
{[tag_type] [tag|untag]}*1 {[svlan_label] <hexnum>}*1 {[svlanid] [<1-
4085>|null]}*1 {[svlan_cos] [<0-7>|null]}*1 {[cvlan_label] <hexnum>}*1
{[cvlanid] [<1-4085>|null]}*1 {[cvlan_cos] [<0-7>|null]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
veip_port <veip_port>	The VEIP port number The ONU VEIP port number Each ONU has only one VEIP port currently, and the port number is set to 1.	Compulsory parameter
mgr_id <mgr_id>	The management ID The value is fixed and set to 1 currently.	Compulsory parameter
{[name] <mgr_name>}*1	The name of the management VLAN The name is a character string not exceeding 16 bytes. The default value is manage.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<pre>{[ip_type] [static  dhcp]}*1</pre>	<p>The way to obtain IP address</p> <p>When you select to obtain the IP address in a static way, the four parameters including the static IP address, gateway, primary DNS, and standby NDS are invalid. The default value is dhcp.</p>	Optional parameter
<pre>{[ip_addr] [ipv4 ipv6  ipv4z ipv6z] &lt;ip_addr&gt; &lt;0-32&gt;}*1</pre>	<p>IP address</p> <ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type</li> <li>◆ &lt;ip_addr&gt;: the IP address</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress</li> </ul> <p>For IPv4, the value is set to 4.  For IPv6, the value is set to 16.  For IPv4z, the value is set to 8.  For IPv6z, the value is set to 20.</p> <p>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.</p>	Optional parameter
<pre>{[gateway] [ipv4 ipv6  ipv4z ipv6z] &lt;gateway&gt; &lt;0-32&gt;}*1</pre>	<p>Gateway</p> <ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type</li> <li>◆ &lt;ip_addr&gt;: the IP address</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress</li> </ul> <p>For IPv4, the value is set to 4.  For IPv6, the value is set to 16.  For IPv4z, the value is set to 8.  For IPv6z, the value is set to 20.</p> <p>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.</p>	Optional parameter
<pre>{[pri_dns] [ipv4 ipv6  ipv4z ipv6z] &lt;pri_dns&gt; &lt;0-32&gt;}*1</pre>	<p>The primary DNS</p> <ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type</li> <li>◆ &lt;ip_addr&gt;: the IP address</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress</li> </ul> <p>For IPv4, the value is set to 4.  For IPv6, the value is set to 16.  For IPv4z, the value is set to 8.  For IPv6z, the value is set to 20.</p> <p>The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.</p>	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<code>{[sec_dns] [ipv4 ipv6 ipv4z ipv6z] &lt;sec_dns&gt; &lt;0-32&gt;}*1</code>	<p>The standby DNS</p> <ul style="list-style-type: none"> <li>◆ ipv4 ipv6 ipv4z ipv6z: common INTERNET address type</li> <li>◆ &lt;ip_addr&gt;: the IP address</li> <li>◆ &lt;0-32&gt;: length of the byte controlling the InetAddress</li> </ul> <p>For IPv4, the value is set to 4. For IPv6, the value is set to 16. For IPv4z, the value is set to 8. For IPv6z, the value is set to 20. The value ranges from 0 to 32. The default value is 0, indicating that the length of the byte controlling the InetAddress is 0.</p>	Optional parameter
<code>{[protocol] [tcp udp]}*1</code>	<p>The network protocol</p> <ul style="list-style-type: none"> <li>◆ tcp: the TCP protocol</li> <li>◆ udp: the UDP protocol</li> </ul> <p>The default value is UDP.</p>	Optional parameter
<code>{[port] &lt;0-65535&gt;}*1</code>	<p>The network port number</p> <p>The value ranges from 0 to 65535.</p>	Optional parameter
<code>{[priority] &lt;0-63&gt;}*1</code>	<p>Priority</p> <p>The value ranges from 0 to 63. The default value is 0.</p>	Optional parameter
<code>{[tag_type] [tag untag]}*1</code>	<p>The TAG attribute</p> <p>The default value is untag.</p>	Optional parameter
<code>{[svlan_label] &lt;hexnum&gt;}*1</code>	<p>The SVLAN protocol identifier</p> <p>The value ranges from 1 to 65534, or can be set to 0xffff. The default value is 0x8100.</p>	Optional parameter
<code>{[svlanid] [&lt;1-4085&gt; null]}*1</code>	<p>SVLAN ID</p> <ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The value ranges from 1 to 4085. The default value is 0xffff.</li> <li>◆ null: not configured.</li> </ul>	Optional parameter
<code>{[svlan_cos] [&lt;0-7&gt; null]}*1</code>	<p>The SVLAN priority</p> <p>The value ranges from 0 to 7, or can be set to 0xffff. The default value is 0xffff.</p>	Optional parameter
<code>{[cvlan_label] &lt;hexnum&gt;}*1</code>	<p>The CVLAN protocol identifier</p> <p>The value ranges from 1 to 65534, or can be set to 0xffff. The default value is 0xffff.</p>	Optional parameter
<code>{[cvlanid] [&lt;1-4085&gt; null]}*1</code>	<p>CVLAN ID</p> <p>The value ranges from 1 to 4085. The default value is 0xffff.</p>	Optional parameter
<code>{[cvlan_cos] [&lt;0-7&gt; null]}*1</code>	<p>The CLAN priority</p> <p>The value ranges from 0 to 7, or can be set to 0xffff. The default value is 0xffff.</p>	Optional parameter

## Command example

Configure the VLAN for No.1 VEIP port of the ONU with the authorization number of 2 at No.1 PON interface ins Slot 14, setting the management ID to 1, the management VLAN name to test, the way to obtain the IP address to static, the IP address type to IPv4, the IP address to 10.19.8.15, the length of the byte controlling the InetAddress to 4, the IP address type of the gateway to IPv4, the gateway address to 10.92.1.254, and the length of the byte controlling the InetAddress to 4.

```
Admin\gpononu#set veip_mgr_vlan slot 14 link 1 onu 2 veip_port 1 mgr_id 1 name test
ip_type static ip_addr ipv4 10.19.8.15 4 gateway ipv4 10.92.1.254 4
set ONU port manage vlan ok!
Admin\gpononu#
```

## 10.9 Configuring ONU VEIP Management Parameters

### Command function

This command is used to configure the ONU VEIP management parameters.

### Command format

```
set veip_mgr_par slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> port_type [veip] mgr_channel [enable|disable] {model [tr069|
snmp] item<item>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
veip_port <veip_port>	The VEIP port number. The ONU VEIP port number. Each ONU has only one VEIP port currently, and the port number is set to 1.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
port_type [veip]	Port type Set the value to VEIP.	Compulsory parameter
mgr_channel [enable disable]	Non-OMCI management channel ◆ enable: enable the management channel. ◆ disable: disable the management channel. The default value is disable.	Compulsory parameter
model [tr069 snmp]	The management model ◆ tr069: the TR069 model. ◆ snmp: the SNMP model (not available now). The default value is tr069.	Optional parameter
item <item>	The number of the management VLAN items The value is currently set to 1.	Optional parameter

### Command example

Configure the management parameters for No.1 VEIP port of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14, setting the port type to VEIP, the non-OMCI management channel to enabled, the management model to TR069, and the number of the management VLAN item to 1.

```
Admin\gpononu#set veip_mgr_par slot 14 link 1 onu 2 veip_port 1 port_type veip
mgr_channel enable model tr069 item 1
set onu port manage param ok!
Admin\gpononu#
```

## 10.10 Deleting Management VLAN of ONU VEIP

### Command function

This command is used to delete the management VLAN of a designated ONU port.

### Command format

```
del veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> veip_port
<veip_port> mgr_id <mgr_id>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
veip_port <veip_port>	The VEIP port number. The ONU VEIP port number. Each ONU has only one VEIP port currently, and the port number is set to 1.	Compulsory parameter
mgr_id <mgr_id>	The management ID The value is fixed and set to 1 currently.	Compulsory parameter

## Command example

Delete the management VLAN with the management ID of 1 for No. 1 VEIP port of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#del veip_mgr_vlan slot 14 link 1 onu 2 veip_port 1 mgr_id 1
delete onu port manage vlan 1 ok!
Admin\gpononu#
```

# 10.11 Applying Management VLAN of ONU VEIP

## Command function

This command is used to apply the management VLAN of ONU VEIP.

## Command format

```
apply veip_mgr_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

## Command example

Apply the VEIP management VLAN of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#apply veip_mgr_vlan slot 14 link 1 onu 2
apply onu veip manage ok!
Admin\gpononu#
```

# 10.12 Showing ONU VEIP Management VLAN

## Command function

This command is used to show the management VLAN of the ONU VEIP.

## Command format

```
show [dos_attack_defend|vlan_mapping|fan_control|aging_time|fec_enable|
ps_mode_cfg|veip_mgr] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

## Command example

Show the VEIP management VLAN of the ONU with the authorization number of 2 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show veip_mgr slot 14 link 1 onu 2
```

```
----- SLOT 14 PON 1 ONU 2 VEIP PORT 1-----
PORT TYPE      : VEIP
MANAGE FLAG    : enable
MANAGE MODEL   : tr069
MANAGE ITEM    : 1
ONU Manage ID  =1
NAME           : test
IP TYPE        : static
STATIC IP      : 10.19.8.15
STATIC MASK    : 4
GATEWAY        : 10.92.1.254
GATEWAY MASK   : 4
PRIMARY DNS    : unKnown
SECOND DNS     : unKnown
PROTOCOL       : udp
PORT           : 65535
PRIORITY       : 0
TAG            : untag
SVLAN TPID    =8100
SVLAN ID       =65535
SVLAN COS      =7
CVLAN TPID    =ffff
CVLAN ID       =65535
CVLAN COS      =65535
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
PORT TYPE	Port type
MANAGE FLAG	The identifier of the non-OMCI management channel being enabled
MANAGE MODEL	The management model
MANAGE ITEM	The number of the management VLAN items
ONU Manage ID	The management ID
NAME	The name of the management VLAN

Parameter	Parameter Description
IP TYPE	The way to obtain IP address
STATIC IP	Static IP address
STATIC MASK	Static mask
GATEWAY	Gateway
GATEWAY MASK	Gateway mask
PRIMARY DNS	The primary DNS
PRIMARY DNS MASK	The primary DNS mask
SECOND DNS	The standby DNS
SECOND DNS MASK	The standby DNS mask
PROTOCOL	The network protocol
PORT	The network port number
PRIORITY	Priority
TAG	The TAG attribute
SVLAN TPID	The management SVLAN protocol identifier
SVLAN ID	The management SVLAN
SVLAN COS	The management SVLAN priority
CVLAN TPID	The management CVLAN protocol identifier
CVLAN ID	The management CVLAN
CVLAN COS	The management CVLAN priority

## 10.13 Configuring VLAN Mapping of ONU

### Command function

This command is used to configure the VLAN mapping function of an ONU.

### Command format

```
set vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128> domain_rule
[eth_type|tls] rule_id <rule_id> vlan_id <0-4085>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
domain_rule [eth_type tls]	The rule domain The value is fixed and set to 5 currently (based on the Ethernet type).	Compulsory parameter
rule_id <rule_id>	The rule domain value The value ranges from 0 to 65534. The default value is 33024.	Compulsory parameter
vlan_id <0-4085>	VLAN ID. The value ranges from 0 to 4085.	Compulsory parameter

## Command example

Set the rule domain of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14 to 0x8100, and set the VLAN ID to 10.

```
Admin\gpononu#set vlan_mapping slot 14 link 1 onu 1 domain_rule eth_type rule_id
0x8100 vlan_id 10
set onu vlan mapping ok!
Admin\gpononu#
```

## 10.14 Deleting VLAN Mapping of ONU

### Command function

This command is used to delete the VLAN mapping of an ONU.

### Command format

```
del vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

## Command example

Delete the VLAN mapping of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#del vlan_mapping slot 14 link 1 onu 1
delete onu vlan mapping ok!
Admin\gpononu#
```

# 10.15 Applying VLAN Mapping of ONU

## Command function

This command is used to apply the VLAN mapping function of the ONU.

## Command format

```
apply vlan_mapping slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

## Command example

Apply the VLAN mapping of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#apply vlan_mapping slot 14 link 1 onu 1
apply onu vlan mapping ok!
Admin\gpononu#
```

## 10.16 Showing VLAN Mapping of the ONU

### Command function

Shows the VLAN mapping function of the ONU.

### Command format

```
show [dos_attack_defend|vlan_mapping|fan_control|aging_time|fec_enable|
ps_mode_cfg|veip_mgr] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter

### Command example

Show the VLAN mapping of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show vlan_mapping slot 14 link 1 onu 1
----- ONU VLAN MAPPING ITEM(1) -----
RULE DOMAIN : ETHERNET TYPE
NO. DOMAIN VALUE VLANID
---
1          0x8100      10
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
RULE DOMAIN	VLAN mapping rule domain.
DOMAIN VALUE	The VLAN mapping domain.
VLANID	The VLAN ID of VLAN mapping.

## 10.17 Binding ONU Port to Traffic Policy

## Command function

This command is used to bind an ONU port to designated traffic policies. After being bound to the traffic policies, the ONU port will have its uplink service flow and downlink service flow processed as per the traffic policy.

## Command format

```
bind acl_qos_rule slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
{uplink_profile <1-128> downlink_profile <1-128>}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
uplink_profile <1-128>	The uplink traffic policy ID, i.e., the ID of the traffic policy that the ONU uplink service flow is to be bound to. No setting of this parameter indicates unbinding of the port with the traffic policy. The parameter value ranges between 1 and 128.	Optional parameter
downlink_profile <1-128>	The downlink traffic policy ID, i.e., the ID of the traffic policy that the ONU downlink service flow is to be bound to. No setting of this parameter indicates unbinding of the port with the traffic policy. The parameter value ranges between 1 and 128.	Optional parameter

### Command example

Bind No.1 uplink / downlink traffic policy with Port 1 on the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#bind acl_qos_rule slot 14 link 1 onu 1 port 1 uplink_profile 1
downlink_profile 1
bind onu fe port acl/qos rule ok!
Admin\gpononu#
```

## 10.18 Showing Traffic Policy Bound to ONU Port

### Command function

This command is used to show the traffic policies bound to an ONU PORT.

### Command format

```
show acl_qos_rule slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <1-32>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
port <1-32>	The ONU port number The value ranges from 1 to 32.	Compulsory parameter

### Command example

Show the traffic policies bound to Port 1 of the ONU with the authorization number of 1 at No.1 PON interface in Slot 14.

```
Admin\gpononu#show acl_qos_rule slot 14 link 1 onu 1 port 1
----- ONU ACL & QOS 14.1.1.1 -----
ITEM NO=1
NO1      UPLINK=1,DOWNLINK=1
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
ITEM NO	The number of items, i.e., the number of items on the list of traffic policies bound to the port.
NOx	The xth item
UPLINK	The ID of the traffic policy bound to the uplink service
DOWNLINK	The ID of the traffic policy bound to the downlink service

## 10.19 Binding Ethernet Queue Scheduling Algorithm to ONU

### Command function

This command is used to bind the Ethernet queue scheduling algorithm to an ONU.

### Command format

```
bind ethernet_schedule slot [<1-8>|<11-18>] link <1-8> onu <1-128> prof_id
<0-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
onu <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
prof_id <0-128>	The ID of the Ethernet switch queue scheduling algorithm profile The value ranges between 0 and 128. The value 0 means unbinding.	Compulsory parameter

## Command example

Bind the Ethernet queue scheduling algorithm to the ONU with the authorization number of 1 at No.1 PON interface in Slot 14. Set the ID of the Ethernet switch queue scheduling algorithm profile to 2.

```
Admin\gpononu#bind ethernet_schedule slot 14 link 1 onu 1 prof_id 2
bind ethernet_schedule arithmetic ok!
Admin\gpononu#
```

## 10.20 Check Ethernet Queue Scheduling Mechanism Profile bound to ONU

### Command function

The command is used to check the Ethernet queue scheduling mechanism profile bound to ONU.

### Command format

```
show ethernet_schedule slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the the Ethernet queue scheduling mechanism profile bound to ONU whose authorization number is 1 on the NO.1 port interface of slot 14.

```
Admin\gpononu#show ethernet_schedule slot 14 link 1 onu 1
Admin\gpononu#
```

## Result description

Parameter	Parameter Descriptions
PROFILE ID	The ID of bound Ethernet queue scheduling mechanism profile.

# 10.21 Bind Alarm Threshold Profile to ONU and ONU Port

## Command function

The command is used to bind alarm threshold profile to ONU and ONU ports.

## Command format

```
bind optmodule_alarm_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128>
port [<0-24>|null] prof_id [<1-64>|null]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port [<0-24> null]	OUN port number ◆ <0-24>: ONU port number; The value range is from 0 to 24. When the value is 0, the alarm threshold profile is bound to the ONU and the other value is to bind the alarm threshold profiles to the ONU port. ◆ null: idle, bind to the ONU PON.	Compulsory parameter
prof_id [<1-64> null]	Alarm threshold profile ID ◆ <1-64>: The value rang is from 1 to 64. ◆ null: idle, unbind.	Compulsory parameter

## Command example

Bind the alarm threshold profile to the No. 1 port of ONU whose authorization number of No. 1 PON interface is 1 in the slot 14. The alarm threshold profile ID is 1.

```
Admin\gpononu#bind optmodule_alarm_threshold slot 14 link 1 onu 1 port 1 prof_id 1
bind alarm threshold ok!
Admin\gpononu#
```

## 10.22 Check Alarm Threshold Profile bound to ONU and OUN Port

### Command function

The command is used to check alarm threshold profile bound to ONU and OUN port.

### Command format

```
show optmodule_alarm_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128>
port [<0-24>|null]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port [<0-24> null]	OUN port number <ul style="list-style-type: none"> <li>◆ &lt;0-24&gt;: ONU port number; The value range is from 0 to 24. When the value is 0, the alarm threshold profile is bound to the ONU and the other value is to bind the alarm threshold profiles to the ONU port.</li> <li>◆ null : idle, bind to the ONU PON.</li> </ul>	Compulsory parameter

## Command example

Check the the alarm threshold profile bound to ONU whose authorization number is 1 on the NO.1 port interface of slot 14.

```
Admin\gpononu#show optmodule_alarm_threshold slot 14 link 1 onu 1 port 0
PROF ID = 65535
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
PROFILE ID	The ID of the bound alarm threshold profile.

# 10.23 Configure ONU Service Bandwidth Profile

## Command function

The command is used to configure bandwidth allocation profile to manually allocate bandwidth to uplink service of each ONU. The bandwidth allocation profile includes fixed bandwidth, assured bandwidth and maximum bandwidth.

## Command format

```
set bandwidth_profile id <1-256> name <profile_name> type [iptv|data|voice|
tdm|integrated|data2|data3|data4|com] fix <16-128000> assure <0-128000>
max <48-128000>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
id <1-256>	The ID of service bandwidth profile. Value range: 1 to 256.	Compulsory parameter
name <profile_name>	The name of service bandwidth profile. The value should be less than 16 byte character string.	Compulsory parameter
type [iptv data voice tdm integrated data2 data3 data4 com]	Service Type <ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: Access Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: Hybrid data service.</li> <li>◆ data2: Access Internet via broadband 2.</li> <li>◆ data3: Access Internet via broadband 3.</li> <li>◆ data4: Access Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul>	Compulsory parameter
fix <16-128000>	Fixed bandwidth The value range is from 16 to 128000 and the unit is Kbit/s.	Compulsory parameter
assure <0-128000>	Assured bandwidth The value range is from 0 to 128000 and the unit is Kbit/s.	Compulsory parameter
max <48-128000>	Maximum bandwidth The value range is from 16 to 128000 and the unit is Kbit/s.	Compulsory parameter

## Command example

Configure the ID of service bandwidth profile is 1 and name is fh. The service type is TDM and the fixed bandwidth is 6400; the assured bandwidth is 32; the maximum bandwidth is 10000.

```
Admin\gpononu#set bandwidth_profile id 1 name fh type tdm fix 6400 assure 32 max
10000
set onu service profile (tdm) bandwidth ok.
Admin\gpononu#
```

## 10.24 Delete ONU Service Bandwidth Profile

### Command function

The command is used to delete the bandwidth profile.

### Command format

```
del bandwidth_profile id <1-256> name <profile_name> type [iptv|data|voice|
tdm|integrated|data2|data3|data4|com]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
id <1-256>	The ID of service bandwidth profile. Value range: 1 to 256.	Compulsory parameter
name <profile_name>	The name of service bandwidth profile. The value should be less than 16 byte character string.	Compulsory parameter
type [iptv  data voice tdm  integrated  data2 data3  data4 com]	Service Type <ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: Access Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: Hybrid data service.</li> <li>◆ data2: Access Internet via broadband 2.</li> <li>◆ data3: Access Internet via broadband 3.</li> <li>◆ data4: Access Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul>	Compulsory parameter

### Command example

Delete the service bandwidth profile whose profile ID is 1 and name is fh and service type is TDM.

```
Admin\gpononu#del bandwidth_profile id 1 name fh type tdm
set onu service profile (tdm) bandwidth ok.
Admin\gpononu#
```

## 10.25 Configure ONU's VLAN Management

### Command function

The command is used to configure the ONU's VLAN management.

### Command format

```
set manage_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> mgr_id <1-4>
{[name] <mgr_name>}*1 {[port] <0-3>}*1 {[tag_type] [tag|untag]}*1
{[svlan_label] <hexnum>}*1 {[svlanid] <1-4085>}*1 {[svlan_cos] [<0-7>|
null]}*1 {[cvlan_label] <hexnum>}*1 {[cvlanid] [<1-4085>|null]}*1
{[cvlan_cos] [<0-7>|null]}*1 {[ip] <A.B.C.D>}*1 {[mask] <1-32>}*1
{[gateway] <A.B.C.D>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
mgr_id <1-4>	Manage the ID. ◆ 15 represents the AN5006-15. Supports one VLAN management at present. ◆ 20 represents the AN5006-20. Supports up to four VLAN managements at present. Value range: 1 to 4.	Compulsory parameter
{[name] <mgr_name>}*1	Manage the VLAN name. The value should be less than 16 byte character string and manage is the default value.	Compulsory parameter
{[port] <0-3>}*1	Port number ◆ 0: all ports. ◆ 1: PON interface. ◆ 2: GE1. ◆ 3: GE2. 0 is the default value.	Compulsory parameter
{[tag_type] [tag untag]}*1	TAG attribute.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
{[svlan_label] <hexnum>} *1	Manage the SVLAN protocol label. Value range: 1 to 65534, and the default value is 33024.	Compulsory parameter
{[svlanid] <1-4085>}*1	Manage SVLAN ID. Value range: 1 to 4085.	Compulsory parameter
{[svlan_cos] [<0-7>  null]}*1	Manage SVLAN priority. Value range: 0 to 7, and the default value is 7.	Compulsory parameter
{[svlan_label] <hexnum>} *1	Manage the CVLAN protocol label. Value range: 1 to 65534, and the default value is 65534.	Compulsory parameter
{[cvlanid] [<1-4085>  null]}*1	Manage CVLAN ID. Value range: 1 to 4085.	Compulsory parameter
{[svlan_cos] [<0-7>  null]}*1	Manage CVLAN priority. Value range: 0 to 7.	Compulsory parameter
{[ip] <A.B.C.D>}*1	IP Address The value range is from 0 to 4294967295 and the IP address is the unicast address.	Compulsory parameter
{[mask] <1-32>}*1	Mask Value range: 1 to 32, and the default value is 32.	Compulsory parameter
{[gateway] <A.B.C.D>}*1	Gateway Value range: 0 to 4294967295.	Compulsory parameter

## Command example

Configure 1 to the management ID of ONU whose authorization number is 4 of No.1 PON interface in slot 14. The name of VLAN management is manager0 and ports are all ports; Tag attribute is untag; managing SVLAN protocol label is 0x8100; managing SVLAN ID is 2; managing SLVAN ID is 7; managing CVLAN protocol label is 0xffff, managing CVLAN ID is NULL; managing CVLAN priority is NULL; the IP address is 1.1.1.1; the mask is 32 and the gateway is 0.0.0.0.

```
Admin\gpononu#set manage_vlan slot 14 link 1 onu 4 mgr_id 1 name manager0 port 0
tag_type untag svlan_label 0x8100 svlanid 2 svlan_cos 7 cvlan_label 0xffff cvlanid null
cvlan_cos null ip 1.1.1.1 mask 32 gateway 0.0.0.0
set ONU 15/20 manage vlan ok!
Admin\gpononu#
```

## 10.26 Delete ONU's VLAN Management

### Command function

The command is used to delete the ONU's VLAN management.

### Command format

```
del manage_vlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> mgr_id <1-4>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
slot [<1-8> <11-18>]	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
onu <1-128>	Manage the ID. <ul style="list-style-type: none"> <li>◆ 15 represents the AN5006-15. Supports one VLAN management at present.</li> <li>◆ 20 represents the AN5006-20. Supports up to four VLAN managements at present.</li> </ul> Value range: 1 to 4.	Compulsory parameter

### Command example

Check the VLAN management of ONU whose authorization number is 4 of No.1 PON interface in slot 14. The management ID is 1.

```
Admin\gpononu#del manage_vlan slot 14 link 1 onu 4 mgr_id 1
del ONU 15/20 manage vlan 1 ok!
Admin\gpononu#
```

## 10.27 Check ONU's VLAN Management

### Command function

The command is used to check the ONU's VLAN management.

## Command format

```
show [rstp_bridge|cpu_using|optic_module|multicast_table|onu_time|
manage_vlan|el_status|rtt_value] slot [<1-8>|<11-18>] link <1-8> onu <1-
128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the VLAN management of ONU whose authorization number is 4 of No.1 PON interface in slot 14.

```
Admin\gpononu#show manage_vlan slot 14 link 1 onu 4
SLOT=14 PON=1 ONU=4
SN=
----- ONU Manage VLAN, ITEM=1 -----
ONU Manage ID =1
NAME      : manager0
PORT      : 0
TAG       : untag
SVLAN TPID =33024
SVLAN ID  =2
SVLAN COS =7
CVLAN TPID =65535
CVLAN ID  =65535
CVLAN COS =65535
IP        :1.1.1.1/32
MASK      :0.0.0.0
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
ONU Manage ID	Manage the ID.
NAME	Manage the VLAN name.
PORT	Port number
TAG	TAG attribute.
SVLAN TPID	Manage the SVLAN protocol label.
SVLAN ID	Manage SVLAN.
SVLAN COS	Manage SVLAN priority.
CVLAN TPID	Manage the CVLAN protocol label.
CVLAN ID	Manage CVLAN.
CVLAN COS	Manage CVLAN priority.
IP	The equipment manages the IP.
MASK	The equipment manages the IP MASK.

## 10.28 Configure ONU Service Bandwidth

### Command function

The command is used to configure ONU service bandwidth.

### Command format

```
set service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [iptv|
data|voice|tdm|integrated|data2|data3|data4|com] fix <16-128000> assure
<0-128000> max <48-128000>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
<pre>type [iptv data  voice tdm  integrated data2  data3 data4 com]</pre>	Service Type ◆ iptv: IPTV. ◆ data: Access Internet via broadband. ◆ voice: voice. ◆ tdm: TDM. ◆ integrated: Hybrid data service. ◆ data2: Access Internet via broadband 2. ◆ data3: Access Internet via broadband 3. ◆ data4: Access Internet via broadband 4. ◆ com: serial port service.	Compulsory parameter
<pre>fix &lt;16-128000&gt;</pre>	Fixed bandwidth Value range: 16 to 128000.	Compulsory parameter
<pre>assure &lt;0-128000&gt;</pre>	Assured bandwidth Value range: 0 to 128000.	Compulsory parameter
<pre>max &lt;48-128000&gt;</pre>	Maximum bandwidth Value range: 16 to 128000.	Compulsory parameter

## Command example

Configure the ONU service type with authorization number as 1 of No.1 PON interface in slot 14 is voice and the fixed bandwidth is 6400; assured bandwidth is 100 and the maximum bandwidth is 7000.

```
Admin\gpononu#set service_bandwidth slot 14 link 1 onu 1 type voice fix 6400 assure 100
max 7000
set onu service (voice) bandwidth ok.
Admin\gpononu#
```

## 10.29 Delete ONU Service Bandwidth

### Command function

The command is used to delete ONU service bandwidth.

### Command format

```
del service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [iptv|
data|voice|tdm|integrated|data2|data3|data4|com]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
type [iptv data voice tdm integrated data2 data3 data4 com]	Service Type <ul style="list-style-type: none"> <li>◆ iptv: IPTV.</li> <li>◆ data: Access Internet via broadband.</li> <li>◆ voice: voice.</li> <li>◆ tdm: TDM.</li> <li>◆ integrated: Hybrid data service.</li> <li>◆ data2: Access Internet via broadband 2.</li> <li>◆ data3: Access Internet via broadband 3.</li> <li>◆ data4: Access Internet via broadband 4.</li> <li>◆ com: serial port service.</li> </ul>	Compulsory parameter

## Command example

Delete the ONU voice service whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#del service_bandwidth slot 14 link 1 onu 1 type voice
del onu service (voice) bandwidth ok.
Admin\gpononu#
```

## 10.30 Check ONU Service Bandwidth

## Command function

The command is used to check ONU service bandwidth.

## Command format

```
show service_bandwidth slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the service bandwidth of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show service_bandwidth slot 14 link 1 onu 1
SLOT=14 PON=1 ONU=1, ITEM=3
TYPE      FIX      ASSURE  MAX      (Unit:KB/s)
-----
IPTV      16       0       64
Data      16       0       128000
Voice     6400    96      7000
-----
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
TYPE	Service bandwidth type
FIX	Fixed bandwidth
ASSURE	Assured bandwidth
MAX	Maximum bandwidth

# 10.31 Configure ONU WLAN Service

## Command function

The command is used to configure ONU WLAN service.

## Command format

```
set wifi_serv_wlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> index <1-4>
ssid [enable|disable] <ssid> hide [enable|disable] authmode [open|shared|
wepauto|wpa_psk|wpa|wpa2psk|wpa2|wpa/wpa2|wpa_psk/wpa2psk] encrypt_type
[none|wep|tkip|aes|tkipaes] wpakey [<wpakey>|null] interval <0-4194303>
{[radius_serv] [unknown|ipv4|ipv6|ipv4z|ipv6z|dns] <radius_serv> port <0-
65535> pswd <pswd>}*1 {[wep_length] [40bit|104bit] key_index <1-4> wep_key
[<wep_key1>|null] [<wep_key2>|null] [<wep_key3>|null] [<wep_key4>|null]}
*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
index <1-4>	SSID index Value range: 1 to 4.	Compulsory parameter
ssid [enable disable]	SSID enable ◆ enable : enable SSID. ◆ disable : disable SSID.	Compulsory parameter
<ssid>	Service Set Identifier, the name of Wireless Local Area Network, is used to differentiate various networks. Users who pass the identify verification can access the corresponding network. This prevents unauthorized operators from accessing the network. The maximum length is 32 byte.	Compulsory parameter
hide [enable disable]	Whether to hide SSID. If the SSID is hidden, user's PC can not find the SSID. Users can connect the wireless network via configuring SSID manually. ◆ enable: hide. ◆ disable: Does not hide.	Compulsory parameter
authmode [open shared wepauto wpa_psk wpa wpa2psk wpa2 wpa/wpa2 wpa_psk/wpa2psk]	WLAN authentication mode	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
encrypt_type [none wep tkip aes tkipaes]	<p>WLAN encryption type</p> <ul style="list-style-type: none"> <li>◆ When the WLAN encryption mode is OPEN, the WLAN encryption type includes NONE and WEP.</li> <li>◆ When the WLAN encryption mode is SHARED, the WLAN encryption type is WEP.</li> <li>◆ When the WLAN authentication mode is WPAPSK or WPA2PSK, the WLAN encryption mode includes TKIP, AES and TKIPAES.</li> </ul>	Compulsory parameter
wpakey [<wpakey> null]	<p>Pre-shared key of WPA encryption method WPA is the major releases of WEP and reinforces the key protection and the 802.1X protocol.</p> <p>The value should be NULL or less than 64 byte character string.</p> <p>When the authentication mode is WPAPSK or WPA2PSK, the field is valid.</p>	Compulsory parameter
interval <0-4194303>	<p>Upgrades the preview interval of WPA pre-shared key.</p> <p>Value range: 0 to 4194303. The default value is 86400 and the unit is second.</p>	Compulsory parameter
[radius_serv] [unknown ipv4 ipv6 ipv4z ipv6z dns] <radius_serv>	RADIUS server The common INTERNET address.	Compulsory parameter
port <0-65535>	<p>RADIUS server port</p> <p>Value range: 0 to 65535, and the default value is 0.</p>	Compulsory parameter
pswd <pswd>	RADIUS server key The value should be less than 32 byte character string.	Compulsory parameter
[wep_length] [40bit 104bit]	<p>WEP key length When the key mode is WEP, the field is valid.</p> <p>Applicable value:</p> <ul style="list-style-type: none"> <li>◆ 1: 40bit.</li> <li>◆ 2: 104bit.</li> </ul> <p>1 is the default value.</p>	Compulsory parameter
key_index <1-4>	<p>Key index When the key mode is WEP, the field is valid.</p> <p>Value range: 1 to 4, and the default value is 1.</p>	Compulsory parameter
wep_key [<wep_key1> null] [<wep_key2> null] [<wep_key3> null] [<wep_key4> null]	<p>WEP key</p> <ul style="list-style-type: none"> <li>◆ &lt;wep_key1&gt;: The first WEP key.</li> <li>◆ &lt;wep_key2&gt;: The second WEP key.</li> <li>◆ &lt;wep_key3&gt;: The third WEP key.</li> <li>◆ &lt;wep_key4&gt;: The fourth WEP key.</li> </ul> <p>The value should be NULL or less than 32 byte character string for each WEP key.</p>	Compulsory parameter

## Command example

Configure the ONU with authorization No. as 2 of No.1 PORT interface in slot 14 as follows: the SSID index is 1; Enable SSID; The SSID is 1; Hides the SSID; The WLAN authorization mode is OPEN; The WLAN key type is NONE; The pre-shared key of WPA encryption mode is NULL; The WPA key upgrade interval is 86400.

```
Admin\gpononu#set wifi_serv_wlan slot 14 link 1 onu 2 index 1 ssid enable 1 hide enable
authmode open encrypt_type none wpakey null interval 86400
set hg wifi config ok!
Admin\gpononu#
```

## 10.32 Delete ONU WLAN Service

### Command function

The command is used to delete ONU WLAN service configuration.

### Command format

```
del wifi_serv_wlan slot [<1-8>|<11-18>] link <1-8> onu <1-128> [index <1-4>|
all]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
index [ <1-4> all]	SSID index Value range: 1 to 4.	Compulsory parameter

### Command example

Delete the ONU whose authorization number is 1 of No.1 PON interface in slot 14.  
Delete the ONU WLAN service configuration whose SSID index is 1.

```
Admin\gpononu#del wifi_serv_wlan slot 14 link 1 onu 2 1
del hg wifi config 1 ok!
Admin\gpononu#
```

## 10.33 Restart ONU FE Port

### Command function

The command is used to restart the ONU FE port.

### Command format

```
reset feport slot [<1-8>|<11-18>] link <1-8> onu <1-128> fe <fe_list>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
fe <fe_list>	FE port number of ONU Below are three methods to input: <ul style="list-style-type: none"> <li>◆ Single selection mode: 1, 2, 3 can select signal port.</li> <li>◆ Multiple selection mode: 1 to 3 and 1 to 3, 4, 5 can select multiple ports.</li> <li>◆ Overall selection mode: all.</li> </ul> Value range: 1 to 32.	Compulsory parameter

### Command example

Restart all FE ports of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#reset feport slot 14 link 1 onu 1 fe all
reset feport ok!
Admin\gpononu#
```

## 10.34 Restart ONU

### Command function

The command is used to restart ONU. After restarting, the ONU registers to the OLT.

### Command format

```
reset slot [<1-8>|<11-18>] link <1-8> onulist <onulist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onulist <onulist>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Restart the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#reset slot 14 link 1 onulist 1
reset onu ok!
Admin\gpononu#
```

## 10.35 Configure ONU MAC Address Aging Time

### Command function

The command is used to configure ONU aging time. The command is used to configure ONU MAC address aging time. Time after the ONU joins in the address table from one MAC address. If each port fails to receive the frame whose source address is the MAC address within the aging time, the MAC address will be deleted from the dynamic MAC address table.

## Command format

```
set aging_time slot [<1-8>|<11-18>] link <1-8> onu <1-128> time <0-300>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
time <0-300>	ONU aging time Value range: 0 to 300. The unit is second and the default value is 80.	Compulsory parameter

## Command example

Configure the aging time of the ONU MAC address is 300 and the ONU's authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#set aging_time slot 14 link 1 onu 1 time 300
set onu mac address ageing time ok!
Admin\gpononu#
```

# 10.36 Check ONU MAC Address Aging Time

## Command function

The command is used to check ONU MAC address aging time.

## Command format

```
show aging_time slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the aging time of the ONU MAC address whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show aging_time slot 14 link 1 onu 1
ONU MAC ADDRESS AGING TIME = 300s
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
ONU MAC ADDRESS AGING TIME	ONU MAC address aging time.

# 10.37 Configure ONU Authorization Type

## Command function

The command is used to configure the ONU authorization type.

## Command format

```
set auth_type slot [<1-8>|<11-18>] link <1-8> onu <1-128> type [mac|loid|
loidonceon|psw|pswonceon]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
type [mac loid loidonceon psw pswonceon]	ONU authorization mode	Compulsory parameter

## Command example

Configure the authorization mode of ONU based on the MAC address authentication. The ONU's authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#set auth_type slot 14 link 1 onu 1 type mac
set onu authtype ok!
Admin\gpononu#
```

## 10.38 Check ONU Authorization Type

### Command function

The command is used to check the ONU authorization type.

### Command format

```
show auth_type slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the authorization type of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show auth_type slot 14 link 1 onu 1
AUTH TYPE STR : mac
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
AUTH TYPE STR	Authorization type character string.

# 10.39 Authorizing an ONU

## Command function

This command is used to authorize an ONU.

## Command format

```
set authorization slot [<1-8>|<11-18>] link <1-8> type [5006-02|5006-02A|
5006-03|5006-04|5006-05|5006-05A|5006-06A|5006-06B|5006-06C|5006-06D|
5006-07A|5006-07B|5006-08A|5006-08B|other1|other2|other3|other4|other6|
other7|5006-03C|5006-04C|5006-02C|5006-05C|5006-09A|5006-09B|5006-10|
5006-12|5006-07C|5006-16|5006-06A-A|5006-10B|HG220|5006-04-P1|5006-01-
A|5006-04-P2|5006-01-B|5200-04-A|5200-10-A|5200-10-B|HG226|5006-03-AK|
5006-09-AK|other|5506-04-B|5506-04-A|5506-06-E|5506-07-B|5506-07-A2|
5506-04-C1|5506-07-A1|5506-07-B1|5506-09-A1|5506-09-B1|5506-10-A1|5506-
10-B1|5506-04-F1|5506-04-G1|5506-04-A1G|5506-04-B2G|5506-01-A1|5506-01-
```

```
B1|5506-04-P1|HG260|5006-15|5006-20|5006-11|HG266|5506-06-A|5506-09-
A1K] onuid <1-128> phy_id <phy_id_str> {[password] [<password>|null]}*1
{[logic_sn] <logic_sn_str> password [<password>|null]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number The value ranges from 1 to 8 and 11 to 18.	Compulsory parameter
link <1-8>	The PON interface number The value ranges from 1 to 8.	Compulsory parameter
type [...]	ONU type	Compulsory parameter
onuid <1-128>	The ONU authorization number The value ranges from 1 to 128.	Compulsory parameter
phy_id <phy_id_str>	The physical identifier The value is a 12-byte character string like FHTT11223344 or 000AC2112233.	Compulsory parameter
{[password] [<password> null]}*1	The physical password The password is a character string not exceeding 10 bytes or NULL.	Optional parameter
[logic_sn] <logic_sn_str>	The logical identifier The identifier is a character string not exceeding 24 bytes.	Optional parameter
password [<password>  null]	The logical password The password is a character string not exceeding 10 bytes or NULL.	Optional parameter

## Command example

Authorize a 5506-04-b2g type ONU at No.1 PON interface in Slot 14. The authorization number is 1, the physical address is FHTT00030405, and the password is NULL.

```
Admin\gpononu#set authorization slot 14 link 1 type 5506-04-b2g onuid 1 phy_id
FHTT00030405 password null
set onu authcated cmd ok!
Admin\gpononu#
```

## 10.40 Configure ONU Deauthorization

### Command function

The command is used to configure the ONU deauthorization.

### Command format

```
set unauthorization slot [<1-8>|<11-18>] link <1-8> onu [<1-128>|all]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu [<1-128> all]	ONU authorization number ◆ <1-128>: The value rang is from 1 to 128. ◆ all: Deauthorizes the authorized ONU.	Compulsory parameter

### Command example

Deauthorize the No.1 ONU with No.1 PON interface in slot 14.

```
Admin\gpononu#set unauthorization slot 14 link 1 onu 1
set onu unauthcated ok!
Admin\gpononu#
```

## 10.41 Check ONU Authorization Table

### Command function

The command is used to check the ONU authorization table.

### Command format

```
show [authorization|discovery] slot [<1-8>|<11-18>] link <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter

## Command example

Check the authorization table of No.1 PON interface in slot 14.

```
Admin\gpononu#show authorization slot 14 link 1
----- ONU Auth Table, ITEM=1 -----
SLOT PON ONU      TYPE      ST      PHY_ID      PWD      SN LOID, SN PWD
-----
   14   1   1 AN5506-04-B2G  A FHTT00030405      ,
A: Authorized  P: Preauthorized  R: System Reserved
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
SLOT	Slot number
PON	Port interface number
ONU	ONU authorization number
TYPE	ONU authorization type
ST	Authorize the ONU status.
PHY_ID	ONU physical SN
PWD	ONU physical key
SN LOID	OUN logical SN
SN PWD	OUN logical key

# 10.42 Check ONU Discovery Table

## Command function

The command is used to check the ONU discovery table.

## Command format

```
show [authorization|discovery] slot [<1-8>|<11-18>] link <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter

## Command example

Check the discovery table of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show discovery slot 14 link 1
----- ONU Unauth Table ,SLOT=11 PON=2 ,ITEM=1-----
NO          TYPE          PHY_ID          PWD          SN LOID, SN PWD
--  -----  -
01          HG266          FHTT00266b15          hg26677715,
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
NO	Discovers the entry number of ONU table.
TYPE	ONU authorization type
PHY_ID	ONU physical SN
PWD	ONU physical key
SN LOID	OUN logical SN
SN PWD	OUN logical key

# 10.43 Check ONU Online Table

## Command function

The command is used to check the ONU online table.

## Command format

```
show online slot [<1-8>|<11-18>] link <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter

## Command example

Check the ONU online table of No.1 PON interface in slot 14.

```
Admin\gpononu#show online slot 14 link 1
ONLINE ONU TOTAL NUM = 1
ONU     ONUTYPE      SN           PASSWORD     LOGICAL SN
-----
01     AN5506-04-B2G  FHTT00030405
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
ONUID	ONU authorization number
ONUTYPE	ONU authorization type
SN	ONU physical SN
PASSWORD	ONU physical key
SN LOID	OUN logical SN
SN PWD	OUN logical key

# 10.44 Configure ONU Authorization Status

## Command function

The command is used to configure the ONU authorization status.

## Command format

```
set authstatus slot [<1-8>|<11-18>] link <1-8> onu <1-128> status [auth|
preauth|reserved]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
status [auth preauth reserved]	Configure ONU Authorization Status <ul style="list-style-type: none"> <li>◆ auth: Authorized.</li> <li>◆ preauth: Pre-authorization.</li> <li>◆ reserved: reserved by the system.</li> </ul>	Compulsory parameter

## Command example

Configure the authorization status of ONU whose authorization number is 1 of No.1 PON interface in slot 14 as Authorized.

```
Admin\gpononu#set authstatus slot 14 link 1 onu 1 status auth
set onu authstatus cmd ok!
Admin\gpononu#
```

## 10.45 Configure the MAC Address Limit of the ONU FE Port

### Command function

The command is used to configure the MAC address limit number of the ONU FE port. The designated MAC address should be online of each port. The number of PCs which use the port should be limited, so as to control the network traffic and avoid blocking.

The AN5006-04B, AN5006-07B and HG220 all support the command.

## Command format

```
set mac_limit slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <0-24> limit
<0-255>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port <0-24>	OUN port number Value range: 1 to 32.	Compulsory parameter
limit <0-255>	The MAC address limits the number. The maximum MAC address is limited for each FE port. The MAC address of FE port is limited to the maximum online MAC address of the port. Value range: 0 to 255. 64 is the default value.	Compulsory parameter

## Command example

Configure the MAC address limit of the ONU MAC address is 64 and the ONU's authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#set mac_limit slot 14 link 1 onu 1 port 1 limit 64
set fe port mac limit ok!
Admin\gpononu#
```

## 10.46 Check the MAC Address Limit Number of the ONU FE Port

### Command function

Check the MAC address limit number of the ONU FE port.

### Command format

```
show mac_limit slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	Port interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port <1-24>	OUN port number Value range: 1 to 24.	Compulsory parameter

## Command example

Configure the MAC address limit number of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show mac_list slot 14 link 1 onu 1 port 1
SLOT=14 PON=1 ONU=1
-----
PORT=0 , MAC LIMIT NUM : 0
PORT=1 , MAC LIMIT NUM : 64
PORT=2 , MAC LIMIT NUM : 0
PORT=3 , MAC LIMIT NUM : 0
PORT=4 , MAC LIMIT NUM : 0
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
SLOT	Slot number
PON	PON interface number
ONU	ONU authorization number
PORT	ONU LAN interface number
MAC LIMIT NUM	The MAC address limit number of the corresponding port of port number.

## 10.47 Configure the MAC Address Table of the ONU FE Port

### Command function

The command is used to check the MAC address of the ONU FE port.

### Command format

```
show mac_list slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <0-24> {lookup
<mac_address>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port <0-24>	OUN port number Value range: 1 to 32.	Compulsory parameter
{lookup <mac_address>} *1	MAC address	Optional parameter

### Command example

Configure the MAC address of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show mac_list slot 14 link 1 onu 1 port 1
SLOT=14 PON=1 ONU=1 PORT=1
-----MAC LIST, ITEM =1
1 544B900386C0 Vid:100
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
SLOT	Slot number
PON	PON port number

Parameter	Parameter Description
ONU	ONU authorization number
PORT	OUN port number
MAC LIST, ITEM=1	The entry number is 1.
Vid:100	The value of the VLAN ID is 100.

## 10.48 Configure ONU Feed Mode

### Command function

The command is used to configure the ONU feed mode.

### Command format

```
set ps_mode_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> mode [auto|
manual]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
mode [auto manual]	Feed mode ◆ auto: Automatic mode ◆ manual: Manual mode	Compulsory parameter

### Command example

Configure the feed mode of ONU whose authorization number is 1 of No.1 PON interface in slot 14 as auto.

```
Admin\gpononu#set ps_mode_cfg slot 14 link 1 onu 1 mode auto
set onu ps mode cfg ok!
Admin\gpononu#
```

## 10.49 Check ONU Feed Mode

### Command function

The command is used to check the ONU feed mode.

### Command format

```
show [ps_mode_cfg] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Check the feed mode of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show ps_mode_cfg slot 14 link 1 onu 1
PS MODE CFG : auto
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
PS MODE CFG	Feed mode

## 10.50 Check ONU Feed Information

### Command function

The command is used to check the ONU feed information.

## Command format

```
show [ps_info] slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the feed information of ONU whose authorization number is 1 of No.1 PON interface in slot 5.

```
Admin\gpononu#show ps_info slot 5 link 1 onu 3
POW POWER : 4.40 (W)
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
POW POWER	ONU POE actual supplied power.

# 10.51 Configure ONU Remote Management

## Command function

The command is used to configure the ONU remote management, i.e., configure the TR069 remote management function.

The HG260 supports the command.

## Command format

```
set remote_manage_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> {[tr069]
[enable|disable] acs_url <acs_url> acl_user <acl_user> acl_pswd <acl_pswd>}
*1 {[inform] [enable|disable] interval <0-4294967295> port <0-65534> user
<user> pswd <pswd>}*1 {[middleware] [enable|disable] url <url> port <0-
65534>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
[tr069] [enable disable]	TR069 function ◆ enable : enable the TR069 function. ◆ disable : disable the TR069 function.	Optional parameter
acs_url <acs_url>	The URL of ACS server provided by the ISP.	Optional parameter
acl_user <acl_user>	The username to connect with the ACS server. The authentication username which the terminal equipment sends the connection request to the ACS server.	Optional parameter
acl_pswd <acl_pswd>	The key to connect with the ACS server. The authentication key which the terminal equipment sends the connection request to the ACS server.	Optional parameter
[inform] [enable disable]	The periodical notification function, performs periodical communication between the equipment and the ACS server of the ISP. After reaching the reporting period, the equipment automatically reports the Inform message, so as to realize the communication interaction. ◆ enable : enable the periodical notification function. ◆ disable : disable the periodical notification function.	Optional parameter
interval <0-4294967295>	The periodical notification interval. In the prerequisite of starting the periodical notification, when reaching the periodical notification interval, the equipment automatically performs the verification connection with the ISP's ACS server. Value range: 0 to 4294967295. The default value is 43200 and the unit is second.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
port <0-65534>	The port of backward connection. The port which the ACS server initiates the connection request with the terminal equipment to perform user authentication. Value range: 0 to 65534, and the default value is 8099.	Optional parameter
user <user>	The port of backward connection. The username which the ACS server initiates the connection request with the terminal equipment to perform user authentication.	Optional parameter
pswd<pswd>	The key of backward connection. The password which the ACS server initiates the connection request with the terminal equipment to perform user authentication.	Optional parameter
[middleware] [enable disable]	Middleware function ◆ enable : enable the middleware function. ◆ disable : disable the middleware function.	Optional parameter
url <url>	The middleware URL. The URL which the ISP designates the middleware server.	Optional parameter
port <0-65534>	The middleware port. The port which the ISP designates the middleware server. The value range is from 0 to 65534.	Optional parameter

### Command example

Configure the remote management of ONU whose authorization number of No.1 PON port in slot 14 is 2. Configure as follows: Enable the TR069; the ACS server's URL is fh. The usermane to connect the ACS server is customer; The key to connect the ACS server is en. Enable the middleware. The middleware URL is fht. The middleware port is 20.

```
Admin\gpononu#set remote_manage_cfg slot 14 link 1 onu 2 tr069 enable acs_url fh
acl_user customer acl_pswd en inform enable interval 43200 port 8099 user fhtx pswd en
middleware enable url fht port 20
set hg remote manage config ok!
Admin\gpononu#
```

## 10.52 Configure ONU Static Router

### Command function

The command is used to configure the static router information from the ONU to the destination network.

## Command format

```
set static_route slot [<1-8>|<11-18>] link <1-8> onu <1-128> {route <A.B.C.D>
mask <1-32> gateway <A.B.C.D>}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
route <A.B.C.D>	The destination network address. Value range: 0x0 to 4294967295.	Optional parameter
mask <1-32>	Mask Value range: 1 to 32.	Optional parameter
gateway <A.B.C.D>	Gateway Value range: 0x0 to 4294967295.	Optional parameter

## Command example

Configure the items of ONU whose authorization number is 2 of N0.1 PON port in slot 14 as follows: The destination network address is 10.10.1.120, the mask is 16 and the gateway is 10.10.1.254.

```
Admin\gpononu#set static_route slot 14 link 1 onu 2 route 10.10.1.120 mask 16 gateway
10.10.1.254
set ONU 20 static route ok!
Admin\gpononu#
```

## 10.53 Configure ONU Static Router

### Command function

The command is used to check the ONU static router.

## Command format

```
show static_route slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the static router of ONU whose authorization number is 2 of No.1 PON interface in slot 14.

```
Admin\gpononu#show static_route slot 14 link 1 onu 2
----- ONU VLAN MULTICAST STATISTIC ITEM(1) -----
NO.   ROUTE           MASK   GATEWAY
----  -
   1   10.10.1.120     16     10.10.1.254
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
NO	The entry number of static router table
ROUTE	The router destination IP
MASK GATEWAY	Mask
GATEWAY	Gateway

## 10.54 Configure ONU White List

### Command function

The command is used to configure the ONU physical identifier authentication white list. The ONU in the white list can be authorized only when the EPON ONU authentication mode is the physical identifier authentication and the physical address/logical identifier hybrid authentication or physical identifier/logical identifier (without key) hybrid authentication and when the GPON ONU authentication mode is physical identifier authentication or physical identifier plus key authentication.

### Command format

```
set whitelist {[phy_addr] address <address> password [<pwd_str>|null]}*1
{[password] password <pwd_str>}*1 {[logic_sn] sn <sn_str> password
[<pswd_str>|null]}*1 action [add|delete] {slot [<1-8>|<11-18>|null] link
[<1-8>|null] onu [<1-128>|null] type [5006-02|5006-02A|5006-03|5006-04|
5006-05|5006-05A|5006-06A|5006-06B|5006-06C|5006-06D|5006-07A|5006-07B|
5006-08A|5006-08B|other1|other2|other3|other4|other6|other7|5006-03C|
5006-04C|5006-02C|5006-05C|5006-09A|5006-09B|5006-10|5006-12|5006-07C|
5006-16|5006-06A-A|5006-10B|5006-04-P1|5006-01-A|5006-04-P2|5006-01-B|
5200-04-A|5200-10-A|5200-10-B|HG226|5006-03-AK|5006-09-AK|other|5506-
04-B|5506-04-A|5506-06-E|5506-07-B|5506-07-A2|5506-04-C1|5506-07-A1|
5506-07-B1|5506-09-A1|5506-09-B1|5506-10-A1|5506-10-B1|5506-04-F1|5506-
04-G1|5506-04-A1G|5506-04-B2G|5506-01-A1|5506-01-B1|5506-04-P1|HG220|
HG260|5006-15|5006-20|5006-11|HG266|5506-06-A|5506-09-A1K|null]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[phy_addr] address <address>	ONU physical key The value is the 12 byte character string, such as FHTT11223344 and 000AC2112233.	Compulsory parameter
password [<pwd_str>  null]	ONU key ◆ <pwd_str>: The format should not exceed 10 byte character string. ◆ null:Means idle or empty.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
{[password] password <pwd_str>*1	ONU physical key The value should be less than 10 byte character string.	The physical and logical address is optical parameter in the SN authentication mode. The physical and logical address is compulsory parameter.
[logic_sn] sn <sn_str>	OUN logical identifier The value is the 12 byte character string, such as FHTT11223344 and 000AC2112233.	Optional parameter
password [<pwd_str> null]	OUN logical key ◆ <pwd_str>: The format should not exceed 10 byte character string. ◆ null:Means idle or empty.	Optional parameter
action [add delete]	Action ◆ add: Adds the white list. ◆ delete: Deletes the white list.	Compulsory parameter
slot [<1-8> <11-18>  null]	Slot number Value range: 1 to 8, 11 to 18.	Optional parameter
link [<1-8> null]	PON interface number Value range: 1 to 8.	Optional parameter
onu [<1-128> null]	ONU authorization number Value range: 1 to 128.	Optional parameter
type [.....]	ONU type The ONU types are EPON, GPON and OEM. Select NULL not to designate the ONU type.	Optional parameter

## Command example

Configure the ONU physical address as FHTT0003040 and the key is null; Add the white list and The ONU type whose authorization No. is 1 of No.1 PON port in slot 14.

```
Admin\gpononu#set whitelist phy_addr address FHTT00030405 password null action add
slot 14 link 1 onu 1 type 5506-04-b2g
set onu whitelist ok!
Admin\gpononu#
```

## 10.55 Check the OUN White List

### Command function

The command is used to check the ONU white list.

### Command format

```
show whitelist [phy_addr|password|logic_sn]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
whitelist [phy_addr  password  logic_sn]	White list ◆ phy_addr: Physical identifier white list. ◆ password: Password white list. ◆ logic_sn: Logical identifier white list.	Compulsory parameter

### Command example

Check the physical identifier white list.

```
Admin\gpononu#show whitelist phy_addr
----- Physical Address Whitelist, ITEM=1 -----
SLOT  PON   ONU      TYPE          PHY_ID        PWD
-----
    14    1     1  AN5506-04-B2G  FHTT00030405
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
SLOT	Slot number of the white list.
PON	PON interface number of the white list.
ONU	ONU authorization number of the white list.
TYPE	ONU type of the white list.
PWD	Key character string of the white list.

## 10.56 Check the OUN White List Status

### Command function

The command is used to check the ONU white list status.

### Command format

```
show whitelist_status [phy_addr|password|logic_sn] [select|all] {[address]
<address>}*1 {[password] <pwd_str>}*1 {[sn] <sn_str>}password<sn_str>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[phy_addr password logic_sn]	<ul style="list-style-type: none"> <li>◆ phy_addr: Physical identifier white list.</li> <li>◆ password: Password white list.</li> <li>◆ logic_sn: Logical identifier white list.</li> </ul>	Compulsory parameter
[select all]	<ul style="list-style-type: none"> <li>◆ select: Selects a certain white list.</li> <li>◆ all: All white list.</li> </ul>	Compulsory parameter
{[address] <address>}*1	Physical identifier	Optional parameter
{[password] password <pwd_str>}*1	Physical identifier key	Optional parameter
[sn] <sn_str>	OUN logical identifier	Optional parameter
password <sn_str>	Physical identifier key	Optional parameter

### Command example

Check the physical identifier white list status.

```
Admin\gpononu#show whitelist_status phy_addr all
----- Physical Address Whitelist Status, ITEM=1 -----
SLOT  PON   ONU      TYPE      STATUS  PHY_ID
-----
      14    1      1  AN5506-04-B2G  Auth   FHTT00030405
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
SLOT	Slot number of the white list.
PON	PON interface number of the white list.

Parameter	Parameter Description
ONU	ONU authorization number of the white list.
TYPE	ONU type of the white list.
STATUS	Authorization status of the white list.
PHY_ID	Key character string of the white list.

## 10.57 Configure ONU WIFI Service Parameter

### Command function

The command is used to configure the ONU WIFI service, I.E., configure the WIFI service parameter of the ONU or HG.

The HG260 supports the command.

### Command format

```
set wifi_serv_cfg slot [<1-8>|<11-18>] link <1-8> onu <1-128> wifi [enable|
disable] district [etsi|fcc] channel <0-13> {[standard] [802.11b|802.11g|
802.11b/g|802.11n|802.11bgn]}*1 {[txpower] <0-20>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
wifi [enable disable]	WIFI enable function ◆ enable : enable the WIFI function. ◆ disable : disable the WIFI function.	Compulsory parameter
district [etsi fcc]	Wireless area. The wireless standard which the WIFI service uses. ◆ etsi: Europe. ◆ fcc: America. Europe is the default value.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
channel <0-13>	<p>Wireless channel number. The wireless channel number occupied by the service.</p> <ul style="list-style-type: none"> <li>◆ When the wireless area is Europe, the value range is from 0 to 13.</li> <li>◆ When the wireless area is America, the value range is from 0 to 11.</li> </ul> <p>The default value is 0 and indicates the wireless channel number is selected automatically.</p>	Compulsory parameter
{ [standard] [802.11b 802.11g 802.11b/g 802.11n 802.11bgn]}*1	<p>Wireless standard 802.11 is the default value.</p>	Optional parameter
{ [txpower] <0-20>*1	<p>Tx power The value range is from 0 to 20. The default value is 20 and the unit is Dbm.</p>	Optional parameter

### Command example

Configure the WIFI enable wireless area is Europe of the ONU whose authorization number is 2 of No.1 PON port in slot 14.

```
Admin\gpononu#set wifi_serv_cfg slot 14 link 1 onu 2 wifi enable district etsi channel 10
standard 802.11bgn txpower 4
set hg wifi server config ok!
Admin\gpononu#
```

## 10.58 Check ONU Activation Status

### Command function

The command is used to check the ONU activation status.

### Command format

```
show onu_state slot [<1-8>|<11-18>] link <1-8> onulist <onulist>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu < onulist >	ONU authorization number Below are three methods to input: <ul style="list-style-type: none"> <li>◆ Single selection mode: 1, 2, 3 can select a signal ONU.</li> <li>◆ Multiple selection mode: 1 to 3 and 1 to 3, 4, 5 can select multiple ONUs.</li> <li>◆ Overall selection mode: all.</li> </ul> Value range: 1 to 128.	Compulsory parameter

## Command example

Check the activation status of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show onu_state slot 14 link 1 onulist 1
onu 1 is active.
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
ONU	ONU authorization number
[active inactive]	Activates the status character.

# 10.59 Check ONU Version Information

## Command function

The command is used to check the ONU version information.

## Command format

```
show onu_ver slot [<1-8>|<11-18>] link <1-8>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter

### Command example

Check the version information of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show onu_ver slot 14 link 1
----- ONU Version Info.  SLOT=14,PON=1,ITEM=1 -----
ONU_ID  CONFIG_TYPE      REAL_TYPE          SOFT_VER          HARD_VER
-----
      01      AN5506-04-B2G    AN5506-04-B2G    RP2108   WKE2.119.379R1B
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
ONU_ID	ONU authorization number
CONFIG_TYPE	ONU type
REAL_TYPE	ONU actual type
SOFT_VER	ONU software version.
HARD_VER	ONU hardware version.

## 10.60 Check ONU FE Interface Status

### Command function

The command is used to check the ONU FE interface status.

### Command format

```
show feport_status slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the FE interface status of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show feport_status slot 14 link 1 onu 1
```

```
----- ONU FE PORT STATUS -----  
SLOT:14 PON:1 ONU:1 , ITEM=4
```

```
PORT ID = 1  
PORT CONNECT : Not Linked  
FLOW CONTROL : disable  
PORT PHY STATE : enable  
AUTO NEGOTIATE : enable  
PORT RATE : 10M  
PORT CONNECT : half  
LOOPBACK STATUS : normal
```

```
PORT ID = 2  
PORT CONNECT : Not Linked  
FLOW CONTROL : disable  
PORT PHY STATE : enable  
AUTO NEGOTIATE : enable  
PORT RATE : 10M  
PORT CONNECT : half  
LOOPBACK STATUS : normal
```

```
PORT ID = 3  
PORT CONNECT : Not Linked  
FLOW CONTROL : disable  
PORT PHY STATE : enable  
AUTO NEGOTIATE : enable
```

```

PORT RATE      : 10M
PORT CONNECT   : half
LOOPBACK STATUS : normal

PORT ID = 4
PORT CONNECT   : Not Linked
FLOW CONTROL   : disable
PORT PHY STATE : enable
AUTO NEGOTIATE : enable
PORT RATE      : 10M
PORT CONNECT   : half
LOOPBACK STATUS : normal
Admin\gpononu#

```

### Result description

Parameter	Parameter Description
PORT ID	FE interface ID
PORT CONNECT	FE interface connection status
FLOW CONTROL	FE interface traffic status
PORT PHY STATE	FE interface enable status
AUTO NEGOTIATE	FE interface adaptive status
PORT RATE	FE interface rate
PORT CONNECT	FE interface connection status (full/half duplex status)
LOOPBACK STATUS	FE interface loopback status

## 10.61 Configure Performance Threshold of the ONU LAN Port

### Command function

The command is used to configure the performance threshold of the ONU LAN port.

Applicable for the ONU of the AN5506-06-E type.

### Command format

```

set crc_threshold slot [<1-8>|<11-18>] link <1-8> onu <1-128> port <portlist>
up_threshold <value> down_threshold <value>

```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>crc_threshold</code>	CRC threshold	Compulsory parameter
<code>slot [&lt;1-8&gt; &lt;11-18&gt;]</code>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
<code>link &lt;1-8&gt;</code>	PON port number Value range: 1 to 8.	Compulsory parameter
<code>onu &lt;1-128&gt;</code>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
<code>port &lt;portlist&gt;</code>	OUN port number Value range: 1 to 32. The portlist allows users to input 1, 2, 3 or 1 to 3 or the compound mode, such as 1-3/4/5 to indicate that multiple ports are selected.	Compulsory parameter
<code>up_threshold &lt;value&gt;</code>	Threshold value of the uplink CRC Value range: 0 to 4294967294.	Compulsory parameter
<code>down_threshold &lt;value&gt;</code>	Threshold value of the downlink CRC Value range: 0 to 4294967294.	Compulsory parameter

## Command example

The ONU's authorization number is 1 of No.1 PON interface in slot 14. Configure the uplink CRC threshold value of the ONU 's No.1 port as 100000 and the downlink CRC threshold of that is 2000.

```
Admin\gpononu#set crc_threshold slot 14 link 1 onu 3 port 1 up_threshold 100000
down_threshold 2000
set crc threshold of onu ok!
Admin\gpononu#
```

## 10.62 Check the ONU's CPU and Memory Utilization Ratio

## Command function

The command is used to check the CPU of the ONU and the memory utilization ratio.

## Command format

```
show cpu_using slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the CPU of the ONU whose authorization number is 1 of No.1 PON interface in slot 14 and the memory utilization ratio.

```
Admin\gpononu#show cpu_using slot 14 link 1 onu 1
----- ONU CPU & Memory Using -----
CPU      : 0.00%
Memory   : 60.90%
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
CPU	The CPU utilization ration of the ONU
Memory	The ONU memory utilization ratio.

# 10.63 Check the ONU Optical Module Parameter Information

## Command function

The command is used to check the ONU optical module parameter information.

## Command format

```
show optic_module slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the optical module parameter information of the No.16 ONU of No.2 PON port in slot 11.

```
Admin\gpononu#show optic_module slot 11 link 2 onu 16
----- ONU OPTIC MODULE PAR INFO 11.2.16-----
NAME          VALUE      UNIT
-----
TYPE           : 20      (KM)
TEMPERATURE    : 33.07   ('C)
VOLTAGE        : 3.28   (V)
BIAS CURRENT   : 7.50   (mA)
SEND POWER     : -0.10   (Dbm)
RECV POWER     : -13.07  (Dbm)
OLT RECV POWER: -16.17  (Dbm)
Admin\gpononu#
```

## Result description

Parameter	Parameter Description
TYPE	Optical module type
TEMPERATURE	Optical module temperature
VOLTAGE	Optical module voltage
BIAS CURRENT	Optical module bias current
SEND POWER	Tx optical power of optical module
RECV POWE	Rx optical power of optical module
OLT RECV POWER	The OLT receives the optical power of the ONU optical module.

## 10.64 Check the ONU Multicast Address Table

### Command function

The command is used to check the ONU multicast address table.

### Command format

```
show multicast_table slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Check the multicast address table of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show multicast_table slot 14 link 1 onu 1
ONU Multicast Table ,ITEM=16
PORT 1 ,MULTICAST IP : 226.2.2.1
PORT 1 ,MULTICAST IP : 226.2.2.2
PORT 1 ,MULTICAST IP : 226.2.2.3
PORT 1 ,MULTICAST IP : 226.2.2.4
PORT 1 ,MULTICAST IP : 226.2.2.5
PORT 1 ,MULTICAST IP : 226.2.2.6
PORT 1 ,MULTICAST IP : 226.2.2.7
PORT 1 ,MULTICAST IP : 226.2.2.8
PORT 1 ,MULTICAST IP : 226.2.2.9
PORT 1 ,MULTICAST IP : 226.2.2.10
PORT 1 ,MULTICAST IP : 226.2.2.11
PORT 1 ,MULTICAST IP : 226.2.2.12
PORT 1 ,MULTICAST IP : 226.2.2.13
PORT 1 ,MULTICAST IP : 226.2.2.14
PORT 1 ,MULTICAST IP : 226.2.2.15
```

```
PORT 1 ,MULTICAST IP : 226.2.2.16
```

## Result description

Parameter	Parameter Description
ITEM	The multicast entry items which the OTN add
PORT	The FE port which the current multicast table entry belongs
MULTICAST IP	The multicast IP of the current multicast table entry

## 10.65 Check ONU's Current Time

### Command function

The command is used to check ONU current time.

### Command format

```
show onu_time slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
onu_time	ONU's Current Time	Compulsory parameter
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Check the current time of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show onu_time slot 14 link 1 onu 1
CARD 14 PON 1 ONU 1, TIMESHOW
Sys Date: 2011-11-21 14:42:44
Run Time: 0days 3h 11m 38s
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
Sys Date	ONU system date
Run Time	ONU's in-service time

## 10.66 Check ONU Ranging Value

### Command function

The command is used to check ONU ranging value.

### Command format

```
show rtt_value slot [<1-8>|<11-18>] link <1-8> onu <1-128>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Check the ranging value of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\gpononu#show rtt_value slot 14 link 1 onu 1
ONU RTT VALUE = 16 (m)
Admin\gpononu#
```

### Result description

Parameter	Parameter Description
ONU RTT VALUE	The ONU ranging value



# 11 GPONLINE Directory Command

---

- Bind QinQ Profile
- Unbind QinQ Profile
- Check QinQ Profile
- Configure Wire Card's PON Interface Packet suppression
- Enforce the Wire Card's PON Port Packet Suppression
- Check the Wire Card's PON Port Packet Suppression
- Bind Alarm Profile to Wire Card and PON Port
- Check Alarm Profile Binding to Wire Card and PON Port
- Configure PON Protection Group
- Delete PON Protection Group
- Check PON Protection Group
- Check PON Protection Status
- Configure Forced Switch of PON Protection Group
- Configure PON Interface Bandwidth
- Check PON Interface Bandwidth
- Configure Alarm Threshold of Wire Card CPU Memory Utilization Ratio
- Check Alarm Threshold of Wire Card CPU Memory Utilization Ratio
- Configure PON Interface Shutdown
- Check PON Interface Shutdown
- Configure ONU Automatic Discovery

- Check ONU Automatic Discovery
- Configure Optical Module Type
- Check Optical Module Type
- Configure Alarm Threshold of Optical Module
- Check Alarm Threshold of Optical Module
- Configure PON Interface Authentication Mode
- Check PON Interface Authentication Mode
- Check ONU Batch Upgrade Status
- Check Wire Card's CPU and Memory Utilization Ratio
- Check Wire Card Multicast Address Table
- Check Parameter Information of the Optical Module on the PON Interface
- Check PON Interface MAC Address Table
- Check Wire Card Current Time

## 11.1 Bind QinQ Profile

### Command function

The command is used to bind the QinQ profile to wire card and PON interface.

### Command format

```
set attach_qinq_profile slot [<1-8>|<11-18>] link <1-8> id <idlist>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter
id <idlist>	The ID of the GPON OLT VLAN table Value range: 1 to 4096.	Compulsory parameter

### Command example

Bind the QinQ profile to the No.1 PON port in slot 15 and the table ID is 1.

```
Admin\gponline#set attach_qinq_profile slot 15 link 1 id 1
attach qinq profile 1 ok!
Admin\gponline#
```

## 11.2 Unbind QinQ Profile

### Command function

The command is used to unbind the QinQ profile to wire card and PON interface.

### Command format

```
set unattach_qinq_profile slot [<1-8>|<11-18>] link <1-8> id <idlist>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
id <idlist>	The ID of the GPON OLT VLAN table Value range: 1 to 4096.	Compulsory parameter

## Command example

Unbind the QinQ profile whose table ID is 1 of No.1 PON interface in slot 15.

```
Admin\gponline#set unattach_qinq_profile slot 15 link 1 id 1
unattach qinq profile 1 ok!
Admin\gponline#
```

# 11.3 Check QinQ Profile

## Command function

The command is used to check the QinQ profile binding condition of PON interface in the wire card.

## Command format

```
show attach_qinq_profile slot [<1-8>|<11-18>]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

## Command example

Check the binding situation of QinQ profile in slot 15.

```
Admin\gponline#show attach_qinq_profile slot 15
```

```
SLOT=15, PON=1, ACTION=1, ITEM=1
```

```

NO0001 PROF ID      :1

SLOT=15,PON=2,ACTION=1,ITEM=1
NO0001 PROF ID      :2

SLOT=15,PON=3,ACTION=1,ITEM=0

SLOT=15,PON=4,ACTION=1,ITEM=0
Admin\gponline#

```

## Result description

Parameter	Parameter Description
SLOT	Slot number
PON	PON interface number
ACTION=1	The action rule is 1.
ITEM=1	The entry number is 1.
NO0001 PROF ID	The ID of the GPON OLT VLAN table

# 11.4 Configure Wire Card's PON Interface Packet suppression

## Command function

The command is used to configure the suppression function of broadcast/multicast/unknown packets of the PON interface in wire card. Avoid the broadcast storm in the system, so as to improve the system performance.

## Command format

```

set packet_control slot [<1-8>|<11-18>] link <1-8> {type [broadcast|
multicast|unknown] status [enable|disable] rate [<1-262142>|default]}*3

```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
type [broadcast multicast unknown]	Packet type <ul style="list-style-type: none"> <li>◆ broadcast: Broadcast packet.</li> <li>◆ multicast: Multicast packet.</li> <li>◆ unknown: Unknown packet.</li> </ul>	Compulsory parameter
status [enable disable]	Status function <ul style="list-style-type: none"> <li>◆ enable : enable the status function.</li> <li>◆ disable : disable the status function.</li> </ul> Europe is the default value.	Compulsory parameter
rate [<1-262142> default]]*3	Rate control. The number of the packet passes the PON interface in per second. The system discards the data packet which exceeds the rate control. The value range is from 1 to 262142, and the value is 4294967295. The unit is each packet per second. The default value is 150. When the user status is disable, the field delivers the value of 4294967295.	Optional parameter

### Command example

Configure the packet suppression type of No.1 PON interface in slot 14 as multicast packet, enable status and the rate control is default.

```
Admin\gponline#set packet_control slot 14 link 1 type multicast status enable rate default
command execute ok!
Admin\gponline#
```

## 11.5 Enforce the Wire Card's PON Port Packet Suppression

### Command function

The command is used to enforce the packet suppression of wire card's PON port.

### Command format

```
apply packet_control slot [<1-8>|<11-18>] link<linklist>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <linklist>	PON port number Below are three methods to input: <ul style="list-style-type: none"> <li>◆ Single selection mode: 1, 2, 3 can select a signal PON port.</li> <li>◆ Multiple selection mode: 1 to 3 and 1 to 3, 4, 5 can select multiple PON ports.</li> <li>◆ Overall selection mode: all.</li> </ul> Value range: 1 to 8.	Compulsory parameter

## Command example

Enforce the packet suppression function of No.1 PON port in slot 14.

```
Admin\gponline#apply packet_control slot 14 link 1
command execute ok!
Admin\gponline#
```

# 11.6 Check the Wire Card's PON Port Packet Suppression

## Command function

The command is used to check the packet suppression of wire card's PON port.

## Command format

```
show packet_control slot [<1-8>|<11-18>] link <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON port number Value range: 1 to 8.	Compulsory parameter

## Command example

Check the packet suppression information of No.1 PON port in slot 14.

```
Admin\gponline#show packet_control slot 14 link 1
----- PON PACET CONTROL -----
TYPE          STATUS  RATE, Item=3
-----
broadcast     enable  500
multicast     enable  0
unknown       enable  500
Admin\gponline#
```

## Result description

Parameter	Parameter Description
TYPE	Packet type
STATUS	Enable status of the packet suppression
RATE	Packet suppression rate
Item	Rate control, i.e., packet suppression entry items.

# 11.7 Bind Alarm Profile to Wire Card and PON Port

## Command function

The command is used to bind the alarm profile to wire card and PON port.

## Command format

```
bind alarm_threshold_prf slot [<1-8>|<11-18>|<19-20>] link [<1-8>|null]
prof_id [<id>|null]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18> <19-20>]	Slot number Value range: 1 to 8, 11 to 18 and 19 to 20.	Compulsory parameter
link [<1-8> null]	PON port number ◆ <1-8>: The value rang is from 1 to 8. ◆ null: Bind to the slot.	Compulsory parameter
prof_id [<id> null]	Threshold profile ID ◆ <id>: The value range is from 1 to 64. ◆ null: unbind.	Compulsory parameter

## Command example

Bind the alarm profile to the No.1 PON port in slot 14 and the threshold ID is 2.

```
Admin\gponline#bind alarm_threshold_prf slot 14 link 1 prof_id 2
bind alarm threshold profile ok!
Admin\gponline#
```

# 11.8 Check Alarm Profile Binding to Wire Card and PON Port

## Command function

The command is used to check the alarm profile binding to the wire card and PON port.

## Command format

```
show alarm_threshold_prf slot [<1-8>|<11-18>|<19-20>] link [<1-8>|null]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18> <19-20>]	Slot number Value range: 1 to 8, 11 to 18 and 18, 19 to 20.	Compulsory parameter
link [<1-8> null]	PON number ◆ <1-8>: The value rang is from 1 to 8. ◆ null: Check the alarm threshold of wire card's PON port.	Compulsory parameter

## Command example

Check the alarm profile bound in No.1 PON port in slot 14.

```
Admin\gponline#show alarm_threshold_prf slot 14 link 1
PROF ID = 65535
Admin\gponline#
```

## Result description

Parameter	Parameter Description
PROF ID	The alarm profile binding to the wire card and PON port.

# 11.9 Configure PON Protection Group

## Command function

The command sets the active/standby PON port as the PON port protection group and switches the active/standby PON port according to the PON port status, so as to ensure the downlink line security.

## Command format

```
set protection_group id <1-64> slot1 [<1-8>|<11-18>] link1 <1-8> slot2 [<1-8>|<11-18>] link2 <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
id <1-64>	PON protection group number Value range: 1 to 64.	Compulsory parameter
slot1 [<1-8> <11-18>]	The slot number of the main port Value range: 1 to 8, 11 to 18.	Compulsory parameter
link1 <1-8>	Main port number Value range: 1 to 8.	Compulsory parameter
slot2 [<1-8> <11-18>]	The slot number of the slave port Value range: 1 to 8, 11 to 18.	Compulsory parameter
link2 <1-8>	Slave port number Value range: 1 to 8.	Compulsory parameter

## Command example

Configure the PON protection group number as 3. Sets the No.1 and No.2 PON port respectively as master and slave port of the PON protection group.

```
Admin\gponline#set protection_group id 3 slot1 14 link1 1 slot2 14 link2 2
create pon protect group ok!
```

```
Admin\gponline#
```

## 11.10 Delete PON Protection Group

### Command function

The command is used to delete the PON protection group.

### Command format

```
del protection_group id <1-64>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
protection_group	PON protection group	Compulsory parameter
id <1-64>	PON protection group number Value range: 1 to 64.	Compulsory parameter

### Command example

Delete the PON protection group whose group number is 3.

```
Admin\gponline#del protection_group id 3
delete pon protect group ok!
Admin\gponline#
```

## 11.11 Check PON Protection Group

### Command function

The command is used to check the PON protection group configuration.

## Command format

```
show protection_config id [<1-64>|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
id [<1-64> all]	PON protection group number ◆ <1-64>: The value rang is from 1 to 64. ◆ all: Check all PON protection group.	Compulsory parameter

## Command example

all: Check all PON protection group.

```
Admin\gponline#show protection_config id all
----- PON PROTECT GROUP INFO, ITEM=1 -----
GROUP ID   :3
SLOT[14]  PON[1]
SLOT[14]  PON[2]

Admin\gponline#
```

## Result description

Parameter	Parameter Description
ITEM	The table entry items of PON protection group
GROUP ID	PON protection group ID
SLOT[] PON[]	The member slot number and PON port number of the PON protection group.

# 11.12 Check PON Protection Status

## Command function

The command is used to check the PON protection group status.

## Command format

```
show protection_status id [<1-64>|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
id [<1-64> all]	PON protection group number ◆ <1-64>: The value rang is from 1 to 64. ◆ all: Check all PON protection group status.	Compulsory parameter

## Command example

all: Check all PON protection group status.

```
Admin\gponline#show protection_status id all
----- PON PROTECT GROUP STATUS, ITEM=1 -----
GROUP ID          :3
GROUP STATUS      :Stable
SLOT[14] PON[1], Master
SLOT[14] PON[2], Master

Admin\gponline#
```

## Result description

Parameter	Parameter Description
ITEM	The table entry items of PON protection group
GROUP ID	PON protection group ID
GROUP STATUS	The group status of PON port protection group. Includes the stable and detect status. ◆ When the PON port status is stable, the group status is stable. ◆ When the PON port status is detect , the group status is detect.
SLOT[], PON[]	The PON port status of PON port protection group. Includes: Detect status and stable active/standby status. ◆ The stable status means the normal operating status. ◆ The detect status means the abnormal operating status.

# 11.13 Configure Forced Switch of PON Protection Group

## Command function

The command is used to perform forced switch between the active/standby PON port in the PON port protection group.

## Command format

```
set protection_switch id <1-64>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
id <1-64>	PON protection group number Value range: 1 to 64.	Compulsory parameter

## Command example

Configure forced switch of No.3 PON protection group

```
Admin\gponline#set protection_switch id 3
switch pon protection group ok!
Admin\gponline#
```

# 11.14 Configure PON Interface Bandwidth

## Command function

The command is used to configure the uplink and downlink bandwidth of the PON interface.

## Command format

```
set bandwidth slot [<1-8>|<11-18>] link <1-8> dir [upstream|downstream|all]
bandwidth <20000-1250000>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
dir [upstream downstream all]	Direction ◆ upstream: Uplink. ◆ downstream: Downlink. ◆ all: Uplink and downlink.	Compulsory parameter
bandwidth <20000-1250000>	Bandwidth The value range is from 20000 to -1250000. The unit is Kbit/s and the default value is 125000.	Compulsory parameter

### Command example

Configure the uplink and downlink bandwidth of No.1 PON interface in slot 14 as 200000.

```
Admin\gponline#set bandwidth slot 14 link 1 dir all bandwidth 200000
set pon bandwidth cmd ok!
Admin\gponline#
```

## 11.15 Check PON Interface Bandwidth

### Command function

The command is used to check the PON interface bandwidth.

### Command format

```
show bandwidth slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

### Command example

Check the PON port bandwidth in slot 14.

```
Admin\gponline#show bandwidth slot 14
ITEM(8)  DIR      VALUE (Kbit/s)
-----
1        UP        200000
```

```

2      UP      1250000
3      UP      1250000
4      UP      1250000
5      UP      1250000
6      UP      1250000
7      UP      1250000
8      UP      1250000
Admin\gponline#

```

### Result description

Parameter	Parameter Description
ITEM	The entry items of PON interface bandwidth.
DIR	The PON interface bandwidth direction.
VALUE (Kbit/s)	The PON interface bandwidth rate.

## 11.16 Configure Alarm Threshold of Wire Card CPU Memory Utilization Ratio

### Command function

The command is used to configure alarm threshold of wire card CPU memory utilization ratio.

### Command format

```
set cpu_threshold slot <1-18> cpu <0-100> mem <0-100>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Value range: 1 to 18.	Compulsory parameter
cpu <0-100>	Alarm threshold of the CPU utilization ratio. Value range: 0 to 100.	Compulsory parameter
mem <0-100>	Alarm threshold of the memory utilization ratio. Value range: 0 to 100.	Compulsory parameter

## Command example

Configure 60 to the alarm threshold of CPU utilization ratio and 50 to that of memory utilization ratio.

```
Admin\gponline#set cpu_threshold slot 14 cpu 60 mem 50
set cpu using threshold ok!
Admin\gponline#
```

# 11.17 Check Alarm Threshold of Wire Card CPU Memory Utilization Ratio

## Command function

The command is used to check alarm threshold of wire card CPU memory utilization ratio.

## Command format

```
show cpu_threshold slot <1-18>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Value range: 1 to 18.	Compulsory parameter

## Command example

Check alarm threshold of the No.14 wire card memory utilization ratio

```
Admin\gponline#show cpu_threshold slot 14
----- SLOT 14 CPU & Memory Using Threshold-----
CPU      : 60.00%
Memory   : 50.00%
Admin\gponline#
```

## Result description

Parameter	Parameter Description
CPU	Alarm threshold of the wire card CPU utilization ratio.
Memory	Alarm threshold of the wire card memory utilization ratio.

## 11.18 Configure PON Interface Shutdown

### Command function

The command is used to open or close the ONU PON interface.

The AN5506-04B and AN5506-10B support the command.

### Command format

```
set onoff slot [<1-8>|<11-18>] link <1-8> status [on|off]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
status [on off]	PON interface switch ◆ on: Switch on. ◆ off: Switch off. The default is on.	Compulsory parameter

### Command example

Configure the No.1 PON interface switch in slot 14 as on.

```
Admin\gponline#set onoff slot 14 link 1 status on
struct_pon_onoff_compose_frame_send
send pon3 1
send pon4 1
send pon5 1
send pon6 1
send pon7 1
send pon8 1

set pon on-off ok!
Admin\gponline#
```

## 11.19 Check PON Interface Shutdown

### Command function

The command is used to check the PON interface shutdown.

### Command format

```
show onoff slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

### Command example

Check the PON interface shutdown in slot 14.

```
Admin\gponline#show onoff slot 14
ITEM(8)  STATUS
-----
1        ON
2        OFF
3        ON
4        ON
5        ON
6        ON
7        ON
8        ON
Admin\gponline#
```

### Result description

Parameter	Parameter Description
ITEM	The entry items of PON interface shutdown.
STATUS	The PON interface shutdown status.

## 11.20 Configure ONU Automatic Discovery

### Command function

The command is used to configure the ONU automatic discovery.

### Command format

```
set onu_auto_discover slot [<1-8>|<11-18>] status [enable|disable]
{aging_period <aging_period>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
status [enable disable]	Automatically discover the ONU switch. ◆ enable : enable the function. ◆ disable : disable the function.	Compulsory parameter
{aging_period <aging_period>}*1	Automatically discover the ONU aging period. If the value range is larger or equal to 120 seconds, the default value is 120 second.	Optional parameter

### Command example

Enable the slot 14 to automatically discover the ONU switch and the automatic discovery of the ONU aging time is 120.

```
Admin\gponline#set onu_auto_discover slot 14 status enable aging_period 120
set auto upgrade cfg ok!
Admin\gponline#
```

## 11.21 Check ONU Automatic Discovery

### Command function

The command is used to check the ONU automatic discovery.

### Command format

```
show onu_auto_discover slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

### Command example

Check the ONU automatic discovery in slot 14.

```
Admin\gponline#show onu_auto_discover slot 14
FLAG      = 1
PERIOD    = 120
Admin\gponline#
```

### Result description

Parameter	Parameter Description
FLAG	Enable status of the ONU automatic discovery
PERIOD	ONU automatic discovery period

## 11.22 Configure Optical Module Type

### Command function

The command is used to configure the optical module type.

### Command format

```
set opt_module_type slot [<1-8>|<11-18>] {link<1-8> type [lte3678 |
lte3678m|lte3680|sogp4321-psga|sogp4321-psgb|sogq4321-psgb|rtxm167-521|
rtxm167-522|rtxm167-526|ptb38j0-6538e|sps-43-48h-hp-cde-fh|sps-43-48h-
hp-cde|null]}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Optional parameter
type [.....]	Optical module type The default value is null, which is automatically identified by the wire card.	Optional parameter

## Command example

Configure the optical module type of No.1 PON interface in slot 14 as null.

```
Admin\gponline#set opt_module_type slot 14 link 1 type null
set pon opt module type ok!
Admin\gponline#
```

## 11.23 Check Optical Module Type

### Command function

The command is used to check the optical module type.

### Command format

```
show opt_module_type slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

## Command example

Check the optical module type of No.14 wire card.

```
Admin\gponline#show opt_module_type slot 14
link 1, type = null
```

```

link 2, type = null
link 3, type = null
link 4, type = null
link 5, type = null
link 6, type = null
link 7, type = null
link 8, type = null
Admin\gponline#

```

### Result description

Parameter	Parameter Description
link	PON number
type	Optical module type

## 11.24 Configure Alarm Threshold of Optical Module

### Command function

The command is used to configure the alarm threshold of optical module, which includes temperature, voltage, bias current, Tx/Rx optical power.

### Command format

```

set optmodule_threshold module_type [olt|onu] max_temperature <max_t>
min_temperature <min_t> max_voltage <max_v> min_voltage <min_v>
max_bias_current <max_bc> min_bias_current <min_bs> max_TX_optical_power
<max_t_op> min_TX_optical_power <min_t_op> max_RX_optical_power <max_r_op>
min_RX_optical_power <min_r_op>

```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
module_type [olt onu]	Optical module type <ul style="list-style-type: none"> <li>◆ olt: The OLT type.</li> <li>◆ onu: The ONU type.</li> </ul>	Compulsory parameter
max_temperature <max_t>	The maximum alarm threshold of temperature The value range is from -4000 to 100000. The unit is centigrade and the default value is 10000.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
min_temperature <min_t>	The minimum alarm threshold of temperature The value range is from -4000 to 100000. The unit is centigrade and the default value is -4000.	Compulsory parameter
max_voltage <max_v>	The maximum alarm threshold of voltage. The value range is from 300 to 360. The unit is volt and the default value is 360.	Compulsory parameter
min_voltage <min_v>	The minimum alarm threshold of voltage. The value range is from 300 to 360. The unit is volt and the default value is 300.	Compulsory parameter
max_bias_current <max_bc>	The maximum alarm threshold of bias current. The value range is from 0 to 1000. The unit is milliampere and the default value is 1000.	Compulsory parameter
min_bias_current <min_bs>	The minimum alarm threshold of bias current. The value range is from 0 to 1000. The unit is milliampere and the default value is 0.	Compulsory parameter
max_TX_optical_power <max_t_op>	The maximum alarm threshold of Tx optical power. <ul style="list-style-type: none"> <li>◆ OLT type: The value range is from -400 to 1000. The unit is dBm and the default value is 1000.</li> <li>◆ ONU type: The value range is from -400 to 800. The unit is dBm and the default value is 800.</li> </ul>	Compulsory parameter
min_TX_optical_power <min_t_op>	The minimum alarm threshold of Tx optical power. <ul style="list-style-type: none"> <li>◆ OLT type: The value range is from -400 to 1000. The unit is dBm and the default value is -400.</li> <li>◆ ONU type: The value range is from -400 to 800. The unit is dBm and the default value is -400.</li> </ul>	Compulsory parameter
max_RX_optical_power <max_r_op>	The maximum alarm threshold of Rx optical power. <ul style="list-style-type: none"> <li>◆ OLT type: The value range is from -3200 to -100. The unit is dBm and the default value is -100.</li> <li>◆ ONU type: The value range is from -2800 to -300. The unit is dBm and the default value is -300.</li> </ul>	Compulsory parameter
min_RX_optical_power <min_r_op>	The minimum alarm threshold of Rx optical power. <ul style="list-style-type: none"> <li>◆ OLT type: The value range is from -3200 to -100. The unit is dBm and the default value is -3200.</li> <li>◆ ONU type: The value range is from -2800 to -300. The unit is dBm and the default value is -2800.</li> </ul>	Compulsory parameter

## Command example

Configure the optical type as ONU, and the maximum alarm threshold value of temperature is 10000 while the minimum is -4000. The maximum alarm threshold value of voltage is 360 while the minimum is 300. The maximum alarm threshold value of bias current is 1000 while the minimum is 0. The maximum alarm threshold value of Tx optical power is -400 while the minimum is -800. The maximum alarm threshold value of Rx optical power is -300 while the minimum is -3200.

```
Admin\gponline#set optmodule_threshold module_type onu max_temperature 10000
min_temperature -4000 max_voltage 360 min_voltage 300 max_bias_current 1000
min_bias_current 0 max_tx_optical_power -400 min_tx_optical_power -800
max_rx_optical_power -300 min_rx_optical_power -3200
```

```
set onu optic module threshold ok!
Admin\gponline#
```

## 11.25 Check Alarm Threshold of Optical Module

### Command function

The command is used to check the alarm threshold of optical module.

### Command format

```
show optmodule_threshold module_type [olt|onu]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
module_type [olt onu]	Optical module type ◆ olt: The OLT type. ◆ onu: The ONU type.	Compulsory parameter

### Command example

Check the alarm threshold of the ONU optical module

```
Admin\gponline#show optmodule_threshold module_type onu
ONU optic module threshold
NAME                VALUE                UNIT
-----
```

```

MAX TEMPERATURE : 100.00      ('C)
MIN TEMPERATURE : -40.00      ('C)
MAX VOLTAGE      : 3.60        (V)
MIN VOLTAGE      : 3.00        (V)
MAX BIAS CURRENT : 100.0       (mA)
MIN BIAS CURRENT : 0.0         (mA)
MAX TX OPTIC PWR : -4.00       (Dbm)
MIN TX OPTIC PWR : -8.00       (Dbm)
MAX RX OPTIC PWR : -3.00       (Dbm)
MIN RX OPTIC PWR : -32.00      (Dbm)

```

```

-----
Admin\gponline#

```

### Result description

Parameter	Parameter Description
MAX TEMPERATURE	Over-temperature threshold
MIN TEMPERATURE	Over-low temperature threshold
MAX VOLTAGE	Over-high voltage threshold
MIN VOLTAGE	Over-low voltage threshold
MAX BIAS CURRENT	Over-high bias current threshold
MIN BIAS CURRENT	Over-low bias current threshold
MAX TX OPTIC PWR	Over-high threshold of Tx optical power
MIN TX OPTIC PWR	Over-low threshold of Tx optical power
MAX RX OPTIC PWR	Over-high threshold of Rx optical power
MIN RX OPTIC PWR	Over-low threshold of Rx optical power

## 11.26 Configure PON Interface Authentication Mode

### Command function

The command is used to configure the PON interface authentication mode. The interface card's each PON interface has nine authentication modes. The EPON authentication modes are physical identifier authentication, logical identifier authentication, physical address/logical identifier hybrid authentication, non-authentication, logical identifier authentication (without key), physical/logical identifier (without key) hybrid authentication. The GPON authentication modes are non-authentication, physical identifier authentication, physical identifier plus key authentication and key authentication.

### Command format

```
set pon_auth slot [<1-8>|<11-18>] link <1-8> mode [phy_id|phy_id+psw|password|
loid+psw|phy_id/loid+psw|no_auth|loid|phy_id/loid|phy_id/psw]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
mode [phy_id phy_id+psw password loid+psw phy_id/loid+psw no_auth loid phy_id/loid phy_id/psw]	Authorization mode <ul style="list-style-type: none"> <li>◆ phy_id: Physical identifier authentication.</li> <li>◆ phy_id+psw: Physical identifier plus key authentication</li> <li>◆ password: Password authentication.</li> <li>◆ loid+psw: Logical identifier authentication.</li> <li>◆ phy_id/loid+psw: Physical address/logical identifier hybrid authentication.</li> <li>◆ no_auth: Non-authentication.</li> <li>◆ loid: Logical identifier authentication (without key).</li> <li>◆ phy_id/loid: Physical/logical identifier (without key) hybrid authentication.</li> <li>◆ phy_id+psw: Physical identifier/key hybrid authentication.</li> </ul> The default value is the physical identifier authentication.	Compulsory parameter

## Command example

Check whether the authentication mode of No.1 PON interface in slot 14 is the phy\_id mode.

```
Admin\gponline#set pon_auth slot 14 link 1 mode phy_id
set pon authorizable mode ok!
Admin\gponline#
```

# 11.27 Check PON Interface Authentication Mode

## Command function

The command is used to check the PON interface authentication mode.

## Command format

```
show pon_auth [select|all] {slot [<1-8>|<11-18>] link <1-8> }*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
pon_auth	The PON interface authentication mode	Compulsory parameter
[select all]	<ul style="list-style-type: none"> <li>◆ select: Checks a certain PON interface.</li> <li>◆ all: Check all PON interfaces.</li> </ul>	Compulsory parameter
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Optional parameter
link <1-8>	PON interface number Value range: 1 to 8.	Optional parameter

## Command example

Check the authentication mode of No.1 PON interface in slot 14.

```
Admin\gponline#show pon_auth select slot 14 link 1
slot 14 link 1 ,auth mode is physical id.
Admin\gponline#
```

## Result description

Parameter	Parameter Description
auth mode	Authorization mode

## 11.28 Check ONU Batch Upgrade Status

## Command function

The command is used to check the ONU batch upgrade status.

## Command format

```
show batch_upgrade slot [<1-8>|<11-18>]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

## Command example

Check the ONU batch upgrade status in slot 18.

```
Admin\gponline#show batch_upgrade slot 18
----- ONU UPGRADE STATUS (10/1024) -----
PON 8 ONU 1, STATUS upgrading
PON 8 ONU 2, STATUS waiting
PON 8 ONU 3, STATUS waiting
PON 8 ONU 4, STATUS waiting
PON 8 ONU 6, STATUS waiting
PON 8 ONU 7, STATUS waiting
PON 8 ONU 8, STATUS waiting
PON 8 ONU 9, STATUS waiting
PON 8 ONU 10, STATUS waiting
Admin\gponline#
```

## Result description

Parameter	Parameter Description
PON	PON number
ONU	ONU authorization number
STATUS	Check the ONU batch upgrade status.

## 11.29 Check Wire Card's CPU and Memory Utilization Ratio

## Command function

The command is used to check the CPU of the wire card and the memory utilization ratio.

## Command format

```
show cpu_using slot [<1-8>|<11-18>]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

## Command example

Check wire card's CPU and memory utilization ratio in slot 14.

```
Admin\gponline#show cpu_using slot 14
----- OLT CPU & Memory Using -----
CPU      : 1.72%
Memory   : 39.63%
Admin\gponline#
```

## Result description

Parameter	Parameter Description
CPU	The CPU utilization ration
Memory	The Memory utilization ratio.

## 11.30 Check Wire Card Multicast Address Table

### Command function

The command is used to check the wire card multicast address table.

### Command format

```
show multicast_table slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

### Command example

Check the No.11 wire card multicast address table.

```
Admin\gponline#show multicast_table slot 11
OLT 11 Multicast Table ,ITEM=17
PON 2 ONU 65535,MULTICAST IP : 226.2.2.17
PON 2 ONU 65535,MULTICAST IP : 226.2.2.18
PON 2 ONU 65535,MULTICAST IP : 226.2.2.19
PON 2 ONU 65535,MULTICAST IP : 226.2.2.20
PON 2 ONU 65535,MULTICAST IP : 226.2.2.21
PON 2 ONU 65535,MULTICAST IP : 226.2.2.22
PON 2 ONU 65535,MULTICAST IP : 226.2.2.23
PON 2 ONU 65535,MULTICAST IP : 226.2.2.24
PON 2 ONU 65535,MULTICAST IP : 226.2.2.25
PON 2 ONU 65535,MULTICAST IP : 226.2.2.26
PON 2 ONU 65535,MULTICAST IP : 226.2.2.27
PON 2 ONU 65535,MULTICAST IP : 226.2.2.28
PON 2 ONU 65535,MULTICAST IP : 226.2.2.29
PON 2 ONU 65535,MULTICAST IP : 226.2.2.30
PON 2 ONU 65535,MULTICAST IP : 226.2.2.31
PON 2 ONU 65535,MULTICAST IP : 226.2.2.32
PON 2 ONU 65535,MULTICAST IP : 226.2.2.33
Admin\gponline#
```

## Result description

Parameter	Parameter Description
ITEM	The multicast entry items which the OTN add
PON	The PON which the current multicast table entry belongs
ONU	The ONU which the current multicast table entry belongs
MULTICAST IP	The multicast IP of the current multicast table entry

## 11.31 Check Parameter Information of the Optical Module on the PON Interface

## Command function

The command is used to check the parameter information of the optical module on the PON interface.

## Command format

```
show optic_module_par slot [<1-8>|<11-18>] link <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter

## Command example

Check the optical module parameter information of the No.1 PON interface in slot 11.

```
Admin\gponline#show optic_module_par slot 11 link 1
----- PON OPTIC MODULE PAR INFO -----
NAME          VALUE      UNIT
-----
TYPE           : 20        (KM)
TEMPERATURE    : 38.88     ('C)
VOLTAGE        : 3.24     (V)
BIAS CURRENT   : 2.96     (mA)
SEND POWER    : 3.26     (Dbm)
```

```

ONU_NO  RECV_POWER , ITEM=1
1        0.00   (Dbm)
Admin\gponline#

```

### Result description

Parameter	Parameter Description
TYPE	Optical module type
TEMPERATURE	Temperature
VOLTAGE	Voltage
BIAS CURRENT	Bias current
SEND POWER	Tx optical power.
ONU_NO	ONU authorization number
RECV_POWER	Rx optical power

## 11.32 Check PON Interface MAC Address Table

### Command function

The command is used to check the PON interface's MAC address table.

### Command format

```
show pon_mac slot [<1-8>|<11-18>] link <1-8> {lookup <mac_address>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
link <1-8>	PON interface number Value range: 1 to 8.	Compulsory parameter
lookup <mac_address>	MAC address	Optional parameter

### Command example

Check the MAC address table of the No.1 PON interface in slot 14.

```
Admin\gponline#show pon_mac slot 14 link 1
```

```

----- PON MAC ADDRESS, ITEM=1 -----
001      22:3E:44:55:66:11      Vid:4091
Admin\gponline#

```

### Result description

Parameter	Parameter Description
ITEM	The MAC address entry items of the PON interface
XX:XX:XX:XX:XX:XX	The MAC address of the MAC address table of PON interface
Vid	The VLAN ID of the MAC address table of the PON interface

## 11.33 Check Wire Card Current Time

### Command function

The command is used to check the wire card current time.

### Command format

```
show time slot [<1-8>|<11-18>]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
time	Check wire card current time	Compulsory parameter
slot [<1-8> <11-18>]	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter

### Command example

Check No.11 wire card's current time.

```

Admin\gponline#show time slot 11
CARD 11 TIMESHOW
Sys Date: 2009-1-10 22:0:55
Run Time: 9days 20h 59m 54s
Admin\gponline#

```

## Result description

<b>Parameter</b>	<b>Parameter Description</b>
Sys Date	System time
Run Time	In-service time



# 12 IGMP Directory Command

---

- Create/Delete Multicast Profile
- Add Multicast VLAN
- Delete Multicast VLAN
- Add IP Address for Mapping Source
- Delete IP Address of Multicast Mapping Source
- Configure Multicast Group Parameter
- Configure Maximum Multicast Bandwidth for Uplink Port
- Configure Multicast Protocol Parameter
- Configure Multicast Profile
- Configure Multicast Proxy IP
- Configure Multicast Address Range of the Mapping multicast source address
- Configure Multicast Protocol Version
- Configure Multicast Default VLAN
- Configure Multicast Mode
- Check Multicast Group Information
- Check Multicast Profile
- Check Multicast Global Configuration
- Enable/disable Dynamic VLAN
- Configure Cascade Port
- Check Multicast Group Information on Router Side

- Check Multicast Group Information of Host Side
- Open Commissioning Command
- Close Commissioning Command

## 12.1 Create/Delete Multicast Profile

### Command function

The command is used to create or delete multicast profile.

### Command format

```
[create|delete] igmp profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[create delete]	<ul style="list-style-type: none"> <li>◆ create: Create multicast profile.</li> <li>◆ delete: Delete multicast profile.</li> </ul>	Compulsory parameter
<name>	Profile Name	Compulsory parameter

### Command example

Create a multicast profile named test.

```
Admin\igmp#create igmp profile test
Admin\igmp#
```

## 12.2 Add Multicast VLAN

### Command function

The command is used to add multicast VLAN.

### Command format

```
add igmpv3 vlan <vid>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
vlan <vid>	Multicast VLAN ID. Value range: 1 to 4094.	Compulsory parameter

### Command example

Add the multicast VLAN whose ID is 3.

```
Admin\igmp#add igmpv3 vlan 3  
Admin\igmp#
```

## 12.3 Delete Multicast VLAN

### Command function

The command is used to delete multicast VLAN.

### Command format

```
delete igmpv3 vlan <vid>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
vlan <vid>	Multicast VLAN ID. Value range: 1 to 4094.	Compulsory parameter

### Command example

Delete the multicast VLAN whose ID is 3.

```
Admin\igmp#delete igmpv3 vlan 3  
Admin\igmp#
```

## 12.4 Add IP Address for Mapping Source

### Command function

The command is used to add IP address for mapping source. The function of mapping source's IP address is as follows: In the SSM network, some receivers' host can only run the IGMPv1 or IGMPv2 due to many possible limitation. To provide SSM service for those receivers' host which can only run the IGMPv1 or IGMPv2, users can configure the IGMP SSM Mapping function in the router.

## Command format

```
set igmp ssm-map <A.B.C.D>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D>	Source IP address Must be like A to C address.	Compulsory parameter

## Command example

Add IP address of 10.92.20.1 for mapping source.

```
Admin\igmp#set igmp ssm-map 10.92.20.1
Admin\igmp#
```

# 12.5 Delete IP Address of Multicast Mapping Source

## Command function

The command is used to delete the designated IP address of multicast mapping source. The function of mapping source's IP address is as follows: In the SSM network, some receivers' host can only run the IGMPv1 or IGMPv2 due to many possible limitation. To provide SSM service for those receivers' host which can only run the IGMPv1 or IGMPv2, users can configure the SSM Mapping function in the router.

## Command format

```
delete igmp ssm-map <A.B.C.D>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D>	IP address of multicast mapping source	Compulsory parameter

## Command example

Delete the multicast mapping source whose IP address is 10.92.20.1

```
Admin\igmp#delete igmp ssm-map 10.92.20.1
Admin\igmp#
```

## 12.6 Configure Multicast Group Parameter

### Command function

The command is used to configure multicast group parameters, including the IP address of multicast group, multicast group bandwidth, the multicast group leave latency, etc..

### Command format

```
set igmp group <A.B.C.D> {[bandwidth] <0-30000>}*1 {[leave_delay] <0-255>}*1
{[vlan] <0-4088>}*1 {[uplink_vlan] <0-4088>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D>	IP address for multicast group	Compulsory parameter
{[bandwidth] <0-30000>}*1	Multicast group bandwidth The value range is from 0 to 30000 and the unit is Kbit/s.	Optional parameter
{[leave_delay] <0-255>}*1	Multicast group leave latency The value range is from 0 to 255 and the unit is second.	Optional parameter
{[vlan] <0-4088>}*1	Multicast group VLAN Used to designate the data VLAN and protocol VLAN of the multicast group. Value range: 0 to 255.	Optional parameter
{[uplink_vlan] <0-4088>}*1	Uplink signaling VLAN of multicast group <ul style="list-style-type: none"> <li>◆ If the uplink signaling VLAN is configured, the protocol VLAN is equal to the uplink signaling VLAN.</li> <li>◆ If the uplink signaling VLAN is not configured, the protocol VLAN is equal to the data VLAN.</li> </ul> Value range: 0 to 4088.	Optional parameter

## Command example

Configure the multicast group bandwidth whose IP address is 224.0.1.0 as 1500kbit/s. The leave latency is 100 seconds and the multicast group VLAN is 5. The uplink signaling VLAN of the multicast group is 2.

```
Admin\igmp#set igmp group 224.0.1.0 bandwidth 1500 leave_delay 100 vlan 5 uplink_vlan
2
Admin\igmp#
```

## 12.7 Configure Maximum Multicast Bandwidth for Uplink Port

### Command function

The command is used to configure the maximum multicast bandwidth for uplink port.

### Command format

```
set igmp max bandwidth <0-7000000>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
bandwidth <0-7000000>	Total bandwidth of multicast source The value range is from 0 to 7000000 and the unit is Kbit/s.	Compulsory parameter

### Command example

Configure the maximum multicast bandwidth for uplink port as 60000kbit/s.

```
Admin\igmp#set igmp max bandwidth 60000
Admin\igmp#
```

## 12.8 Configure Multicast Protocol Parameter

### Command function

The command is used to configure the multicast protocol parameter.

## Command format

```
set igmp parameters [robustness|old|last_query_interval|last_query_count|  
query_interval|query_response_interval]<0-65535>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<pre>[robustness old  last_query_inter- val  last_query_count  query_interval  query_response_in- terval]</pre>	<p>Configuration of multicast protocol parameters. Select one parameter among the following parameters when configuring.</p> <ul style="list-style-type: none"> <li>◆ robustness: As for the the network packet loss, the IGMP protocol stack puts forward the robustness parameter, i.e., the transmitting times that the multicast downlink queries the message. Value range: 2 to 16, and the default value is 2.</li> <li>◆ old: The multicast member aging time. If exceeding the aging time, the multicast member with no response will be deleted from the multicast group (As for the IGMPv3, the value is invalid.) Value range: 0 to 65535. The unit is second and the default value is 260 seconds.</li> <li>◆ last_query_interval : Querying interval of the designated group. Refer to the querying interval which the equipment transmits designated groups. Value range: 1 to 255. The unit is second and the default value is 1 second.</li> <li>◆ last_query_interval : Querying times of the designated group. Refer to the querying times which the equipment transmits designated groups. Value range: 1 to 16, and the default value is 2.</li> <li>◆ last_query_interval : Querying interval of the common group. Refer to the querying interval which the equipment transmits common groups. Value range: 11 to 255. The unit is second and the default value is 125 seconds.</li> <li>◆ query_response_interval: Querying response time of the common group. Refer to the maximum time interval which the user's response of querying common groups. Value range: 1 to 255. The unit is second and the default value is 10 seconds.</li> </ul>	Compulsory parameter
<0-65535>	<p>Configure the value range of above parameters according to the specific parameter configuration. Value range: 0 to 65535.</p>	Compulsory parameter

## Command example

Configure the aging time as 260 seconds.

```
Admin\igmp#set igmp parameters old 260
Admin\igmp#
```

## 12.9 Configure Multicast Profile

### Command function

The command is used to add the multicast group in the created multicast profile and configure the authority for users to view multicast programs.

Below are two functions of multicast profile:

- ◆ In the controllable mode, bind the multicast profile to verify each user's authority level when users view multicast programs
- ◆ In the non-controllable mode, create the multicast profile first and add the designated multicast group to the multicast profile, then configure the parameter of designated multicast group.

### Command format

```
set igmp profile <name> [add|delete] {<GroupAddress> [preview|normal]}
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<name>	Multicast profile name	Compulsory parameter
[add delete]	Add or delete the designated multicast group in the profile.	Compulsory parameter
<GroupAddress>	Multicast address Input the parameter repeatedly is allowed. Up to eight multicast programs can be added.	Optional parameter
[preview normal]	The corresponding authority of multicast address <ul style="list-style-type: none"> <li>◆ preview: Preview authority. Users can view the program in designated time.</li> <li>◆ normal: Normal authority. Users view the program without restriction.</li> </ul>	Optional parameter

## Command example

Add the multicast program whose IP address is 224.0.1.0 to the multicast profile named test and configure the authority for users to view the program as preview.

```
Admin\igmp#set igmp profile test add 224.0.1.0 preview
Admin\igmp#
```

## 12.10 Configue Multicast Proxy IP

### Command function

The command is used to configure the multicast proxy IP address as the source IP address for the equipment to transmit the multicast protocol message.

### Command format

```
set igmp proxy ip [<A.B.C.D>|default]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[<A.B.C.D> default]	Multicast Proxy IP Must be A to C address. If the default is selected, users configure the IP as 10.25.14.57 which is the system default proxy IP.	Compulsory parameter

### Command example

Configure the multicast proxy IP as 10.92.20.100.

```
Admin\igmp#set igmp proxy ip 10.92.20.100
Admin\igmp#
```

## 12.11 Configure Multicast Address Range of the Mapping multicast source address

### Command function

The command is used to configure the designated multicast source address range. The multicast stack performs some special processing to the multicast address in the designated source multicast and source address to support the SSM (Source-Specific Multicast), so as to provide a kind of transmission service in the client-side designated multicast source.

### Command format

```
set igmp-ssm ip-range <A.B.C.D/M>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<A.B.C.D/M>	Group address/Mask The IP address should be the D-type address.	Compulsory parameter

### Command example

Configure multicast address range of the mapping multicast source address as 232.0.0.0/8.

```
Admin\igmp#set igmp-ssm ip-range 232.0.0.0/8
Admin\igmp#
```

## 12.12 Configure Multicast Protocol Version

### Command function

The command is used to configure IGMP protocol version which the equipment uses. The IGMP protocol version is v1/v2/v3. RFC1112 defines the IGMPv1 and RFC2236 defines IGMPv2 and RFC3376 defines IGMPv3.

### Command format

```
set igmp stack [v1|v2|v3]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[v1 v2 v3]	Multicast protocol version <ul style="list-style-type: none"> <li>◆ v1: IGMP version 1.</li> <li>◆ v2: IGMP version 2.</li> <li>◆ v3: IGMP version 3.</li> </ul>	Compulsory parameter

### Command example

Configure the multicast protocol version as V3.

```
Admin\igmp#set igmp stack v3
Admin\igmp#
```

## 12.13 Configure Multicast Default VLAN

### Command function

The command is used to configure the multicast default VLAN. If a multicast group is not configured the designated VLAN, the multicast group add the default VLAN.

### Command format

```
set igmp vlan {[default]}*1 {<1-4088>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{[default]}*1	Default value of the multicast default VLAN 4088 is the default value.	Optional parameter
{<1-4088>}*1	The configuration value of the multicast default VLAN Value range: 1 to 4088.	Optional parameter

### Command example

Configure the multicast default VLAN as 1500.

```
Admin\igmp#set igmp vlan 1500
Admin\igmp#
```

## 12.14 Configure Multicast Mode

### Command function

The command is used to configure the multicast mode.

### Command format

```
set igmp mode [control|proxy-proxy|snooping|proxy-snooping|disable]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
[control proxy-proxy snooping proxy-snooping disable]	Multicast mode ◆ control: Controllable mode. ◆ proxy-proxy: Proxy mode. ◆ snooping: Snooping mode. ◆ proxy-snooping: Proxy Snooping mode. ◆ disable: Disable the function.	Compulsory parameter

### Command example

Configure the proxy mode to the multicast mode.

```
Admin\igmp#set igmp mode proxy-proxy
Admin\igmp#
```

## 12.15 Check Multicast Group Information

### Command function

The command is used to check the configured multicast group information.

### Command format

```
show igmp auth group {<A.B.C.D>} *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
{<A.B.C.D>}*1	Multicast address Do not input the group address, indicating check all authorized group information.	Optional parameter

## Command example

Check the designated multicast group information.

```
Admin\igmp#show igmp auth group 224.0.1.0
*****Auth Group Info*****
Group Address      : 224.0.1.0
Preview times     : 4
Preview duration  : 10 (min)
Preview interval  : 30 (min)
preview rese      : 24 (hr)
preview total     : 254 (min)
Leave delay        : 100 (sec)
Protocol vlan     : 2
VLAN ID           : 5
Bandwidth         : 1500 (Kbps)
Authorized ports  :
14:1: 1: 1,
Total ports       : 1
*****E N D*****
Admin\igmp#
```

## Result description

Parameter	Parameter Description
Group Address	Multicast address
Preview times	Preview times
Preview duration	Preview duration
Preview interval	Preview interval
preview reset	Preview reset time
preview total	Total time of preview
Leave delay	Leave latency
Protocol vlan	Signaling VLAN
VLAN ID	Group VLAN ID.
Bandwidth	Bandwidth

Parameter	Parameter Description
Authorized ports	Bind the port
Total ports	The total number of binding the port

## 12.16 Check Multicast Profile

### Command function

The command is used to check the related information of multicast profile.

### Command format

```
show igmp profile {<name>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{<name>}*1	Profile Name Do not input any parameters for this item, indicating that users check all configured multicast profile.	Optional parameter

### Command example

Check the information of multicast profile test.

```
Admin\igmp#show igmp profile test
*****Profile NO. 1*****
Name:test
Normal Groups:
224.0.1.0-224.0.1.1
224.0.1.10
Preview Groups:
224.0.11.10
Binded Ports:
14:1:1:1,
*****E n d*****
Admin\igmp#
```

## Result description

Parameter	Parameter Description
Name	Profile Name
Normal Groups	The group address of normal authority in the profile.
Preview Groups	The group address of preview authority in the profile.
Binded Ports	The profile binds the ONU port number (Slot No.: PON interface, ONU authorization number: ONU port number).

## 12.17 Check Multicast Global Configuration

### Command function

The command is used to check the multicast global configuration.

### Command format

```
show igmpv3 goble
```

### Parameter description

No

### Command example

Check the global configuration information of all authorization group in the system.

```
Admin\igmp#show igmpv3 goble
=====
Version                :V3
Work mode              :proxy
Vlan learning          :Enable
Fase leave             :Disable
Max Transmit Unit     :1500
Proxy ip address       :10.92.20.100
SSM ip address         :232.0.0.0
SSM ip mask            :255.0.0.0
SSM mapping ip        :10.92.1.1 10.92.20.1
General Member Interval :260
QueryInterval         :125
Robustness             :2
Last member query interval :1
```

```

Last member query count      :2
Query response interval     :10
Input buffer size           :3072000 Bytes
Output buffer size         :1500 Bytes
Admin\igmp#

```

## Result description

Parameter	Parameter Description
Version	Multicast protocol version
Work mode	Multicast mode
Vlan learning	VLAN learning function
Fase leave	Fast leave
Max Transmit Unit	Maximum transmission unit
Proxy ip address	Proxy IP address
SSM ip address	IP address of mapping source
SSM ip mask	Mapping source mask
General Member Interval	Group member aging time
Query Interval	Querying interval for common group
Robustness	Robustness
Last member query interval	Querying interval for designated group
Last member query count	Querying times for designated group
Query response interval	Querying response time for common group
Input buffer size	The size for Core switch (core switch card) multicast protocol stack receiving the buffer area
Output buffer size	The size for Core switch (core switch card) multicast protocol stack transmitting the buffer area

## 12.18 Enable/disable Dynamic VLAN

### Command function

The command is used to enable or disable the dynamic VLAN.

### Command format

```
set igmp dynamic_vlan [enable|disable]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[enable disable]	Dynamic VLAN enable switch ◆ enable: enable the function. ◆ disable: Disable the function.	Compulsory parameter

## Command example

Enable dynamic VLAN.

```
Admin\igmp#set igmp dynamic_vlan enable
Admin\igmp#
```

# 12.19 Configure Cascade Port

## Command function

The command is used to configure multicast service's cascade port. When the equipment cascades the other equipment's multicast service, the uplink port connecting with the cascade equipment should be configured as the cascade port.

## Command format

```
set igmp cascade port [<portlist>|none]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[<portlist> none]	Cascade Port ◆ <portlist>: Value range :19 : 1 to 19 : 6, 20 : 1 to 20 : 6. ◆ none: Delete all cascade ports.	Compulsory parameter

## Command example

Configure the cascade port as 19:2.

```
Admin\igmp#set igmp cascade port 19:2
Admin\igmp#
```

## 12.20 Check Multicast Group Information on Router Side

### Command function

The command is used to check the multicast group information on the router side.

### Command format

```
show igmpv3 group {<A.B.C.D>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{<A.B.C.D>}*1	Multicast address Do not input any parameters for this item, indicating that users check all configured multicast group address.	Optional parameter

### Command example

Check multicast group information on the router side.

#### ◆ The condition without the multicast address:

```
Admin\igmp#show igmpv3 group
=====Vlan 100=====
IGMP Connected Group Membership
Group Address  Interface  Uptime      Expires     Last Reporter
224.3.2.1      Interface14 00:51:40    00:02:39   192.85.1.11
-----
Admin\igmp#
```

#### ◆ The condition with the multicast address:

```
Admin\igmp#show igmpv3 group 224.3.2.1
=====Vlan 100=====
Interface:      Interface14
Group:          224.3.2.1
Uptime:         00:56:35
Group mode:     Exclude
                (Expires: 00:04:04)
Signal vlan:    100
IPv6 flag:      FALSE
```

```

Last reporter: 192.85.1.11
TIB-A Count: 0
TIB-B Count: 2
Group source list: (R - Remote, M - SSM Mapping, S - Static)

```

Exclude Source List :

```

Source Address  Uptime    v3 Exp    Fwd  Flags
192.168.1.1    00:56:35  stopped   No   R
192.168.1.2    00:56:35  stopped   No   R
Admin\igmp#

```

## Result description

Parameter	Parameter Description
Group Address	Multicast address
Interface	The interface name corresponds to the slot number, for example, the Interface 1 corresponds to slot 1 and the Interface 14 corresponds to slot 14.
Uptime	Online duration
Expires	The time-out duration of corresponding group, i.e., the remaining time of group timer.
Last Reporter	The report member of the last group, i.e., the source IP address of adding the message recently.
Group	Group address
Group mode	Group mode
Signal vlan	Group data packet with VLAN
IPv6 flag	IPv6 flag
TIB-A Count	TIB-A count
TIB-B Count	TIB-B count
Source Address	Group source address
v3 Exp	Source timer time
Fwd	Whether forward or not
Flags	Status flag

## 12.21 Check Multicast Group Information of Host Side

### Command function

The command is used to check the multicast group information on the host side.

### Command format

```
show igmpv3 host-group {<A.B.C.D>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{<A.B.C.D>}*1	Group address Not inputting any parameters for this item indicates that users check all configured multicast group address.	Optional parameter

### Command example

Check multicast group information of host side

◆ The condition without the multicast address:

```
Admin\igmp#show igmpv3 host-group
=====Vlan 100=====
IGMP Connected Proxy Group Membership
Group Address      Interface          Member state
224.3.2.1         Interface29       Delay
-----
Admin\igmp#
```

◆ The condition with the multicast address:

```
Admin\igmp#show igmpv3 host-group 224.3.2.1
=====Vlan 100=====
Interface:         Interface29
Group:              224.3.2.1
Group mode:        Exclude
Member state:      Delay
Group source list:
                    Source Address
                    192.168.1.1
```

```
192.168.1.2
```

```
-----
Admin\igmp#
```

### Result description

Parameter	Parameter Description
Group Address	Group address
Interface	The interface name is Interface29.
Member state	Group member status
Group	Group address
Group mode	Group mode
Source Address	Group source address

## 12.22 Open Commissioning Command

### Command function

The command is used to open the commissioning command.

### Command format

```
debug igmpv3 vlan <vid> [decode|encode|fsm|driver|event|tib|recieve_fsm|
recieve_driver|recieve_check|send|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<vid>	VLAN ID Value range: 1 to 4088.	Compulsory parameter
[decode encode fsm  driver event tib  recieve_fsm  recieve_driver  recieve_check send  all]	Commissioning level <ul style="list-style-type: none"> <li>◆ decode: Decodes the Rx data packet project.</li> <li>◆ encode: Encodes the Tx data packet process.</li> <li>◆ fsm: Displays the state machine variation.</li> <li>◆ driver: Displays the protocol internal drive.</li> <li>◆ event: Displays the multicast event.</li> <li>◆ tib: Displays the multicast source address.</li> <li>◆ recieve_fsm: Displays the received data packet level 3.</li> <li>◆ recieve_driver: Displays the received data packet level 1.</li> <li>◆ recieve_check: Displays the received data packet level 2.</li> <li>◆ send: Displays Rx data packet.</li> <li>◆ all: Displays all above items.</li> </ul>	Compulsory parameter

## Command example

The switch of enabling the Tx data packet whose VLAN ID is 1000.

```
Admin\igmp#debug igmpv3 vlan 1000 encode
Admin\igmp#
```

## 12.23 Close Commissioning Command

## Command function

The command is used to close the commissioning command.

## Command format

```
no debug igmpv3 vlan <vid> [decode|encode|fsm|driver|event|tib|recieve|  
send|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<vid>	VLAN ID number Value range: 1 to 4088.	Compulsory parameter
[decode encode fsm  driver event tib  recieve_fsm  recieve_driver  recieve_check send  all]	Commissioning level <ul style="list-style-type: none"> <li>◆ decode: Decodes the Rx data packet project.</li> <li>◆ encode: Encodes the Tx data packet process.</li> <li>◆ fsm: Displays the state machine variation.</li> <li>◆ driver: Displays the protocol internal drive.</li> <li>◆ event: Displays the multicast event.</li> <li>◆ tib: Displays the multicast source address.</li> <li>◆ recieve_fsm: Displays the received data packet level 3.</li> <li>◆ recieve_driver: Displays the received data packet level 1.</li> <li>◆ recieve_check: Displays the received data packet level 2.</li> <li>◆ send: Displays Rx data packet.</li> <li>◆ all: Displays all above items.</li> </ul>	Compulsory parameter

## Command example

The switch of disabling the Tx data packet whose VLAN ID is 1000.

```
Admin\igmp# no debug igmpv3 vlan 1000 encode
Admin\igmp#
```



# 13 NGN Directory Command

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- Configuring Parameters Relevant to the Soft Switch Platform
- Configure MD5 Authentication
- Configure Softswitch Interconnection Profile
- Bind Softswitch Interconnection Profile
- Configure Heartbeat Parameter
- Configure NGN Softswitch Profile Parameter
- Configure NGN Uplink DHCP Parameter
- Configure NGN Uplink PPPoE Parameter
- Configure NGN Uplink User Parameter
- Register / Log out NGN User
- Configure ONU Voice Service Parameter
- Check ONU Voice Service Parameter
- Check Domain Information of the MD5 Authentication
- Check Softswitch Interconnection Profile Binding Parameter
- Check IAD Softswitch Profile Parameter
- Check All Softswitch Interconnection Profile Parameter
- Check NGN Uplink DHCP Parameter
- Check NGN Uplink Interface Parameter
- Check NGN Uplink PPPoE Parameter
- Configure SIP Digitmap

- Check SIP Digitmap Information
- Configure NGN Voice Port's Advanced Profile Parameter
- Check Voice Port's Advanced Profile Parameter
- Delete Voice Port's Advanced Profile
- Configure Voice Management Mode
- Check Voice Management Mode
- Configure Voice Media Stream Parameter
- Check Voice Media Stream Parameter
- Query Uplink User Parameters according to Interface Name
- Query Uplink User Parameters according to Phone Number
- Configure Voice Port Activation Status
- Check Voice Port's Activation Status
- Check MGC Connection Status

## 13.1 Configuring Parameters Relevant to the Soft Switch Platform

### Command function

This command is used to configure data for the three kinds of soft switch protocols: MGCP, H.248 and SIP.

### Command format

```
set ngn_uplink_interface name <name> protocol_type [mgcp|h.248|sip] {[mgc]
<1-3> <addr> <0-65535>}*3 {[keepalive] [enable|disable|passive]}*1
{[m_dns] <A.B.C.D>}*1 {[s_dns] <A.B.C.D>}*1 {[dhcp] [enable|disable]}*1
{[sip_reg_addr] <addr>}*1 {[sip_reg_port] <0-65535>}*1 {[sip_proxy_addr]
<addr>}*1 {[sip_proxy_port] <0-65535>}*1 {[sip_expires] <0-4294967294>}*1
```

### 13.1.1 Configure Related Parameters of Uplink Interface of the MGCP Protocol

#### Command function

The command is used to configure the related parameters of the MGCP protocol, and the MG creates normal communication with the MGC.

#### Command format

```
set ngn_uplink_interface name <name> protocol_type mgcp {[mgc] <1-3> <addr>
<1-65535>}*3 {[keepalive] [enable|disable|passive]}*1 {[m_dns] <A.B.C.D>}
*1 {[s_dns] <A.B.C.D>}*1 {[dhcp] [enable|disable]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
ngn_uplink_interface name <name>	The name of uplink interface of NGN voice service Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the service VLAN central office.	Compulsory parameter
{ [mgc] <1-3> <addr> <1-65535>} *3	<ul style="list-style-type: none"> <li>◆ &lt;1-3&gt;: The MGC serial number. The equipment supports up to 3 MGCs and the serial number is 1 to 3.</li> <li>◆ &lt;addr &gt;:The MGC address. The MGC address can be the IP address or domain name in the form of character strings.</li> <li>◆ &lt;1-65535&gt;: The MGC port number of the MGCP protocol. The value range is from 1 to 65535 and 2727 by default.</li> </ul>	Optional parameter
{ [keepalive] [enable disable passive]} *1	Heartbeat function Tests whether the communication between MG and MGC is normal. After enabling the function, the corresponding alarms in the network management indicates the communication interruption between MG and MGC. <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> <li>◆ passive: Self-adaptive.</li> </ul> Disable is by default.	Optional parameter
{ [m_dns] <A.B.C.D>} *1	<ul style="list-style-type: none"> <li>◆ [m_dns]: Active DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of active DNS. If the MGC address is in the mode of domain name, the IP address of active DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{ [s_dns] <A.B.C.D> } *1	<ul style="list-style-type: none"> <li>◆ [s_dns]: Standby DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of standby DNS. If the MGC address is in the mode of domain name, the IP address of standby DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional parameter
{ [dhcp] [enable disable] } *1	<p>DHCP function The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid.</p> <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> </ul> <p>Disable is by default.</p>	Optional parameter

### Command example

Configure the voice service named ngn\_wuhan1. Use the MGCP protocol. The active MGC serial number is 1 and the IP address is 192.168.1.100 and the protocol port number is 2727.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan1 protocol_type mgcp mgc 1
192.168.1.100 2727
Admin\ngn#
```

## 13.1.2 Configure Related Parameters of Uplink Interface of the H.248 Protocol

### Command function

The command is used to configure the related parameters of the H.248 protocol, and the MG creates normal communication with the MGC.

## Command format

```
set ngn_uplink_interface name <name> protocol_type h.248 {[mgc] <1-3> <addr>
<1-65535>}*3 {[keepalive] [enable|disable|passive]}*1 {[m_dns] <A.B.C.D>}
*1 {[s_dns] <A.B.C.D>}*1 {[dhcp] [enable|disable]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
ngn_uplink_interface name <name>	The name of uplink interface of NGN voice service Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the service VLAN central office. The online, English alphabet and numbers are valid.	Compulsory parameter
{[mgc] <1-3> <addr> <1-65535>}*3	<ul style="list-style-type: none"> <li>◆ &lt;1-3&gt;: The MGC serial number. The equipment supports up to 3 MGCs and the serial number is 1 to 3.</li> <li>◆ &lt;addr&gt;:The MGC address. The MGC address can be the IP address or domain name in the form of character strings.</li> <li>◆ &lt;1-65535&gt;: The MGC port number of the H.248 protocol. The value range is from 1 to 65535 and 2944 by default.</li> </ul>	Optional parameter
{[keepalive] [enable disable passive]}*1	<p>Heartbeat function Tests whether the communication between MG and MGC is normal. After enabling the function, the corresponding alarms in the network management indicates the communication interruption between MG and MGC.</p> <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> <li>◆ passive: Self-adaptive.</li> </ul> <p>Disable is by default.</p>	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{ [m_dns] <A.B.C.D> } *1	<ul style="list-style-type: none"> <li>◆ [m_dns]: Active DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of active DNS. If the MGC address is in the mode of domain name, the IP address of active DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional parameter
{ [s_dns] <A.B.C.D> } *1	<ul style="list-style-type: none"> <li>◆ [s_dns]: Standby DNS.</li> <li>◆ &lt;A.B.C.D&gt;: The IP address of standby DNS. If the MGC address is in the mode of domain name, the IP address of standby DNS server should be configured. The IP address is 0 by default.</li> </ul>	Optional parameter
{ [dhcp] [enable disable] } *1	<p>DHCP function The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid.</p> <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> </ul> <p>Disable is by default.</p>	Optional parameter

## Command example

Configure the voice service named ngn\_wuhan1. Use the H.248 protocol. The active MGC serial number is 1 and the IP address is 192.168.1.101 and the protocol port number is 2944.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan2 protocol_type H.248 mgc 1
192.168.1.101 2727
```

```
Admin\ngn#
```

### 13.1.3 Configure Related Parameters of Uplink Interface of the SIP Protocol

#### Command function

The command is used to configure the related parameters of the SIP server, and the MG creates normal communication with the softswitch platform.

#### Command format

```
set ngn_uplink_interface name <name> protocol_type sip {[dhcp] [enable|
disable]}*1 {[sip_reg_addr] <addr>}*1 {[sip_reg_port] <0-65535>}*1
{[sip_proxy_addr] <addr>}*1 {[sip_proxy_port] <0-65535>}*1 {[sip_expires]
<0-4294967294>}*1
```

#### Parameter description

Parameter	Parameter Description	Parameter Attribute
ngn_uplink_interface name <name>	The name of uplink interface of NGN voice service Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the service VLAN central office. The online, English alphabet and numbers are valid.	Compulsory parameter
{[dhcp] [enable disable]}*1	DHCP function The DHCP is the dynamic host configuration protocol. After enabling the function, the ONU (IAD) automatically obtains the public network's dynamic IP address. The ONU (IAD) static IP address which is configured by other command is invalid. ◆ enable: Enable the function. ◆ disable: Disable the function. Disable is by default.	Optional parameter
{[sip_reg_addr] <addr>}*1	◆ [sip_reg_addr]: SIP register server. ◆ <addr>: The IP address of the SIP server. Null by default.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{[sip_reg_port] <0-65535>} *1	<ul style="list-style-type: none"> <li>◆ [sip_reg_addr]: SIP register server port.</li> <li>◆ &lt;0-65535&gt; : The port number of the SIP register server. The protocol port number of MG registering to the SIP register server. The value range is 0 to 65535 and the default value is 5060.</li> </ul>	Optional parameter
{[sip_proxy_addr] <addr>}*1	<ul style="list-style-type: none"> <li>◆ [sip_proxy_addr] : SIP proxy server.</li> <li>◆ &lt;addr&gt;: The IP address of the SIP proxy server. Null by default.</li> </ul>	Optional parameter
{[sip_proxy_port] <0-65535>}*1	<ul style="list-style-type: none"> <li>◆ [sip_reg_port]: SIP proxy server port.</li> <li>◆ &lt;0-65535&gt;: The port number of SIP proxy server. The value range is from 0 to 65535. 5060 by default.</li> </ul>	Optional parameter
{[sip_expires] <0-4294967294>}*1	<ul style="list-style-type: none"> <li>◆ [sip_expires]: SIP register expire time.</li> <li>◆ &lt;0-4294967294&gt;: Time range. The SIP register expire time. After exceeding the time, the register is unsuccessful if the MG fails to receive the corresponding information from the SIP server. The value range is from 0 to 4294967294 and the default value is 3600. The unit is second.</li> </ul>	Optional parameter

### Command example

Configure the voice service named ngn\_wuhan3. Use the SIP protocol. The IP address of the SIP register server is 192.168.1.103 and the protocol port number is 5060.

```
Admin\ngn#set ngn_uplink_interface name ngn_wuhan3 protocol_type sip sip_reg_addr
192.168.1.103 sip_reg_port 5060
Admin\ngn#
```

## 13.2 Configure MD5 Authentication

### Command function

MD5 stands for message-digest algorithm 5 and is used widely in encryption and decryption. The voice uses the MD5 authentication as a kind of mechanism for the softswitch platform register. Verify the validity through the key from the register signaling.

### Command format

```
set ngn_iad_md5 domain_name <name> md5_state [enable|disable] {[mgid]
<value>}*1 {[key] <value>}*1 {[dhg_value] <value>}*1 {[dhp_value] <value>}
*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
domain_name <name>	Domain The domain name of MG in the H.248 and MGCP protocols.	Compulsory parameter
md5_state [enable disable]	MD5 function ◆ enable: Enable the function. ◆ disable: Disable the function. Disable is by default.	Compulsory parameter
{mgid <value>}	MGID value The identifier of MD includes manufacturer and equipment information. When registering in the softswitch platform, MG uses the global unique identifier.	Optional parameter
{key <value>}	MD5 public key	Optional parameter
{dhg_value <value>}	base g	Optional parameter
{dhp_value <value>}	prime p	Optional parameter

### Command example

Configure enable to the MD5 function whose domain name is fiberhome. The MGID value is 100 and the MD5 public key is 100. The base g is 100 and the prime p is 100.

```
Admin\ngn#set ngn_iad_md5 domain_name fiberhome md5_state enable mgid 100 key
100 dhg_value 100 dhp_value 100
```

Admin\ngn#

## 13.3 Configure Softswitch Interconnection Profile

### Command function

The command is used to configure the software interconnection profile.

### Command format

```
set ngn_softswitch_para <profileName> fixed <value> varB <value> varE
<value> step <value> fixedLen [unfixed|fixed] beginT <value> shortT <value>
longT <value> matchEM [exclusive|immediately] switch [disable|enable] txI
<value> rxI <value> voiceC [G711U|G711A|nochange] offhkWT [unregiste|
registe] flashThd <value> 2833N [disable|enable] 2833D <value> 2198D <value>
t38EDM [default|V21|all ] callerIdM [fsk|dtmf] onHKDT <value> dailtonett
<value> Noanstt <value> Busytonett <value> ROHTt <value> Retranntt <value> ECM
[disable|enable] L [chinese|english] {[id] <0-64>}*1 {[timethd] <1-3600>
userthd <1-4096>}*1 {[heart] [notify|change]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
softswitch_para <profileName>	The name of softswitch interconnection profile.	Compulsory parameter
fixed <value>	The fixed part of RPT source name	Compulsory parameter
varB <value>	The start value of variable part of RPT source name	Compulsory parameter
varE <value>	The end value of variable part of RPT source name	Compulsory parameter
step <value>	The step of variable part of RPT source name	Compulsory parameter
fixedLen [unfixed fixed]	The fixed length of RTP name	Compulsory parameter
beginT <value>	The DigitMap start timer	Compulsory parameter
shortT <value>	The DigitMap short timer	Compulsory parameter
longT <value>	The DigitMap long timer	Compulsory parameter
matchEM [exclusive immediately]	Report immediately after totally matching any rules.	Compulsory parameter
switch [disable enable]	VBD enable	Compulsory parameter
txI <value>	Interval for VBD transmitting VBD.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
rxI <value>	Interval for VBD receiving VBD.	Compulsory parameter
voiceC [G711U G711A nochange]	VBD encode type	Compulsory parameter
offhkWT [unregiste registe]	Time-out processing of howler tone	Compulsory parameter
flashThd <value>	Flash time length	Compulsory parameter
2833N [disable enable]	RFC2833 negotiation	Compulsory parameter
2833D <value>	RFC2833 defaults PT	Compulsory parameter
2198D <value>	RFC2198 defaults PT	Compulsory parameter
t38EDM [default V21 all]	Detection mode of T.38 event	Compulsory parameter
callerIdM [fsk dtmf]	Caller ID display mode	Compulsory parameter
onHKDT <value>	Minimum hang-up detection time	Compulsory parameter
dailtonett <value>	Dial tone time	Compulsory parameter
Noanstt <value>	No answer for long time.	Compulsory parameter
Busyton ett <value>	Busy tone time	Compulsory parameter
ROHTt <value>	Howler tone time	Compulsory parameter
Retrantt <value>	Re-transmission timer	Compulsory parameter
ECM [disable enable]	Eerror correction switch	Compulsory parameter
L [chinese english]	CLI language	Compulsory parameter
{ [id] <0-64>*1	Profile ID	Optional parameter
{ [timethd] <1-3600> userthd <1-4096>*1	The NGN register time threshold	Optional parameter
userthd <1-4096>	The NGN register user number threshold	Optional parameter
{ [heart] [notify change] }*1	Heartbeat format	Optional parameter

## Command example

Configure ngn1 to the name. The fixed part of RTP source name is RTP/000 and the start value of variable part of RTP source name is 0. The end value of variable part of RTP source name is 15. The variable part step of RTP source name is 1. The RTP name fixed length is non-fixed. The DigitMap start timer is 16. The DigitMap short time is 4. The DigitMap long timer is 16. Set immediate report in the item of matchEM [exclusive|immediately]. The VBD enable is forbid. The interval of VBD transmitting the packet is 20 and the interval of VBD receiving is 10. The VBD encode type is no change. The howler tone out-time processing is unregistrer. The Flash time length is 90. The RFC2833 negotiation is non-automatic negotiation. By default, PT of the RFC2833 is 97 and PT of the RFC2198 is 96. The T.38 event detection mode is normal report. The Caller ID display mode is FSK. The minimum hang-up detection time is 600 and the dial tone time is 60. No answer for long time is 60. The busy time is 60. The howler tone time is 60. The re-transmission timer time is 25. Error correction switch is disable. The CLI language is Chinese. The profile ID is 1. The NGN register time threshold is 600 and the NGN register user number threshold is 1. The heartbeat format is the change softswitch interconnection profile.

```
Admin\ngn#set ngn_softswitch_para ngn1 fixed RTP/000 varB 0 varE 15 step 1 fixedlen
unfixed beginT 16 shortT 4 longT 16 matchEM immediately switch disable txl 20 rxl 10
voiceC nochange offhkWT unregistrer flashThd 90 2833N disable 2833D 97 2198D 96 t38EDM
default callerIdM fsk onHKDT 60 dailtonett 60 Noanstt 60 Busytonett 60 ROHTt 60 Retrantt
25 ECM disable L chinese id 1 timethd 60 userthd 1 heart change
Admin\ngn#
```

## 13.4 Bind Softswitch Interconnection Profile

### Command function

The command is used to configure parameters in the interconnection with the softswitch platform. These parameters include RTP value, start timer, long timer, short time, etc. Perform profile bind directly with the terminal IAD. The function is closed in the network management by default.

### Command format

```
set ngn_iad_ss_binding slot <value> pon <value> onu <value>
qing_IAD_softswitch_binding_profile <profileName>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
qinq_IAD_softswitch_binding_profile <profileName>	The name of softswitch interconnection profile. The name should be the profile name which has been configured in the softswitch profile configuration command.	Compulsory parameter

## Command example

Bind the ONU whose authorization number is 1 of No.1 PON interface in slot 14 with the profile named protest.

```
Admin\ngn#set ngn_iad_ss_binding slot 14 pon 1 onu 1
qinq_iad_softswitch_binding_profile protest
Admin\ngn#
```

# 13.5 Configure Heartbeat Parameter

## Command function

The command is used to configure the heartbeat interval and heartbeat time-out times controlled by the media gateway in the ONU voice service.

## Command format

```
set ngn_heartbeat servicename <name> aliveinterval <1-65535> alivetimes <1-65535>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>servicename &lt;name&gt;</code>	Service name Identify the VLAN name of the users' NGN voice service on the OLT side. The VLAN name should be consistent with the data configured in the service VLAN central office. Enable the heartbeat parameter in the corresponding softswitch platform.	Compulsory parameter
<code>aliveinterval &lt;1-65535&gt;</code>	Heartbeat interval MG take the configured time as interval to transmit the heartbeat packet. The value range is from 1 to 65535 and the unit is second and the default value is 30 seconds.	Compulsory parameter
<code>alivetimes &lt;1-65535&gt;</code>	Heartbeat time-out times If MC transmits the configuration parameter for many times and no response is received from the heartbeat, the connection with the MGC is interrupted. Create connection with other MGCs. The value range is from 1 to 65535 and the unit is times, 3 is by default.	Compulsory parameter

## Command example

Configure ngn to the name of the NGN heartbeat service. The service heartbeat interval is 30 seconds and the heartbeat time-out times is 3.

```
Admin\ngn#set ngn_heartbeat servicename ngn aliveinterval 30 alivetimes 3
Admin\ngn#
```

## 13.6 Configure NGN Softswitch Profile Parameter

### Command function

The command is used in the parameter configuration in the interconnection between the ONU VoIP service and the softswitch.

## Command format

```
set ngn_softswitch_para <profileName> fixed <value> varB <value> varE
<value> step <value> fixedLen [unfixed|fixed] beginT <value> shortT <value>
longT <value> matchEM [exclusive|immediately] switch [disable|enable] txI
<value> rxI <value> voiceC [G711U|G711A|nochange] offhkWT [unregister|
register] flashThd <value> 2833N [disable|enable] 2833D <value> 2198D <value>
t38EDM [default|V21|all] callerIdM [fsk|dtmf] onHKDT <value> dailToneTt
<value> NoAnsTt <value> BusyToneTt <value> ROHTt <value> RetranTt <value> ECM
[disable|enable] L [chinese|english] {[id] <0-64>}*1 {[timethd] <1-3600>
userthd <1-4096>}*1 {[heart] [notify|change]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<profileName>	The NGN softswitch profile name	Compulsory parameter
fixed <value>	The fixed part of the RTP source name. If the RTP source name is RTP/100, the fixed part should be "RTP/", which is valid for the H.248 protocol.	Compulsory parameter
varB <value>	The start value of variable part of RPT source name Value range: 0 to 65534, and the default value is 4000.	Compulsory parameter
varE <value>	The end value of variable part of RPT source name Value range: 0 to 65534, and the default value is 9000.	Compulsory parameter
step <value>	The step of variable part of RPT source name Value range: 1 to 65534, and the default value is 1.	
fixedLen [unfixed fixed]	RPT name fixed length. Use to control the length of the RTP source name. ◆ unfixed: unfixed mode. ◆ fixed: fixed mode.	Compulsory parameter
beginT <value>	The DigitMap start timer value refers to wait-to-dail time. Value range: 1 to 254. The unit is second and the default value is 16.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
shortT <value>	DigitMapShortTimer refers to that the digit string has matched a numbering scheme of the DigitMap but with more digits it may match an alternative numbering scheme as well . Therefore, the matching result will not be reported immediately. Value range: 1 to 254. The unit is second and the default value is 4.	Compulsory parameter
longT <value>	DigitMapLongTimer refers to that the digit string needs one more number to match any numbering schemes of the DigitMap. Value range: 1 to 254. The unit is second and the default value is 16.	Compulsory parameter
matchEM [exclusive immediately]	The matching result will be reported immediately. After matching any numbering schemes, the digit string reports immediately. <ul style="list-style-type: none"> <li>◆ exclusive: Match and report.</li> <li>◆ Immediately: Immediately report.</li> </ul>	Compulsory parameter
switch [disable enable]	VBD function Selects whether to open the interval function of adjusting Tx and Rx packet. <ul style="list-style-type: none"> <li>◆ disable: Disable VBD.</li> <li>◆ enable: Enable VBD.</li> </ul>	Compulsory parameter
txI <value>	The interval for VBD Tx packet. Adjust the interval for Tx packet. The value range is from 1 to 254. The unit is milliampere and the default value is 20.	Compulsory parameter
rxI <value>	The interval for VBD Rx packet. Adjust the interval for Rx packet. The value range is from 1 to 254. The unit is milliampere. 10 is the default value.	Compulsory parameter
voiceC[G711U G711A nochange]	VBD encode type. After selecting the T.30 transparent transmission mode, the voice encoded mode is used. nochange is by default.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
offhkWT [unregiste registe]	<p>The howler tone time-out processing. Register the howler tone time-out processing function, so as to stop playing the howler tone when the timer expires.</p> <ul style="list-style-type: none"> <li>◆ unregiste: Does not register.</li> <li>◆ register: Register.</li> </ul> <p>Unregiste is by default.</p>	Compulsory parameter
flashThd <value>	<p>Flash time length. The width of the Flash low pulse signal.</p> <p>The value range is from 90 to 200. The unit is milliampere and the default value is 90.</p>	Compulsory parameter
2833N [disable enable]	<p>RFC2833 negotiation Whether to register the RFC2833 auto-negotiation. Encapsulate DTMF in the mode of RFC2833.</p> <ul style="list-style-type: none"> <li>◆ disable: Non auto-negotiation.</li> <li>◆ enable: Auto-negotiation.</li> </ul> <p>Non auto-negotiation is by default.</p>	Compulsory parameter
2833D <value>	<p>RFC2833 defaults PT. The value of the RFC2833 default payload mode. Value range: 96 to 127, and the default value is 97.</p>	Compulsory parameter
2198D <value>	<p>RFC2198 defaults PT. The value of the RFC2833 redundant mode mode. Value range: 96 to 127, and the default value is 96.</p>	Compulsory parameter
t38EDM [default V21 all]	<p>Detection mode of T.38 event</p> <ul style="list-style-type: none"> <li>◆ default: Normal report. Normal report MGC.</li> <li>◆ V21: Only report V21. The V21 mode only reports the V21 event.</li> <li>◆ all: Report all V21. Report MGC in the mode of V21.</li> </ul> <p>The default is normal report.</p>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
callerIdM [fsk dtmf]	<p>Caller ID display mode. Select the mode in the frequency shift keying control or dual tone multiple frequency mode.</p> <ul style="list-style-type: none"> <li>◆ fsk: FSK mode.</li> <li>◆ dtmf: DTMF mode.</li> </ul> <p>The FSK mode is by default</p>	Compulsory parameter
onHKDT <value>	<p>The minimum hang-up detection time. The detection time length of polling about the hang-up event. The value range is from 90 to 2500. The unit is milliamper and the default value is 60.</p>	Compulsory parameter
dailToneTt <value>	<p>Dial tone time. The time to broadcast the dial tone. Value range: 1 to 254. The unit is second and the default value is 60.</p>	Compulsory parameter
NoAnsTt <value>	<p>No answer for long time. If exceeding the time, the phone is not answered. Value range: 1 to 254. The unit is second and the default value is 60.</p>	Compulsory parameter
BusyToneTt <value>	<p>Busy tone time. The time to broadcast the busy tone in the busy state. Value range: 1 to 254. The unit is second and the default value is 60.</p>	Compulsory parameter
ROHTt <value>	<p>The howler tone time. The howler tone after the busy tone. The value range is from 1 to 254 and the unit is second.</p>	Compulsory parameter
RetranTt <value>	<p>Re-transmission timer. The time length of MG transmitting the transaction request to the MGC. The MG stops transmitting the transaction request if exceeding the time. Value range: 1 to 60. The unit is second and the default value is 25.</p>	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
ECM [disable enable]	Error correction switch. Error correct the data packet with faults. <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> </ul> Disable is by default.	Compulsory parameter
L [chinese english]	IAD command line language. Only supports AN5006-05 at present. <ul style="list-style-type: none"> <li>◆ chinese: Chinese</li> <li>◆ english: English</li> </ul> Chinese is by default	Compulsory parameter
{ [id] <0-64> } *1	Profile ID	Optional parameter
{ [timethd] <1-3600> userthd <1-4096> } *1	<ul style="list-style-type: none"> <li>◆ [timethd] &lt;1-3600&gt; : NGN register time threshold. The time threshold of IAD registering to the MGC. The value range is from 1 to 3600 and the unit is second and the default value is 600.</li> <li>◆ userthd &lt;1-4096&gt;: NGN user register number threshold. Within the time threshold of IAD registering to the MGC, the number of users who can not register exceeds the the NGN register threshold, alarms occur. The value range is from 1 to 4096.</li> </ul>	Optional parameter
{ [heart] [notify change] } *1	Heartbeat format. The format of transmitting the heartbeat.	Optional parameter

## Command example

Configure each parameter in the softswitch profile named ngn1. The fixed part of the RTP source name is RTP/000. The RTP name fixed length is non-fixed mode. Report immediately after totoally matching any rules. Disable the VDB function. The profile ID is 1. Other parameters use the default value.

```
Admin\ngn#set ngn_softswitch_para ngn1 fixed RTP/000 varb 4000 vare 9000 step 1
fixedlen unfixed begint 16 shortt 4 longt 16 matchem immediately switch disable txi 20 rxi
10 voicec nochange offhkwf unregiste flashtd 90 2833n disable 2833d 97 2198d 96 t38edm
```

```
default calleridm fsk onhkdt 60 dailtonett 60 noanstt 60 busytonett 60 rohtt 60 retrantt 25
ecm disable | chinese id 1
```

```
Admin\ngn#
```

## 13.7 Configure NGN Uplink DHCP Parameter

### Command function

The command is used to configure the ONU to obtain the voice service IP in the mode of DHCP with Option 60 identifier. The function uses DHCP SERVER and DHCP CLIENT modes. The DHCP SERVER (MGC) end can plan the IP address range section. The DHCP CLIENT (MG) end can be allocated the valid IP address randomly.

### Command format

```
set ngn_uplink_dhcp slot <value> pon <value> onu <value> dhcp [enable|
disable] dhcp_option60 [enable|disable] {dhcp_value <value>} *1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
dhcp [enable disable]	DHCP function. When initialing the DHCP, the ONU public network IP will be covered with the IP which is dynamically obtained. ◆ enable: Enable the function. ◆ disable: Disable the function.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
dhcp_option60 [enable disable]	DHCP Option60 function. When enabling the DHCP Option60 switch, the DHCP packet with Option60 will be transmitted. ◆ enable: Enable the function. ◆ disable: Disable the function.	Compulsory parameter
{dhcp_value <value>} *1	DHCP Option60 identifier suffix Input up to 32 bites character strings.	Optional parameter

### Command example

Enable the DHCP of the ONU whose authorization number is 1 of No.1 PON interface in slot 14. Enable the DHCP Option60. The DHCP Option60 identifier suffix is test.

```
Admin\ngn#set ngn_uplink_dhcp slot 14 pon 1 onu 1 dhcp enable dhcp_option60 enable
dhcp_value test
Admin\ngn#
```

## 13.8 Configure NGN Uplink PPPoE Parameter

### Command function

The command is used to configure the ONU to use the PPPoE mode to dynamically obtain the IAD IP

### Command format

```
set ngn_uplink_pppoe slot <value> pon <value> onu <value> pppoe [enable|
disable] {name <name> password <pwd>} *1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
pppoe [enable disable]	Enable the ONU (IAD)'s PPPoE dialing function to obtain the IAD IP address which is used to communicate with the MGC. ◆ enable: Enable the function. ◆ disable: Disable the function.	Compulsory parameter
{name <name> password <pwd>} *1	◆ name <name>: PPPoE user name. ◆ password <pwd>: PPPoE password.	Optional parameter

### Command example

Enable the PPPoE function of the ONU whose authorization number is 1 of No.1 PON interface in slot 14. The PPPoE user name is wuhan and the key is 123.

```
Admin\ngn#set ngn_uplink_pppoe slot 14 pon 1 onu 1 pppoe enable name wuhan
password 123
Admin\ngn#
```

## 13.9 Configure NGN Uplink User Parameter

### Command function

The command is used to configure the local media gateway parameter of the ONU voice service.

### Command format

```
set ngn_uplink_user servicename <name> phone <value> {[public_ip] <A.B.C.
D>} *1 {[public_subnet] <A.B.C.D>} *1 {[public_gate] <A.B.C.D>} *1
{[domainnam] <name>} *1 {[protocol_port] <1-65535>} *1 {[username] <name>} *1
{[sip_user_name] <name>} *1 {[sip_user_password] <password>} *1
{[user_index] <value>} *1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>servicename &lt;name&gt;</code>	Service name Identify the VLAN name of the User NGN voice service on the OLT side. The VLAN name should be consistent with the name of the data configured in the service VLAN central office. The online, English alphabet and numbers are valid.	Compulsory parameter
<code>phone &lt;value&gt;</code>	Phone number System internal logical number is not the phone number of the actual softswitch and only used in the system configuration index.	Compulsory parameter
<code>{[public_ip] &lt;A.B.C.D&gt;}*1</code>	ONU static public network IP When enabling DHCP or PPPoE, the ONU covers the the public IP configured by the system with the automatically-obtained IP. The parameter must be configured.	Optional parameter
<code>{public_subnet &lt;A.B.C.D&gt;}*1</code>	ONU public network IP mask Default mask: 255.255.0.0.	Optional parameter
<code>{[public_gate] &lt;A.B.C.D&gt;}*1</code>	ONU public network IP gateway	Optional parameter
<code>{[domainnam] &lt;name&gt;}*1</code>	End point domain name/SIP user name suffix. The domain address of gateway. When the MGC protocol type is SIP, the SIP authenticatin user name exceeds 16 bytes, fill the user name's suffix.	Optional parameter
<code>{[protocol_port] &lt;1-65535&gt;}*1</code>	ONU protocol port Value range: 1 to 65535. ◆ The protocol type is H.248 and the default value is 2944. ◆ The protocol type is MGCP and the default value is 2427. ◆ The protocol type is SIP and the default value is 5060.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{[username] <name>}*1	<ul style="list-style-type: none"> <li>◆ The MGCP and H.248 protocols are used, indicating the end point user name.</li> <li>◆ Uses the SIP protocol, indicating the SIP telephone number.</li> </ul>	Optional parameter
{[sip_user_name] <name>}*1	SIP protocol authentication user name	Optional parameter
{[sip_user_password] <password>}*1	SIP protocol authentication user's key	Optional parameter
{[user_index] <value>}*1	User index	Optional parameter

### Command example

Configure the phone number of the NGN service as 11111111. The ONU public network IP is 10.10.10.101 and the ONU public network IP mask is 255.255.0.0. The ONU public network IP gateway is 10.10.1.254. The end point domain name is fiberhome. The ONU protocol port is 2944 and the end point user name is a1. The user index is 1.

```
Admin\ngn# set ngn_uplink_user servicename ngn phone 11111111 public_ip 10.10.10.101
public_subnet 255.255.0.0 public_gate 10.10.1.254 domainnam fiberhome protocol_port
2944 username a1 user_index 1
Admin\ngn#
```

## 13.10 Register / Log out NGN User

### Command function

When registering or logging out a signal port manually, the command can register or log out the corresponding port according to the phone number.

### Command format

```
set ngn_user_reg phoneno <value> [register|unregister]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
phoneno <value>	Phone number Select the telephone number configured in the NGN configuration. Value range: 0 to 99999999.	Compulsory parameter
[register unregister]	Manually register or log out to the MGC. ◆ register: Register. ◆ unregiste: Does not register.	Compulsory parameter

## Command example

Configure the user whose telephone number is 11111111 to the MGC.

```
Admin\ngn#set ngn_user_reg phone 11111111 register
Admin\ngn#
```

# 13.11 Configure ONU Voice Service Parameter

## Command function

The command is used to configure the ONU voice service parameters which speech encoding, fax mode, mute switch, echo suppression, input/output gain, DTMF mode and etc..

The command is valid for the AN5516-01GPON equipment.

## Command format

```
set ngn_voice_service slot <value> pon <value> onu <value> pots <portno>
phonenum <num> vid <vid> code_mode [G.711M|G.711A|G.723|G.729] fax_mode
[transparent|t.38] slience [enable|disable] echo_cancel [enable|disable]
input_gain <num> voice_value <value> dtmf [transparent|rfc2833]
{[heartbeat] [enable|disable]}*1 {[potsqinqstate] [enable|disable] svlanid
<0-4085>*1 {[service_cos] <value>*1 {[customer_cos] <value>*1
{[fax_control] [passthrough|softswitch|autovbd]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
pots <portno>	POTS port number	Compulsory parameter
phonenum <num>	Phone number The phone number should be the configured NGN user entries and each port should not be allocated with repeat telephone number. The system ascertains the other configuration information of the ONU voice according to the telephone number. 0 is the default value.	Compulsory parameter
vid <vid>	VLAN ID The parameter is the uplink VLAN ID value of the voice data on the port and should be consistent with the VLAN ID value of the uplink interface which the NGN user configured of the port.	Compulsory parameter
code_mode [G.711M G.711A G.723 G.729]	Speech encoding mode The compression encoding mode of the NGN service speech flow. G.711A by default	Compulsory parameter
fax_mode [transparent t.38]	Fax mode ◆ transparent: Transparent mode. Fax carried by the RTP flow. ◆ t.38 : T.38 mode. Fax via the T.38 fax encoding mode. The transparent mode is by default.	Compulsory parameter
silence [enable disable]	Mute compression. Transmit mute compression packet when no voice is during calls. ◆ enable: Enable the function. ◆ disable: Disable the function. Enable by default	Compulsory parameter
echo_cancel [enable disable]	Echo compression. Cancel the acoustic echo. ◆ enable: Enable the function. ◆ disable: Disable the function.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
input_gain <num>	Input gain. Value range: -32 to +32. The unit is dB and the default value is 0.	Compulsory parameter
voice_value <value>	Output gain Value range: -32 to +32. The unit is dB and the default value is 0.	Compulsory parameter
dtmf [transparent  rfc2833]	DTMF mode. The transmission mode on the client side, such as butter fax event. ◆ transparent: Transparent mode. Fax carried by the DTMF flow. ◆ rfc2833: The RFC2833 mode. Encode the DTMF signal via the RFC2833 standard. The transparent mode is by default.	Compulsory parameter
{[heartbeat] [enable  disable]} *1	Heartbeat function ◆ enable: Enable the function. ◆ disable: Disable the function.	Optional parameter
[potsqinqstate] [enable disable]	Voice QinQ function enable switch When the Voice QinQ function is enabled, the double VLAN mode is configured. The Service VLAN ID value should be consistent with the configured service VLAN ID value.	Optional parameter
svlanid <0-4085>	Service VLAN ID The value range is from 1 to 4085. The value should be in the range of the service VLAN central office data.	Optional parameter
{[service_cos] <value>} *1	Service VLAN priority.	Optional parameter
{[customer_cos] <value>} *1	User VLAN ID	Optional parameter
{[fax_control] [passthrough  softswitch autovbd]} *1	Fax control mode ◆ passthrough: Voice path. ◆ softswitch: Softswitch controlled. ◆ autovbd: Auto-negotiation.	Optional parameter

## Command example

Configure the No.1 ports interface parameters of the ONU whose authorization number is 1 of No.1 PON interface in the slot 14. The phone number is 11111111 and the VID is 3022. The speech compression encoding mode is G.711A. The fax mode is transparent transmission. The mute compression is disabled. The echo compression is disabled. The input gain is 4 and the output gain is 0. The DTMF mode is transparent transmission.

```
Admin\ngn#set ngn_voice_service slot 14 pon 1 onu 1 pots 1 pho 11111111 vid 3022 co
g.711a fax trans slience dis echo dis in 4 voice 0 dtmf transparent
Admin\ngn#
```

## 13.12 Check ONU Voice Service Parameter

### Command function

The command is used to check ONU voice service parameters.

### Command format

```
show ngn_voice_service slot <value> pon <value> onu <value> pots_config
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

```
Admin\ngn#show ngn_voice_service slot 14 pon 1 onu 1 pots_config
```

```
*****
port          :1          phonenum   : 11111111
vlan id       :3022       code mode  : G.711A
fax mode      :transparent slienceSp  : disable
```

```

echo cancel :disable      input gain : 4
output gain : 0           dtmf mode  : transparent
heartbeat    :disable
potsqinqstate:disable.
service cos  : disable.
customer cos : disable.
bind type    : 0.
bind adv profile id: 0.
fax control mode : PassThrough
port activation : ACTIVE.
rms state    :disable
*****
port         :2           phonenum   : 0
vlan id     :0           code mode  : G.711A
fax mode    :transparent slienceSp : enable
echo cancel :enable      input gain: 0
output gain : 0           dtmf mode  : transparent
heartbeat    :disable
potsqinqstate:disable.
service cos  : disable.
customer cos : disable.
bind type    : 0.
bind adv profile id: 0.
fax control mode : PassThrough.
port activation : ACTIVE.
rms state    :disable
Admin\ngn#

```

### Result description

Parameter	Parameter Description
port	Port number
phonenum	Phone number
vlan id	VLAN ID value The value is the uplink VLAN ID value of the port's voice data.
code mode	Encoding mode
fax mode	Fax mode
slienceSp	Mute compression
echo cancel	Echo compression
input gain	Input gain.
output gain	Output gain
dtmf mode	DTMF mode

Parameter	Parameter Description
heartbeat	Heartbeat function
potsginqstate	QinQ enable
service cos	Service VLAN priority
customer cos	Customer VLAN priority
bind type	Profile type
bind adv profile id	Profile ID
fax control mode	Fax control mode
port activation	Port activation status
rms state	RMS status

## 13.13 Check Domain Information of the MD5 Authentication

### Command function

The command is used to check the domain information of the MD5 authentication.

### Command format

```
show ngn_iad_md5 endpoint_dmname <name> information
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
endpoint_dmname <name>	End point domain name	Compulsory parameter

### Command example

Check the MD5 authentication information with the domain name is fiberhome.

```
Admin\ngn#show ngn_iad_md5 endpoint_dmname fiberhome information
index 0-----
domain_name      :fiberhome
md5_state        :1
mgid             :100
key              :100
dhg_value        :100
dhp_value        :100
Admin\ngn#
```

## Result description

Parameter	Parameter Description
domain_name	End point domain name
md5_state	MD5 function
mgid	MGID value
key	MD5 public key
dhg_value	base g
dhp_value	prime p

## 13.14 Check Softswitch Interconnection Profile Binding Parameter

### Command function

The command is used to check the softswitch profile binding the parameter.

### Command format

```
show ngn_iad_ss_binding slot <value> pon <value> onu <value>
qinq_IAD_softswitch_binding_profile
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Configure the softswitch profile binding parameters of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#show ngn_iad_ss_binding slot 14 pon 1 onu 1
qinq_iad_softswitch_binding_profile
```

```

-----IAD Softswitch profile binding information-----
slot: 14, pon: 1, onu: 1, profile: protest
Admin\ngn#

```

## Result description

Parameter	Parameter Description
slot	Slot number
pon	PON interface number
ONU	ONU authorization number
profile	Profile name

## 13.15 Check IAD Softswitch Profile Parameter

### Command function

The command is used to check the related parameters of the IAD softswitch profile.

### Command format

```
show ngn_softswitch_para <profileName> parameters
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<profileName>	Profile Name	Compulsory parameter

### Command example

Check the IAD softswitch profile parameter with the profile name of protest.

```
Admin\ngn#show ngn_softswitch_para protest parameters
```

```

Profile name: protest          Profile id:1
----- RTP informaiton -----
RTP name fixed part:  RTP      | RTP name variable begin: 4000
RTP name variable end: 9000    | RTP name variable step:  1
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      | digitmap short timer:   4
digitmap long timer:  16     | notify match each map: immediately
----- VBD informaiton -----

```

```

VBD switch:      enable          |   VBD TX interval: 20
VBD RX interval: 10            |   VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste  |   flash threshold:90
RFC2833 negotiation state:  disable      |   RFC2833 default PT:97
RFC2198 default PT:          96 |   T38 event detect mode: default
-----newly added informaiton -----
CallerID Mode: fsk
OnHook detect time: 600
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 600
User Threshold: 600
heartformat: notify
Admin\ngn#

```

## Result description

Parameter	Parameter Description
Profile name	Profile name
Profile id	Profile ID
RTP name fixed part	The fixed part of RTP source name
RTP name variable begin	The start value of variable part of RTP source name
RTP name variable end	The end value of variable part of RTP source name
RTP name variable step	The step of variable part of RTP source name
RTP name fixed length	The RTP name has the fixed length and unfixed/fixed mode.
digitmap begin timer	The DigitMap start timer
digitmap short timer	The DigitMap short timer
digitmap long timer	The DigitMap long timer
notify match each map	Match and report/immediately report
VBD switch	VBD enable/disable
VBD TX interval	Interval for VBD transmitting packet
VBD RX interval	Interval for VBD receiving packet.
VBD voice coder	VBD encode type
offhook warning tone timeout	Dose not register/ register owler tone time-out processing

Parameter	Parameter Description
flash threshold	Flash time length
RFC2833 negotiation state	RFC2833 negotiation enable/disable
RFC2833 default PT	RFC2833 defaults PT
RFC2198 default PT	RFC2198 defaults PT
T38 event detect mode	Detection mode of T.38 event
CallerIDMode	Caller ID display mode
OnHook detect time	Minimum hang-up detection time
Dail tone timeout	Dial tone time
No answer tone timeout	No answer for long time.
Dail tone timeout	Busy tone time
ROH timeout	Howler tone time
Retrans timeout	Re-transmission timer
EC Mode	Error correction switch
Language	Command line language
Timer Threshold	NGN register time threshold
User Threshold	The threshold number of NGN user registering
heartformat	Heartbeat format

## 13.16 Check All Softswitch Interconnection Profile Parameter

### Command function

The command is used to check all softswitch interconnection profile parameters.

### Command format

```
show ngn_softswitch_para all
```

### Parameter description

No

### Command example

Check all softswitch interconnection profile parameter.

```
Admin\ngn#show ngn_softswitch_para all
```

```

Profile name: protest          Profile id:1
----- RTP informaiton -----
RTP name fixed part:  RTP      |   RTP name variable begin: 4000
RTP name variable end: 9000   |   RTP name variable step:  1
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      |   digitmap short timer:   4
digitmap long timer:  16     |   notify match each map: immediately
----- VBD informaiton -----
VBD switch:   enable         |   VBD TX interval: 20
VBD RX interval: 10         |   VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste |   flash threshold:90
RFC2833 negotiation state:  disable    |   RFC2833 default PT:97
RFC2198 default PT:         96      |   T38 event detect mode: default
----- newly added informaiton -----CallerID
Mode: fsk
OnHook detect time: 600
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 600
User Threshold: 600
heartformat: notify
Profile name: protest1        Profile id:2
----- RTP informaiton -----
RTP name fixed part:  RTP      |   RTP name variable begin: 2000
RTP name variable end: 6000   |   RTP name variable step:  2
RTP name fixed length: fixed
----- digitmap informaiton -----
digitmap begin timer: 16      |   digitmap short timer:   4
digitmap long timer:  16     |   notify match each map: immediately
----- VBD informaiton -----
VBD switch:   enable         |   VBD TX interval: 20
VBD RX interval: 10         |   VBD voice coder: no change
----- other informaiton -----
offhook warning tone timeout: unregiste |   flash threshold:90
RFC2833 negotiation state:  disable    |   RFC2833 default PT:97
RFC2198 default PT:         96      |   T38 event detect mode: default
----- newly added informaiton -----

```

```

CallerID Mode: fsk
OnHook detect time: 600
Dail tone timeout: 60
No answer tone timeout: 60
Busy tone timeout: 60
ROH timeout: 60
Retrans timeout: 25
EC Mode: disable
Language: Chinese
Timer Threshold: 500
User Threshold: 500
heartformat: notify
Admin\ngn#

```

## Result description

Parameter	Parameter Description
Profile name	Profile name
Profile id	Profile ID
RTP name fixed part	The fixed part of RTP source name
RTP name variable begin	The start value of variable part of RTP source name
RTP name variable end	The end value of variable part of RTP source name
RTP name variable step	The step of variable part of RTP source name
RTP name fixed length	The RTP name has the fixed length and unfixed/fixed mode.
digitmap begin timer	The DigitMap start timer
digitmap short timer	The DigitMap short timer
digitmap long timer	The DigitMap long timer
notify match each map	Match and report/immediately report
VBD switch	VBD enable/disable
VBD TX interval	Interval for VBD transmitting packet
VBD RX interval	Interval for VBD receiving packet.
VBD voice coder	VBD encode type
offhook warning tone timeout	Dose not register/ Register howler tone time-out processing
flash threshold	Flash time length
RFC2833 negotiation state	RFC2833 negotiation enable/disable
RFC2833 default PT	RFC2833 defaults PT
RFC2833 default PT	RFC2198 defaults PT
T38 event detect mode	Detection mode of the T.38 event
CallerID Mode	Caller ID display mode

Parameter	Parameter Description
OnHook detect time	Minimum hang-up detection time
Dail tone timeout	Dial tone time
No answer tone timeout	No answer for long time.
Dail tone timeout	Busy tone time
ROH timeout	Howler tone time
Retrans timeout	Re-transmission timer
EC Mode	Error correction switch
Language	Command line language
Timer Threshold	NGN register time threshold
User Threshold	The threshold number of NGN user registering
heartformat	Heartbeat format

## 13.17 Check NGN Uplink DHCP Parameter

### Command function

The command is used to check the uplink DHCP information.

### Command format

```
show ngn_uplink_dhcp slot <value> pon <value> onu <value> uplink_dhcp
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Check the uplink DHCP information of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#show ngn_uplink_dhcp slot 14 pon 1 onu 1 uplink_dhcp
```

```

slot 14 pon:1 onu 1 ngn uplink dhcp information.
ngn dhcp state is enable.
ngn dhcp option60 is enable.
ngn dhcp value 100.
Admin\ngn#

```

### Result description

Parameter	Parameter Description
ngn dhcp state	DHCP status
ngn dhcp option60	DHCP Option60
ngn dhcp value	DHCP Option60 value

## 13.18 Check NGN Uplink Interface Parameter

### Command function

The command is used to check the configuration information of the NGN uplink interface.

### Command format

```
show ngn_uplink_interface {<name>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{<name>}*1	Interface name ◆ The name of input interface. Check the uplink interface parameter with the interface name. ◆ The name of non-input interface. Check all uplink interface parameters.	Optional parameter

### Command example

Check the NGN uplink interface information with the name of ngn1.

```

Admin\ngn#show ngn_uplink_interface ngn1
-----ngn interface information-----
the index of the ngn interface :3

```

```

servicename           :ngn
protocaltype         :h.248
mgclip               :192.168.1.101
mgclport             :2944
mgc2ip               :
mgc2port             :2944
mgc3ip               :
mgc3port             :2944
keepalive            :disable
masterdns            :255.255.255.255
slavedns             :255.255.255.255
dhcp                 :disable
Admin\ngn#

```

## Result description

Parameter	Parameter Description
servicename	Name of the unplug Interface
protocaltype	Protocol type
mgclip	IP address of the MGC1.
mgclport	Port number of the MGC1.
mgc2ip	IP address of the MGC2.
mgc2port	Port number of the MGC2.
mgc3ip	IP address of the MGC3.
mgc3port	Port number of the MGC3.
keepalive	Heartbeat switch
masterdns	IP address of the master DNS.
slavedns	IP address of the slave DNS.
dhcp	DHCP function

## 13.19 Check NGN Uplink PPPoE Parameter

### Command function

The command is used to check the ONU PPPOE configuration information.

### Command format

```
show ngn_uplink_pppoe slot <value> pon <value> onu <value> pppoe_information
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot<value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the PPPoE configuration information of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#show ngn_uplink_pppoe slot 14 pon 1 onu 1 pppoe_information
slot:14
pon:1
onuno:1
pppoe:enable
name:wuhan
password:123
Admin\ngn#
```

## Result description

Parameter	Parameter Description
slot	Slot number
pon	PON interface number
onuno	ONU authorization number
pppoe	PPPoE function
name	PPPoE user name
password	PPPoE password

## 13.20 Configure SIP Digitmap

### Command function

The command is used to configure the SIP protocol digitmap. In course of dialing, the gateway matches the dialed digits against the numbering scheme in the digitmap and reports to the MGC when a match is found.

### Command format

```
set ngn_bitmap bitmap1 <bitmap>
set ngn_bitmap bitmap2 <bitmap>
set ngn_bitmap bitmap3 <bitmap>
set ngn_bitmap bitmap4 <bitmap>
set ngn_bitmap bitmap5 <bitmap>
set ngn_bitmap bitmap6 <bitmap>
set ngn_bitmap bitmap7 <bitmap>
set ngn_bitmap bitmap8 <bitmap>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<bitmap>	Digitmap The maximum character string in the digitmap is 1024. Each command line can be input 128 character strings and the value range is from 0 to 9, A to F, X, S, L, and ". "   " , " - " , " square bracket and parentheses.	Compulsory parameter

### Command example

Configure the digitmap parameter: [2-9]XXXXXXXX|1[12]X|1[35]XXXXXXXXXX.

```
Admin\ngn#set ngn_bitmap bitmap1 [2-9]XXXXXXXX|1[12]X|1[35]XXXXXXXXXX
Admin\ngn#
```

## 13.21 Check SIP Digitmap Information

### Command function

The command is used to check the SIP digitmap information.

## Command format

```
show ngn_bitmap
```

## Parameter description

No

## Command example

Check the configured SIP digitmap information.

```
Admin\ngn#show ngn_bitmap
ac16 bitmap:
x|xx|xxx
Admin\ngn#
```

## Result description

Parameter	Parameter Description
ac16 bitmap	Digitmap

# 13.22 Configure NGN Voice Port's Advanced Profile Parameter

## Command function

The command is used to configure the voice and fax related parameters of the NGN voice port. Parameters include the fax mode, mute mode, echo suppression, input/output gain.

## Command format

```
set ngn_adv_profile {[id] <1-64>}*1 name <vaule> codec [g.711u|g.711a|
g.723|g.729] fax [transparent|t.38] silence [enable|disable] echo_cancel
[enable|disable] input_gain <value> output_gain <value> dtfm [transparent|
rfc2833] {[faxcontrolmode] [passthrough|ss|autovbd]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
{[id] <1-64>} *1	Profile ID	Optional parameter
name <vaule>	Profile name	Compulsory parameter
codec [g.711u g.711a  g.723 g.729]	Speech encoding mode The compression encoding mode of the NGN service speech flow. Select the encoding mode as needed. G.711A by default	Compulsory parameter
fax [transparent t.38]	Fax mode <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode. Fax carried by the RTP flow.</li> <li>◆ t.38 : T.38 mode. Fax via the T.38 fax encoding mode.</li> </ul> The transparent mode is by default.	Compulsory parameter
silence [enable disable]	Mute compression Mute compression. Transmits mute compression packet when no voice is during calls. <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> </ul> Enable by default	Compulsory parameter
echo_cancel [enable  disable]	Echo suppression Cancels the acoustic echo. <ul style="list-style-type: none"> <li>◆ enable: Enable the function.</li> <li>◆ disable: Disable the function.</li> </ul>	Compulsory parameter
input_gain <value>	Input gain. Value range: -32 to +32. The unit is dB and the default value is 0.	Compulsory parameter
output_gain <value>	Output gain Value range: -32 to +32. The unit is dB and the default value is 0.	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
dtfm [transparent  rfc2833]	DTMF mode. The transmission mode on the client side, such as butter fax event. <ul style="list-style-type: none"> <li>◆ transparent: Transparent mode. Fax carried by the DTMF flow.</li> <li>◆ rfc2833: The RFC2833 mode. Encode the DTMF signal via the RFC2833 standard.</li> </ul> The transparent mode is by default.	Compulsory parameter
{ [faxcontrolmode] [passthrough ss autovbd] } *1	Fax control mode <ul style="list-style-type: none"> <li>◆ passthrough: Voice path.</li> <li>◆ softswitch: Softswitch controlled.</li> <li>◆ autovbd: Auto-negotiation.</li> </ul>	Optional parameter

### Command example

Configure 1 to the Profile ID named ngn. The encoding mode is g.711a and the fax mode is transparent. The mute switch is enable. Enable the echo suppression. Input gain is 0 and the output gian is 0. The DTMF is transparent mode. The fax control encoding is passthrough.

```
Admin\ngn#set ngn_adv_profile id 1 name ngn codec g.711a fax transparent silence
enable echo_cancel enable input_gain 0 output_gain 0 dtfm transparent faxcontrolmode
passthrough
Admin\ngn#
```

## 13.23 Check Voice Port's Advanced Profile Parameter

### Command function

The command is used to check the voice port's advanced profile parameter.

### Command format

```
show ngn_adv_profile { [id] <1-64>*1 { [all] }*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
{[id] <1-64>}*1	Profile ID Value range: 1 to 64.	Optional parameter
{[all]}*1	All profiles	Optional parameter

## Command example

Check the advanced profile parameter of the voice port whose ID is 1.

```
Admin\ngn#show ngn_adv_profile id 1
```

```
-----port advance profile information-----
profileid: 1
profilename: ngn
codec: g.711a
fax mode: transparent
silence switch: enable
echo cancel: enable
input gain:0
output gain:0
dtmf mode: transparent
faxControlMode: passthrough
Admin\ngn#
```

## Result description

Parameter	Parameter Description
profileid	Profile ID
profilename	Profile name
codec	Speech encoding
fax mode	Fax mode
silence switch	Mute compression
echo cancel	Echo suppression
input gain	Input gain.
output gain	Output gain
dtmf mode	DTMF mode
faxControlMode	Fax control mode

## 13.24 Delete Voice Port's Advanced Profile

### Command function

The command is used to delete the voice port's advanced profile parameter.

### Command format

```
del ngn_adv_profile {[id] <1-64>}*1 {[all]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
{[id] <1-64>}*1	Profile ID Value range: 1 to 64.	Optional parameter
{[all]}*1	All profiles	Optional parameter

### Command example

Delete the advanced profile parameter of the voice port whose ID is 1.

```
Admin\ngn#del ngn_adv_profile id 1
Admin\ngn#
```

## 13.25 Configure Voice Management Mode

### Command function

The command is used to configure the OLT voice management mode. Manage the voice via configuring the wire card or PUBA.

### Command format

```
set ngn_manager_mode [puba|linecard]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
ngn_manager_mode [puba   linecard]	Management mode Configure the PUBA or wire card to manage the voice.	Compulsory parameter

## Command example

Configure the voice management mode of the equipment is PUBA.

```
Admin\ngn#set ngn_manager_mode puba
Admin\ngn#
```

## 13.26 Check Voice Management Mode

### Command function

The command is used to check the current OLT voice management mode.

### Command format

```
show ngn_manager_mode
```

### Parameter description

None

### Command example

Check the equipment voice management mode.

```
Admin\ngn#show ngn_manager_mode
-----
ngn manager mode: PUBA
Admin\ngn#
```

### Result description

Parameter	Parameter Description
ngn manager mode	NGN management mode

## 13.27 Configure Voice Media Stream Parameter

### Command function

The command is used to configure the related parameters of the voice media stream. These parameter include "voice media stream service name", " RTP configuration function", "service TPID", "service VLAN ID", " service COS" and etc..

The AN5506-07B and HG220 support the command.

### Command format

```
set ngn_rtp_stream slot <value> pon <value> onu <value> servicename <value>
rtpcfg [enable|disable] {[svlan_tpid] <value> svlan_id <value> svlan_cos
<value>}*1 {[cvlan_tpid] <value> cvlan_id <value> cvlan_cos <value>}*1
{[rtp_ip] <A.B.C.D> rtp_mask <A.B.C.D> rtp_gateway <A.B.C.D>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
servicename <value>	Service name. The name of the voice media stream service. The service VLAN name has been configured in the HSWA card.	Compulsory parameter
rtpcfg [enable disable]	RTP configuration function enable: Enable the function. disable: Disable the function.	Compulsory parameter
[svlan_tpid] <value>	Service TPD. The service VLAN's label protocol identifier. Value range: 1 to 65534, and the default value is 33024.	Optional parameter
svlan_id <value>	Service VLAN ID Value range: 1 to 4085, 4088, 65534. The default value is 4088.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
svlan_cos <value>	Service COS Value range: 0 to 7, and the default value is 5.	Optional parameter
[cvlan_tpid] <value>	User TPD. The user VLAN's label protocol identifier. Value range: 1 to 65534, and the default value is 33024.	Optional parameter
cvlan_id <value>	User VLAN ID Value range: 1 to 4085, 4088, 65534. The default value is 4088.	Optional parameter
cvlan_cos <value>	User COS Value range: 0 to 7, and the default value is 5.	Optional parameter
[rtp_ip] <A.B.C.D>	The IP address of the RTP. The destination IP address of the RTP voice media stream. Unicast address: 4294967295.	Optional parameter
rtp_mask <A.B.C.D>	RTP mask. The address mask of the RTP stream. Value range: 1 to 32.	Optional parameter
rtp_gateway <A.B.C.D>	RTP gateway. The gateway address of the RTP stream. Unicast address: 4294967295.	Optional parameter

## Command example

Configure ngn to the service name of the ONU whose authorization number is 1 of No.1 PON interface in slot 14. Enable the RTO configuration function and the service TPID is 33024. The service VLAN ID is 600. The service COS is 5. The user TPID is 33024. The user VLAN ID is 600 and the user COS is 5. The RTP IP address is 10.10.10.201. The RTP mask is 255.255.0.0 and the RTP gateway is 10.10.1.254.

```
Admin\ngn#set ngn_rtp_stream slot 14 pon 1 onu 1 servicename ngn rtpcfg enable
svlan_tpid 33024 svlan_id 600 svlan_cos 5 cvlan_tpid 33024 cvlan_id 600 cvlan_cos 5
rtp_ip 10.10.10.201 rtp_mask 255.255.0.0 rtp_gateway 10.10.1.254
```

```
Admin\ngn#
```

## 13.28 Check Voice Media Stream Parameter

### Command function

The command is used to check the configuration parameters of the voice media stream.

### Command format

```
show ngn_rtp_stream slot <value> pon <value> onu <value> stream_config
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

### Command example

Configure the voice media stream parameters of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#show ngn_rtp_stream slot 14 pon 1 onu 1 stream_config
*****onu(14 1 1)*****
service name: ngn                rtpenable:enable
svlantpid:33024    svlanid:600        svlancos:5
cvlantpid:33024    cvlanid:600        cvlancos:5
rtpip:10.10.10.201
rtpsubnet:255.255.0.0
rtpgateway:10.10.1.254
Admin\ngn#
```

### Result description

Parameter	Parameter Description
service name	Service name
rtpenable	Enable the RTP configuration
svlantpid	Service TPID

Parameter	Parameter Description
svlanid	Service VLAN ID
svlancos	Service COS
cvlantpid	User TPID
cvlanid	User VLAN ID
cvlancos	User COS
rtpip	RTP IP address
rtpsubnet	RTP mask
rtpgateway	RTP gateway

## 13.29 Query Uplink User Parameters according to Interface Name

### Command function

The command is used to query the uplink user parameters according to the uplink interface.

### Command format

```
show ngn_uplink_user interface <interfacename>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
interface <interfacename>	Name of the unplink Interface	Compulsory parameter

### Command example

Query uplink user parameters according to uplink interface name of ngn .

```
Admin\ngn#show ngn_uplink_user interface ngn
-----ngn user information-----
the index of the ngn user      :1
servicename                    :ngn
telephoneno                    :11111111
publicip                       :192.168.1.10
subnet                         :255.255.0.0
gateway                         :192.168.1.1
endpoint domain name           :fiberhome
```

```

protocol portno           :2427
the endpoint user name   :al
the sip user name       :
the sip password        :1
Admin\ngn#

```

## Result description

Parameter	Parameter Description
the index of the ngn user	User index
servicename	Service name
telephono	Phone number
publicip	ONU public network IP
subnet	ONU public network IP mask
gateway	ONU public network IP gateway
endpoint domain name	End point domain name
protocol portno	ONU protocol port number
the endpoint user name	End port user name
the sip user name	SIP protocol authentication user name
the sip password	SIP protocol authentication user's key

## 13.30 Query Uplink User Parameters according to Phone Number

### Command function

Query uplink user parameters according to phone number.

### Command format

```
show ngn_uplink_user phoneno <value>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
phoneno <value>	Phone number	Compulsory parameter

## Command example

Query uplink user parameters according to phone number 11111111.

```
Admin\ngn#show ngn_uplink_user phoneno 11111111
-----ngn user information-----
the index of the ngn user      :1
servicename                   :ngn
telephoneno                   :11111111
publicip                      :192.168.1.10
subnet                        :255.255.0.0
gateway                       :192.168.1.1
endpoint domain name         :fiberhome
protocol portno               :2427
the endpoint user name       :al
the sip user name            :
the sip password             :1
Admin\ngn#
```

## Result description

Parameter	Parameter Description
the index of the ngn user	User index
servicename	Service name
telephoneno	Phone number
publicip	ONU public network IP
subnet	ONU public network IP mask
gateway	ONU public network IP gateway
endpoint domain name	End point domain name
protocol portno	ONU protocol port number
the endpoint user name	End port user name
the sip user name	SIP protocol authentication user name
the sip password	SIP protocol authentication user's key

## 13.31 Configure Voice Port Activation Status

### Command function

The command is used to configure the RTP activation status of the ONU voice port.

The AN5506-10B supports the command.

### Command format

```
set ngn_port_activation slot <value> pon <value> onu <value> port <1-24>
[active|inactive]
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter
port <1-24>	Port number	Compulsory parameter
[active inactive]	Port activation status ◆ active: Activation. ◆ inactive: Inactive.	Compulsory parameter

### Command example

Configure the activation status of the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#set ngn_port_activation slot 14 pon 1 onu 1 port 1 active
Admin\ngn#
```

## 13.32 Check Voice Port's Activation Status

### Command function

The command is used to check the RTP activation status of the ONU voice port.

The AN5506-10B supports the command.

### Command format

```
show ngn_port_activation slot <value> pon <value> onu <value>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon <value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the activation status of ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\ngn#show ngn_port_activation slot 14 pon 1 onu 1
====ONU[14 1 1]=====
port[1] : ACTIVE
port[2] : ACTIVE
Admin\ngn#
```

## Result description

Parameter	Parameter Description
port[1]	Port 1
port[2]	Port 2

# 13.33 Check MGC Connection Status

## Command function

The command is used to check the MGC connection status which includes the MGC server address and registering the ONU number.

## Command format

```
show ngn_mgc_state slot <value> pon <value> onu <value> mgc_state
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <value>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
pon<value>	PON interface number Value range: 1 to 8.	Compulsory parameter
onu <value>	ONU authorization number Value range: 1 to 128.	Compulsory parameter

## Command example

Check the MGC connection status of ONU whose authorization number is 3 of No.1 PON interface in slot 11.

```
Admin\ngn#show ngn_mgc_state slot 11 pon 3 onu 3 mgc_state
the MGC/Register Server Address :17.17.17.97
the slot :11 onu :3 has registered
Admin\ngn#
```

## Result description

Parameter	Parameter Description
the MGC/Register Server Address	MGC/Register server address
the slot	Slot number
ONU	Register ONU number



# 14 QoS Directory Command

---

- Create QoS Profile
- Configure Flow Classification Policy of the QoS Profile
- Configure Router Policy of the QoS Profile
- Delete QoS Profile
- Delete QoS Profile
- Bind/Unbind Wire Card and QoS Profile
- Bind/Unbind Uplink Port and QoS Profile
- Check All QoS Profile Name
- Refresh QoS Profile Status
- Configure Equipment Priority Mode
- Check Equipment Priority Mode Type

## 14.1 Create QoS Profile

### Command function

The command is used to create the QoS profile.

### Command format

```
create qos access_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<name>	QoS profile name Create up to 1024 profiles and 1 to 20 characters. Input letter, number and underline.	Compulsory parameter

### Command example

Create the QoS profile named aaa.

```
Admin\qos#create qos access_profile aaa  
Admin\qos#
```

## 14.2 Configure Flow Classification Policy of the QoS Profile

### Command function

The command is used to configure the flow classification policy of the QoS profile. Control the flow classification based on VLAN ID, data flow IP, Ethernet type and CoS queues to provide the different quality network service.

When configuring the IP flow classification parameter in the QoS profile, combination configuration is allowed but random combination is prohibited. Below is the available IP flow classification parameter for combination.

- ◆ Source IP, destination IP, protocol type, TCP/UDP source end point number and TCP/UDP destination port number
- ◆ Source MAC address, destination MAC address, Ethernet type, Priority domain and VLAN identifier.
- ◆ Source MAC address, source IP, Ethernet type, Priority domain and VLAN identifier.
- ◆ Destination MAC address, destination IP, Ethernet type, Priority domain and VLAN identifier.

## Command format

```
set qos access_profile <name> parameter {[vid] [<1-4085>|null]}*1 {[sip]
[<A.B.C.D>|null] [smask] [<1-32>|null]}*1 {[dip] [<A.B.C.D>|null] [dmask]
[<1-32>|null]}*1 {[sa] [<sa>|null]}*1 {[da] [<da>|null]}*1 {[priority] [<0-
7>|null]}*1 {[ethernettype] [<0-65534>|null]}*1 {[protocoltype] [<1-255>|
null]}*1 {[tcpudpsrc] [<0-65534>|null]}*1 {[tcpudpdes] [<0-65534>|null]}*1
{[dscp] [<0-63>|null]}*1 {[tos] [<0-255>|null]}*1 {[ttl] [<1-254>|null]}*1
{[dportphy] [<portlist>|xftp1|xftp2|null]}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<name>	QoS profile name Create up to 1024 profiles and 1 to 20 characters. Input letter, number and underline.	Compulsory parameter
{[vid] [<1-4085> null]}*1	VLAN information ID ◆ <1-4085> : VLAN ID。 The value range is from 1 to 4085. ◆ null: Means idle or empty.	Optional parameter
[<sip>] [<A.B.C.D> null]	Source IP address. Used in the classification and filter of data service flow.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
[smask] [<1-32> null]	Source IP address mask. If the source address IP is configured, the source IP mask should be configured. The source IP mask should be used in the classification and filter of the data service flow. Value range: 1 to 32.	Optional parameter
<dip>[<A.B.C.D> null]	Destination IP address. Used in the classification and filter of data service flow.	Optional parameter
[dmask] [<1-32> null]	Destination IP address mask. If the destination IP address is configured, the destination IP mask should be configured. The destination IP mask should be used in the classification and filter of the data service flow. Value range: 1 to 32.	Optional parameter
{[sa] [<sa> null]}*1	Source MAC address. Used in the classification and filter of data service flow.	Optional parameter
{[da] [<da> null]}*1	Destination MAC address. Used in the classification and filter of data service flow.	Optional parameter
{[priority] [<0-7> null]}*1	Priority The priority value of the data service flow. Used in the classification and filtering of the data service flow. Value range: 0 to 7.	Optional parameter
{[ethernettype] [<0-65534> null]}*1	Ethernet type The corresponding value of the Ethernet type of the data service flow. Used in the classification and filtering of the data service flow. Value range: 0 to 65534.	Optional parameter
{[protocoltype] [<1-255> null]}*1	Protocol type The network layer protocol type is used in the classification and filtering of the data service flow. Value range: 1 to 255.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
{[tcpudpsrc] [<1-65535> null]}*1	Source port number of the TCP OR UDP The corresponding source port number of the transport layer TCP or UDP in the data service flow. Used in the classification and filter of data service flow. Value range: 1 to 65535.	Optional parameter
{[tcpudpdes] [<1-65535> null]}*1	TCP/UDP destination port number The corresponding destination port number of the transport layer TCP or UDP in the data service flow. Used in the classification and filter of data service flow. Value range: 1 to 65535.	Optional parameter
{[dscp] [<0-63> null]}*1	DSCP value Value range: 0 to 63.	Optional parameter
{[tos] [<0-7> null]}*1	TOS domain Value range: 0 to 7.	Optional parameter
{[ttl] [<1-254> null]}*1	TTL value, Time To Live. Value range: 1 to 254.	Optional parameter
[dportphy]	Destination physical port	Optional parameter
[<portlist> xfp1 xfp2 null]	Destination physical port number	Optional parameter

## Command example

Configure the flow classification policy of the QoS profile named aaa as follows: The VLAN ID is 4000, and the source IP address is 1.1.1.100. The source IP mask is 16 bytes. The destination MAC address is 000000000011. The TCP/UDP destination port number is 21.

```
Admin\qos#set qos access_profile aaa parameter vid 4000 sip 1.1.1.100 smask 16 da
000000000011 tcpudpsrc 21
Admin\qos#
```

## 14.3 Configure Router Policy of the QoS Profile

### Command function

The command is used to configure the router policy of the QoS profile and it includes rate threshold, priority level, flow mirroring and change TOS domain.

### Command format

```
set qos access_profile <name> action {[cmd] [0|1|null]}*1 {[ratelimit] [<1-160000>|null]}*1 {[queue] [<0-7>|null]}*1 {[newtos] [<0-63>|null]}*1
{[flowmirroring] [enable|disable] [port] [<portlist>|xftp1|xftp2]}*1
{[newport] [<portlist>|xftp1|xftp2|null]}*1 {[newvid] [<1-4085>|null]}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
<name>	QoS profile name	Compulsory parameter
{[cmd] [0 1 null]}*1	Route policy processes the data service flow which accords with the filtering condition. ◆ 0: Forward. ◆ 1: Discard. ◆ null: Means idle or empty.	Optional parameter
{[ratelimit] [<1-160000> null]}*1	Rate threshold limits the transmission rate of the data service flow which accords with the filtering condition. The value range is from 1 to 160000 and the step is 64kbit/s. For example, when the value is 1, the rate is 1*64Kbit/s.	Optional parameter
{[queue] [<0-7> null]}*1	CoS queues resets the priority of data service flow which accords with the filtering condition. The value range is from 0 to 7. 0 is the lowest priority and 7 is the highest priority.	Optional parameter
{[newtos] [<0-63> null]}*1	Reset the DSCP value of data service flow which accords with the filtering condition. Value range: 0 to 63.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
[flowmirroring] [enable disable]	Flow mirroring function ◆ enable: Enable the function. ◆ disable: Disable the function.	Optional parameter
[port] [<portlist> xsp1 xsp2]	Flow mirroring destination port After configuring the flow mirroring destination port, data flow through the source port can be mirrored to the destination uplink port.	Optional parameter
{ [newport] [<portlist> xsp1 xsp2 null] } *1	Re-direction port After configuring the re-direction port, the data flow will not be through the source port and forward through the re-direction port directly.	Optional parameter
{ [newvid] [<1-4085> null] } *1	Upgrade VLAN ID value Value range: 1 to 4085.	Optional parameter

### Command example

Configure the router policy of the QoS profile named aaa as follows: Forward designated data flow. No rate threshold. The data flow priority is 2. Enable the flow mirroring function. The destination port of the flow mirroring is 20:1.

```
Admin\qos#set qos access_profile aaa action cmd 0 ratelimit null queue 2 flowmirroring
enable port 20:1
Admin\qos#
```

## 14.4 Delete QoS Profile

### Command function

The command is used to delete the QoS profile. The prerequisite is that no service is bound to the profile.

### Command format

```
delete qos access_profile <name>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
access_profile <name>	QoS profile name	Compulsory parameter

## Command example

Delete the QoS profile named aaa.

```
Admin\qos#delete qos access_profile aaa
Admin\qos#
```

# 14.5 Delete QoS Profile

## Command function

The command is used to check each parameter of the QoS profile.

## Command format

```
show qos access_profile {<name>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
access_profile {<name>}*1	The name of the QoS to be checked. The default means to check all QoS profiles.	Optional parameter

## Command example

Check each parameter of the QoS profile named aaa.

```
Admin\qos#show qos access_profile aaa
-----Qos profile list-----
Index                :1
Name                 :aaa
Slot                 :
Port                 :
Macsa                :N/A
Macda                :00:00:00:00:00:11
vid                  :4000
sip                  :1.1.1.100
```

```

source ip mask      :16
dip                 :N/A
destination ip mask :32
protocol type       :N/A
priority            :N/A
ethernet type       :2048
ptcp/udp des port   :N/A
tcp/udp src port    :21
Dscp                :0
TTL                 :N/A
physics destination port :N/A
cmd                 :N/A
ratelimitnum        :N/A
queue               :N/A
new TOS             :N/A
flowmirror          :Disable
flowmirrorport      :N/A
new destination port :N/A
new destination port tag :N/A
new VID             :N/A
Admin\qos#

```

## Result description

Parameter	Parameter Description
Index	Index
Name	QoS profile name
slot	The slot number which the QoS profile binds to.
Port	The port number which the QoS profile binds to.
Macsa	Source MAC address
Macda	Destination MAC address
vid	VLAN ID
sip	Source IP address
source ip mask	Source IP Mask
dip	Destination IP address.
destination ip mask	Destination IP mask.
protocol type	Protocol type
priority	Priority
ethernet type	Ethernet type
ptcp/udp des port	TCP/UDP destination port
tcp/udp src port	TCP/UDP source port

Parameter	Parameter Description
Dscp	DSCP domain
TTL	Time To Live.
physics destination port	Physical destination port
cmd	Routing strategy
ratelimitnum	Rate threshold
queue	Priority
new TOS	Changed TOS domain
flowmirror	Flow mirror
flowmirrorport	Flow mirror port
new destination port	Changed destination port
new destination port tag	Changed destination port tag
new VID	Chanegd VLAN ID

## 14.6 Bind/Unbind Wire Card and QoS Profile

### Command function

The command is used to bind or unbind the QoS profile operation on the wire card.

### Command format

```
set slot <1-18> [attach|detach] qos access_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
[attach dettach]	◆ attach: Bind. ◆ detach: Unbind.	Compulsory parameter
<name>	QoS profile name	Compulsory parameter

### Command example

Bind the wire card in the No.1 slot to the QoS profile named a1.

```
Admin\qos#set slot 10 attach qos access_profile a1
Admin/qos#
```

## 14.7 Bind/Unbind Uplink Port and QoS Profile

### Command function

The command is used to bind/unbind the uplink port and QoS profile.

### Command format

```
set uplink [attach|detach] qos access_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
port <portlist>	Uplink port number	Compulsory parameter
[attach dettach]	<ul style="list-style-type: none"> <li>◆ attach: Association.</li> <li>◆ detach: Disconnect association.</li> </ul>	Compulsory parameter
<name>	QoS profile name	Compulsory parameter

### Command example

Bind the 19:1 uplink port to the QoS profile named aaa.

```
Admin\qos#set uplink port 19:1 attach qos access_profile aaa
Admin\qos#
```

## 14.8 Check All QoS Profile Name

### Command function

The command is used to check all existing QoS profiles in the current system.

### Command format

```
show all qos-profile
```

### Parameter description

No

### Command example

Check all QoS profile names.

```
Admin\qos#show all qos-profile
aaa      bbb
Admin\qos#
```

## 14.9 Refresh QoS Profile Status

### Command function

The command is used to refresh the QoS profile status. If modifying the bound QoS profile parameters, users need to refresh the QoS profile status to make the modified parameters valid.

### Command format

```
flush qos access_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
access_profile <name>	QoS profile name	Compulsory parameter

### Command example

Refresh the QoS profile named aaa.

```
Admin\qos#flush qos access_profile aaa
Admin\qos#
```

## 14.10 Configure Equipment Priority Mode

### Command function

The command is used to configure or query the priority mode forwarded by the switch chip data in the core switch card. Map the uplink and downlink service according to the IEEE 802.1D User Priority identifier to different CoS queues and groom. Each port supports 8 CoS queues.

- ◆ Strictly guarantee that the service with high priority will be processed before that with low priority.
- ◆ Weight priority is a weighted round robin scheduling. The high priority is firstly processed, meanwhile, the service with low priority is not completely blocked but be processed in a certain ratio.
- ◆ Hybrid priority includes the above two processing methods.

### Command format

```
set prioritymode [sp|wrr|sp+wrr] {<priority> <weight>}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
[sp wrr sp+wrr]	Priority mode <ul style="list-style-type: none"> <li>◆ sp: Strict priority mode.</li> <li>◆ wrr: Weighted Round Robin.</li> <li>◆ sp+wrr: Hybrid priority mode. The data packet with priority of 6 and 7 uses the strict priority mode while the data packet with priority of 0 to 5 uses the Weighted Round Robin.</li> </ul>	Compulsory parameter
{<priority> <weight>} *8	<ul style="list-style-type: none"> <li>◆ &lt;priority&gt;: Queue priority. Each port supports 8 queue priorities. The message accesses in the corresponding queue according to the priority and configured mapping relationship for the service priority processing.</li> <li>◆ &lt;weight&gt;: The weight value of the designated priority data packet. Value range: 1 to 15. The weight value configured in the weight priority mode and hybrid priority mode is valid. The weight value of 0 is the strict priority.</li> </ul>	Optional parameter

## Command example

Configure the equipment in the weight priority mode. Set 7 to the queue weight value with the priority of 4. Set 3 to the queue weight value with the priority of 5.

```
Admin\qos#set priority mode wrr 4 7 5 3
Admin\qos#
```

## 14.11 Check Equipment Priority Mode Type

## Command function

The command is used to check the equipment priority Mode type.

## Command format

```
show priority mode
```

## Parameter description

No

## Command example

Check the equipment priority mode type.

```
Admin\qos#show priority mode
```

```
qos priority mode:wrr
```

Queue	Priority	Queue	Schedule	Method	Weight
0			wrr		1
1			wrr		2
2			wrr		3
3			wrr		4
4			wrr		5
5			wrr		3
6			wrr		5
7			wrr		3

```
Admin\qos#
```

## Result description

Parameter	Parameter Description
qos priority mode	QoS priority mode
Queue Priority	Queue priority
Queue Schedule Method	Queue scheduling mechanism
Weight	Weight value



# 15 VLAN Directory Command

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- Configure Uplink Port's Service VLAN
- Trunk Group Port's Service VLAN
- Configure Downlink Sub VLAN
- Check Service VLAN
- Configure Super VLAN
- Configure Sub VLAN to Join in the Designated Super VLAN
- Configure IP of the Designated Super VLAN
- Configure the MTU value of the Designated Super VLAN
- Delete a Sub VLAN from the Designated Super VLAN
- Delete the IP of the Designated Super VLAN
- Delete the Designated Super VLAN
- Delete Service VLAN
- Check Sub VLAN
- Check Super VLAN
- Create QinQ Domain
- Configure QinQ Domain Service Entries
- Configure QinQ Domain Service Type
- Configure QinQ Domain Uprules
- Configure Downlink Rules Sentence of the QinQ Domain
- Configure QinQ Domain's VLAN Service Rules

- Create QinQ Profile
- Configure ONU QinQ Profile Rule Domain
- Delete QinQ Domain
- Delete QinQ Profile
- Configure QinQ Domain's ONU Bind/Unbind
- Configure QinQ Domain's PON Bind/Unbind
- Check QinQ Domain Binding Relationship List
- Check QinQ Domain Configuration Information
- Check OLT QinQ Status
- Check ONU QinQ Profile's Configuration Information
- Add Slot VLAN
- Check Slot Add VLAN

## 15.1 Configure Uplink Port's Service VLAN

### Command function

The command is used to configure the service VLAN ID range of the uplink port. Set limitations to the uplink port's service VLAN.

### Command format

```
set service <name> vid_begin <vid> vid_end <vid> uplink <portNo> [untagged|
tagged] {service_type <1-8>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
service <name>	Service VLAN name	Compulsory parameter
vid_begin <vid>	The start VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter
vid_end <vid>	The end VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter
uplink <portNo>	Uplink service VLAN port	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
[untagged tagged]	<p>The port Tag attribute of the service VLAN</p> <ul style="list-style-type: none"> <li>◆ untagged: Untag. The uplink data packet's Tag will be separated automatically when passing the port and go on uploading in the form of Untagged. The Untagged's downlink data packet will add the VLAN tag automatically when passing the port and go on downloading in the form of Tagged.</li> <li>◆ tagged: Tag. No processing is performed in the uplink data packet. When passing the port, the downlink data packet will go on downloading in the form of Tagged.</li> </ul> <p>In the same uplink port, only one service VLAN can configured the Untagged mode. The value of the start VLAN ID should be the same with the value of the end VLAN ID. Otherwise, the Tagged mode must be selected.</p>	Compulsory parameter
{service_type <1-8>}	<p>Service VLAN type</p> <ul style="list-style-type: none"> <li>◆ 1: Data.</li> <li>◆ 2: IPTV.</li> <li>◆ 3: NGN.</li> <li>◆ 4: Voip.</li> <li>◆ 5: VOD.</li> <li>◆ 6: CNCVIEW.</li> <li>◆ 7: System.</li> <li>◆ 8: Uplink Sub VLAN.</li> </ul> <p>Value range: 1 to 8.</p>	Optional parameter

### Command example

Configure the service VLAN named fh. The strat VLAN ID is 1005 and the end VLAN ID is 2000. The uplink port is 19:1 and the Tag attribute of the sevice VLAN port is Tagged.

```
Admin\vlan#set service fh vid_begin 1005 vid_end 2000 uplink 19:1 tagged
Admin\vlan
```

## 15.2 Trunk Group Port's Service VLAN

### Command function

The command is used to configure the service VLAN of the Trunk group port.

### Command format

```
set service <name> vid_begin <vid> vid_end <vid> trunk <index> [untagged|
tagged] {service_type <1-7>}*1
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
service <name>	Service VLAN name	Compulsory parameter
vid_begin <vid>	The start VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter
vid_end <vid>	The end VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter
trunk <index>	Trunk group serial number	Compulsory parameter

Parameter	Parameter Description	Parameter Attribute
[untagged tagged]	<p>The port Tag attribute of the service VLAN</p> <ul style="list-style-type: none"> <li>◆ untagged: Untag. The uplink data packet's Tag will be separated automatically when passing the port and go on uploading in the form of Untagged. The Untagged's downlink data packet will add the VLAN tag automatically when passing the port and go on downloading in the form of Tagged.</li> <li>◆ tagged: Tag. No processing is performed in the uplink data packet. When passing the port, the downlink data packet will go on downloading in the form of Tagged.</li> </ul>	Compulsory parameter
{service_type <1-7>}*1	<p>Service VLAN type Value range: 1 to 4085.</p>	Optional parameter

### Command example

Configure the service VLAN named fhtx. The start VLAN IS is 111 and the end VLAN ID is 222. The Trunk group serial number is 1. The port Tag attribute of the service VLAN is tagged. The service type is 1.

```
Admin\vlan#set service fhtx vid_begin 111 vid_end 222 trunk 1 tagged service_type 1
Admin\vlan#
```

## 15.3 Configure Downlink Sub VLAN

### Command function

The command is used to configure the downlink Sub VLAN. The configuration of the start VLAN should be consistent with that of the end VLAN. Do not support the cross-range Sub VLAN configuration.

## Command format

```
set service <name> vid_begin <vid> vid_end <vid> downlink-vlan
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<name>	Service VLAN name	Compulsory parameter
vid_begin <vid>	The start VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter
vid_end <vid>	The end VLAN ID of the service VLAN Value range: 1 to 4085.	Compulsory parameter

## Command example

Configure the downlink Sub VLAN named fhkj and the start and end VLAN ID is 100.

```
Admin\vlan#set service fhkj vid_begin 100 vid_end 100 downlink-vlan
Admin\vlan#
```

# 15.4 Check Service VLAN

## Command function

The command is used to check the service VLAN.

## Command format

```
show service vlan {<name>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
vlan {<name>}*1	Service VLAN name	Optional parameter

## Command example

Check all service VLANs.

```
Admin\vlan#show service vlan
```

```

*****
service name      : fh
begin vid        : 1005
end vid          : 2000
uplink port      : 19:1(tagged)
service type     : iptv
*****
service name      : fhkj
begin vid        : 1
end vid          : 1
uplink port      : NULL(tagged)
service type     : downlink sub vlan
slot port        : 1-16
Admin\vlan#

```

## Result description

Parameter	Parameter Description
service name	Service VLAN name
begin vid	The start VLAN ID of the service VLAN
end vid	The end VLAN ID of the service VLAN
uplink port	Uplink port number
service type	Service VLAN type
slot port	Slot number

## 15.5 Configure Super VLAN

### Command function

The command is used to add a new Super VLAN.

### Command format

```
set super-vlan <1-4085>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID.	Compulsory parameter

## Command example

Configure 3000 to the Super VLAN's VLAN ID.

```
Admin\vlan#set super-vlan 3000
Admin\vlan#
```

## 15.6 Configure Sub VLAN to Join in the Designated Super VLAN

### Command function

The command is used to configure the Sub VLAN to join in the designated Super VLAN. The port status of the Super VLAN is enable. If this command is not configured, the status of the Super VLAN is disable.

### Command format

```
set super-vlan <1-4085> add sub-vlan <vid>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID. Value range: 1 to 4085.	Compulsory parameter
sub-vlan <vid>	Sub VLAN ID Value range: 1 to 4085.	Compulsory parameter

### Command example

Configure the Sub VLAN whose ID is 1 to join in the Super VLAN whose ID is 3000.

```
Admin\vlan#set super-vlan 3000 add sub-vlan 1
Admin\vlan#
```

## 15.7 Configure IP of the Designated Super VLAN

### Command function

The command is used to configure the designated Super VLAN's IP. Before joining the Sub VLAN to the Super VLAN, the configuration of the Super VLAN's IP address should be completed.

### Command format

```
set super-vlan <1-4085> ip <A.B.C.D> mask <A.B.C.D>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID. Value range: 1 to 4085.	Compulsory parameter
ip <A.B.C.D>	IP Address	Compulsory parameter
mask <A.B.C.D>	Subnet mask	Compulsory parameter

### Command example

Configure 10.1.1.20 to the IP of the Super VLAN whose ID is 3000. The subnet mask is 255.255.0.0.

```
Admin\vlan#set super-vlan 3000 ip 10.1.1.20 mask 255.255.0.0
Admin\vlan#
```

## 15.8 Configure the MTU value of the Designated Super VLAN

### Command function

The command is used to configure the designated Super VLAN's MTU value and complete the IP address configuration of the Super VLAN.

### Command format

```
set super-vlan <1-4085> mtu <576-65535>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID. Value range: 1 to 4085.	Compulsory parameter
mtu <576-65535>	Maximum transmission unit Value range: 576 to 65535.	Compulsory parameter

## Command example

Configure 600 to the MUT value of the Super VLAN whose ID is 3000.

```
Admin\vlan#set super-vlan 3000 mtu 600
Admin\vlan#
```

# 15.9 Delete a Sub VLAN from the Designated Super VLAN

## Command function

The command is used to delete the Sub VLAN from the Super VLAN.

## Command format

```
set super-vlan <1-4085> delete sub-vlan <vid>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID. Value range: 1 to 4085.	Compulsory parameter
sub-vlan <vid>	Sub VLAN ID. Value range: 1 to 4085.	Compulsory parameter

## Command example

Delete the Sub VLAN whose VLAN ID is 1 from the Super VLAN.

```
Admin\vlan#set super-vlan 3000 delete sub-vlan 1
Admin\vlan#
```

## 15.10 Delete the IP of the Designated Super VLAN

### Command function

The command is to delete the binding relationship between the Super VLAN and the IP address.

### Command format

```
delete super-vlan <1-4085> ip <A.B.C.D>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan <1-4085>	Super VLAN ID. Value range: 1 to 4085.	Compulsory parameter
ip <A.B.C.D>	The Super VLAN's IP Value range: 1 to 4085.	Compulsory parameter

### Command example

Delete the binding relationship between the Super VLAN whose ID is 3000 and the IP whose address is 10.1.1.20.

```
Admin\vlan#delete super-vlan 3000 ip 10.1.1.20  
Admin\vlan#
```

## 15.11 Delete the Designated Super VLAN

### Command function

The command is used to delete the designated Super VLAN.

### Command format

```
delete super-vlan [<1-4085>|all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The Super VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: All Super VLANs.</li> </ul>	Compulsory parameter

## Command example

Delete the Super VLAN whose ID is 3000.

```
Admin\vlan#delete super-vlan 3000
Admin\vlan#
```

## 15.12 Delete Service VLAN

### Command function

The command is used to delete the service VLAN.

### Command format

```
delete service_vlan {<name>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
service_vlan {<name>}*1	Service VLAN name	Optional parameter

## Command example

Delete the service VLAN named fh.

```
Admin\vlan#delete service_vlan fh
Admin\vlan#
```

## 15.13 Check Sub VLAN

### Command function

The command is used to check the Sub VLAN.

## Command format

```
show sub-vlan [<vid> | all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
sub-vlan [<vid>   all]	<ul style="list-style-type: none"> <li>◆ &lt;vid&gt;: The Sub VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: All Sub VLANs.</li> </ul>	Compulsory parameter

## Command example

Delete the Sub VLAN whose ID is 1.

```
Admin\vlan#show sub-vlan 1
-----sub vlan info-----
sub vlan id      : 1
sub vlan property : downlink
tagged mode      : tagged
slots            : 1-16
Admin\vlan#
```

## Result description

Parameter	Parameter Description
sub vlan id	Sub VLAN ID
sub vlan property	Sub VLAN attribute
tagged mode	TAG attribute
slots	Slot number

# 15.14 Check Super VLAN

## Command function

The command is used to check the Super VLAN.

## Command format

```
show super-vlan [<1-4085> | all]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: The Super VLAN ID. Value range : 1 to 4085.</li> <li>◆ all: All Super VLANs.</li> </ul>	Compulsory parameter

## Command example

Check all Super VLANs.

```
Admin\vlan#show super-vlan all
Super VLAN ID      : 1
Sub VLAN ID       : 100
Arp agent         : Disable
Mtu               : 1500
IP Address        : 10.10.10.1
IP Mask          : 255.255.255.0
VLAN ARP SWITCH (ROUTER)      : DISABLE
VLAN ARP SWITCH (INNER-SUBVLAN) : DISABLE
VLAN ARP SWITCH (BETWEEN-SUBVLAN) : DISABLE
Super status      : down
Admin\vlan#
```

## Result description

Parameter	Parameter Description
Super VLAN ID	Super VLAN ID.
Sub VLAN ID	Sub VLAN ID
Arp agent	ARP proxy function
Mtu	MTU value
IP Address	IP Address
IP Mask	Subnet mask
VLAN ARP SWITCH (ROUTER)	VLAN's ARP proxy switch (in router mode)
VLAN ARP SWITCH (INNER-SUBVLAN)	VLAN's ARP proxy switch (in the VLAN)
VLAN ARP SWITCH (BETWEEN-SUBVLAN)	VLAN's ARP proxy switch (in the VLAN)
Super status	The Super VLAN's port status

## 15.15 Create QinQ Domain

### Command function

The command is used to create an OLT QinQ domain.

### Command format

```
create oltqinq_domain <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain<name>	The QinQ domain name. Create up to 1024 OLT QinQ domains. Input underline, English letters and numbers and do not exceed 16 bytes.	Compulsory parameter

### Command example

Create a QinQ domain named domaintest1.

```
Admin\vlan#create oltqinq_domain domaintest1  
Admin\vlan#
```

## 15.16 Configure QinQ Domain Service Entries

### Command function

The command is used to configure the QinQ domain's service entries.

### Command format

```
set oltqinq_domain <name> service_num <1-8>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>oltqinq_domain &lt;name&gt;</code>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter
<code>service_num &lt;1-8&gt;</code>	Service entries The value range is from 1 to 8 and 1 service should be configured at least and 8 services should be configured at most.	Compulsory parameter

## Command example

Configure 3 to the service entries number of the domaintest1 domain.

```
Admin\vlan#set oltqinq_domain domaintest1 service_num 3
Admin\vlan#
```

# 15.17 Configure QinQ Domain Service Type

## Command function

The command is used to configure the QinQ domain's service type.

## Command format

```
set oltqinq_domain <name> <1-8> type [single|share]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>oltqinq_domain &lt;name&gt;</code>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter
<code>&lt;1-8&gt;</code>	Service entries Configure the same number of multiple service entries and the corresponding downrules. The value range is from 1 to 8.	Compulsory parameter
<code>type [single share]</code>	Service Type <ul style="list-style-type: none"> <li>◆ single: The service type is single.</li> <li>◆ share: The service type is share.</li> </ul>	Compulsory parameter

## Command example

Configure single to the service type of the second service of the domain `test1` domain.

```
Admin\vlan#set oltqinq_domain domain test1 2 type single
Admin\vlan#
```

# 15.18 Configure QinQ Domain Uprules

## Command function

The command is used to configure the QinQ domain's uprules.

## Command format

```
set oltqinq_domain <name> <1-8> uprule {<1-21> <value> <op>}*4 {serv_id <1-128>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain <name>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter
<1-8>	Service entries Configure the same number of multiple service entries and the corresponding uprules. The value range is from 1 to 8.	Compulsory parameter
<1-21>	Uprules type <ul style="list-style-type: none"> <li>◆ 1: DA (Destination MAC address)</li> <li>◆ 2: SA (Source MAC address)</li> <li>◆ 3: Ethtype (Ethernet type)</li> <li>◆ 4: VLAN4 (The fourth level VLAN)</li> <li>◆ 5: VLAN3 (The third level VLAN)</li> <li>◆ 6: VLAN2 (The second level VLAN)</li> <li>◆ 7: VLAN1 (The first level VLAN)</li> <li>◆ 8: TOS (Service type)</li> <li>◆ 10: TTL (Time to live)</li> <li>◆ 11: Protocol Type</li> <li>◆ 12: SIP (Source IP)</li> <li>◆ 14: DIP (Destination IP)</li> <li>◆ 16: L4srcport (Level four source port number)</li> <li>◆ 17: L4dstport (Level four destination port number)</li> <li>◆ 18: COS4 (Priority 4)</li> <li>◆ 19: COS3 (Priority 3)</li> <li>◆ 20: COS2 (Priority 2)</li> <li>◆ 21: COS1 (Priority 1)</li> </ul> 21 kinds of types exist and the default value is 1.	Optional parameter
<value>	The domain value of the uplink domain selection Fill the corresponding value according to the type	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<op>	Uplink operation symbol ◆ 0: Never (Never match) ◆ 1: = (Equal to) ◆ 2: != (Not equal to ) ◆ 3: <= ( less than or equal to) ◆ 4: = (more than or equal to) ◆ 5: exist (Existing means match) ◆ 6: no exist (Not Existing means match) ◆ 7: always (Always match) Value range: 0 to 7, and the default value is 5.	Optional parameter
{serv_id<1-128>}*1	The service ID of the identifying service If the service ID is not input, the service index value is taken as the ID. Value range: 1 to 128.	Optional parameter

### Command example

Configure the domaintest1 domain's uprules. Configure the first service and the downrule number is 1 and the rule type is 1, and the up selection domain value is value 1 and the up operation symbol is 5. The service ID is 3.

```
Admin\vlan#set oltqinq_domain domaintest1 1 uprule 1 value1 5 serv_id 3
Admin\vlan#
```

## 15.19 Configure Downlink Rules Sentence of the QinQ Domain

### Command function

The command is used to configure the QinQ domain's downlink rules sentences.

### Command format

```
set oltqinq_domain <name> <1-8> downrule {<fieldtype> <value> <op>}*4
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
<code>oltqinq_domain &lt;name&gt;</code>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter
<code>&lt;1-8&gt;</code>	Service entries Configure the same number of multiple service entries and the corresponding downrules. The value range is from 1 to 8.	Compulsory parameter
<code>&lt;fieldtype&gt;</code>	Downrules type <ul style="list-style-type: none"> <li>◆ 1: DA (Destination MAC address)</li> <li>◆ 2: SA (Source MAC address)</li> <li>◆ 3: Ethtype (Ethernet type)</li> <li>◆ 4: VLAN4 (The fourth level VLAN)</li> <li>◆ 5: VLAN3 (The third level VLAN)</li> <li>◆ 6: VLAN2 (The second level VLAN)</li> <li>◆ 7: VLAN1 (The first level VLAN)</li> <li>◆ 8: TOS (Service type)</li> <li>◆ 10: TTL (Time to live)</li> <li>◆ 11: Protocol Type</li> <li>◆ 12: SIP (Source IP)</li> <li>◆ 14: DIP (Destination IP)</li> <li>◆ 16: L4srcport (Level four source port number)</li> <li>◆ 17: L4dstport (Level four destination port number)</li> <li>◆ 18: COS4 (Priority 4)</li> <li>◆ 19: COS3 (Priority 3)</li> <li>◆ 20: COS2 (Priority 2)</li> <li>◆ 21: COS1 (Priority 1)</li> </ul> 21 kinds of types exist and the default value is 1.	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<value>	The domain value of the downlink domain selection Fill the corresponding Value according to the Fieldtype.	Optional parameter
<op>	Downlink operation symbol <ul style="list-style-type: none"> <li>◆ 0: Never (Never match)</li> <li>◆ 1: = (Equal to)</li> <li>◆ 2: != (Not equal to )</li> <li>◆ 3: &lt;= ( less than or equal to)</li> <li>◆ 4: &gt;= (more than or equal to)</li> <li>◆ 5: exist (Existing means match)</li> <li>◆ 6: no exist (Not Existing means match)</li> <li>◆ 7: always (Always match)</li> </ul> Value range: 0 to 7, and the default value is 5.	Optional parameter

### Command example

Configure the domaintest1 domain's downrules. Configure the first service and the downrule number is 1 and the rule type is 1, and the selection domain value is value 1 and the down operation symbol is 5.

```
Admin\vlan#set oltqinq_domain domaintest1 1 downrule 1 value1 5
Admin\vlan#
```

## 15.20 Configure QinQ Domain's VLAN Service Rules

### Command function

The command is used to configure the QinQ domain's VLAN service rules.

### Command format

```
set oltqinq_domain <name> <1-8> {vlan <layer> [<oldvid>|null] [<oldcos>|
null] [add|translation|transparent] <tpid> [<cos>|null] [<newvid>|null]}*4
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain <name>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter
<1-8>	Service entries Configure the same number of the service entries and the VLAN service.	Compulsory parameter
vlan <layer>	The Nth level VLAN The Nth level of the VLAN. Configure 4 levels VLAN service. Value range: 1 to 4.	Optional parameter
[<oldvid> null]	<ul style="list-style-type: none"> <li>◆ &lt;oldvid&gt;: ID value of the Source VLAN.</li> <li>◆ null: Configure null.</li> </ul> Value range: 1 to 4095, and the default value is 65535.	Optional parameter
[<oldcos> null]	<ul style="list-style-type: none"> <li>◆ &lt;oldcos&gt;: Source COS value</li> <li>◆ null: Configure null.</li> </ul> Value range: 0 to 7, and the default value is 0.	Optional parameter
[add translation transparent]	The VLAN action of the level <ul style="list-style-type: none"> <li>◆ add: Add</li> <li>◆ translation: Translate</li> <li>◆ transparent: Transparent transmission</li> </ul>	Optional parameter
<tpid>	TPID value. Label protocol identifier. Value range: 1 to 65535, and the default value is 33024.	Optional parameter
[<cos> null]	<ul style="list-style-type: none"> <li>◆ &lt;cos&gt;: The COS value.</li> <li>◆ null: Configure null.</li> </ul> Value range: 0 to 7, and the default value is 0.	Optional parameter
[<newvid> null]	<ul style="list-style-type: none"> <li>◆ &lt;oldvid&gt;: The new VLAN ID value.</li> <li>◆ null: Configure null.</li> </ul> Value range: 1 to 4095, and the default value is 65535.	Optional parameter

## Command example

Configure QinQ Domain's VLAN Service Rules Configure the first service, and the downrules number is 1. Configure the first level VLAN and the original VLAN ID value is 254. The original COS is 1 and transparent transmission. The TPID is 33024 and the COS is NULL. The new VLAN ID value is NULL.

```
Admin\vlan#set oltqinq_domain domaintest1 1 vlan 1 254 1 transparent 33024 null null
Admin\vlan#
```

## 15.21 Create QinQ Profile

### Command function

The command is used to create the QoS profile.

### Command format

```
create qinq_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
qinq_profile <name>	The QinQ profilename, create up to 1024 profiles. Input underline, English letters and numbers and do not exceed 16 bytes.	Compulsory parameter

### Command example

Create the QinQ profile named profiletest1.

```
Admin\vlan#create qinq_profile profiletest1
Admin\vlan#
```

## 15.22 Configue ONU QinQ Profile Rule Domain

### Command function

The command is used to configure the rule domain of the ONU QinQ profile.

## Command format

```
set qinq_profile <name> {<field_type> <field_val> <op>}*8
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
qinq_profile <name>	The QinQ profile name Configure the QinQ profile name in the creation.	Compulsory parameter
<field_type>	Rule domain type 11 kinds totally <ul style="list-style-type: none"> <li>◆ 0: SA is based on the SA MAC classification.</li> <li>◆ 1: DA is based on the DA MAC classification.</li> <li>◆ 2: SIP is based on the source IP address classification.</li> <li>◆ 3: DIP is based on the destination IP address classification.</li> <li>◆ 4: VID is based on the VLAN ID classification.</li> <li>◆ 5: ETHTYPE is based on the Ethernet type.</li> <li>◆ 6: IPTYPE is based on the IP protocol types.</li> <li>◆ 7: COS is based on the Ethernet priority classification.</li> <li>◆ 8: TOS is based on the IP TOS/DSCP (IPv4) classification.</li> <li>◆ 9: L4SRCPOR is based on the L4 source PORT classification.</li> <li>◆ 10: L4DSTPOR is based on the L4 destination PORT classification.</li> </ul>	Optional parameter

Parameter	Parameter Description	Parameter Attribute
<field_val>	Rule domain value Fill in the corresponding domain value according to the rule domain types.	Optional parameter
<op>	Operation symbol <ul style="list-style-type: none"> <li>◆ 0: = (Equal to).</li> <li>◆ 1: != (Not equal to).</li> <li>◆ 2: &lt;= ( less than or equal to)</li> <li>◆ 3: = (more than or equal to)</li> <li>◆ 4: exist match(Existing means match)</li> <li>◆ 5: no exist match (Not Existing means match)</li> <li>◆ 6: always match (Always match)</li> </ul> Value range: 0 to 6.	Optional parameter

### Command example

Configure the profiletest1 profile's rule domain. The type is 0 and the domain value is 11111111111 and the operation symbol is 4.

```
Admin\vlan#set qinq_profile profiletest1 0 11111111111 4
Admin\vlan#
```

## 15.23 Delete Qinq Domain

### Command function

The command is used to delete the OLT Qinq domain. The prerequisite of deleting the Qinq domain is that the Qinq domain exists and no binding operation is performed.

### Command format

```
delete oltqinq_domain <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain <name>	Qinq domain name Configure the Qinq domain name in the creation.	Compulsory parameter

## Command example

Delete the domaintest1 domain.

```
Admin\vlan#delete oltqinq_domain domaintest1
Admin\vlan#
```

## 15.24 Delete QinQ Profile

### Command function

The command is used to delete the QinQ profile. The prerequisite of deleting the QinQ profile is that the QinQ profile exists.

### Command format

```
delete qinq_profile <name>
```

### Parameter description

Parameter	Parameter Description	Parameter Attribute
qinq_profile <name>	The QinQ profile name Configure the QinQ profile name in the creation.	Compulsory parameter

## Command example

Delete the profiletest1 profile.

```
Admin\vlan#delete qinq_profile profiletest1
Admin\vlan#
```

## 15.25 Configure QinQ Domain's ONU Bind/Unbind

### Command function

The command is used to bind/unbind the created QinQ domain of the ONU.

### Command format

```
set onu attach slot <1-18> pon <1-8> onu <1-128> [attach|detach] domain
<name>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Bind/unbind the slot number. The value range is from 1 to 18.	Compulsory parameter
pon <1-8>	PON interface number Bind/unbind the port number. The value range is from 1 to 8.	Compulsory parameter
onu <1-128>	ONU authorization number Bind/unbind the port number. The value range is from 1 to 128.	Compulsory parameter
[attach detach]	Bind/unbind operation ◆ attach: The bind operation. ◆ detach: The unbind operation.	Compulsory parameter
domain <name>	QinQ domain name	Compulsory parameter

## Command example

Bind the domaintest1 domain in the the ONU whose authorization number is 1 of No.1 PON interface in slot 14.

```
Admin\vlan#set onu attach slot 14 pon 1 onu 1 attach domain domaintest1
Admin\vlan#
```

## 15.26 Configure QinQ Domain's PON Bind/Unbind

### Command function

The command is used to bind/unbind the created QinQ domain of the PON interface.

### Command format

```
set pon attach slot <1-18> pon <1-8> [attach|detach] domain <name>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Bind/unbind the slot number. The value range is from 1 to 18.	Compulsory parameter
pon <1-8>	PON interface number Bind/unbind the port number. The value range is from 1 to 8.	Compulsory parameter
[attach detach]	Bind/unbind operation ◆ attach: The bind operation. ◆ detach: The unbind operation.	Compulsory parameter
domain <name>	QinQ domain name	Compulsory parameter

## Command example

Bind the domaintest1 domain in No.1 PON interface in slot 14.

```
Admin\vlan#set pon attach slot 14 pon 1 attach domain domaintest1
Admin\vlan#
```

# 15.27 Check QinQ Domain Binding Relationship List

## Command function

The command is used to check the QinQ domain binding relationship.

## Command format

```
show oltqinq_domain <name> attach
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain <name>	QinQ domain name Configure the QinQ domain name in the creation.	Compulsory parameter

## Command example

Check all binding relationship list of the domaintest1 in the QinQ Domain.

```
Admin\vlan#show oltqinq_domain domaintest1 attach
14:1,
Admin\vlan#
```

# 15.28 Check QinQ Domain Configuration Information

## Command function

The command is used to check the QinQ domain configuration information.

## Command format

```
show oltqinq_domain {<name>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
oltqinq_domain {<name>} *1	QinQ domain name If the domain name is not input, check all configured QinQ domains.	Optional parameter

## Command example

Check the domaintest1 domain's configuration information.

```
Admin\vlan#show oltqinq_domain domaintest1
-----QinQ domain [domaintest1] information-----
index      : 1      servicenum : 1
serviceType : 0
serviceId  : 1
service[1] upstream rule:
type[01]   val[aa aa aa aa aa aa 00 00]   op[5]
type[00]   val[00 00 00 00 00 00 00 00]   op[255]
type[00]   val[00 00 00 00 00 00 00 00]   op[255]
type[00]   val[00 00 00 00 00 00 00 00]   op[255]
service[1] downstream rule:
type[01]   val[bb bb bb bb bb bb 00 00]   op[5]
```

```

type[00]    val[00 00 00 00 00 00 00 00]    op[255]
type[00]    val[00 00 00 00 00 00 00 00]    op[255]
type[00]    val[00 00 00 00 00 00 00 00]    op[255]
service[1]  vlan information:
layer 4: oldvlan[0] oldcos[255] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
layer 3: oldvlan[0] oldcos[255] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
layer 2: oldvlan[65535] oldcos[255] action[1] tpid[0x8100]
        cos[1] newvlan[4001]
layer 1: oldvlan[254] oldcos[1] action[3] tpid[0x8100]
        cos[255] newvlan[65535]
Admin\vlan#

```

## Result description

Parameter	Parameter Description
Index	Index
servicenum	Service entries
serviceType	Service Type
serviceId	Service ID
service[1] upstream rule	Uprules
service[1] downstream rule	Downrules
service[1] vlan information	VLAN information
layer 4	The fourth level VLAN
Layer3	The third level VLAN
layer 2	The second level VLAN
layer 1	The first level VLAN

## 15.29 Check OLT QinQ Status

### Command function

The command is used to check the OLT QinQ status. The default status is enable.

### Command format

```
show qinq_olt state
```

## Parameter description

None

## Command example

Check the current OLT QinQ status.

```
Admin\vlan#show qinq_olt state
OLT QinQ state : Enable
Admin\vlan#
```

## Result description

Parameter	Parameter Description
OLT QinQ state	Check the current OLT QinQ status.

# 15.30 Check ONU QinQ Profile's Configuration Information

## Command function

The command is used to check the QinQ profile's configuration information.

## Command format

```
show qinq_profile {<name>}*1
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
qinq_profile {<name>} *1	The ONU QinQ profile name If the domain name is not input, check all configured ONU QinQ profile information.	Optional parameter

## Command example

Check the ONU QinQ profile information of the profile named profiletest1.

```
Admin\vlan#show qinq_profile profiletest1
-----
index[1]   profilename[profiletest1]
```

```

Source MAC Address      : 11:11:11:11:11:11
operator[exist then match]
Source MAC Address      : 00:00:00:00:00:00 operator[N/A]
Admin\vlan#

```

### Result description

Parameter	Parameter Description
Index	Index
filename	Profile name
Source MAC Address	Source MAC address
operator	Processing mode

## 15.31 Add Slot VLAN

### Command function

The command is used to add the slot VLAN. The prerequisite of the command is that the wire card's service VLAN whose service VLAN type is 8 has been configured.

### Command format

```
set vlan_slot slot <1-18> vid <1-4085> [untagged|tagged]
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <1-18>	Slot number Value range: 1 to 8, 11 to 18.	Compulsory parameter
vid <1-4085>	The VLAN ID of the uplink Sub VLAN. Value range: 1 to 4085.	Compulsory parameter
[untagged tagged]	TAG attribute <ul style="list-style-type: none"> <li>◆ untagged: Untag. The uplink data packet's Tag will be separated automatically when passing the port and go on uploading in the form of Untagged. The Untagged's downlink data packet will add the VLAN tag automatically when passing the port and go on downloading in the form of Tagged.</li> <li>◆ tagged: Tag. No processing is performed in the uplink data packet. When passing the port, the downlink data packet will go on downloading in the form of Tagged.</li> </ul> Tagged attribute must be selected.	Compulsory parameter

## Command example

Configure 12 to the VLAN ID of the uplink Sub VLAN in the No.1 slot. The Tag attribute is Tagged.

```
Admin\vlan#set vlan_slot slot 1 vid 12 tagged
Admin\vlan#
```

## 15.32 Check Slot Add VLAN

## Command function

The command is used to check the designated slot to add VLAN.

## Command format

```
show vlan_slot slot <slotId>
```

## Parameter description

Parameter	Parameter Description	Parameter Attribute
slot <slotId>	Add the VLAN's slot number.	Compulsory parameter

## Command example

Check the Add VLAN information in No.1 slot.

```
Admin\vlan#show vlan_slot slot 1
slot ID : 1
lan ID : 12 tagged
Admin\vlan#
```

## Result description

Parameter	Parameter Description
slot ID	Slot number
vlan ID	The VLAN ID of the Sub VLAN in the wire card.



# 16 Route Directory Command

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- Configuring Static Routing
- Deleting Static Routing
- Viewing Route Table
- Configuring Key Chain
- Deleting Key Chain
- Configuring Key ID in Key Chain
- Deleting Key ID in Key Chain
- Configuring Key in Key Chain
- Deleting Key in Key Chain
- Configuring Receiving Time in Key Chain
- Deleting Receiving Time in Key Chain
- Configuring Transmitting Time in Key Chain
- Deleting Transmitting Time in Key Chain
- Configuring ACL Name
- Deleting ACL Name
- Configuring ACL Rule
- Deleting ACL Rule
- Viewing All Configured ACL Information
- Configuring Proxy Range of ARP-PROXY
- Viewing Proxy Range of ARP-PROXY

- Viewing Key Chain Configuration
- Viewing Current Configuration Information
- Configuring Printing Debugging Switch of RCAL Module
- Configuring DHCP Function Global Switch
- Viewing DHCP Function Global Switch
- Configuring DHCP Global Ping Function
- Viewing DHCP Global Ping Function
- Configuring Layer3 Interface DHCP Mode
- Viewing Layer3 Interface DHCP Mode
- Configuring Server IP Address under Layer3 Interface DHCP Relay Mode
- Deleting Server IP Address under Layer3 Interface DHCP Relay Mode
- Viewing Server IP Address under Layer3 Interface DHCP Relay Mode
- Configuring DHCP Server Global Address Pool
- Deleting DHCP Server Global Address Pool
- Viewing DHCP Server Global Address Pool
- Configuring Lease Term of DHCP Server Global Address Pool
- Configuring DNS Server
- Deleting DNS Server
- Configuring Forbidden IP Address
- Deleting Forbidden IP Address
- Binding Fixed IP Address for DHCP Client
- Deleting DHCP Client Binding

Viewing Status of DHCP Client Table

## 16.1 Configuring Static Routing

### Command function

Configures the destination IP address, subnet mask of the destination network, IP address of the gateway next hop and the metric for the static routing.

### Command format

```
set static-route destination-ip <A.B.C.D> mask <A.B.C.D> nexthop <A.B.C.D>
{metric <0-255>} *1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
destination-ip <A.B.C.D> >	IP address of the destination network. It is usually in the format of the network segment.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter
nexthop <A.B.C.D>	IP address of the gateway next hop, which is in the same network segment as the IP address in the Super VLAN configuration.	Compulsory parameter
{metric <0-255>} *1	Hop number The value range is 0 to 255. No configuration means the default value 0 is selected.	Optional parameter

### Command example

In the static routing configuration, set the destination IP address to 10.98.20.0, the subnet mask to 255.255.255.0, the next hop IP address to 10.1.1.19 and the hop number to 10.

```
Admin\route#set static-route destination-ip 10.98.20.0 mask 255.255.255.0 nexthop
10.1.1.19 metric 10
Admin\route#
```

## 16.2 Deleting Static Routing

### Command function

Deletes the configured static routing.

## Command format

```
delete static-route destination-ip <A.B.C.D> mask <A.B.C.D> nexthop <A.B.C.
D> {metric <0-255>}*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
destination-ip <A.B.C.D>	IP address of the destination network. It is usually in the format of the network segment.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter
nexthop <A.B.C.D>	IP address of the gateway next hop, which is in the same network segment as the IP address in the Super VLAN configuration.	Compulsory parameter
{metric <0-255>}*1	Hop number The value range is 0 to 255. The default value is 0.	Optional parameter

## Command example

Delete the static routing whose destination IP address is 10.98.20.0, subnet mask is 255.255.255.0, next hop IP address is 10.1.1.19 and hop number is 10.

```
Admin\route#delete static-route destination-ip 10.98.20.0 mask 255.255.255.0 nexthop
10.1.1.19 metric 10
Admin\route#
```

# 16.3 Viewing Route Table

## Command function

Views the route table.

## Command format

```
show ip route
```

## Parameter description

None

## Command example

View the configured route table.

```
Admin\route#show ip route
DestNetwork DestMask      Dis Met NextHop  Status Protocol  Interface
10.98.20.0  255.255.255.0  0   10  10.1.1.19  Pend   static   sv3000
10.1.0.0    255.255.0.0   0   0   10.1.0.0  Active connected sv3000
Admin\route#
```

## Result description

Parameter Item	Parameter Description
DestNetwork	IP address of the destination network.
DestMask	Subnet mask of the destination network.
Dis	The management distance.
Met	The metric.
NextHop	IP address of the gateway next hop.
Status	Whether the next hop is reachable or unreachable.
Protocol	The protocol.
Interface	The interface

# 16.4 Configuring Key Chain

## Command function

Configures the key chain in the RIP or OSPF authentication.

## Command format

```
set key-chain <name>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter

## Command example

Set the key chain name to "test".

```
Admin\route#set key-chain test
Admin\route#
```

## 16.5 Deleting Key Chain

### Command function

Deletes the key chain by name.

### Command format

```
delete key-chain <name>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter

### Command example

Delete the key chain that is named "test".

```
Admin\route#delete key-chain test
Admin\route#
```

## 16.6 Configuring Key ID in Key Chain

### Command function

Configures the key ID in the key chain.

### Command Format

```
set key-chain <name> key <1-255>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Designates the key ID in the key chain. The value range is 1 to 255.	Compulsory parameter

## Command example

Set the key ID of the key chain named "test" to 22.

```
Admin\route#set key-chain test key 22
Admin\route#
```

# 16.7 Deleting Key ID in Key Chain

## Command function

Deletes the key ID in the key chain.

## Command format

```
delete key-chain <name> key <1-255>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Designates the key ID in the key chain. The value range is 1 to 255.	Compulsory parameter

## Command example

Delete the key ID 22 whose key chain is named "test".

```
Admin\route#delete key-chain test key 22
Admin\route#
```

## 16.8 Configuring Key in Key Chain

### Command function

Configures the key in the key chain.

### Command format

```
set key-chain <name> key <1-255> key-string <string>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID. The value range is 1 to 255.	Compulsory parameter
<string>	Key, i.e., the authentication key characters. It should include no more than characters.	Compulsory parameter

### Command example

Set the key in the key chain named "test" to "fh".

```
Admin\route#set key-chain test key 22 key-string fh
The key string is fh
Admin\route#
```

## 16.9 Deleting Key in Key Chain

### Command function

Deletes the key in the key chain.

### Command format

```
delete key-chain <name> key <1-255> key-string fh
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID. The value range is 1 to 255.	Compulsory parameter
<string>	The key.	Compulsory parameter

## Command example

Delete the key "fh" whose key chain is named "test".

```
Admin\route#delete key-chain test key 22 key-string fh
Admin\route#
```

# 16.10 Configuring Receiving Time in Key Chain

## Command function

Configures the receiving time (including the starting receiving time and the ending receiving time) in the key chain.

## Command format

```
set key-chain <name> key <1-255> accept-lifetime <yyyy:mm:dd:hh:mm:ss>
{<yyyy:mm:dd:hh:mm:ss>} *1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID. The value range is 1 to 255.	Compulsory parameter

Parameter Item	Parameter Description	Parameter Attribute
<code>accept-lifetime &lt;yyyy:mm:dd:hh:mm:ss&gt;</code>	The starting receiving time, i.e., the time when the key receiving starts. The value range is 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0.	Compulsory parameter
<code>{&lt;yyyy:mm:dd:hh:mm:ss&gt; *1}</code>	The ending receiving time, i.e., the time when the key receiving ends. The value range is 00:00:00, January 1, 1993 to 23:59:59, December 31, 2105. The default value is 0. No configuring means the receiving never ends.	Optional parameter

### Command example

Set the receiving starting time to 14:30:56, November 24, 2011 for the key chain whose name is "test" and key ID is 22.

```
Admin\route#set key-chain test key 22 accept-lifetime 2011:11:24:14:30:56
Admin\route#
```

## 16.11 Deleting Receiving Time in Key Chain

### Command function

Deletes the receiving time in the key chain.

### Command format

```
delete key-chain <name> key <1-255> accept-lifetime
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>key-chain &lt;name&gt;</code>	Name of the key chain.	Compulsory parameter
<code>key &lt;1-255&gt;</code>	Designates the key ID in the key chain. The value range is 1 to 255.	Compulsory parameter

### Command example

Delete the receiving time for the key chain whose name is "test" and key ID is 22.

```
Admin\route#delete key-chain test key 22 accept-lifetime
Admin\route#
```

## 16.12 Configuring Transmitting Time in Key Chain

### Command function

Configures the transmitting time (including the starting transmitting time and the ending transmitting time) in the key chain.

### Command Format

```
set key-chain <name> key <1-255> send-lifetime <yyyy:mm:dd:hh:mm:ss>
{<yyyy:mm:dd:hh:mm:ss>} *1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	The key ID. The value range is 1 to 255.	Compulsory parameter
send-lifetime <yyyy:mm:dd:hh:mm:ss>	The starting transmitting time, i.e., the time when the key transmitting starts. The value range is 00:00:00, January 10, 1993 to 23:59:59, December 31, 2105. The default value is 0. yyyy represents year, mm represents month, dd represents day, hh represents hour, mm represents minute, ss represents second.	Compulsory parameter
{<yyyy:mm:dd:hh:mm:ss>} *1	The ending transmitting time, i.e., the time when the key transmitting ends. The value range is 00:00:00, January 1, 1993 to 23:59:59, December 31, 2105. The default value is 0. No configuring means the receiving never ends.	Optional parameter

### Command example

Set the transmitting starting time to 07:07:00, January 1, 2009 for the key chain whose name is "test" and key ID is 22.

```
Admin\route#set key-chain test key 22 send-lifetime 2009:01:01:07:07:00
Admin\route#
```

## 16.13 Deleting Transmitting Time in Key Chain

### Command function

Deletes the transmitting time in the key chain.

### Command format

```
delete key-chain <name> key <1-255> send-lifetime
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
key-chain <name>	Name of the key chain.	Compulsory parameter
key <1-255>	Designates the key ID in the key chain. The value range is 1 to 255.	Compulsory parameter

### Command example

Delete the transmitting time for the key chain whose name is "test" and key ID is 22.

```
Admin\route#delete key-chain test key 22 send-lifetime
Admin\route#
```

## 16.14 Configuring ACL Name

### Command function

Configures the ACL name, i.e., name of the access control list.

### Command format

```
set access-list <name> ipv4 {auto_order}*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>access-list &lt;name&gt;</code>	Name of the access control list. The maximum length is 20 characters. Currently only the access control list name mode is supported.	Compulsory parameter
<code>{auto_order}*1</code>	The matching sequence. Sets the sorting order of the access control list to automatic sorting. No configuration means the access control list becomes effective according to the configured sequence.	Compulsory parameter

## Command example

Set the name of the access control list to "fh" and the matching sequence to automatic sorting.

```
Admin\route#set access-list fh ipv4 auto_order
Admin\route#
```

## 16.15 Deleting ACL Name

## Command function

Deletes the ACL name.

## Command format

```
delete access-list [<1-99>|<100-199>|<1300-1999>|<2000-2699>|<name>]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>access-list&lt;name&gt;</code>	Name of the access control list.	Compulsory parameter

## Command example

Delete the access control list named "fh".

```
Admin\route#delete access-list fh
```

Admin\route#

## 16.16 Configuring ACL Rule

### Command function

Configures the Layer3 ACL rule and designates the matching rule, e.g., rejecting or accepting the objects with certain IP features.

### Command format

```
set access-list <name> [deny|permit] <A.B.C.D/M>
set access-list <name> [deny|permit] <A.B.C.D/M> exact-match
set access-list <name> [deny|permit] any
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
access-list <name>	Name of the access control list.	Compulsory parameter
[deny permit]	Processing method for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ deny: discards the data packets that match the conditions.</li> <li>◆ permit: allows the data packets that match the conditions to pass.</li> </ul>	Compulsory parameter
<A.B.C.D/M>	Matching accuracy for the data message in the ACL rule. <A.B.C.D/M>: normal matching, which means the IP address of the data packets should be in the configured network segment.	Compulsory parameter

Parameter Item	Parameter Description	Parameter Attribute
<A.B.C.D/M> exact-match	Matching accuracy for the data message in the ACL rule. <A.B.C.D/M> exact-match: accurate matching, which means not only the IP address of the data packets should be in the configured network segment, but also the mask length should be consistent with the configured value.	Compulsory parameter
any	Matching accuracy for the data message in the ACL rule. any: overall matching, which means any IP address or IP network segment.	Compulsory parameter

### Command example

Set the access control list named "fh" to reject the data packets with IP address 10.92.20.61 and the mask 16. The matching accuracy is normal matching.

```
Admin\route#set access-list fh deny 10.92.20.61/16
Admin\route#
```

Sets the access control list named "fh" to accept the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is accurate matching.

```
Admin\route#set access-list fh permit 10.92.20.61/16 exact-match
Admin\route#
```

Sets the access control list named "fh" to accept overall matching.

```
Admin\route#set access-list fh permit any
Admin\route#
```

## 16.17 Deleting ACL Rule

### Command function

Sets the access control list to reject / accept the objects with designated IP features.

### Command format

```
delete access-list <name> [deny|permit] <A.B.C.D/M>
```

```
delete access-list <name> [deny|permit] <A.B.C.D/M> exact-match
delete access-list <name> [deny|permit] any
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
access-list <name>	Name of the access control list.	Compulsory parameter
[deny permit]	Processing method for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ deny: discards the data packets that match the conditions.</li> <li>◆ permit: allows the data packets that match the conditions to pass.</li> </ul>	Compulsory parameter
<A.B.C.D/M>	Matching accuracy for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D/M&gt;: normal matching, which means the IP address of the data packets should be in the configured network segment.</li> </ul>	Compulsory parameter
<A.B.C.D/M> exact-match	Matching accuracy for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D/M&gt; exact-match: accurate matching, which means not only the IP address of the data packets should be in the configured network segment, but also the mask length should be consistent with the configured value.</li> </ul>	Compulsory parameter
any	Matching accuracy for the data message in the ACL rule. <ul style="list-style-type: none"> <li>◆ any: overall matching, which means any IP address or IP network segment.</li> </ul>	Compulsory parameter

## Command example

Delete the access control list named "fh", which rejects the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is normal matching.

```
Admin\route#delete access-list fh deny 10.92.20.61/16
```

```
Admin\route#
```

Deletes the access control list named "fh", which accepts the data packets with the IP address 10.92.20.61 and the mask 16. The matching accuracy is accurate matching.

```
Admin\route#delete access-list fh permit 10.92.20.61/16 exact-match
```

```
Admin\route#
```

Deletes the access control list named "fh" that accepts overall matching.

```
Admin\route#delete access-list fh permit any
```

```
Admin\route#
```

## 16.18 Viewing All Configured ACL Information

### Command function

Views all the configured ACL information.

### Command format

```
show ip access-list
```

### Parameter description

None

### Command example

View the configured ACL information.

```
Admin\route#show ip access-list
```

```
Zebra IP    access list fh
```

```
    deny    10.92.20.61/16
```

```
Admin\route#
```

## Result description

Parameter Item	Parameter Description
Zebra IP access list	Name of the access control list.
deny	The processing mode is rejection.
10.92.20.61/16	The IP address and mask of the IP matching rule.

## 16.19 Configuring Proxy Range of ARP-PROXY

## Command function

Configures the proxy range of ARP-PROXY.

## Command format

```
set arp-proxy access-list <name> [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
access-list <name>	The code name of ARP-PROXY. Select the corresponding Layer3 ACL name.	Compulsory parameter
[enable disable]	Enable / disable switch for the proxy range. ◆ enable: enables the proxy range. ◆ disable: disables the proxy range.	Compulsory parameter

## Command example

Enable the proxy range of ARP-PROXY.

```
Admin\route#set arp-proxy access-list fh enable
Admin\route#
```

## 16.20 Viewing Proxy Range of ARP-PROXY

### Command function

Views the proxy range of ARP-PROXY.

### Command format

```
show arp-proxy access-list
```

### Parameter description

None

### Command example

View the proxy range of ARP-PROXY.

```
Admin\route#show arp-proxy access-list
ARP proxy ACL config:
                    fh
Admin\route#
```

### Result description

Parameter Item	Parameter Description
ARP proxy ACL config	The code name configuration of ARP-PROXY. Displays the corresponding Layer3 ACL name.

## 16.21 Viewing Key Chain Configuration

### Command function

Views the key chain configuration.

### Command format

```
show key-chain
```

### Parameter description

None

## Command example

View the key chain configuration.

```
Admin\route#show key-chain
  key_chain:test
key_id key_string      accept lifetime start  accept lifetime end
send lifetime start    send lifetime end
22    fh              2011:11:24:14:14:56    ifinate
2009:01:01:07:07:00    ifinate
Admin\route#
```

## Result description

Parameter Item	Parameter Description
key_chain	Name of the key chain.
key_id	key ID in the key chain.
key_string	The key corresponding to the key ID.
accept lifetime start	Starting time of the receiving lifetime.
accept lifetime end	Ending time of the receiving lifetime.
send lifetime start	Starting time of the transmitting lifetime.
send lifetime end	Ending time of the transmitting lifetime.

## 16.22 Viewing Current Configuration Information

### Command function

Views the current configuration information, which includes: Route configuration information, DHCP configuration information, ACL configuration information and ARP PROXY ACL configuration information

### Command format

```
show route running-config
```

### Parameter description

None

## Command example

View the current configuration information.

```
Admin\route#show route running-config
!route config -----
set key-chain test
set key-chain test key 12
set key-chain test key 12 key-string 123
set key-chain test key 12 send-lifetime 2009:01:01:07:07:00
!route config end -----
!dhcp config -----
!dhcp config end!-----
!access list config -----
set access-list fh ipv4 auto_order
set access-list fh deny 10.92.20.61/16
set access-list tx ipv4 auto_order
set access-list tx permit 10.92.20.61/16
!access list config end!-----
!arp proxy access list config -----
!arp proxy access list config end!-----
Admin\route#
```

## Result description

Parameter Item	Parameter Description
route config	The route configuration,
dhcp config	The DHCP configuration.
access list config	The access control list configuration.
arp proxy access list config	The ARP proxy access control list configuration.

## 16.23 Configuring Printing Debugging Switch of RCAL Module

### Command function

Configures the printing debugging switch of the RCAL module.

### Command Format

```
rcal debug level [infor|warn|error|debug|debug_send|all] [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
level [infor warn error  debug debug_send all]	Level of the printing switch. <ul style="list-style-type: none"> <li>◆ infor: common prompt information.</li> <li>◆ warn: alarm information.</li> <li>◆ error: error information.</li> <li>◆ debug: program debugging information, usually is the information the uplink module sends to the RCAL module.</li> <li>◆ debug_send: program debugging information, usually is the information the downlink protocol module sends back to the RCAL module.</li> <li>◆ all: all the information.</li> </ul>	Compulsory parameter
[enable disable]	<ul style="list-style-type: none"> <li>◆ enable: enables the debugging switch.</li> <li>◆ disable: disables the debugging switch.</li> </ul>	Compulsory parameter

## Command example

Set the printing program debugging information switch to enable.

```
Admin\route#rcal debug level debug enable
Admin\route#
```

## 16.24 Configuring DHCP Function Global Switch

## Command function

Configures the DHCP function global switch.

## Command format

```
set dhcp global [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	Enable / disable status of the switch. ◆ enable: enables the global DHCP function. ◆ disable: disables the global DHCP function. After disabling, all the DHCP related configuration will be cleared automatically. The default setting is disable.	Compulsory parameter

## Command example

Set the DHCP function global switch to enable.

```
Admin\route#set dhcp global enable
Admin\route#
```

## 16.25 Viewing DHCP Function Global Switch

## Command function

Views the DHCP function global switch.

## Command format

```
show dhcp global switch
```

## Parameter description

None

## Command example

View the DHCP function global switch.

```
Admin\route#show dhcp global switch
dhcp global switch enabled.
Admin\route#
```

## 16.26 Configuring DHCP Global Ping Function

### Command function

Configures the DHCP global Ping function.

### Command format

```
set dhcp global ping-function <0-3> ping-interval <500-5000>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ping-function <0-3>	Switch or times of the Ping operation. The value range is 0 to 3. The unit is number of times. The default value is 2. 0 means to disable the Ping function, and the time interval of the Ping operation becomes invalid simultaneously.	Compulsory parameter
ping-interval <500-5000>	The time interval of the Ping operation. The value range is 500 to 5000. The unit is ms (millisecond). The default value is 500.	Compulsory parameter

### Command example

Set the times of the DHCP global Ping operation to 3 and the time interval of the Ping operation to 1000.

```
Admin\route#set dhcp global ping-function 3 ping-interval 1000
Admin\route#
```

## 16.27 Viewing DHCP Global Ping Function

### Command function

Views the DHCP global Ping function.

## Command format

```
show dhcp global pingfunc
```

## Parameter description

None

## Command example

View the DHCP global Ping function.

```
Admin\route#show dhcp global pingfunc  
dhcp global pingFunc: 3 times, 1000 ms interval.  
Admin\route#
```

## Result description

Parameter Item	Parameter Description
dhcp global pingFunc	The DHCP global Ping function, including the times of Ping operation and the time interval between the Ping operations.

# 16.28 Configuring Layer3 Interface DHCP Mode

## Command function

Configures the layer3 interface DHCP mode for the subscriber in the Super VLAN.

## Command format

```
set dhcp super-vlan <1-4085> mode [server|relay|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	ID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>mode [server relay disable]</code>	The layer3 interface DHCP function mode or disabling the function. <ul style="list-style-type: none"> <li>◆ server: Server mode, the DHCP server operation mode.</li> <li>◆ relay: Relay mode, the DHCP regenerator operation mode.</li> <li>◆ disable: disables the function.</li> </ul> The default setting is Server mode.	Compulsory parameter

## Command example

Set the DHCP function mode of the layer3 interface whose Super VLAN is 3000 to Server mode.

```
Admin\route#set dhcp super-vlan 3000 mode server
Admin\route#
```

## 16.29 Viewing Layer3 Interface DHCP Mode

### Command function

Views the DHCP function mode of the layer3 interface.

### Command format

```
show dhcp super-vlan [<1-4085>|all] mode
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: views the DHCP mode of the layer3 interface under the configured Super VLAN ID. The value range is 1 to 4085.</li> <li>◆ all: views the DHCP mode of all interfaces.</li> </ul>	Compulsory parameter

## Command example

Views the DHCP function mode of the Super VLAN layer3 interface whose VLAN ID is 3000.

```
Admin\route#show dhcp super-vlan 3000 mode
show super-vlan id 3000.
dhcp super-vlan 3000 mode server.
Admin\route#
```

## Result description

Parameter Item	Parameter Description
show super-vlan id	The VLAN ID of the configured Super VLAN.
dhcp super-vlan 3000 mode	The DHCP function mode of the layer3 interface whose Super VLAN is 3000.

## 16.30 Configuring Server IP Address under Layer3 Interface DHCP Relay Mode

## Command function

Configures the IP address of the server under the layer3 interface DHCP Relay mode to provide the DHCP services for the subscribers in the Super VLAN.

## Command format

```
set dhcp relay super-vlan <1-4085> server-ip <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	ID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>server-ip &lt;A.B.C.D&gt;</code>	IP address of the server under the layer3 interface. You can configure up to 16 entries under one interface.	Compulsory parameter

## Command example

For the layer3 interface whose Super VLAN is 3000, set the server IP address under the DHCP Relay mode to 10.91.20.0.

```
Admin\route#set dhcp relay super-vlan 3000 server-ip 10.91.20.0
Admin\route#
```

## 16.31 Deleting Server IP Address under Layer3 Interface DHCP Relay Mode

### Command function

Deletes the IP address of the server under the layer3 interface DHCP Relay mode.

### Command format

```
delete dhcp relay super-vlan <1-4085> server-ip [<A.B.C.D>|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	ID of the VLAN that has configured Super VLAN. The value range is 1 to 4085.	Compulsory parameter
<code>[&lt;A.B.C.D&gt; all]</code>	<ul style="list-style-type: none"> <li>◆ Deletes the designated server IP address under the layer3 interface DHCP Relay mode.</li> <li>◆ all: deletes all the server IP addresses under the layer3 interface DHCP Relay mode.</li> </ul>	Compulsory parameter

## Command example

For the layer3 interface whose Super VLAN is 3000, delete all the server IP addresses under the DHCP Relay mode.

```
Admin\route#delete dhcp relay super-vlan 3000 server-ip all
delete all.
Admin\route#
```

## 16.32 Viewing Server IP Address under Layer3 Interface DHCP Relay Mode

### Command function

Views the IP address of the server under the layer3 interface DHCP Relay mode.

### Command Format

```
show dhcp relay super-vlan [<1-4085>|all] server-ip
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan [<1-4085> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-4085&gt;: views the server IP address of the VLAN ID that has configured Super VLAN under the DHCP Relay mode. The value range is 1 to 4085.</li> <li>◆ all: views the server IP addresses of all the layer3 interfaces under the DHCP Relay mode.</li> </ul>	Compulsory parameter

### Command example

View the server IP address under the DHCP Relay mode of the layer3 interface whose Super VLAN is 3000.

```
Admin\route#show dhcp relay super-vlan 3000 server-ip
show super-vlan id 3000 server:
10.91.20.0
Admin\route#
```

## Result description

Parameter Item	Parameter Description
show super-vlan id 3000 server	The server IP address under the DHCP Relay mode.

## 16.33 Configuring DHCP Server Global Address Pool

## Command function

Configures the DHCP Server global address pool to distribute the IP addresses for the for the subscribers in the Super VLAN.

## Command format

```
set dhcp server ip-pool <1-16> begin-ip <A.B.C.D> end-ip <A.B.C.D> mask <A.B.C.D> gateway <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16. The default value is 1.	Compulsory parameter
begin-ip <A.B.C.D>	The starting IP address.	Compulsory parameter
end-ip <A.B.C.D>	The ending IP address.	Compulsory parameter
mask <A.B.C.D>	The subnet mask.	Compulsory parameter
gateway <A.B.C.D>	The gateway.	Compulsory parameter

## Command example

Configure the identifier of the address pool to 1, the starting IP address to 10.92.20.1, the ending IP address to 10.92.20.254, the mask to 255.255.0.0, the gateway to 10.92.1.254.

```
Admin\route#set dhcp server ip-pool 1 begin-ip 10.92.20.1 end-ip 10.92.20.254 mask 255.255.0.0 gateway 10.92.1.254
Admin\route#
```

## 16.34 Deleting DHCP Server Global Address Pool

### Command function

Deletes the DHCP Server global address pool.

### Command format

```
delete dhcp server ip-pool [<1-16>|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool [<1-16> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-16&gt;: Deletes the DHCP Server global address pool with the configured identifier.</li> <li>◆ all: deletes all global address pools.</li> </ul>	Compulsory parameter

### Command example

Delete the DHCP Server global address pool whose identifier is 1.

```
Admin\route#delete dhcp server ip-pool 1
delete pool-id 1.
Admin\route#
```

## 16.35 Viewing DHCP Server Global Address Pool

### Command function

Views the DHCP Server global address pool.

### Command format

```
show dhcp server ip-pool [<1-16>|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[<1-16> all]	<ul style="list-style-type: none"> <li>◆ &lt;1-16&gt;: Views the DHCP Server global address pool with the configured identifier.</li> <li>◆ all: views all global address pools.</li> </ul>	Compulsory parameter

## Command example

View the DHCP Server global address pool whose identifier is 1.

```
Admin\route#show dhcp server ip-pool 1
show pool-id 1.
pool-id 1
begin-ip 10.92.20.1 end-ip 10.92.20.254 mask 255.255.0.0
gateway 10.92.1.254
lease 3000000 days, 0xffffffff for forever
dns server config:
10.20.1.18
forbidden ip config:
10.98.20.1
Admin\route#
```

## Result description

Parameter Item	Parameter Description
pool-id	Identifier of the address pool.
begin-ip	The starting IP address.
end-ip	The ending IP address.
mask	The subnet mask.
gateway	The gateway.
lease 3000000 days	The lease term.
dns server config	IP address of the DNS server .
forbidden ip config	The forbidden IP address.

## 16.36 Configuring Lease Term of DHCP Server Global Address Pool

### Command function

Configures the lease term of the DHCP Server global address pool.

### Command format

```
set dhcp server ip-pool <1-16> lease [<0-4294967294>|forever]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16.	Compulsory parameter
lease [<0-4294967294> forever]	The lease term. ◆ <0-4294967294>: the value range is 0 to 4294967294. The unit is second. The default value is one day, i.e., 38400 seconds. ◆ forever: the lease is permanent.	Compulsory parameter

### Command example

Set the lease term of the address pool whose identifier is 1 to 3000000 seconds.

```
Admin\route#set dhcp server ip-pool 1 lease 3000000
set lease 3000000 s.
Admin\route#
```

## 16.37 Configuring DNS Server

### Command function

Configures the DNS server, providing address and domain name service for the DHCP client side.

### Command format

```
set dhcp server ip-pool <1-16> dns-server <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16.	Compulsory parameter
dns-server <A.B.C.D>	IP address of the DNS server. You can configure up to 16 IP addresses.	Compulsory parameter

### Command example

Configure the IP address of the DNS server to 10.20.1.18.

```
Admin\route#set dhcp server ip-pool 1 dns-server 10.20.1.18
Admin\route#
```

## 16.38 Deleting DNS Server

### Command function

Deletes the DNS server.

### Command format

```
delete dhcp server ip-pool <1-16> dns-server [<A.B.C.D>|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16.	Compulsory parameter
dns-server [<A.B.C.D> all]	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: deletes the IP address of the configured DNS server.</li> <li>◆ all: deletes all the DNS servers.</li> </ul>	Compulsory parameter

### Command example

Delete all the DNS servers of the address pool whose identifier is 1.

```
Admin\route#delete dhcp server ip-pool 1 dns-server all
delete all.
Admin\route#
```

## 16.39 Configuring Forbidden IP Address

### Command function

Sets the IP address that should not be configured for the DHCP client side.

### Command format

```
set dhcp server ip-pool <1-16> forbidden-ip <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16.	Compulsory parameter
forbidden-ip <A.B.C.D>	The IP address that should not be configured for the client side. You can set up to 16 IP addresses.	Compulsory parameter

### Command example

Set the IP address that should not be allocated in the address pool whose identifier is 1 to 10.98.20.1.

```
Admin\route#set dhcp server ip-pool 1 forbidden-ip 10.98.20.1
Admin\route#
```

## 16.40 Deleting Forbidden IP Address

### Command function

Deletes the IP address that should not be allocated.

### Command format

```
delete dhcp server ip-pool <1-16> forbidden-ip [<A.B.C.D>|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip-pool <1-16>	Identifier of the address pool. The value range is 1 to 16.	Compulsory parameter
forbidden-ip [<A.B.C.D>  all]	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: deletes the designated IP address that should not be allocated.</li> <li>◆ all: deletes all the IP addresses that should not be allocated.</li> </ul>	Compulsory parameter

### Command example

Delete the all the IP addresses that should not be allocated in the address pool whose identifier is 1.

```
Admin\route#delete dhcp server ip-pool 1 forbidden-ip all
delete all.
Admin\route#
```

## 16.41 Binding Fixed IP Address for DHCP Client

### Command function

Assigns the fixed IP address for the DHCP client side.

### Command format

```
set dhcp client bind ip <A.B.C.D> mac <aa:bb:cc:dd:ee:ff>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip <A.B.C.D>	The IP address allocated for the DHCP client side.	Compulsory parameter
mac <aa:bb:cc:dd:ee:ff>	MAC address of the DHCP client side.	Compulsory parameter

### Command example

Assign the IP address DHCP client side to the DHCP client side whose MAC address is ff:02:00:00:00:02.

```
Admin\route#set dhcp client bind ip 10.92.20.5 mac ff:02:00:00:00:02
Admin\route#
```

## 16.42 Deleting DHCP Client Binding

### Command function

Deletes the binding to the DHCP client side.

### Command format

```
delete dhcp client bind ip <A.B.C.D> mac <aa:bb:cc:dd:ee:ff>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ip <A.B.C.D>	The IP address allocated for the DHCP client side.	Compulsory parameter
mac <aa:bb:cc:dd:ee:ff>	MAC address of the DHCP client side.	Compulsory parameter

### Command example

Clear the binding relationship between the DHCP client side whose MAC address is ff:02:00:00:00:02 and the IP address 10.92.20.5.

```
Admin\route#delete dhcp client bind ip 10.92.20.5 mac ff:02:00:00:00:02
Admin\route#
```

## 16.43 Viewing Status of DHCP Client Table

### Command function

Views the record of the resources the DHCP Server allocates to the DHCP Client. The record includes the IP address, MAC address and the lease term.

### Command format

```
show dhcp client table status
```

## Parameter description

None

## Command example

View the status of the DHCP Client table.

```
Admin\route#show dhcp client table status
```

```

No.      IP           MAC           Lease(s)    Expire(s)   Type
1        10.92.20.5   ff:02:00:00:00:02  4294967295  4294967295  static
Admin\route#
```

## Result description

Parameter Item	Parameter Description
No.	The serial number.
IP	The IP address allocated for the DHCP client side.
MAC	MAC address of the DHCP client side.
Lease(s)	The allocated lease term.
Expire(s)	The remaining time of the lease term.
Type	The binding type. The dynamic address or the static address.



# 17 RIP Directory Command

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- Enabling / Disabling RIP
- Announcing RIP Network
- Deleting Announced RIP Network
- Configuring RIP Timer
- Configuring RIP Distance Value
- Configuring RIP Route Re-allocation
- Deleting RIP Route Re-allocation
- Configuring Receiving Message Version of RIP Interface
- Configuring Transmitting Message Version of RIP Interface
- Configuring RIP Neighbor
- Deleting RIP Neighbor
- Configuring RIP Passive Port
- Deleting RIP Passive Port
- Configuring RIP Authentication Mode to Simple Password
- Configuring RIP Authentication Mode to MD5
- Deleting RIP Authentication Mode
- Viewing RIP Information
- Viewing Status of RIP Database
- Viewing RIP Interface Information
- Viewing Interface Authentication Information

- Enabling RIP Log Information
- Disabling RIP Log Information
- Enabling / Disabling RIP Event Information
- Enabling Debug Information of RIP Packets
- Disabling Debug Information of RIP Packets
- Enabling / Disabling Zebra Information
- Viewing RIP Debug Summary Information
- Viewing Current RIP Configuration
- Viewing RIP Neighbor Information
- Viewing Network Announced by RIP

## 17.1 Enabling / Disabling RIP

### Command function

Enables or disables the RIP function.

### Command format

```
set rip [enable|disable]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
rip [enable disable]	The RIP function. ◆ enable: enables the function. ◆ disable: disables the function.	Compulsory parameter

### Command example

Enable the RIP function.

```
Admin\rip#set rip enable
Admin\rip#
```

## 17.2 Announcing RIP Network

### Command function

Announces the RIP network.

### Command format

```
set network <A.B.C.D> mask <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
network <A.B.C.D>	The IP address' network segment of the interface that should run the RIP. The network must be the IP network that has configured the Super VLAN.	Compulsory parameter
mask <A.B.C.D>	The subnet mask.	Compulsory parameter

## Command example

Announce the network segment whose IP address is 10.1.0.0 and mask is 255.255.0.0.

```
Admin\rip#set network 10.1.0.0 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.3 Deleting Announced RIP Network

### Command function

Deletes the announced RIP network.

### Command format

```
delete network <A.B.C.D> mask <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
network <A.B.C.D>	The network segment that the IP address of the interface running the RIP belongs to.	Compulsory parameter
mask <A.B.C.D>	The subnet mask.	Compulsory parameter

### Command example

Delete the announced RIP network segment whose IP address is 10.92.20.61 and subnet mask is 255.255.0.0.

```
Admin\rip#delete network 10.92.20.61 mask 255.255.0.0
```

```
Admin\rip#
```

## 17.4 Configuring RIP Timer

### Command function

Configures the timers for the RIP, so as to adjust the performance of the routing protocol and meet the current network's demand.

## Command format

```
set timer UpdateTimer <5-16777215> TimeoutTimer <5-16777215> GarbageTimer
<5-16777215>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
UpdateTimer <5-16777215>	The update timer, which is used to initiate the update of the route table. The value range is 5 to 16777215. The unit is second. The default value is 30.	Compulsory parameter
TimeoutTimer <5-16777215>	The time-out timer, which is used to determine whether a route is available. If the update information of a route is not received within the configured time, the route is determined as not available. The value range is 5 to 16777215. The unit is second. The default value is 180.	Compulsory parameter
GarbageTimer <5-16777215>	The garbage-collection timer, which is used to determine whether to delete a route or not. After the touter determines a route as not available, if the update information of this route is not received within the configured time, the route will be deleted from the route table. The value range is 5 to 16777215. The unit is second. The default value is 120.	Compulsory parameter

## Command example

Set the update timer to 40, the time-out timer to 200 and the garbage-collection timer to 150.

```
Admin\rip#set timer updatetimer 40 timeouttimer 200 garbagetimer 150
Admin\rip#
```

## 17.5 Configuring RIP Distance Value

### Command function

Configures the Distance value of the RIP, i.e., the shortest route overhead from the root node to the destination node.

### Command format

```
set rip distance <0-255>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
distance <0-255>	The Distance value. The value range is 0 to 255. The default value is 120.	Compulsory parameter

### Command example

Set the Distance value to 150.

```
Admin\rip#set rip distance 150  
Admin\rip#
```

## 17.6 Configuring RIP Route Re-allocation

### Command function

Configures the RIP route re-allocation, leading the external routes into the RIP domain.

### Command format

```
set rip redistribute [connected|static|ospf|bgp|isis]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<pre>redistribute [connected  static ospf bgp isis]</pre>	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ ospf: the OSPF route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul>	Compulsory parameter

## Command example

Configure the protocol type of the re-allocated routes to OSPF.

```
Admin\rip#set rip redistribute ospf
Admin\rip#
```

# 17.7 Deleting RIP Route Re-allocation

## Command function

Deletes the RIP route re-allocation.

## Command format

```
delete rip redistribute [connected|static|ospf|bgp|isis]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<pre>redistribute [connected  static ospf bgp isis]</pre>	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ ospf: the OSPF route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul> The BGP and ISIS protocol types are not supported temporarily.	Compulsory parameter

## Command example

Delete the re-allocated route whose protocol type is OSPF.

```
Admin\rip#delete rip redistribute ospf
Admin\rip#
```

# 17.8 Configuring Receiving Message Version of RIP Interface

## Command function

Configures the protocol version of the messages received by the RIP interface.

## Command format

```
set super-vlan <1-4085> receive-version [1|2|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter
receive-version [1 2 all]	The protocol version of the messages received by the RIP interface. <ul style="list-style-type: none"> <li>◆ 1: RIP version 1.</li> <li>◆ 2: RIP version 2.</li> <li>◆ all: mixing of RIP version 1 and RIP version 2.</li> </ul>	Compulsory parameter

## Command example

Set the protocol version of the messages received by the interface whose Super VLAN ID is 1 to 1.

```
Admin\rip#set super-vlan 1 receive-version 1
Admin\rip#
```

## 17.9 Configuring Transmitting Message Version of RIP Interface

### Command function

Configures the protocol version of the messages transmitted by the RIP interface.

### Command format

```
set super-vlan <1-4085> send-version [1|2|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter
send-version [1 2 all]	The protocol version of the messages transmitted by the RIP interface. <ul style="list-style-type: none"> <li>◆ 1: RIP version 1.</li> <li>◆ 2: RIP version 2.</li> <li>◆ all: mixing of RIP version 1 and RIP version 2.</li> </ul>	Compulsory parameter

### Command example

Set the protocol version of the messages transmitted by the interface whose Super VLAN ID is 1 to 2.

```
Admin\rip#set super-vlan 1 send-version 2
Admin\rip#
```

## 17.10 Configuring RIP Neighbor

### Command function

Configures the RIP neighbor, including the IP address and the mask.

### Command format

```
set rip neighbor <A.B.C.D> mask <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
neighbor <A.B.C.D>	IP address of the neighbor interface.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the neighbor interface.	Compulsory parameter

## Command example

Set the RIP neighbor's IP address to 10.98.20.1, the subnet mask to 10.98.20.1.

```
Admin\rip#set rip neighbor 10.98.20.1 mask 255.255.0.0
Admin\rip#
```

# 17.11 Deleting RIP Neighbor

## Command function

Deletes the RIP neighbor.

## Command format

```
delete rip neighbor <A.B.C.D> mask <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
neighbor <A.B.C.D>	IP address of the neighbor interface.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the neighbor interface.	Compulsory parameter

## Command example

Delete the RIP neighbor whose IP address is 10.98.20.1 and subnet mask is 255.255.0.0.

```
Admin\rip#delete rip neighbor 10.98.20.1 mask 255.255.0.0
Admin\rip#
```

## 17.12 Configuring RIP Passive Port

### Command function

Configures the RIP passive port.

### Command format

```
set super-vlan <1-4085> passive
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter

### Command example

Set the port whose Super VLAN ID is 1 as the passive port.

```
Admin\rip#set super-vlan 1 passive
Admin\rip#
```

## 17.13 Deleting RIP Passive Port

### Command function

Deletes the RIP passive port.

### Command format

```
delete super-vlan <1-4085> passive
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter

## Command example

Delete the passive port whose Super VLAN ID is 1.

```
Admin\rip#delete super-vlan 1 passive
Admin\rip#
```

# 17.14 Configuring RIP Authentication Mode to Simple Password

## Command function

Sets the authentication mode of the RIP to simple password. It means the unencrypted authentication information is transmitted with the message. The authentication security is not guaranteed.

## Command format

```
set super-vlan <1-4085> simple-password <string>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter
<string>	Name of the key used in the authentication.	Compulsory parameter

## Command example

Set the authentication mode of the RIP whose Super VLAN ID is 1 to simple password, and the key to "test".

```
Admin\rip#set super-vlan 1 simple-password test
Admin\rip#
```

## 17.15 Configuring RIP Authentication Mode to MD5

### Command function

Sets the authentication mode of the RIP to MD5. It means the authentication information is encrypted before transmitting. The authentication security is guaranteed.

### Command format

```
set super-vlan <1-4085> message-digest key-chain <name>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter
key-chain <name>	Key chain name in the key chain configuration.	Compulsory parameter

### Command example

Set the authentication mode of the RIP whose Super VLAN ID is 1 to MD5, and the key chain to "fh".

```
dmin\rip#set super-vlan 1 message-digest key-chain fh
Admin\rip#
```

## 17.16 Deleting RIP Authentication Mode

### Command function

Deletes the RIP authentication mode, which means the RIP is not authenticated.

### Command format

```
delete super-vlan <1-4085> auth
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter

## Command example

Delete the authentication mode for the RIP whose Super VLAN ID is 1.

```
Admin\rip#delete super-vlan 1 auth
Admin\rip#
```

## 17.17 Viewing RIP Information

## Command function

Views the RIP information.

## Command format

```
show ip protocols rip
```

## Parameter description

None

## Command example

View the RIP information.

```
Admin\rip#show ip protocols rip
Routing Protocol is rip
Sending updates every 40 seconds with +/-50%, Timeout after 200
seconds, garbage collect after 150 seconds
Next due in 6 seconds
Default redistribution metric is 1
Default version control: send version 2, receive version 2
Distance: 150
Admin\rip#
```

## Result description

Parameter Item	Parameter Description
Routing Protocol	Name of the route protocol.
Sending updates every 30 seconds with +/-50%	The time interval of updating the transmitting.
Next due	The starting time of the next period.
Default redistribution metric	The default hop of the re-allocated route.
Default version control	The default version.
Distance	The management distance.

## 17.18 Viewing Status of RIP Database

### Command function

Views the status of the RIP database.

### Command format

```
show ip rip route
```

### Parameter description

None

### Command example

View the status of the RIP database.

```
Admin\rip#show ip rip route
Routetype      Network      Next Hop      Metric      From      Time
Rip            10.0.0.0/8   192.168.1.2   2           sv1       02:55
Connected      192.168.1.0/24 0.0.0.0       1           self
Connected      192.168.2.0/24 0.0.0.0       1           self
Admin\rip#
```

## Result description

Parameter Item	Parameter Description
Routetype	The route type.
Network	The network segment.

Parameter Item	Parameter Description
Next Hop	The IP address of the next hop.
Metric	The hop.
From	The interface from which the route table information comes.
Time	The valid period of the route. This item appears after the RIP route is enabled. It records the existing time of the RIP route, i.e., records the time-out timer and the garbage-collection timer.

## 17.19 Viewing RIP Interface Information

### Command function

Views the RIP interface information.

### Command format

```
show ip rip super-vlan {<1-4085>} *1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
{<1-4085>} *1	ID of the VLAN that has configured Super VLAN. The value range is 1 to 4085.	Optional parameter

### Command example

View the information of the RIP interface whose Super VLAN ID is 1.

```
Admin\rip#show ip rip super-vlan 1
Interface sv1 is up
  Internet Address:10.1.1.20/16
  Send      Recv      Passive interface  Split horizon
  2         1         YES                Enable
Admin\rip#
```

### Result description

Parameter Item	Parameter Description
Interface sv1	Whether the interface status is "Up" or "Down".
Internet Address	IP address of the interface.

Parameter Item	Parameter Description
Send	Version information of the transmitting message.
Recv	Version information of the receiving message.
Passive interface	Determination information of the passive interface.
Split horizon	The enabling status of the split horizon function.

## 17.20 Viewing Interface Authentication Information

### Command function

Views the RIP interface authentication information.

### Command format

```
show ip rip auth
```

### Parameter description

None

### Command example

View the RIP interface authentication information.

```
Admin\rip#show ip rip auth
Interface      authtype      authstring/keychain
sv1            simple-passwords  123
sv2            simple-passwords
Admin\rip#
```

### Result description

Parameter Item	Parameter Description
interface	Name of the interface.
authtype	The authentication mode (simple password or MD5).
authstring/keychain	The password of the simple password mode or the key chain value of the MD5 mode.

## 17.21 Enabling RIP Log Information

### Command function

Enables the RIP Log information.

### Command format

```
log rip on level [crit|err|warning|info]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
level [crit err warning info]	<p>The printing level.</p> <ul style="list-style-type: none"> <li>◆ crit: the important information printing level.</li> <li>◆ err: the error information printing level.</li> <li>◆ warning: the warning information printing level.</li> <li>◆ info: the common information printing level.</li> </ul>	Compulsory parameter

### Command example

Set the printing level of the RIP Log information to the warning level.

```
Admin\rip#log rip on level warning
Admin\rip#
```

## 17.22 Disabling RIP Log Information

### Command function

Disables the RIP Log information.

### Command format

```
log rip off
```

## Parameter description

None

## Command example

Disable the RIP Log information.

```
Admin\rip#log rip off
Admin\rip#
```

# 17.23 Enabling / Disabling RIP Event Information

## Command function

Enables or disables the RIP Event information.



Note:

Please enable the Log information and set it to the "info" level at first when you need to enable Debug.

## Command format

```
debug rip events [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
events [enable disable]	<p>Enables or disables the Event information.</p> <ul style="list-style-type: none"> <li>◆ enable: enables the information.</li> <li>◆ disable: disables the information.</li> </ul>	Compulsory parameter

## Command example

Enable the RIP Event information.

```
Admin\rip#debug rip events enable
Admin\rip#
```

## 17.24 Enabling Debug Information of RIP Packets

### Command function

Enables the Debug information of the RIP packets.

### Command format

```
debug rip packet direction [send|recv|all] detail [display|no-display]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
direction [send recv all]	The direction configuration. ◆ send: the packet transmitting direction. ◆ recv: the packet receiving direction. ◆ all: both the receiving and transmitting directions.	Compulsory parameter
detail [display no-display]	The detail printing switch. ◆ display: prints the details. ◆ no-display: does not print the details.	Compulsory parameter

### Command example

Set the Debug information of the RIP packets to the transmitting direction and enable the detail printing.

```
Admin\rip#debug rip packet direction send detail display
Admin\rip#
```

## 17.25 Disabling Debug Information of RIP Packets

### Command function

Disables the Debug information of the RIP packets.

### Command format

```
debug rip packet off
```

### Parameter description

None

### Command example

Disable the Debug information in the RIP packets.

```
Admin\rip#debug rip packet off
Admin\rip#
```

## 17.26 Enabling / Disabling Zebra Information

### Command function

Enables or disables the Zebra information of the RIP. The Zebra information is the common printing information, is a protocol stack.

### Command format

```
debug rip zebra [enable|disable]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
zebra [enable disable]	The Zebra information switch. ◆ enable: enables the information. ◆ disable: disables the information.	Compulsory parameter

### Command example

Enable the Zebra information.

```
Admin\rip#debug rip zebra enable
Admin\rip#
```

## 17.27 Viewing RIP Debug Summary Information

### Command function

Views the RIP Debug summary information.

### Command format

```
show debug rip
```

### Parameter description

None

### Command example

View the RIP Debug summary information.

```
Admin\rip#show debug rip
Zebra debugging status:
  RIP event debugging is on
  RIP zebra debugging is on
Admin\rip#
```

### Result description

Parameter Item	Parameter Description
Zebra debugging status	The Debug enabling status.

## 17.28 Viewing Current RIP Configuration

### Command function

Views the current configuration of the RIP.

### Command format

```
show rip running-config
```

### Parameter description

None

### Command example

View all the current configuration information of the RIP.

```
Admin\rip#show rip running-config
!rip config -----
```

```

Set rip enable
set network 1.1.1.0 mask 255.255.255.0
set network 192.168.1.0 mask 255.255.255.0
set network 192.168.2.0 mask 255.255.255.0
set super-vlan 1 simple-passwork 123
set super-vlan 1 send-version 2
set super-vlan 1 receive-version 2
set super-vlan 2 send-version 2
set super-vlan 2 receive-version 2
!rip config end!-----
Admin\rip#

```

### Result description

Parameter Item	Parameter Description
Set rip enable	The RIP enabling.
set network	The network announced by the RIP.
super-vlan	The RIP interface.
simple-passwork	The configured authentication information.
send-version 2	Version information of the transmitting message.
receive-version 2	Version information of the receiving message.

## 17.29 Viewing RIP Neighbor Information

### Command function

Views the current configured neighbor information of the RIP.

### Command format

```
show ip rip neighbor
```

### Parameter description

None

### Command example

View the RIP neighbor information.

```
Admin\rip#show ip rip neighbor
```

```
192.168.1.2      255.255.255.0
Admin\rip#
```

### Result description

Parameter Item	Parameter Description
192.168.1.2	IP address of the neighbor.
255.255.255.0	Subnet mask of the neighbor.

## 17.30 Viewing Network Announced by RIP

### Command function

Views the current network announced by the RIP.

### Command format

```
show ip rip network
```

### Parameter description

None

### Command example

View the current network announced by the RIP.

```
Admin\rip#show ip rip network
Network      Mask
10.1.0.0     255.255.0.0
192.168.2.0  255.255.255.0
Admin\rip#
```

### Result description

Parameter Item	Parameter Description
Network	The network announced by the RIP.
Mask	The mask.

# 18 LACP Directory Command

---

- Enabling LACP Global Switch
- Disabling LACP Global Switch
- Configuring Priority Level of LACP System
- Configuring Port Priority Level
- Configuring Port Timer
- Viewing LACP Aggregate Group Information
- Viewing LACP Port Information
- Viewing LACP System ID
- Configuring LACP Port Operation Key

## 18.1 Enabling LACP Global Switch

### Command function

Enables the LACP global switch.

### Command format

```
set lacp enable
```

### Parameter description

None

### Command example

Enable the LACP global switch.

```
Admin\device\lacp#set lacp enable  
Lacp service enable.  
Admin\device\lacp#
```

## 18.2 Disabling LACP Global Switch

### Command function

Disables the LACP global switch.

### Command format

```
set lacp disable
```

### Parameter description

None

### Command example

Disable the LACP global switch.

```
Admin\device\lacp#set lacp disable  
Lacp service disable.  
Admin\device\lacp#
```

## 18.3 Configuring Priority Level of LACP System

### Command function

Configures the priority level of the LACP system.

### Command format

```
set lacp system-priority <0-65534>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
system-priority <0-65534>	The priority level. This parameter will be compared when the equipment is connected with the uplink equipment. The value range is 0 to 65534. The default value is 32768. The smaller the value is, the higher the priority level become.	Compulsory parameter

### Command example

Set the priority level of the LACP system to 200.

```
Admin\device\lacp#set lacp system-priority 200
Admin\device\lacp#
```

## 18.4 Configuring Port Priority Level

### Command function

Configures the priority level of the port.

### Command format

```
set lacp port <portlist> priority <0-65534>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
port <portlist>	The port list.	Compulsory parameter
priority <0-65534>	The priority level. This parameter will be compared when the equipment is connected with the uplink equipment. The value range is 0 to 65534. The default value is 32768. The smaller the value is, the higher the priority level become.	Compulsory parameter

## Command example

Set the priority level of the 19:1 uplink port to 300.

```
Admin\device\lacp#set lacp port 19:1 priority 300
Admin\device\lacp#
```

# 18.5 Configuring Port Timer

## Command function

Configures the port timers, including the long timer and the short timer.

## Command format

```
set lacp timer [short|long] {port <portlist>}*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
timer [short long]	<ul style="list-style-type: none"> <li>◆ short: the short timer, whose port transmits the packets every 6 seconds.</li> <li>◆ long: the long timer, whose port transmits the packets every 180 seconds.</li> </ul>	Compulsory parameter
{port <portlist>}*1	The port list. No configuration means to select all the port timers.	Optional parameter

## Command example

Set the port timer to the short timer. The port is 19:1.

```
Admin\device\lacp#set lacp timer short port 19:1
Admin\device\lacp#
```

## 18.6 Viewing LACP Aggregate Group Information

### Command function

Views the information of the LACP aggregate group.

### Command format

```
show lacp channel-group trunks
```

### Parameter description

None

### Command example

View the information of the LACP aggregate group.

```
Admin\device\lacp#show lacp channel-group trunks
Gid  [Agg_no]  [Rtag]  [Port list]
  3    19:3    smac    19:3,19:4
Admin\device\lacp#
```

### Result description

Parameter Item	Parameter Description
Gid	The aggregate group number.
Agg_no	The master port of the aggregate group.
Rtag	The forwarding mode. The item is invalid. The actual forwarding mode is determined by the drive.
Port list	The member port list.

## 18.7 Viewing LACP Port Information

### Command function

Views the LACP port information.

## Command format

```
show lacp port [<portlist>|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
port [<portlist> all]	<ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: views the information of the designated port.</li> <li>◆ all: views the information of all ports.</li> </ul>	Compulsory parameter

## Command example

View the LACP port information.

```
Admin\device\lacp#show lacp port all
```

```
System ID: 000a.c220.ccf3
Port#[Sys P] [Port P] [Key] [APort] [Syn] [Col] [Dis] [enable] [timer]
19:1 200 300 1 19:1 1 No No enable short
19:2 200 32768 1 19:2 1 No No enable long
19:3 200 32768 1 19:3 1 No No enable long
19:4 200 32768 1 19:4 1 No No enable long
19:5 200 32768 1 19:5 1 No No enable long
19:6 200 32768 1 19:6 1 No No enable long
20:1 200 32768 1 20:1 1 No No enable long
20:2 200 32768 1 20:2 1 No No enable long
20:3 200 32768 1 20:3 1 No No enable long
20:4 200 32768 1 20:4 1 No No enable long
20:5 200 32768 1 20:5 1 No No enable long
20:6 200 32768 1 20:6 1 No No enable long
Admin\device\lacp#
```

## Result description

Parameter Item	Parameter Description
System ID	The system ID.
Port#	The port number.
Sys P	The system priority level.
Port P	The port priority level.
Key	The operation key.

Parameter Item	Parameter Description
APort	The master port of the aggregate group.
Syn	The synchronization bit flag.
Col	The receiving protocol message switch.
Dis	The forwarding protocol message switch.
enable	The port LACP enabling switch.
timer	The timer.

## 18.8 Viewing LACP System ID

### Command function

Views the LACP system ID.

### Command format

```
show lacp sys-id
```

### Parameter description

None

### Command example

View the LACP system ID.

```
Admin\device\lacp#show lacp sys-id
8000, 000a.c220.ccf3
Admin\device\lacp#
```

### Result description

Parameter Item	Parameter Description
8000	The system priority level.
000a.c220.ccf3	The system ID.

## 18.9 Configuring LACP Port Operation Key

### Command function

Configures the operation key for the LACP port. The operation key is a configuration combination generated during the port aggregating. The parameters are derived from the configurations of the port (including rate, duplex mode, basic configuration and management key) and should be consistent at both the receiving and transmitting ends.

### Command format

```
set lacp port <portlist> key <0-65534>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
port <portlist>	Number of the uplink port.	Compulsory parameter
key <0-65534>	The operation key. The value range is 0 to 65534. The default value is 1.	Compulsory parameter

### Command example

Set the LACP port operation key of the 19:1 uplink port to 1.

```
Admin\device\lacp#set lacp port 19:1 key 1
Admin\device\lacp#
```

# 19 Service Directory Command

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- Creating Management VLAN
- Configuring IP Address of Management VLAN
- Viewing Management VLAN
- Deleting Management VLAN
- Configuring Double-tagged Management VLAN
- Changing Uplink Port of Management VLAN
- Modifying VLAN ID of Management VLAN
- Configuring MTU Value of Management VLAN
- Viewing MTU Value of Management VLAN
- Configuring Static Routing
- Deleting Static Routing
- Viewing Static Routing
- Configuring SNMP Read-write Community
- Configuring Information of Trap Receiver
- Deleting Trap Receiver
- Configuring SNMP Automatic Time Calibration Server
- Viewing SNMP Community Name
- Viewing Information of SNMP Trap Receiver
- Viewing Information of SNMP Automatic Time Calibration Server
- Configuring Trap Message Format

- Adding Ordinary User
- Configuring Ordinary User as Administrator
- Modifying Password of Administrator
- Configuring Administrator as Ordinary User
- Modifying Password of Ordinary User
- Deleting User
- Viewing Current User and Identity Information
- Enabling / Disabling SNMP Service Function
- Enabling / Disabling SNMP Trap Function
- Viewing Status of Current Service
- Telnet Command
- Viewing Information of User that Establishes Session with Host
- Viewing Current User Information
- Ping Command
- Configuring ACL Parameters
- Configuring System Contents of SNMP
- Viewing System Contents of SNMP
- Configuring System Location of SNMP
- Viewing System Location of SNMP
- Configuring Telnet ACL Parameters
- Viewing ACL Information
- Viewing Telnet ACL Information

- Configuring Number of Rows on Terminal Screen
- Trace Route Command
- Configuring Line Identifier / Remote End Identifier Format
- Configuring Line Identifier Access Node Parameters
- Enabling / Disabling DHCP Option18 Function
- Enabling / Disabling DHCP Option82 Function
- Enabling / Disabling DHCP Patch Service
- Enabling / Disabling DHCP Snooping Service
- Configuring DHCP Snooping Trust Port
- Enabling / Disabling PPPoE Plus Service
- Viewing Line Identifier / Remote End Identifier Format
- Viewing Line Identifier Access Node Parameter Value
- Viewing DHCP Interception Record
- Viewing DHCP Snooping Internal Binding Table
- Viewing DHCP Snooping Current Configuration
- Viewing DHCP Snooping Statistics
- Viewing DHCP Status
- Viewing PPPoE Plus Status
- Remote End Identifier Enabling Switch

## 19.1 Creating Management VLAN

### Command function

Creates the management VLAN.

### Command format

```
set manage vlan name <name> vid <vid> inputport <portlist> [untagged|tagged]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter
vid <vid>	VLAN ID of the management VLAN. The value range is 1 to 4085.	Compulsory parameter
inputport <portlist>	Port of the management VLAN.	Compulsory parameter
[untagged tagged]	<p>Tag property of the management VLAN's port.</p> <ul style="list-style-type: none"> <li>◆ untagged: the tag of the uplink data packets will be automatically stripped at the port and the uplink packets will be transmitted in the untagged status; the untagged downlink data packets will be added with the VLAN tag automatically at the port and will be transmitted in the tagged status.</li> <li>◆ tagged: the uplink data packets will not be processed at the port and will be transmitted in the original status; the tagged downlink data packets will not be added with the VLAN tag at the port and will be transmitted in the tagged status.</li> </ul>	Compulsory parameter

### Command example

For the management VLAN, set the name to "test", VLAN ID to 1000, port to 19:1 and Tag property to Untagged.

```
Admin\service#set manage vlan name test vid 1000 inputport 19:1 untagged
Admin\service#
```

## 19.2 Configuring IP Address of Management VLAN

### Command function

Configures the IP address of the management VLAN, i.e., the IP address of the in-band EMS interface on the equipment.

### Command format

```
set manage vlan name <name> ip <A.B.C.D/M> {<A.B.C.D>}*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter
ip <A.B.C.D/M>	IP address of the management VLAN. M identifies the digit of the corresponding subnet mask.	Compulsory parameter
{<A.B.C.D>}*1	Gateway of the management VLAN.	Optional parameter

### Command example

For the management VLAN named "test", set the IP address to 10.98.20.1 and the subnet mask digit to 24.

```
Admin\service#set manage vlan name test ip 10.98.20.1/24
Admin\service#
```

## 19.3 Viewing Management VLAN

### Command function

Views the information of the configured management VLAN.

### Command format

```
show manage vlan [<name>|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[<name> all]	<ul style="list-style-type: none"> <li>◆ &lt;name&gt;: views the information of the management VLAN with the configured name.</li> <li>◆ all: views the information of all management VLANs.</li> </ul>	Compulsory parameter

## Command example

View the information of the management VLAN "test".

```
Admin\service#show manage vlan test
manage vlan config
VLAN name      : test
VLAN ID       : 1000
IP Address    : 10.98.20.1/24
Mac address   : 00:0a:c2:20:cc:f3
Tagged Ports  :
Untagged Ports : 19:1
Admin\service#
```

## Result description

Parameter Item	Parameter Description
VLAN name	Name of the VLAN.
VLAN ID	The VLAN value.
IP Address	The IP address.
Mac address	The MAC address.
Tagged Ports	The ports whose property is Tagged.
Untagged Ports	The ports whose property is Untagged.

# 19.4 Deleting Management VLAN

## Command function

Deletes the configured management VLAN.

## Command format

```
delete manage vlan name <name>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the designated management VLAN.	Compulsory parameter

## Command example

Delete the management VLAN named "test".

```
Admin\service#delete manage vlan name test
```

```
Admin\service#
```

# 19.5 Configuring Double-tagged Management VLAN

## Command function

Configures the double-tagged management VLAN.

## Command format

```
set manage vlan name <name> svid <svid> cvid <cvid> portlist <portlist>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter
svid <svid>	The management SVLAN ID value. The value range is 1 to 4085.	Compulsory parameter
cvid <cvid>	The management CVLAN ID value. The value range is 1 to 4085.	Compulsory parameter
portlist <portlist>	Uplink port of the management VLAN.	Compulsory parameter

### Command example

Set the name of the double-tagged management VLAN to "fh", the SVLAN ID to 666, the CVLAN ID to 888 and the uplink port number to 19:2.

```
Admin\service#set manage vlan name fh svid 666 cvid 888 portlist 19:2
Admin\service#
```

## 19.6 Changing Uplink Port of Management VLAN

### Command function

Changes the uplink port of the management VLAN.

### Command format

```
set manage vlan name <name> modify inputport <portlist>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter
inputport <portlist>	Uplink port of the management VLAN.	Compulsory parameter

### Command example

Change the the uplink port of the management VLAN named "test" to 19:1.

```
Admin\service#set manage vlan name test modify inputport 19:1
Admin\service#
```

## 19.7 Modifying VLAN ID of Management VLAN

### Command function

Modifies the VLAN ID of the management VLAN.

### Command format

```
set manage vlan name <name> modify vid <vid>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<name>	Name of the management VLAN.	Compulsory parameter
<vid>	VLAN ID of the management VLAN.	Compulsory parameter

### Command example

Modify the the VLAN ID value of the management VLAN named "test" to 1002.

```
Admin\service#set manage vlan name test modify vid 1002
port = 19:1
Admin\service#
```

## 19.8 Configuring MTU Value of Management VLAN

### Command function

Configures the MTU value of the management VLAN.

### Command format

```
set manage vlan name <name> MTU <68-1500>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter
MTU <68-1500>	The maximum transmission unit. The value range is 68 to 1500.	Compulsory parameter

### Command example

Set the MTU value of the management VLAN named "test" to 1000.

```
Admin\service#set manage vlan name test mtu 1000
Admin\service#
```

## 19.9 Viewing MTU Value of Management VLAN

### Command function

Views the MTU value of the management VLAN.

### Command format

```
show manage vlan name <name> MTU
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
name <name>	Name of the management VLAN.	Compulsory parameter

### Command example

View the MTU value of the management VLAN named "test".

```
Admin\service#show manage vlan name test mtu
VLAN name      : test
VLAN MTU       : 1000
Admin\service#
```

### Result description

Parameter Item	Parameter Description
VLAN name	Name of the management VLAN.
VLAN MTU	The maximum transmission unit.

## 19.10 Configuring Static Routing

### Command function

Configures the static routing from the equipment to the destination network. The configuration involves the IP address, the gateway and the subnet mask of the destination network.

### Command format

```
add static route destination <A.B.C.D> gateway <A.B.C.D> mask <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
destination <A.B.C.D>	IP address of the destination network.	Compulsory parameter
gateway <A.B.C.D>	Gateway of the destination network.	Compulsory parameter
mask <A.B.C.D>	Subnet mask of the destination network.	Compulsory parameter

## Command example

Set the IP address of the destination network in the static routing to 10.92.20.2, the gateway to 10.92.1.254 and the subnet mask to 255.255.0.0.

```
Admin\service#add static route destination 10.92.20.2 gateway 10.92.1.254 mask
255.255.0.0
Admin\service#
```

# 19.11 Deleting Static Routing

## Command function

Deletes the static routing.

## Command format

```
delete static route destination <A.B.C.D> mask <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
destination <A.B.C.D>	IP address of the destination network.	Compulsory parameter
mask <A.B.C.D>	Mask of the destination network.	Compulsory parameter

## Command example

Delete the static routing whose destination network's IP address is 10.92.20.2 and mask is 255.255.0.0.

```
Admin\service#delete static route destination 10.92.20.2 mask 255.255.0.0
Admin\service#
```

## 19.12 Viewing Static Routing

### Command function

Views the static routing.

### Command format

```
show static route
```

### Parameter description

None

### Command example

View the configured static routing.

```
Admin\service#show static route
global route table:
Destination          Gateway              Mask
-----
10.92.20.2           10.92.1.254         255.0.0.0
-----
Admin\service#
```

### Result description

Parameter Item	Parameter Description
global route table	The global route table.
Destination	IP address of the destination network.
Gateway	IP address of the destination network's gateway.
Mask	Subnet mask of the destination network.

## 19.13 Configuring SNMP Read-write Community

### Command function

Configures the read-write community of the SNMP.

## Command format

```
set snmp community [readwrite] <string>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<string>	Name of the SNMP read-write community.	Compulsory parameter

## Command example

Configure the SNMP read-write community named "ADSL".

```
Admin\service#set snmp community readwrite adsl
Admin\service#
```

# 19.14 Configuring Information of Trap Receiver

## Command function

Configures the information of the Trap receiver. The equipment will send the Trap message to the EMS server that matches the receiving address, including: IP address of the Trap receiver, SNMP version number and the Trap community name.

## Command format

```
set snmp Trapreceiver add <A.B.C.D> version [v1|v2c] {community <string>}*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter
version [v1 v2c]	The SNMP version number.	Compulsory parameter
{community <string>}	The Trap community name.	Optional parameter

## Command example

Set IP address of the Trap receiver to 10.92.20.61, the SNMP version number to V2C and the community name to "ADSL".

```
Admin\service#set snmp trapreceiver add 10.92.20.61 version v2c community adsl
Admin\service#
```

## 19.15 Deleting Trap Receiver

### Command function

Deletes the Trap receiver with the designated IP address.

### Command format

```
set snmp trapreceiver delete <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter

### Command example

Delete the Trap receiver whose IP address is 192.168.1.1.

```
Admin\service#set snmp trapreceiver delete 192.168.1.1
Admin\service#
```

## 19.16 Configuring SNMP Automatic Time Calibration Server

### Command function

Configures the IP address and time calibration interval of the SNMP automatic time calibration server.

### Command format

```
set snmp_time_cfg interval <0-86400> serv_addr <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>interval &lt;0-86400&gt;</code>	Interval of the SNMP automatic time calibration, i.e., the time interval that the equipment sends the automatic time calibration requests. The value range is 0 to 86400 and the unit is second.	Compulsory parameter
<code>serv_addr &lt;A.B.C.D&gt;</code>	IP address of the SNMP time calibration server.	Compulsory parameter

## Command example

Set the time interval of SNMP automatic time calibration to 3600 and the IP address of the SNMP time calibration server to 10.92.20.1.

```
Admin\service#set snmp_time_cfg interval 3600 serv_addr 10.92.20.1
set time method ok!
Admin\service#
```

# 19.17 Viewing SNMP Community Name

## Command function

Views the name of the SNMP community.

## Command format

```
show snmp community
```

## Parameter description

None

## Command example

View name of the SNMP community.

```
Admin\service#show snmp community
Read-write Community String is :[adsl]
Admin\service#
```

## Result description

Parameter Item	Parameter Description
Read-write Community String	Name of the SNMP read-write community.

# 19.18 Viewing Information of SNMP Trap Receiver

## Command function

Views the information of the SNMP Trap receiver, including: IP address of the Trap receiver, SNMP version number and the Trap community name.

## Command format

```
show snmp trapreceiver
```

## Parameter description

None

## Command example

View the information of the SNMP Trap receiver.

```
Admin\service#show snmp trapreceiver
Snm agent Trap is up.
IP address          Version          Community
10.94.20.241        v2c              public
10.92.20.61         v2c              adsl
Total 2 Trapreceiver IP address in system.
Admin\service#
```

## Result description

Parameter Item	Parameter Description
IP address	IP address of the Trap receiver.
Version	The SNMP version number.
Community	The Trap community name.

## 19.19 Viewing Information of SNMP Automatic Time Calibration Server

### Command function

Views the information of the SNMP automatic time calibration server.

### Command format

```
show snmp_time_cfg
```

### Parameter description

None

### Command example

View the information of the SNMP automatic time calibration server.

```
Admin\service#show snmp_time_cfg
SNMP TIME CONFIG
INTERVAL=3600
SERV IP =10.92.20.1
Admin\service#
```

### Result description

Parameter Item	Parameter Description
INTERVAL	Interval of the SNMP automatic time calibration.
SERV IP	IP address of the SNMP automatic time calibration server.

## 19.20 Configuring Trap Message Format

### Command function

Configures the format of the Trap message. The format can be either the standard format or the private format.

### Command format

```
set trap <A.B.C.D> Version [privformat|stdformat]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
trap <A.B.C.D>	IP address of the Trap receiver.	Compulsory parameter
[privformat stdformat]	Format of the Trap message. ◆ privformat: the private format. ◆ stdformat: the standard format.	Compulsory parameter

## Command example

Set the format of the messages transmitted to the Trap receiver whose IP address is 10.92.20.61 to standard format.

```
Admin\service#set trap 10.92.20.61 version stdformat
Admin\service#
```

# 19.21 Adding Ordinary User

## Command function

Adds the ordinary user (including user name and password).

## Command format

```
user add <username> login-password <login_password>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	The user name. A character string whose length is between 4 and 20 characters.	Compulsory parameter
<login_password>	The password A character string whose length is between 6 and 20 characters.	Compulsory parameter

## Command example

Add an ordinary user "test" whose password is 123456.

```
Admin\service#user add test login-password 123456
Successfully added user test as a NORMAL_USER ,
```

To change user role use "user role" command .  
Admin\service#

## 19.22 Configuring Ordinary User as Administrator

### Command function

Sets an ordinary user as an administrator.

### Command format

```
user role <username> ADMIN enable-password <enable_password>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	Name of the ordinary user.	Compulsory parameter
<login_password>	Password of the administrator. A character string whose length is between 6 and 20 characters.	Compulsory parameter

### Command example

Set the ordinary user "test" as the administrator and the admin-level password is 123456.

```
Admin\service#user role test admin enable-password 123456
Successfully change user test to ADMIN mode.
Admin\service#
```

## 19.23 Modifying Password of Administrator

### Command function

Modifies the password of the administrator.

### Command format

```
user enable-password <username>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	Name of the administrator.	Compulsory parameter

### Command example

Modifies the password of the administrator "test" to 654321, a character string whose length is between 6 to 20 characters.

```
Admin\service#user enable-password test
Input new enable password for user test please.
New Password:*****
Confirm Password:*****
Successfully changed password!.
Admin\service#
```

## 19.24 Configuring Administrator as Ordinary User

### Command function

Sets an administrator as an ordinary user.

### Command format

```
user role <username> NORMAL
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	Name of the administrator.	Compulsory parameter

### Command example

Set the administrator "test" as an ordinary user.

```
Admin\service#user role test normal
Successfully change user test to NORMAL mode.
Admin\service#
```

## 19.25 Modifying Password of Ordinary User

### Command function

Modifies the password of the ordinary user.

### Command format

```
user login-password <username>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	Name of the ordinary user.	Compulsory parameter

### Command example

Modifies the password of the ordinary user "test" to 987456, a character string whose length is between 6 to 20 characters.

```
Admin\service#user login-password test
Input new login password for user test please.
New Password:*****
Confirm Password:*****
Successfully changed password!.
Admin\service#
```

## 19.26 Deleting User

### Command function

Deletes the ordinary user and the administrator.

### Command format

```
user delete <username>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<username>	The user name.	Compulsory parameter

## Command example

Delete the user named "test".

```
Admin\service#user delete test
Successfully delete user test .
Admin\service#
```

# 19.27 Viewing Current User and Identity Information

## Command function

Views the current user and corresponding identity information.

## Command format

```
user list
```

## Parameter description

None

## Command example

View the current user and corresponding identity information.

```
Admin\service#user list
UserName ----- User_role -----
GEPON                ADMIN_USER
test                 ADMIN_USER
Total 2 users in system.
Admin\service#
```

## Result description

Parameter Item	Parameter Description
<username>	The user name.
User_role	The identity information.

## 19.28 Enabling / Disabling SNMP Service Function

### Command function

Enables or disables the SNMP service function.

### Command format

```
service snmp [enable|disable]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
snmp[enable disable]	The SNMP service function. ◆ enable: enables the function. ◆ disable: disables the function.	Compulsory parameter

### Command example

Enable the SNMP service function.

```
Admin\service#service snmp enable
Successfully changed snmp agent service to up.
Admin\service#
```

## 19.29 Enabling / Disabling SNMP Trap Function

### Command function

Enables or disables the Trap function of the SNMP. After the Trap function is disabled, the EMS can no longer receive the alarm information reported in the Trap mode (while the FiberHome ANM2000 network management system can obtain the equipment's alarm information via regular polling).

### Command format

```
service snmp trap[enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>snmp trap [enable disable]</code>	The SNMP Trap service. <ul style="list-style-type: none"><li>◆ enable: enables the function.</li><li>◆ disable: disables the function.</li><li>◆ The system default setting is enabling.</li></ul>	Compulsory parameter

## Command example

Set the SNMP Trap function to enable.

```
Admin\service#service snmp trap enable
Successfully changed snmp agent to support trap.
Admin\service#
```

# 19.30 Viewing Status of Current Service

## Command function

Views the status of the current service.

## Command format

```
show services
```

## Parameter description

None

## Command example

View the status of the current service mode.

```
Admin\service#show services
Service telnet is up.
Service snmp agent is up.
Admin\service#
```

## Result description

Parameter Item	Parameter Description
Service telnet	The status of the Telnet service.
Service snmp agent	The status of the SNMP service.

## 19.31 Telnet Command

### Command function

Accesses the object of the designated IP address via the Telnet mode.

### Command format

```
telnet <A.B.C.D> {<1-65535>}*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<A.B.C.D>	IP address of the Telnet object.	Compulsory parameter
{<1-65535>}*1	Port number of the Telnet object. The value range is 1 to 65535.	Optional parameter

### Command example

IP address of the Telnet object is 10.25.100.12.

```
Admin\service#telnet 10.25.100.12
Trying 10.25.100.12...
Press Ctrl-Q or Ctrl-Y to abort connect.
Connected to 10.25.100.12.
Press Ctrl-Q or Ctrl-Y to force exit telnet.
Login:
```

## 19.32 Viewing Information of User that Establishes Session with Host

### Command function

Views the information of the user that establishes the session with the host.

## Command format

```
who
```

## Parameter description

None

## Command example

View the information of the user that establishes the session with the host.

```
Admin\service#who
SessionID. - UserName ----- LOCATION ----- MODE -----
3          console          VIEW
19         10.92.244.200     VIEW (That's me.)
Total 2 sessions in current system.
Admin\service#
```

## Result description

Parameter Item	Parameter Description
SessionID	ID number of the user.
<username>	The user name.
LOCATION	Indicates the login method or the IP address of the login user.
MODE	The read-only authority or the configuration authority.
Total	Number of the current users that log in the system.

# 19.33 Viewing Current User Information

## Command function

Views the information of the current user.

## Command format

```
who am i
```

## Parameter description

None

## Command example

View the information of the current user.

```
Admin\service#who am i
I am Session [3] : user connected from console.
Admin\service#
```

## Result description

Parameter Item	Parameter Description
Session [3]	The information of the current user whose user ID is 3.

# 19.34 Ping Command

## Command function

Checks whether the network connection is normal or the active-standby communication is normal.

## Command format

```
ping {[-t]}*1 {[-count] <1-65535>*1 {[-size] <1-6400>*1 {[-waittime] <1-255>*1 {[-ttl] <1-255>*1 {[-pattern] <user_pattern>*1 <A.B.C.D>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
{[-t]}*1	The Ping command is delivered repeatedly until the manual stop is configured.	Optional parameter
{[-count] <1-65535>*1	The times of Ping responding.	Optional parameter
{[-size] <1-6400>*1	Size of the Ping ICMP packet.	Optional parameter
{[-waittime] <1-255>*1	Waiting time for the Ping response delay.	Optional parameter
{[-ttl] <1-255>*1	The TTL time of Ping.	Optional parameter
{[-pattern] <user_pattern>*1	The user data loaded on the Ping ICMP packet.	Optional parameter
<A.B.C.D>	Destination address of the Ping packet.	Compulsory parameter

## Command example

Ping the designated IP address 10.22.100.1.

```
Admin\service#ping 10.22.100.1
PING 10.22.100.1 : 56 data bytes.
Press Ctrl-c to Stop.
Reply from 10.22.100.1 : bytes=56: icmp_seq=0 ttl=64 time=20 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=1 ttl=64 time<10 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=2 ttl=64 time=10 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=3 ttl=64 time<10 ms
Reply from 10.22.100.1 : bytes=56: icmp_seq=4 ttl=64 time=10 ms
----10.22.100.1 PING Statistics----
5 packets transmitted, 5 packets received, 0% packet loss
round-trip(ms) min/avg/max = 0/8/20
Admin\service#
```

## 19.35 Configuring ACL Parameters

### Command function

Configures the address for the host or server that can access the equipment. After the ACL (Access Control List) is enabled, only the EMS on the designated server can access the equipment or only the designated host can Telnet to the equipment.

### Command format

```
set acl <1-6> {[ip] <A.B.C.D>}*1 {[mask] <A.B.C.D>}*1 {[enable|disable]}*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
acl <1-6>	The ACL number. The value range is 1 to 6.	Compulsory parameter
{[ip] <A.B.C.D>}*1	The designated IP address.	Optional parameter
{[mask] <A.B.C.D>}*1	The designated mask address.	Optional parameter
{[enable disable]}*1	Sets whether to enable the ACL accessing function in this operation. ◆ enable: enables the function. ◆ disable: disables the function.	Optional parameter

### Command example

Set the ACL number to 1, allow only the host or server whose IP address is 10.92.20.61 and mask is 255.255.0.0 to access the equipment, and enable the ACL function.

```
Admin\service#set acl 1 ip 10.92.20.61 mask 255.255.0.0 enable
Admin\servic
```

## 19.36 Configuring System Contents of SNMP

### Command function

Configures the system contents.

### Command format

```
set syscontact <contact>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<contact>	Value of the system contents. It should include no more than 100 characters.	Compulsory parameter

### Command example

Set the system content value to 456.

```
Admin\service#set syscontact 456
System contact is set to:
456
Admin\service#
```

## 19.37 Viewing System Contents of SNMP

### Command function

Views the SNMP system contents.

## Command format

```
show syscontact
```

## Parameter description

None

## Command example

View the SNMP system contents.

```
Admin\service#show syscontact  
456  
Admin\service#
```

# 19.38 Configuring System Location of SNMP

## Command function

Configures the location of the system.

## Command format

```
set syslocation <location>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<location>	Value of the system location. It should include no more than 100 characters.	Compulsory parameter

## Command example

Set the the system location of the SNMP to 123.

```
Admin\service#set syslocation 123  
System Location is set to:  
123  
Admin\service#
```

## 19.39 Viewing System Location of SNMP

### Command function

Views the SNMP system location.

### Command format

```
show syslocation
```

### Parameter description

None

### Command example

View the system location of SNMP.

```
Admin\service#show syslocation  
123  
Admin\service#
```

## 19.40 Configuring Telnet ACL Parameters

### Command function

Configures the address of the host that can Telnet to the equipment. After this command is delivered, only the designated host can Telnet to the equipment. You can configure the specific limiting range with this command. Different from the previous "configuring ACL parameters" command, this command restrains the external host or server from Telneting to the equipment rather than restricts other kinds of communication such as Ping or SNMP.

### Command Format

```
set telnet acl <1-6> {[ip] <A.B.C.D>*1 {[mask] <A.B.C.D>*1 {[enable |  
disable}]*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
acl <1-6>	The Telnet ACL number. The value range is 1 to 6.	Compulsory parameter
{ [ip] <A.B.C.D>} *1	The designated IP address.	Optional parameter
{ [mask] <A.B.C.D>} *1	The designated mask address.	Optional parameter
{ [enable disable]} *1	Sets to enable or disable the Telnet ACL function in this operation. ◆ enable: enables the function. ◆ disable: disables the function.	Optional parameter

## Command example

Set the Telnet ACL number to 1, allow only the host or server whose IP address is 10.92.20.203 and mask is 255.255.0.0 to access the equipment, and enable the Telnet ACL function.

```
Admin\service#set telnet acl 1 ip 10.92.20.203 mask 255.255.0.0 enable
Admin\service#
```

## 19.41 Viewing ACL Information

### Command function

Views the ACL information.

### Command format

```
show acl
```

### Parameter description

None

### Command example

View the ACL information.

```
Admin\service#show acl
----- Access Control Label -----
No      IP                Mask              Status
```

```

1      10.92.20.61      255.255.0.0      enable
2      0.0.0.0          0.0.0.0          disable
3      0.0.0.0          0.0.0.0          disable
4      0.0.0.0          0.0.0.0          disable
5      0.0.0.0          0.0.0.0          disable
6      0.0.0.0          0.0.0.0          disable
Admin\service#

```

### Result description

Parameter Item	Parameter Description
No	The ACL number.
IP	The IP address.
Mask	The subnet mask address.
Status	The ACL service status.

## 19.42 Viewing Telnet ACL Information

### Command function

Views the Telnet ACL information.

### Command format

```
show telnet acl
```

### Parameter description

None

### Command example

View the Telnet ACL information.

```

Admin\service#show acl
----- Access Control Label -----
No      IP          Mask          Status
1      10.92.20.61  255.255.0.0  enable
2      0.0.0.0      0.0.0.0      disable
3      0.0.0.0      0.0.0.0      disable
4      0.0.0.0      0.0.0.0      disable
5      0.0.0.0      0.0.0.0      disable

```

```

6      0.0.0.0      0.0.0.0      disable
Admin\service#

```

## Result description

Parameter Item	Parameter Description
No	Telnet ACL.
IP	The IP address.
Mask	The subnet mask address.
Status	The enabling status of the Telnet ACL function.

## 19.43 Configuring Number of Rows on Terminal Screen

### Command function

Configures the number of rows displayed on the terminal screen. This command is a project commissioning command that will not be displayed in the window. The use of this command is restricted.

### Command format

```
terminal length <value>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<value>	Number of the rows displayed on the terminal screen. The value range is 0 to 512.	Compulsory parameter

### Command example

Set the number of rows displayed on the terminal screen to 300.

```

Admin\service#terminal length 300
Admin\service#

```

## 19.44 Trace Route Command

### Command function

Traces the routing path from the equipment to the designated destination IP address.

### Command format

```
tracert <A.B.C.D> {<1-30>}
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<A.B.C.D>	The destination IP address to be traced.	Compulsory parameter
{<1-30>}	The maximum tracing hop.	Optional parameter

### Command example

Configures to trace the routing path from the equipment to the destination IP address 10.92.1.254.

```
Admin\service#tracert 10.92.1.254
please wait minites....
Tracing route to 10.92.1.254 over a maximum of 10 hops
1    <1 ms    <1 ms    <1 ms    10.92.1.254
Trace complete.
Admin\service#
```

## 19.45 Configuring Line Identifier / Remote End Identifier Format

### Command function

Configures the format of the line identifier or the remote end identifier and confirms how to add user information and equipment information to the data packets, so as to facilitate the higher-layer BRAS equipment's management.

### Command format

```
set [circuit_id|remote_id] format [<format_str>|ctc|cnc]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[circuit_id remote_id]	<ul style="list-style-type: none"> <li>◆ circuit_id: the line identifier format.</li> <li>◆ remote_id: the remote end identifier format.</li> </ul>	Compulsory parameter
[<format_str> ctc cnc]	<ul style="list-style-type: none"> <li>◆ &lt;format_str&gt;: the customized format.</li> <li>◆ ctc: the CTC format, which means the standard of China Telecom Corporation.</li> <li>◆ cnc: the CNC format, which means the standard of China Netcom Corporation.</li> </ul>	Compulsory parameter

## Command example

Set the line identifier format to CNC.

```
Admin\service#set circuit_id format cnc
Admin\service#
```

## 19.46 Configuring Line Identifier Access Node Parameters

## Command function

Configures the identifier, rack number and subrack number of the line identifier access node.

## Command format

```
set circuit_id accessNodeIdentifier <identifier> ani_rack <0-31> ani_frame
<0-127>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
accessNodeIdentifier <identifier>	Identifier format of the access node. A character string that should include no more than 50 characters, sans spaces.	Compulsory parameter
ani_rack <0-31>	Rack number of the access node. The value range is 0 to 31. The valid value range varies with the operator.	Compulsory parameter
ani_frame <0-127>	Subrack number of the access node. The value range is 0 to 127. The valid value range varies with the operator.	Compulsory parameter

## Command example

Set the line identifier access node identifier to "abcdefg", the rack number to 20, the subrack number to 100.

```
Admin\service#set circuit_id accessnodeidentifier abcdefg ani_rack 20 ani_frame 100
Admin\service#
```

## 19.47 Enabling / Disabling DHCP Option18 Function

### Command function

Enables or disables the DHCP Option18 function.

### Command format

```
set dhcp option18 [enable|disable]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The DHCP Option18 line identifying service. ◆ enable: enables the service. ◆ disable: disables the service.	Compulsory parameter

## Command example

Enable the DHCP Option18 service.

```
Admin\service#set dhcp option18 enable
Admin\service#
```

# 19.48 Enabling / Disabling DHCP Option82 Function

## Command function

Enables or disables the DHCP Option82 function.

## Command format

```
set dhcp option82 [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The DHCP Option82 line identifying service. ◆ enable: enables the service. ◆ disable: disables the service.	Compulsory parameter

## Command example

Enable the DHCP Option82 service.

```
Admin\service#set dhcp option82 enable
Admin\service#
```

# 19.49 Enabling / Disabling DHCP Patch Service

## Command function

Enables or disables the DHCP patch service.

## Command format

```
set dhcp patch [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The DHCP patch service (only available for EPON services). ◆ enable: enables the service. ◆ disable: disables the service.	Compulsory parameter

## Command example

Enable the DHCP patch service.

```
Admin\service#set dhcp patch enable
Admin\service#
```

## 19.50 Enabling / Disabling DHCP Snooping Service

## Command function

Enables or disables the DHCP Snooping service.

## Command format

```
set dhcp snooping [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The DHCP Snooping service. ◆ enable: enables the service. ◆ disable: disables the service.	Compulsory parameter

## Command example

Enable the DHCP Snooping service.

```
Admin\service#set dhcp snooping enable
Admin\service#
```

## 19.51 Configuring DHCP Snooping Trust Port

### Command function

Configures the DHCP Snooping trust port.

### Command format

```
set dhcp snooping { [port] <portlist> [trust|untrust] } *1 { [serv] <A.B.C.D>
[trust|untrust] } *1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
{ [port] <portlist> [trust untrust] } *1	<ul style="list-style-type: none"> <li>◆ &lt;portlist&gt;: the port list.</li> <li>◆ [trust untrust]: trusted or untrusted.</li> </ul>	Optional parameter
{ [serv] <A.B.C.D> [trust untrust] } *1	<ul style="list-style-type: none"> <li>◆ &lt;A.B.C.D&gt;: the service end IP list.</li> <li>◆ [trust untrust]: trusted or untrusted.</li> </ul>	Optional parameter

### Command example

Configure the DHCP Snooping trust port 20:1 and untrust service end 10.1.1.1.

```
Admin\service#set dhcp snooping port 20:1 trust serv 10.1.1.1 untrust
Admin\service#
```

## 19.52 Enabling / Disabling PPPoE Plus Service

### Command function

Enables or disables the PPPoE Plus service.

### Command format

```
set pppoe_plus [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The PPPoE Plus service. <ul style="list-style-type: none"> <li>◆ enable: enables the service.</li> <li>◆ disable: disables the service.</li> </ul>	Compulsory parameter

## Command example

Enable the PPPoE Plus service.

```
Admin\service#set pppoe_plus enable
Admin\service#
```

## 19.53 Viewing Line Identifier / Remote End Identifier Format

## Command function

Views the line identifier / remote end identifier format.

## Command format

```
show [remote_id|circuit_id] format
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[circuit_id remote_id]	<ul style="list-style-type: none"> <li>◆ circuit_id: the line identifier format.</li> <li>◆ remote_id: the remote end identifier format.</li> </ul>	Compulsory parameter

## Command example

View the line identifier format information.

```
Admin\service#show circuit_id format
Circuit ID format : CNC Standard
Admin\service#
```

## Result description

Parameter Item	Parameter Description
Circuit ID format	The line identifier format.

## 19.54 Viewing Line Identifier Access Node Parameter Value

## Command function

Views the line identifier access node parameter value.

## Command format

```
show circuit_id value
```

## Parameter description

None

## Command example

View the line identifier access node parameter value.

```
Admin\service#show circuit_id value
AccessNodeIdentifier : abcdefg
ANI rack             : 20
ANI frame            : 100
Admin\service#
```

## Result description

Parameter Item	Parameter Description
AccessNodeIdentifier	The access node identifier.
ANI rack	Rack number of the access node.
ANI frame	Subrack number of the access node.

## 19.55 Viewing DHCP Interception Record

### Command function

Views the record of the intercepted DHCP attackers.

### Command format

```
show dhcp drop_records [mac_bogus|ip_bogus|vlan_bogus|port_bogus|
untrusted_server|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[mac_bogus ip_bogus  vlan_bogus port_bogus  untrusted_server all]	<p>The DHCP interception record.</p> <ul style="list-style-type: none"> <li>◆ mac_bogus: the MAC spoofing interception record.</li> <li>◆ ip_bogus: the IP spoofing interception record.</li> <li>◆ vlan_bogus: the VLAN spoofing interception record.</li> <li>◆ port_bogus: the port spoofing interception record.</li> <li>◆ untrusted_server: the untrusted service end spoofing interception record.</li> <li>◆ all: all the interception records.</li> </ul>	Compulsory parameter

### Command example

View all the DHCP interception record.

```
Admin\service#show dhcp drop_records all
-----mac bogus clients-----
mac:[00-0a-c2-b3-01-01] ip:10.90.20.166 2011-12-21 21:06:35
-----mac bogus clients end-----
-----ip bogus clients-----
-----vlan bogus clients-----
-----port bogus clients-----
-----untrusted servers-----
Admin\service#
```

Result description

Parameter Item	Parameter Description
mac	The physical address.
ip	The IP address.
2011-12-21 21:06:35	The exact time.

## 19.56 Viewing DHCP Snooping Internal Binding Table

Command function

Views the DHCP Snooping internal MAC address binding table.

Command format

```
show dhcp snooping binding_table {mac <value>} *1
```

Parameter description

Parameter Item	Parameter Description	Parameter Attribute
{mac <value>} *1	The MAC table.	Optional parameter

Command example

View all the DHCP Snooping internal binding tables whose MAC address is 002186ef1ba6.

```
Admin\service#show dhcp snooping binding_table mac 002186ef1ba6
=====MAC-IP BINDING TABLE [7]=====
-----
mac addr: 00-21-86-ef-1b-a6
ip addr: 10.94.20.151
vlan id: 100
portno: 19
ip lease time: 691200
audit time: 687600
=====
Admin\service#
```

## Result description

Parameter Item	Parameter Description
MAC-IP BINDING TABLE [i]	[i] represents the total number of MAC-IP bindings.
mac addr	The physical address.
vlan id	The VLAN ID.
portno	The port number.
ip lease time	The IP lease term.
audit time	The configured aging time (unit: second).

## 19.57 Viewing DHCP Snooping Current Configuration

### Command function

Views the current DHCP Snooping operation configuration information.

### Command format

```
show dhcp snooping running_cfg
```

### Parameter description

None

### Command example

View the current DHCP Snooping operation configuration information.

```
Admin\service#show dhcp snooping running_cfg
!dhcp snooping enable/disable cfg -----
set dhcp snooping enable
!dhcp snooping enable/disable cfg end-----
!dhcp snooping trusted port cfg -----
set dhcp snooping port 20:1 trust
!dhcp snooping trusted port cfg end-----
Admin\service#
```

## Result description

Parameter Item	Parameter Description
set dhcp snooping enable	The DHCP Snooping service is enabled.
set dhcp snooping port 20:1 trust	The DHCP Snooping trust port is configured.

## 19.58 Viewing DHCP Snooping Statistics

## Command function

Views the DHCP Snooping statistics.

## Command format

```
show dhcp snooping statistics <0-1>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
statistics <0-1>	<p>The displaying mode of the statistics.</p> <ul style="list-style-type: none"> <li>◆ 0: clears the information after displaying the statistic information.</li> <li>◆ 1: does not clear the information after displaying the statistic information.</li> </ul>	Compulsory parameter

## Command example

View the DHCP Snooping statistics in the 0 mode.

```
Admin\service#show dhcp snooping statistics 0
=====DHCP SNOOPING STATISTICS=====
pkt all:                5
good pkt:               3
dropped pkt:           2
-----
discover:              1
offer:                 0
request:               0
decline:               1
ack:                   1
```

```

nack:                0
release:            0
inform:            0
-----
mac bogus:         1
ip bogus:          0
vlan bogus:        1
port bogus:        0
untrust server:    0
data lost:         0
msg lost:          0
=====
Admin\service#

```

## Result description

Parameter Item	Parameter Description
pkt all	The total number of packets.
good pkt	The legitimate packet.
dropped pkt	The dropped packet.
discover	The DHCP Discover packet.
offer	The DHCP Offer packet.
request	The DHCP Request packet.
decline	The DHCP Decline packet.
ack	The DHCP ACK packet.
nack	The DHCP NACK packet.
release	The DHCP Release packet.
inform	The DHCP Inform packet.
mac bogus	The MAC spoofing.
ip bogus	The IP spoofing.
vlan bogus	The VLAN spoofing.
port bogus	The port spoofing.
untrust server	The untrusted server.
data lost	The data loss.
msg lost	The message loss.

## 19.59 Viewing DHCP Status

### Command function

Views the status of the DHCP service.

### Command format

```
show dhcp state
```

### Parameter description

None

### Command example

View the status information of the DHCP service.

```
Admin\service#show dhcp state  
DHCP option82 : enabled  
DHCP option18 : enabled  
DHCP option37 : enabled  
EPON DHCP Patch: enabled  
Admin\service#
```

### Result description

Parameter Item	Parameter Description
DHCP option82	The DHCP Option82 service.
DHCP option18	The DHCP Option18 service.
DHCP option37	The DHCP Option37 service.
EPON DHCP Patch	The DHCP patch service.

## 19.60 Viewing PPPoE Plus Status

### Command function

Views the status of the PPPoE Plus service.

## Command format

```
show pppoe_plus state
```

## Parameter description

None

## Command example

View the status information of the PPPoE Plus service.

```
Admin\service#show pppoe_plus state
PPPoE+ : Enabled
Admin\service#
```

## Result description

Parameter Item	Parameter Description
PPPoE+	The PPPoE Plus service status.

# 19.61 Remote End Identifier Enabling Switch

## Command function

Configures the remote end identifier enabling switch.

## Command format

```
set remote_id [enable|disable]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[enable disable]	The remote end identifier enabling switch. ◆ enable: enables the identifier. ◆ disable: disables the identifier.	Compulsory parameter

## Command example

Set to enable the remote end identifier.

```
Admin\service#set remote_id enable  
Admin\service#
```

# 20

## OSPF Directory Command

---

- Enabling / Disabling OSPF
- Announcing OSPF Network
- Deleting Announced OSPF Network
- Configuring Router ID
- Deleting Router ID
- Configuring OSPF Distance
- Deleting OSPF Distance
- Configuring STUB Domain
- Deleting STUB Domain
- Configuring NSSA Domain
- Deleting NSSA Domain
- Announcing Default Route for All NSSA Domains
- Configuring OSPF Route Re-allocation
- Deleting OSPF Route Re-allocation
- Configuring Interface Failure Interval
- Configuring Hello Message Interval of Interface
- Configuring Re-transmitting LSA Interval of Interface
- Configuring Updating Message Time of Interface
- Configuring COST Value of Interface
- Configuration Priority Level of Interface

- Configuring MTU Value of Interface
- Configuring OSPF Authentication Mode
- Canceling OSPF Authentication
- Viewing OSPF Protocol Information
- Viewing OSPF Neighbor Status
- Viewing Status of OSPF Database
- Viewing OSPF RIB (Routing Information Base)
- Viewing OSPF Interface Information
- Viewing Authentication Mode and Password of OSPF Interface
- Viewing Authentication Mode and Related Key Chain of OSPF Interface
- Enabling OSPF Log Information
- Disabling OSPF Log Information
- Enabling Debug Information of OSPF Packets
- Disabling Debug Information of OSPF Packets
- Enabling Debug Information of Interface State Machine
- Disabling Debug Information of Interface State Machine
- Enabling Debug Information of Neighbor State Machine
- Disabling Debug Information of Neighbor State Machine
- Enabling Debug Information of LSA State Machine
- Disabling Debug Information of LSA State Machine
- Viewing Enabling / Disabling Status of Debug Summary Information
- Viewing Current OSPF Protocol Configuration

- Configuring OSPF Routing Filtering Function
- Canceling OSPF Routing Filtering Function
- Configuring Network Type of Interface
- Viewing Network Announced by OSPF

## 20.1 Enabling / Disabling OSPF

### Command function

Enables or disables the OSPF routing function.

### Command format

```
set ospf [enable|disable]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
ospf [enable disable]	The OSPF routing function. ◆ enable: enables the function. ◆ disable: disables the function.	Compulsory parameter

### Command example

Enable the OSPF function.

```
Admin\ospf#set ospf enable
ospf instance started
Admin\ospf#
```

## 20.2 Announcing OSPF Network

### Command function

Configures the corresponding relationship between the uplink VLAN IP address and the OSPF domain. When the OSPF is enabled, the uplink port will be automatically added to the OSPF domain.

### Command format

```
set network <A.B.C.D> mask <A.B.C.D> area <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
network <A.B.C.D>	Network IP address of the interface that should run the OSPF protocol. The network must be the IP network that has configured the Super VLAN.	Compulsory parameter
mask <A.B.C.D>	The subnet mask.	Compulsory parameter
area <A.B.C.D>	IP address of the OSPF domain to which the uplink port belongs. Displayed in dotted decimal notation.	Compulsory parameter

### Command example

Announces the OSPF network whose IP address is 10.98.0.0, subnet mask is 255.255.0.0 and domain ID is 10.98.20.1.

```
Admin\ospf#set network 10.98.0.0 mask 255.255.0.0 area 10.98.20.1
Admin\ospf#
```

## 20.3 Deleting Announced OSPF Network

### Command function

Deletes the announced OSPF network.

### Command format

```
delete network <A.B.C.D> mask <A.B.C.D> area <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
network <A.B.C.D>	Network IP address of the interface that should run the OSPF protocol.	Compulsory parameter
mask <A.B.C.D>	The subnet mask.	Compulsory parameter
area <A.B.C.D>	IP address of the OSPF domain to which the uplink port belongs. Displayed in dotted decimal notation.	Compulsory parameter

## Command example

Deletes the OSPF network whose IP address is 10.92.20.1, subnet mask is 255.255.0.0 and domain ID is 10.98.20.1.

```
Admin\ospf#delete network 10.92.20.1 mask 255.255.0.0 area 10.98.20.1
Admin\ospf#
```

## 20.4 Configuring Router ID

### Command function

Configures the ID of the OSPF router, which identifies the uniqueness of the router.

### Command format

```
set router-id <A.B.C.D>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
router-id <A.B.C.D>	ID number of the OSPF router. Displayed in the format of the IP address.	Compulsory parameter

### Command example

Set the router ID to 10.10.10.10.

```
Admin\ospf#set router-id 10.10.10.10
[mn_set_ospf_router_id]0xa0a0a0a 0xa0a0a0a
Admin\ospf#
```

## 20.5 Deleting Router ID

### Command function

Deletes the router ID.

### Command format

```
delete ospf router-id
```

### Parameter description

None

### Command example

Delete the router ID.

```
Admin\ospf#delete ospf router-id
Admin\ospf#
```

## 20.6 Configuring OSPF Distance

### Command function

Configures the Distance value of the OSPF routing protocol, i.e., the shortest route overhead from the root node to the destination node.

### Command format

```
set ospf distance <0-255>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<0-255>	The Distance value. The value range is 0 to 255. The default value is 110.	Compulsory parameter

### Command example

Set the OSPF Distance value to 120.

```
Admin\ospf#set ospf distance 120
Admin\ospf#
```

## 20.7 Deleting OSPF Distance

### Command function

Deletes the Distance value of the OSPF routing protocol.

### Command format

```
delete ospf distance
```

### Parameter description

None

### Command example

Deletes the OSPF Distance value.

```
Admin\ospf#delete ospf distance  
Admin\ospf#
```

## 20.8 Configuring STUB Domain

### Command function

Configures the STUB domain of OSPF.

### Command format

```
set area <A.B.C.D> stub
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means the domain ID is of the STUB type.	Compulsory parameter

### Command example

Set the STUB domain ID to 20.20.20.20.

```
Admin\ospf#set area 20.20.20.20 stub  
Admin\ospf#
```

## 20.9 Deleting STUB Domain

### Command function

Deletes the STUB domain.

### Command format

```
delete area <A.B.C.D> stub
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means to set the domain of the ID to the STUB type.	Compulsory parameter

### Command example

Deletes the STUB domain whose ID is 20.20.20.20.

```
Admin\ospf#delete area 20.20.20.20 stub
Admin\ospf#
```

## 20.10 Configuring NSSA Domain

### Command function

Configures the NSSA domain of OSPF.

### Command format

```
set area <A.B.C.D> nssa {translator-role [candidate|never|always]}*1
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means to set the domain of the ID to the NSSA type.	Compulsory parameter
{translator-role [candidate never always]}*1	The Translator role. <ul style="list-style-type: none"> <li>◆ candidate: in the NSSA domain, the ABR converts the NSSA-LSA to the LSA of Type5.</li> <li>◆ never: in the NSSA domain, the ABR does not convert the NSSA-LSA to the LSA of Type5.</li> <li>◆ always: in the NSSA domain, the ABR converts the NSSA-LSA to the LSA of Type5.</li> </ul> The default setting is "candidate".	Optional parameter

## Command example

Set the NSSA domain ID to 10.20.10.20 and the Translator role to "candidate".

```
Admin\ospf#set area 10.20.10.20 nssa translator-role candidate
Admin\ospf#
```

## 20.11 Deleting NSSA Domain

## Command function

Deletes the NSSA domain of OSPF.

## Command format

```
delete area <A.B.C.D> nssa
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
area <A.B.C.D>	ID number of the domain. This item is displayed in dotted decimal notation, which means to set the domain of the ID to the NSSA type.	Compulsory parameter

### Command example

Deletes the NSSA domain whose ID is 10.20.10.20.

```
Admin\ospf#delete area 10.20.10.20 nssa
Admin\ospf#
```

## 20.12 Announcing Default Route for All NSSA Domains

### Command function

Announces the default route for all NSSA domains.

### Command format

```
set nssa default-information originate always {type [e1|e2]}*1 {metric <0-16777214>}*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
{type [e1 e2]}*1	Type of the external route. ◆ e1: E1. ◆ e2: E2. The default setting is e1.	Optional parameter
{metric <0-16777214>}*1	The metric. The value range is 0 to 16777214. The default value is 1.	Optional parameter

## Command example

Set all the NSSA domains to announce the default routes and the external route type to E1.

```
Admin\ospf#set nssa default-information originate always type e1
Admin\ospf#
```

## 20.13 Configuring OSPF Route Re-allocation

### Command function

Configures the route re-allocation, leading the external routes into the OSPF domain.

### Command format

```
set ospf redistribute [connected|static|rip|bgp|isis] {type [e1|e2]}*1
{metric <0-16777214>*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[connected static rip bgp isis]	Protocol type of the re-allocated routes, protocol type of the external routes that are led in. <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ rip: the RIP route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul>	Compulsory parameter
{type [e1 e2]}*1	Type of the external route. <ul style="list-style-type: none"> <li>◆ e1: E1.</li> <li>◆ e2: E2.</li> </ul> The default setting is e1.	Optional parameter
{metric <0-16777214>*1	The metric. The value range is 0 to 16777214. The default value is 1.	Optional parameter

### Command example

Configure the protocol type of the re-allocated routes to connected.

```
Admin\ospf#set ospf redistribute connected
Admin\ospf#
```

## 20.14 Deleting OSPF Route Re-allocation

### Command function

Deletes the OSPF route re-allocation.

### Command format

```
delete ospf redistribute [connected|static|rip|bgp|isis]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[connected static rip bgp isis]	<p>Protocol type of the re-allocated routes, protocol type of the external routes that are led in.</p> <ul style="list-style-type: none"> <li>◆ connected: the connected route.</li> <li>◆ static: the static route.</li> <li>◆ rip: the RIP route.</li> <li>◆ bgp: the BGP route.</li> <li>◆ isis: the ISIS route.</li> </ul> <p>The BGP and ISIS protocol types are not supported temporarily.</p>	Compulsory parameter

### Command example

Delete the re-allocated route whose protocol type is connected.

```
Admin\ospf#delete ospf redistribute connected
Admin\ospf#
```

## 20.15 Configuring Interface Failure Interval

### Command function

Configures the failure interval of the interface.

## Command format

```
set super-vlan <1-4085> dead-interval <1-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
dead-interval <1-65535>	The failure time, i.e., the OSPF neighbor failure time interval. If the Hello message from the neighbor is not received within the failure time interval, the neighbor will be determined to be invalid. The value range is 1 to 65535. The unit is second. The default value is 40. The value of the failure time interval should be more than four times of the Hello message interval time value.	Compulsory parameter

## Command example

Set the failure interval time of the interface whose Super VLAN is 2000 to 800 seconds.

```
Admin\ospf#set super-vlan 2000 dead-interval 800
Admin\ospf#
```

## 20.16 Configuring Hello Message Interval of Interface

### Command function

Configures the Hello message interval of the interface, i.e., the time interval of transmitting the polling Hello messages in OSPF protocol.

### Command format

```
set super-vlan <1-4085> hello-interval <1-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
hello-interval <1-65535>	The Hello message interval time. The value range is 1 to 65535. The unit is second. The default value is 10.	Compulsory parameter

## Command example

Set the Hello message interval time of the interface whose Super VLAN is 2000 to 50 seconds.

```
Admin\ospf#set super-vlan 2000 hello-interval 50
Admin\ospf#
```

## 20.17 Configuring Re-transmitting LSA Interval of Interface

### Command function

Configures the re-transmitting LSA interval of the interface.

### Command format

```
set super-vlan <1-4085> retransmit-interval <1-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>retransmit-interval &lt;1-65535&gt;</code>	The re-transmitting LSA interval time. If the confirmation message from the opposite end equipment is not received within the re-transmitting LSA interval time, the interface will re-transmit the LSA. The value range is 1 to 65535. The unit is second. The default value is 5.	Compulsory parameter

## Command example

Set the re-transmitting LSA interval time of the interface whose Super VLAN is 2000 to 20 seconds.

```
Admin\ospf#set super-vlan 2000 retransmit-interval 20
Admin\ospf#
```

# 20.18 Configuring Updating Message Time of Interface

## Command function

Configures the updating message time of the interface.

## Command format

```
set super-vlan <1-4085> transmit-delay <1-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>transmit-delay &lt;1-65535&gt;</code>	The updating message time, i.e., the delay time of transmitting LSA at the OSPF interface. The value range is 1 to 65535. The unit is second. The default value is 1.	Compulsory parameter

## Command example

Set the updating message time of the interface whose Super VLAN is 2000 to 5 seconds.

```
Admin\ospf#set super-vlan 2000 transmit-delay 5
Admin\ospf#
```

# 20.19 Configuring COST Value of Interface

## Command function

Configures the COST value of the interface.

## Command format

```
set super-vlan <1-4085> cost <1-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>cost &lt;1-65535&gt;</code>	The COST value, i.e., the overhead value of transmitting message via the designated interface. The value range is 1 to 65535. The default value is 10.	Compulsory parameter

### Command example

Set the COST value of the interface whose Super VLAN is 2000 to 15.

```
Admin\ospf#set super-vlan 2000 cost 15
Admin\ospf#
```

## 20.20 Configuration Priority Level of Interface

### Command function

Configures the priority level of the interface.

### Command format

```
set super-vlan <1-4085> priority <0-255>
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
priority <0-255>	The priority level value. The smaller the value is, the higher the priority level becomes. The value range is 0 to 255. The default value is 1.	Compulsory parameter

### Command example

Set the priority level of the interface whose Super VLAN is 2000 to 2.

```
Admin\ospf#set super-vlan 2000 priority 2
Admin\ospf#
```

## 20.21 Configuring MTU Value of Interface

### Command function

Configures the MTU value of the interface.

## Command format

```
set super-vlan <1-4085> mtu <576-65535>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
mtu <576-65535>	The MTU value, i.e., the MTU value of the DD message (the Database Description message, one of the five OSPF protocol messages) transmitted at the interface. The value range is 576 to 65535. The default value is 1500.	Compulsory parameter

## Command example

Set the MTU value of the interface whose Super VLAN is 2000 to 2000.

```
Admin\ospf#set super-vlan 2000 mtu 2000
Admin\ospf#
```

## 20.22 Configuring OSPF Authentication Mode

### Command function

Configures the OSPF authentication modes, including the simple password authentication mode and the MD5 authentication mode.

### Command format

```
set super-vlan <1-4085> authentication [simple|md5] <string>
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
<code>super-vlan &lt;1-4085&gt;</code>	VID of the Super VLAN under which the interfaces to be configured. The value range is 1 to 4085.	Compulsory parameter
<code>authentication [simple md5]</code>	The authentication mode. ◆ simple: the simple password authentication mode. ◆ md5: the MD5 authentication mode.	Compulsory parameter
<code>&lt;string&gt;</code>	◆ If the authentication mode is the simple password mode, the item is the simple key, whose maximum length is 8 characters. ◆ If the authentication mode is the MD5 mode, the item is the simple key, whose maximum length is 8 characters.	Compulsory parameter

## Command example

Set the authentication mode of the OSPF whose Super VLAN is 2000 to simple password mode, and the key to "wri".

```
Admin\ospf#set super-vlan 2000 authentication simple wri
Admin\ospf#
```

## 20.23 Canceling OSPF Authentication

## Command function

Deletes the authentication mode of the OSPF.

## Command format

```
delete super-vlan <1-4085> authentication
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN VID. The value range is 1 to 4085.	Compulsory parameter

## Command example

Delete the authentication mode for the OSPF whose Super VLAN ID is 2000.

```
Admin\ospf#delete super-vlan 2000 authentication
Admin\ospf#
```

# 20.24 Viewing OSPF Protocol Information

## Command function

Views the OSPF protocol information.

## Command format

```
show ip protocols ospf
```

## Parameter description

None

## Command example

View the OSPF protocol information.

```
Admin\ospf#show ip protocols ospf
OSPF Routing Process, Router ID: 10.10.10.10
Supports only single TOS (TOS0) routes
This implementation conforms to RFC2328
RFC1583Compatibility flag is disabled
SPF schedule delay 5 secs, Hold time between two SPFs 10 secs
Refresh timer 10 secs
This router is an ASBR (injecting external routing information)
Distance: 120
Number of external LSA 1
Number of areas attached to this router: 3
Area ID: 10.20.10.20 (NSSA)
```

```

Shortcutting mode: Default, S-bit consensus: ok
It is an NSSA configuration.
Elected NSSA/ABR performs type-7/type-5 LSA translation.
It is not ABR, therefore not Translator.
Number of fully adjacent neighbors in this area: 0
Area has no authentication
Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 3 times
Number of LSA 1
Area ID: 10.98.20.1
Shortcutting mode: Default, S-bit consensus: ok
Number of fully adjacent neighbors in this area: 0
Area has no authentication
Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 6 times
Number of LSA 1
Area ID: 20.20.20.20 (Stub)
Shortcutting mode: Default, S-bit consensus: ok
Number of fully adjacent neighbors in this area: 0
Area has no authentication
Number of full virtual adjacencies going through this area: 0
SPF algorithm executed 4 times
Number of LSA 1
Admin\ospf#

```

## Result description

Parameter Item	Parameter Description
Router ID	The router ID.
Distance	The management distance.
Number of areas attached to this router	Number of domains that are attached to this router.
Area ID	The domain ID. The domains include: the NSSA domain, the OSPF domain, and the STUB domain.
Shortcutting mode	The shortcut mode.

## 20.25 Viewing OSPF Neighbor Status

### Command function

Views the neighbor status of the OSPF protocol.

## Command format

```
show ip ospf neighbor
```

## Parameter description

None

## Command example

View the neighbor status of the OSPF protocol.

```
Admin\ospf#show ip ospf neighbor
Neighbor ID Pri Neighbor State Interface State Dead Time Address Interface
192.0.0.1 1 Full Backup 00:00:35 151.151.151.2 sv1
Admin\ospf#
```

## Result description

Parameter Item	Parameter Description
Neighbor ID	The neighbor ID.
Pri	The priority level.
Neighbor State	The neighbor status.
Interface State	The interface status.
Dead Time	The timeout period.
Address	IP address of the interface.
Interface	Name of the interface.

# 20.26 Viewing Status of OSPF Database

## Command function

Views the status of the OSPF database.

## Command format

```
show ip ospf database
```

## Parameter description

None

## Command example

View the status of the OSPF database.

```
Admin\ospf#show ip ospf database
```

```
Router Link States (Area 10.20.10.20[NSSA])
```

```
Link ID      ADV Router   Age      Seq#         CkSum      Link count
10.10.10.10  10.10.10.10 1394    0x80000002  0x2edb     0
```

```
Router Link States (Area 10.98.20.1 )
```

```
Link ID      ADV Router   Age      Seq#         CkSum      Link count
10.10.10.10  10.10.10.10 1349    0x80000003  0x3a49     1
```

```
Router Link States (Area 20.20.20.20[STUB])
```

```
Link ID      ADV Router   Age      Seq#         CkSum      Link count
10.10.10.10  10.10.10.10 1394    0x80000002  0xa073     0
```

```
AS External Link States
```

```
Link ID      ADV Router   Age      Seq#         CkSum      Route
10.1.0.0     10.10.10.10 1387    0x80000001  0xef9b     E2 10.1.0.0/16
```

```
Admin\ospf#
```

## Result description

Parameter Item	Parameter Description
Router Link States	The route connection status, including the NSSA domain, the OSPF domain and the STUB domain.
Link ID	The link identify.
ADV Router	The announced router.
Age	The aging time.
Seq#	The serial number.
CkSum	The checksum.
Link count	The count of links.
AS External Link States	External link status of the autonomous area.
Route	The route entry.

## 20.27 Viewing OSPF RIB (Routing Information Base)

### Command function

Views the OSPF route table.

### Command format

```
show ip ospf route
```

### Parameter description

None

### Command example

View the OSPF route table.

```
Admin\ospf#show ip ospf route
```

```
===== OSPF router routing table =====
```

```
===== OSPF network routing table =====
```

```
Network 10.98.0.0/16 [15] area: 10.98.20.1
directly attached to sv2000
```

```
===== OSPF external routing table =====
```

```
Admin\ospf#
```

### Result description

Parameter Item	Parameter Description
OSPF router routing table	The routing table of the OSPF router.
OSPF network routing table	The routing table of the OSPF network.
Network 10.98.0.0/16 [15] area: 10.98.20.1	<ul style="list-style-type: none"> <li>◆ Network: the network IP address.</li> <li>◆ Area: the domain IP address.</li> </ul>
OSPF external routing table	The OSPF external routing table.

## 20.28 Viewing OSPF Interface Information

### Command function

Views the information of the OSPF interface.

### Command format

```
show ip ospf super-vlan {<1-4085>}*1
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan {<1-4085>}*1	The configured Super VLAN VID. The value range is 1 to 4085.	Optional parameter

### Command example

View the information of the OSPF interface whose Super VLAN ID is 2000.

```
Admin\ospf#show ip ospf super-vlan 2000
sv2000 is up, line protocol is up
Internet Address 10.98.1.4/16, Area 10.98.20.1
Router ID 10.10.10.10, Network Type BROADCAST, Cost: 15
Transmit Delay is 5 sec, State DR, Priority 2
Designated Router (ID) 10.10.10.10, Interface Address 10.98.1.4
No backup designated router on this network
Timer intervals configured, Hello 50, Dead 800, Wait 800, Retransmit 20
Hello due in 00:00:12
Neighbor Count is 0, Adjacent neighbor count is 0
Admin\ospf#
```

### Result description

Parameter Item	Parameter Description
Internet Address	The Internet network address.
Area	The domain IP address.
Router ID	The router ID.
Network Type	The network type.
Cost	The cost value.
Transmit Delay	The transmission delay.
Priority	The priority level.

Parameter Item	Parameter Description
Designated Router	The designated router.
Timer intervals configured	The time interval configuration.

## 20.29 Viewing Authentication Mode and Password of OSPF Interface

### Command function

Views the authentication and password information of the OSPF.

### Command format

```
show ip ospf auth
```

### Parameter description

None

### Command example

View the authentication and password information of the OSPF.

```
Admin\ospf#show ip ospf auth
interface  authtype          key_id  key
sv2000     simple-passwords _       wri
Admin\ospf#
```

### Result description

Parameter Item	Parameter Description
interface	Name of the interface.
authtype	The authentication mode.
key_id	The key ID.
key	The key.

## 20.30 Viewing Authentication Mode and Related Key Chain of OSPF Interface

### Command function

Views the authentication mode and the related key chain of the OSPF interface.

### Command format

```
show ip ospf auth key-chain
```

### Parameter description

None

### Command example

View the authentication mode and the related key chain of the OSPF interface.

```
Admin\ospf#show ip ospf auth key-chain  
Interface      Authtype      String/Keychain  
sv2000         simple        wri  
Admin\ospf#
```

### Result description

Parameter Item	Parameter Description
Interface	The interface
Authtype	The authentication mode.
String/Keychain	The simple password or name of the related key chain.

## 20.31 Enabling OSPF Log Information

### Command function

Enables the OSPF Log information.

### Command format

```
log ospf on level [crit|err|warning|info]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[crit err warning info]	The printing level. ◆ crit: the important information printing level. ◆ err: the error information printing level. ◆ warning: the warning information printing level. ◆ info: the common information printing level.	Compulsory parameter

### Command example

Set the printing level of the OSPF Log information to the warning level.

```
Admin\rip#log ospf on level warning
Admin\rip#
```

## 20.32 Disabling OSPF Log Information

### Command function

Disables the OSPF Log information.

### Command format

```
log ospf off
```

### Parameter description

None

### Command example

Disable the OSPF Log information.

```
Admin\rip#log ospf off
Admin\rip#
```

## 20.33 Enabling Debug Information of OSPF Packets

### Command function

Enables the Debug information of the OSPF packets. (To enable the Debug information, you should set the level of the Log information to "info" at first.)

### Command format

```
debug ospf packet [hello|desc|ls-req|ls-upd|ls-ack|all] direction [send|
recv|all] detail[display|no-display]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
packet [hello desc ls-req ls-upd ls-ack all]	The packet type. <ul style="list-style-type: none"> <li>◆ hello: the Hello message packet.</li> <li>◆ desc: the database description message.</li> <li>◆ ls-req: the link state request message.</li> <li>◆ ls-upd: the link state updating message.</li> <li>◆ ls-ack: the link state acknowledge message.</li> <li>◆ all: all the OSPF messages.</li> </ul>	Compulsory parameter
direction [send recv all]	The direction. <ul style="list-style-type: none"> <li>◆ send: the packet transmitting direction.</li> <li>◆ recv: the packet receiving direction.</li> <li>◆ all: both the receiving and transmitting directions.</li> </ul>	Compulsory parameter
detail [display no-display]	Whether to print the details. <ul style="list-style-type: none"> <li>◆ display: prints the details.</li> <li>◆ no-display: does not print the details.</li> </ul>	Compulsory parameter

### Command example

Set the type of the OSPF packets to all packets, the direction to transmitting direction, and set to print the details.

```
Admin\ospf#debug ospf packet all direction send detail display
Admin\ospf#
```

## 20.34 Disabling Debug Information of OSPF Packets

### Command function

Disables the Debug information of the OSPF packets.

### Command format

```
debug ospf packet off
```

### Parameter description

None

### Command example

Disable the Debug information of the OSPF packets.

```
Admin\ospf#debug ospf packet off
Admin\ospf#
```

## 20.35 Enabling Debug Information of Interface State Machine

### Command function

Enables the Debug information of the interface state machine.

### Command format

```
debug on ism [status|event|timer|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[status event timer all]	<p>The printing contents of the interface state machine.</p> <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: time of the interface event.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all the contents.</li> </ul>	Compulsory parameter

## Command example

Enable all the Debug information of the interface state machine.

```
Admin\ospf#debug on ism all
Admin\ospf#
```

## 20.36 Disabling Debug Information of Interface State Machine

## Command function

Disables the Debug information of the interface state machine.

## Command format

```
debug off ism [status|event|timer|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[status event timer all]	<p>The printing contents of the interface state machine.</p> <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: time of the interface event.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all the contents.</li> </ul>	Compulsory parameter

## Command example

Disable all the Debug information of the interface state machine.

```
Admin\ospf#debug off ism all
Admin\ospf#
```

## 20.37 Enabling Debug Information of Neighbor State Machine

### Command function

Enables the Debug information of the neighbor state machine.

### Command format

```
debug on nsm [status|event|timer|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[status event timer all]	<p>The printing contents of the interface state machine.</p> <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: time of the interface event.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all the contents.</li> </ul>	Compulsory parameter

## Command example

Enable the Debug information of the interface state of the neighbor state machine.

```
Admin\ospf#debug on nsm status
Admin\ospf#
```

## 20.38 Disabling Debug Information of Neighbor State Machine

### Command function

Disables the Debug information of the neighbor state machine.

### Command format

```
debug off nsm [status|event|timer|all]
```

### Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[status event timer all]	<p>The printing contents of the interface state machine.</p> <ul style="list-style-type: none"> <li>◆ status: the interface status.</li> <li>◆ event: time of the interface event.</li> <li>◆ timer: the interface timer.</li> <li>◆ all: all the contents.</li> </ul>	Compulsory parameter

### Command example

Disable the Debug information of the interface state of the neighbor state machine.

```
Admin\ospf#debug off nsm status
Admin\ospf#
```

## 20.39 Enabling Debug Information of LSA State Machine

### Command function

Enables the Debug information of the LSA (Link State Advertisement) state machine.

### Command format

```
debug on lsm [generate|flooding|install|refresh|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[generate flooding install refresh all]	<ul style="list-style-type: none"> <li>◆ generate: the LSA message generated on the equipment.</li> <li>◆ flooding: the flooding LSA message.</li> <li>◆ install: the LSA message that needs to be installed.</li> <li>◆ refresh: the refreshed LSA message.</li> <li>◆ all: all the LSA messages.</li> </ul>	Compulsory parameter

## Command example

Enable the LSA message refreshed by the state machine.

```
Admin\ospf#debug on lsm refresh
Admin\ospf#
```

## 20.40 Disabling Debug Information of LSA State Machine

## Command function

Disables the Debug information of the LSA state machine.

## Command format

```
debug off lsm [generate|flooding|install|refresh|all]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
[generate flooding install refresh all]	<ul style="list-style-type: none"> <li>◆ generate: the LSA message generated on the equipment.</li> <li>◆ flooding: the flooding LSA message.</li> <li>◆ install: the LSA message that needs to be installed.</li> <li>◆ refresh: the refreshed LSA message.</li> <li>◆ all: all the LSA messages.</li> </ul>	Compulsory parameter

## Command example

Disable the LSA message refreshed by the state machine.

```
Admin\ospf#debug off lsm refresh
Admin\ospf#
```

## 20.41 Viewing Enabling / Disabling Status of Debug Summary Information

## Command function

Views the enabling / disabling status of all the Debug summary information.

## Command format

```
show debug ospf
```

## Parameter description

None

## Command example

View the enabling / disabling status of all the Debug summary information.

```
Admin\ospf#show debug ospf
OSPF debugging status:
  OSPF ISM debugging is on
```

```

OSPF NSM debugging is on
OSPF LSA refresh debugging is on

```

```
Admin\ospf#
```

### Result description

Parameter Item	Parameter Description
OSPF ISM debugging	Enabling / disabling status of the interface state machine's Debug information.
OSPF NSM debugging	Enabling / disabling status of the neighbor state machine's Debug information.
OSPF LSA refresh debugging	Enabling / disabling status of the LSA state machine's Debug information.

## 20.42 Viewing Current OSPF Protocol Configuration

### Command function

Views the current configuration of the OSPF protocol.

### Command format

```
show ospf running-config
```

### Parameter description

None

### Command example

View the current configuration of the OSPF protocol.

```

Admin\ospf#show ospf running-config
!ospf config -----
set ospf enable
set router-id 10.10.10.10
!ospf config end!-----
Admin\ospf#

```

## Result description

Parameter Item	Parameter Description
set ospf enable	Enables the OSPF function.
set router-id	Configures the router ID.

## 20.43 Configuring OSPF Routing Filtering Function

## Command function

Configures the OSPF routing filtering function.

## Command format

```
set distribute-list <name> in [ip_address|ip_nexthop]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
distribute-list <name>	Name of the designated access control list. The access control list should be a configured one under the Route directory.	Compulsory parameter
[ip_address ip_nexthop]	The designated filtering strategy. <ul style="list-style-type: none"> <li>◆ ip_address: filters the routings according to the address of the routing's destination network segment.</li> <li>◆ ip_nexthop: filters the routings according to the address of the routing's next hop.</li> </ul>	Compulsory parameter

## Command example

Set the OSPF routing filtering function whose name of the access control list is "name" and the filtering strategy is IP address.

```
Admin\ospf#set distribute-list name in ip_address
Admin\ospf#
```

## 20.44 Canceling OSPF Routing Filtering Function

Command function

Cancel the OSPF routing filtering function.

Command format

```
delete distribute-list <name> in [ip_address|ipnexthop]
```

Parameter description

Parameter Item	Parameter Description	Parameter Attribute
distribute-list <name>	Name of the designated access control list. The access control list should be a configured one under the Route directory.	Compulsory parameter
[ip_address ipnexthop]	The designated filtering strategy. <ul style="list-style-type: none"> <li>◆ ip_address: filters the routings according to the address of the routing's destination network segment.</li> <li>◆ ipnexthop: filters the routings according to the address of the routing's next hop.</li> </ul>	Compulsory parameter

Command example

Cancel the OSPF routing filtering function whose name of the access control list is "name" and the filtering strategy is IP address.

```
Admin\ospf#delete distribute-list name in ip_address
Admin\ospf#
```

## 20.45 Configuring Network Type of Interface

Command function

Configures the network type of the interface.

## Command format

```
set super-vlan <1-4085> network [broadcast|non-broadcast|point-to-
multipoint|point-to-point]
```

## Parameter description

Parameter Item	Parameter Description	Parameter Attribute
super-vlan <1-4085>	The configured Super VLAN ID. The value range is 1 to 4085.	Compulsory parameter
[broadcast non-broadcast  point-to-multipoint point- to-point]	Network type of the OSPF interface. ◆ broadcast: the broadcast type. ◆ non-broadcast: the non- broadcast type, the non- broadcast multiple access type. ◆ point-to-multipoint: the point-to- multipoint type. ◆ point-to-point: the point-to-point type.	Compulsory parameter

## Command example

Set the network type of the OSPF interface whose Super VLAN is 2000 to broadcast.

```
Admin\ospf#set super-vlan 2000 network broadcast
Admin\ospf#
```

# 20.46 Viewing Network Announced by OSPF

## Command function

Views the network announced by the OSPF.

## Command format

```
show ip ospf network
```

## Parameter description

None

## Command example

View the network announced by the OSPF.

```
Admin\ospf#show ip ospf network
Network          Mask          AreaID
10.1.0.0         255.255.0.0  10.98.20.1
Admin\ospf#
```

## Result description

Parameter Item	Parameter Description
Network	The IP network that has configured Super VLAN.
Mask	The subnet mask.
AreaID	The domain ID.



# Product Documentation Customer Satisfaction Survey

Thank you for reading and using the product documentation provided by FiberHome. Please take a moment to complete this survey. Your answers will help us to improve the documentation and better suit your needs. Your responses will be confidential and given serious consideration. The personal information requested is used for no other purposes than to respond to your feedback.

Name	
Phone Number	
Email Address	
Company	

To help us better understand your needs, please focus your answers on a single documentation or a complete documentation set.

Documentation Name	
Code and Version	

## Usage of the product documentation:

1. How often do you use the documentation?

Frequently  Rarely  Never  Other (please specify) \_\_\_\_\_

2. When do you use the documentation?

in starting up a project  in installing the product  in daily maintenance  in trouble shooting  Other (please specify) \_\_\_\_\_

3. What is the percentage of the operations on the product for which you can get instruction from the documentation?

100%  80%  50%  0%  Other (please specify) \_\_\_\_\_

4. Are you satisfied with the promptness with which we update the documentation?

Satisfied  Unsatisfied (your advice) \_\_\_\_\_

5. Which documentation form do you prefer?

Print edition  Electronic edition  Other (please specify) \_\_\_\_\_

## Quality of the product documentation:

1. Is the information organized and presented clearly?

Very  Somewhat  Not at all (your advice) \_\_\_\_\_

2. How do you like the language style of the documentation?

Good  Normal  Poor (please specify) \_\_\_\_\_

3. Are any contents in the documentation inconsistent with the product?

\_\_\_\_\_

4. Is the information complete in the documentation?

Yes

No (Please specify) \_\_\_\_\_

5. Are the product working principles and the relevant technologies covered in the documentation sufficient for you to get known and use the product?

Yes

No (Please specify) \_\_\_\_\_

6. Can you successfully implement a task following the operation steps given in the documentation?

Yes (Please give an example) \_\_\_\_\_

No (Please specify the reason) \_\_\_\_\_

7. Which parts of the documentation are you satisfied with?

\_\_\_\_\_

8. Which parts of the documentation are you unsatisfied with?Why?

\_\_\_\_\_

9. What is your opinion on the Figures in the documentation?

Beautiful  Unbeautiful (your advice) \_\_\_\_\_

Practical  Unpractical (your advice) \_\_\_\_\_

10. What is your opinion on the layout of the documentation?

Beautiful  Unbeautiful (your advice) \_\_\_\_\_

11. Thinking of the documentations you have ever read offered by other companies, how would you compare our documentation to them?

Product documentations from other companies:\_\_\_\_\_

Satisfied (please specify) \_\_\_\_\_

Unsatisfied (please specify) \_\_\_\_\_

12. Additional comments about our documentation or suggestions on how we can improve:

\_\_\_\_\_

\_\_\_\_\_

Thank you for your assistance. Please fax or send the completed survey to us at the contact information included in the documentation. If you have any questions or concerns about this survey please email at

[edit@fiberhome.com.cn](mailto:edit@fiberhome.com.cn)