Chapter 54: Configure ONT Profile

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54.1 ONT Profile Overview

ONT profile configuration can be used to uniformly configure ONTs. It is divided into eight profiles: alarm profile, DBA profile, downstream profile, line profile, multicast profile, rule profile, upstream profile, and specific profile.

54.2 Configure Alarm Profile

The Alarm profile is used to configure the alarm threshold for ONT transmission and reception. After binding the alarm profile to the ONT line profile, a corresponding alarm will be generated when the ONT transmission and reception light exceeds the range.

Operation	Command	Remarks
Enter system view	**system-view**	
Enter alarm profile view	**alarm-profile** { *index* [**name** *name*] | **name** *name* }	
Configure TX power alarm	**opm tx-threshold high** *tx_power* **low** *tx_power*	
Configure RX power alarm	**opm rx-threshold high** *tx_power* **low** *tx_power*	
Delete optical power alarm	**undo opm** { **tx-threshold** | **rx-threshold** }	
Save alarm profile	**commit**	
Display alarm profile	**display alarm-profile** { *index* | ***name*** *name* }	
Display alarm profile	**Display alarm-profile bound-info** { **all** | index }	

54.3 Configure DBA Profile

The DBA profile is used to configure the upstream dynamic bandwidth. According to the GPON standard, they are TYPE1 (fixed bandwidth), TYPE2 (assured bandwidth), TYPE3 (assured bandwidth + maximum bandwidth), TYPE4 (maximum bandwidth), and TYPE5 (mixed bandwidth).

Operation	Command	Remarks
Enter system view	**system-view**	
Enter DBA profile view	**dba-profile** { *index* [**name** *name*] | **name** *name* }	
Configure type 1	**type 1 fix** *fixed_bw* [**method sr**]	
Configure type 2	**type 2 assured** *assured_bw* [**method sr**]	
Configure type 3	**type 3 assured** *assured_bw* **max** *max_bw* [**method sr**]	

Configure type 4	**type 4 max** *max_bw* [**method sr**]	
Configure type 5	**type 5 fix** *fixed_bw* **assured** *assured_bw* **max** *max_bw* [**method sr**]	
Save DBA configuration	**commit**	
Display DBA profile	**display dba-profile** { *index* | ***name*** *name* }	
Display DBA profile bind info	**display dba-profile bound-info** { **all** | *index* }	

54.4 Configure Downstream Profile

The Downstream profile is used to configure the ONT downstream rate limit. When referencing this template, you need to set qos-mode to gem-car mode in the line template.

Operation	Command	Remarks
Enter system view	**system-view**	
Create\Enter Downstream profile	**downstream-profile** { *index* [**name** *name*] | **name** *name* }	
Configure the downstream bandwidth	**downstream car bandwidth** *bandwidth*	
Display downstream profile	**display downstream-profile** { *index* | ***name*** *name* }	
Display downstream bind information	**display downstream-profile bound-info** { **all** | *index* }	

54.5 Configure Line Profile

Line profile is used to configure related parameters such as ONT service flow mapping mode and service flow processing strategy.

Operation	Command	Remarks
Enter system view	**system-view**	
Creat\Enter line profile	**line-profile** { *index* [**name** *name*] | **name** *name* }	
Configure ONT model	**model** *ont_model*	Required
Configure tcont	**tcont** *num* **dba-profile** { *num* | **name** *name* }	Required
Configure gemport	**gem** *num* **tcont** *num* [**encrypt** | **priority-queue** *queue* | **downstream-profile** *index* | **upstream-profile** *index* | **vlan-profile** *index*]	Required

Configure stream mapping mode	**mapping mode** { **port port-priority** | **port-vlan** | **port-vlan-priority** | **priority** | **vlan** | **vlan-priority** }	Default VLAN mapping
Configure flow mapping	**mapping** *index* { **vlan** *vlan* | **priority** *pri* | **port**	Required

	{ **eth** *eth* | **veip** | **iphost** } } **gem** *index*	
Configure flow processing policies	**port vlan** *num* { **eth** *num* | **iphost** | **ont** } { **default vlan** *num* [*pri*] | **transparent** | **vlan** *num* { **trunk** | **q-in-q** | **translate** } [**vlan** *num* [*pri*] } }	
Configure multicast downstream policies	**multicast downstream** { **tag** *num* [**port** *num* | *pri*] | **untag** [**port** *num*] **| translate** *vlan* [**port** *num* | *pri*] }	
Disable the ONT multicast fast leave	**multicast fast-leave disable** [**port** *num*]	
Configure multicast group limit	**multicast group-limit** *num* [**port** *num*]	
Configure ONT multicast mode	**multicast mode** { **igmp-snooping** | **olt-control** } [**port** *num*]	
Configure multicast upstream	**multicast upstream** { **tag** *num* [**port** *num* **|** *pri*] **| translate** *vlan* [**port** *num* **|** *pri*] }	
Enable ONT FEC\ring check	**ont** { **fec** | **ring check** }	
DIsable port isolation	**ont port-switch**	
Configure ONT flow confrol	**ont flow-control** [**port** *num*]	
Configure the maximum number of MAC learning on the ONT.	**ont mac-address-table max-mac-count** *num* [**port** *num*]	
Shutdown ONT CATV port	**ont shutdown** *ont_id* **catv-port** *num*	
Configure Qos mode	**qos-mode** { **gem-car** | **priority-queue** }	
Configure ONT port rate limit	**port** *num* **egress cir** *cir* **pir** *pir* **cbs** *cbs* **pbs** *pbs*	
Bind alarm\multicast profile	**bind** { **alarm-profile | multicast-profile** } { *index* | *name* }	
Save configuration	**commit**	
Display line profile	**display line-profile** { *index* | ***name*** *name* }	
Display line profile bind information	**Display line-profile bound-info**{ **all |** *index }*	

54.6 Configure Multicast Profile

The Multicast profile is used to configure parameters corresponding to controllable multicast. The multicast group access control permission currently supports two modes: preview and permit.

Operation	Command	Remarks
Enter system view	**system-view**	
Creat\enter multicast profile	**multicast-profile** { *index* [**name** *name*] | **name** *name* }	
Configure multicast control permit mode	**multicast control index** *index* **permit mcast-ip** *ip* [*end_ip* | **bandwidth** *bandtidth* | **port** *port* | **source-ip** *ip* | **vlan** *vlan*]	
Configure multicast control preview mode	**multicast control index** *index* **preview mcast-ip** *ip* [*end_ip* | **bandwidth** *bandtidth* | **port** *port* | **source-ip** *ip* | **vlan** *vlan*]	
Configure multicast control parameters	**multicast control index** *index* **preview mcast-ip** *ip* [**permit-times** *num* **reset-time** *num* **time-interval** *num* **time-once** *num*]	
Save configuration	**commit**	
Display multicast profile	**display multicast-profile** { *index* | ***name*** *name* }	
Display multicast profile bind information	**display multicast-profile bound-info** { **all** | *index* }	

54.7 Configure Rule Profile

The rule profile is used to configure ONTs to register, allowing ONTs that match the rules to register and deliver the corresponding line profile configuration. Once-on discovery mode means that after the template configuration is completed, the ONT must register within the specified time, and the ONT is not allowed to authenticate after the timeout.
The activation process of the ONU is controlled by the OLT, and the activation process is roughly as follows:

1. The ONU receives the working parameters through the Upstream_Overhead message;
2. The ONU adjusts its own parameters (such as transmit optical power) according to the received working parameters;
3. The OLT finds the serial number of the new ONU through the Serial_Number Acquisition process;
4. The OLT assigns ONU-IDs to all new ONUs;
5. The OLT measures the equalization delay of the new ONU;
6. The OLT transmits the measured equalization delay to the ONU;
7. The ONU adjusts the sending starting point of its upstream frame according to the equalization delay;

The above activation process is accomplished by exchanging uplink and downlink flags and PLOAM messages.

Operation	Command	Remarks
Enter system view	**system-view**	
Creat\enter rule profile	**rule-profile** { *index* [**name** *name*] | **name** *name* }	
Configure LOID	**loid-auth** *loid* [**checkcode-auth** *code*]	
authentication	**line-profile** *index* [**once-on** { **aging-time** time | **no-aging** }]	
Configure password authentication	**password-auth** { **string** *string* **| hex** *hex* } **line-profile** *index* [**once-on** [**aging-time** time | **no-aging**]]	
Configure SN authentication	**sn-auth** { **string-hex** *sn* **| hex** *hex* } [**password-auth** { **string** *string* **| hex** *hex* }] **line-profile** *index*	
Save configuration	**commit**	
Display rule profile	**display rule-profile** { *index* | ***name*** *name* }	
Display the number of rule profile.	**display rule-profile count interface gpon** { *port_list* | **all** }	
Display rule profile information of the registered ONT.	**display rule-profile registered** { **sn** { **string-hex** *sn* | **hex** *hex* } **| loid** *loid* | **interface gpon** { **all** | *pon_id* } }	
Display rule profile information of the unregistered ONT.	**display rule-profile unregistered** { **sn** { **string-hex** *sn* | **hex** *hex* } **| loid** *loid* | **interface gpon** { **all** | *pon_id* } }	
Display ONT rule profile information	**display rule-profile register-info** { **sn** { **string-hex** *sn* | **hex** *hex* } | **loid** *loid* | **interface gpon** { **all** | *pon_id* } }	

54.8 Configure Specific Profile

The specific profile is used to configure ONT-specific configuration. When the specific template conflicts with the configuration in the line profile, the configuration of the specific template takes effect.

Operation	Command	Remarks
Enter system view	**system-view**	
Create/enter specific profile	**specific-profile** { *index* [**name** *name*] |	
	name *name* }	
Bind alarm profile or multicast profile	**bind** { **alarm-profile** | **multicast-profile** } { *index* [**name** *name*] | **name** *name* }	

Configure ONT description	**description** *description*	
Configure gemport	**gem** *num* **tcont** *num* [**encrypt** | **priority-queue** *queue* | **downstream-profile** *index* | **upstream-profile** *index* | **vlan-profile** *index*]	
Configure dynamic IP	**ip-config mode dhcp vlan** *vlan* [*pri*] **host** *host*	
Configure static IP	**ip-config mode static ip-address** *ip* **mask** *mask* **gateway** *gateway* **primary-dns** *dns1* **secondary-dns** *dns2* **vlan** *vlan* [*pri*]	
Configure port speed	**ont neg-mode speed** { **10** | **100** | **1000** | **auto** } **duplex** { **half** | **full** | **auto** } [**port** *num*]	
Configure ONT ranging balance	**ont ranging-balance** { **increase** | **decrease** } *num*	
Shutdown ONT CATV port	**ont shutdown** { **ont_id catv-port** *num* | **catv-port** *num* | **port** *num* }	
Configure CATV mode	**ont catv-agc mode** { **rf-based** | **optical-based** } { **increase** | **decrease** } *num* **catv-port** *num*	
Configure PoE max power	**poe max-power** *power* **port** *num*	
Configure PoE priority	**poe priority** { **critical** | **high** | **low** } **port** *num*	
Shutdown PoE	**poe shutdown port** *num*	
Configure SIP proxy-server	**sip agent proxy-server ip** [**outbound-proxy** *ip* | **registrar-server** *ip* | **signal-port** *port*]	
Configure SIP digitmap	**sip digitmap dial-plan-id** *id* **dial-plan-token** *digitmap*	
Configure SIP dynamic IP	**sip user mode dhcp vlan vlan** [*pri*] **host** *host*	
Configure SIP static IP	**sip user mode static ip-address** *ip* **mask** *mask* **gateway** *gateway* **primary-dns** *dns1* **secondary-dns** *dns2* **vlan** *vlan* [*pri*]	
Configure SIP account and password	**sip user** *user* **description** *description* **name** *name* **password** *password* **telno** *num*	
Configure tcont	**tcont** *num* **dba-profile** { *num* | **name** *name* }	
Save configuration	**commit**	
Display specific profile	**display specific-profile** { *index* | ***name*** *name* }	
Display specific profile bind information	**display specific-profile bound-info** { **all** | *index* }	

54.9 Configure Upstream Profile

The Upstream profile is used to configure the upstream rate limit of the ONT. When referencing this template, you need to set qos-mode to gem-car mode in the line profile.

Operation	Command	Remarks
Enter system view	**system-view**	
Creat\enter upstream profile	**upstream-profile** { *index* [**name** *name*] | **name** *name* }	
Configure ONT upstream	**upstream car cir** *cir* **cbs** *cbs* **pir** *pir* **pbs** *pbs*	
Save configuration	**commit**	
Display upstream profile	**display upstream-profile** { *index* | ***name*** *name* }	
display upstream profile	**display upstream-profile bound-info** { **all** |	
Bind information	Index }	

54.10 Configure VLAN Profile

VLAN profile are used to configure service vlan translation rules. The VLAN profile needs to be referenced in the line profile or specific profile.

Operation	Command	Remarks
Enter system view	**system-view**	
Enter\creat vlan profile	**vlan-profile** { *index* [**name** *name*] | **name** *name* }	
Configure vlan add rules	**add inner-vlan** *vlan* { *pri* } **outer-vlan** *vlan* { *pri* }	
Configure default vlan rules	**default vlan** *vlan* { *pri* }	
Configure vlan translate rules	**translate cvlan** *vlan* { *pri* } **svlan** *vlan* { *pri* }	
Configure vlan translate and add rules	**translate-and-add cvlan** *vlan* **svlan** *vlan* **outer-vlan** *vlan*	
Save configuration	**commit**	
Display VLAN profile	**display vlan-profile** { *index* | ***name*** *name* }	
Display VLAN profile bind information	**display vlan-profile bound-info** { **all** | *index* }	