

XL-MB103SW

MoCA Ethernet bridge



User's Guide

1. Check CPE's connection status under NC:

```
GD.LINK> enable /*access initial mode/
Password: admin /*enter password*/
GD.LINK# show online /*check online CPE's connection status*/
```

CPE-ID	UID	TxBitRate	RxBitRate	LinkAttenuation	Device Module	Version	RxError	RxPacket
1	00:23:1f:10:e2:6a	249Mbps	251Mbps	- 47db	GD-CPE-04-8995-EN	2	8	938509
2	00:23:1f:10:6d:06	247Mbps	251Mbps	- 47db	GD-CPE-04-8995-EN	2	164	1087984
3	00:23:1f:10:47:0d	252Mbps	249Mbps	- 45db	GD-CPE-02-8995-EN	1	43	4896038

Terminal's MAC add. Forwarding Receiving rate Actual Attenuation Error Packet Number

The normal link attenuation from NC to CPE should be kept in the range between 0~60dB, which can guarantee both receiving and forwarding rate being kept around 250Mbps and the error packet not increasing with each refresh as well as the regular communication between equipment. If the link attenuation is above 60db, then both receiving and forwarding rate would drop down and error packet would increase with each refresh. When the link attenuation is over the maximum 73db, then continuous request for link from CPE would come out.

2. Template Configuration

For example, in a community, VOD service is VLAN 100, IP service is VLAN 200, and if CPE's port 1 and port 3 are equipped for VOD service, port 2 and port 4 are equipped for IP service, the configuration should be made as bellow:

```
GD.LINK> enable /*access initial mode*/
Password: admin /*enter password*/
GD.LINK# configure terminal /*enter overall configuration mode*/
GD.LINK(config)# cpe-template enable /*open the template configuration mode*/
GD.LINK(config)# cpe-template 8021q on /*enable 802.1q VLAN configuration function*/
GD.LINK(config)# cpe-template port 1 enable /*open CEP's port 1*/
GD.LINK(config)# cpe-template port 1 access-vlan 100 /*configure CPE port 1's VLAN as Vlan 100*/
GD.LINK(config)# cpe-template port 2 enable /*open CPE's port 2*/
GD.LINK(config)# cpe-template port 2 access-vlan 200 /*configure CPE port 2's VLAN as Vlan 200*/
GD.LINK(config)# cpe-template port 3 enable /*open CPE's port 3*/
GD.LINK(config)# cpe-template port 3 access-vlan 100 /*configure CPE port 3's VLAN as Vlan 100*/
GD.LINK(config)# cpe-template port 4 enable /*open CPE's port 4*/
```

```
GD.LINK(config)# cpe-template port 4 access-vlan 200 /*configure CPE port 4's VLAN to be 200*/
GD.LINK(config-if)# end /*back to privilege configuration mode*/
GD.LINK# write /*save the current configuration*/
```

The NC must be restarted when configuration completed, then check with the command “show running-config” to view whether the configuration have been done as above or not.

```
GD.LINK# show running-config
configure terminal
terminal timeout 0
exit
```

```
configure terminal
cpe-template enable
cpe-template 8021q on
```

```
cpe-template port 1 enable
cpe-template port 1 access-vlan 100
cpe-template port 2 enable
cpe-template port 2 access-vlan 200
cpe-template port 3 enable
cpe-template port 3 access-vlan 100
cpe-template port 4 enable
cpe-template port 4 access-vlan 200
end
```

```
configure terminal
interface manage-interface
exit
end
```

```
configure terminal
port coax
exit
end
```

```
configure terminal
exit
end
```

For the place where Vlan configuration is needed for classification of service, when the template-configuration have been done in NC(Master), then the completed configuration can be automatically equipped to all CPE(slave) connected, make CPEs plug and play.

3. NMS (network management system) Configuration. The corresponding configuration need to be done so that the NC can be monitored through NMS. For example, The given IP address is 10.86.5.100, and the subnet mask is 255.255.252.0, management is VLAN 52, SNMP's community name is test.

```
GD.LINK> enable /*access initial mode*/
Password: admin /*enter password*/
GD.LINK# configure terminal /*access overall configuration mode*/
GD.LINK(config)# snmp community test /*configure SNMP parameter's community name to be test*/
GD.LINK(config)# snmp server start /*enable SNMP server*/
GD.LINK(config)# interface manage-interface /*access interface configuration mode*/

GD.LINK(config-if)# ip-address 10.86.5.100/22 gateway 10.86.4.1
/*configure IP address to be 10.86.5.100, 22 represents the
subnet mask bits, 10.86.4.1 is default gateway address*/

GD.LINK(config-if)# vlan 52 /*configure the management VLAN as Vlan 52*/
GD.LINK(config-if)# end /*back to privilege configuration mode*/
GD.LINK# write /*save the configuration*/
GD.LINK# show running-config /*check the finished configured program*/
configure terminal
snmp community test
snmp server start
exit

configure terminal
end

configure terminal
interface manage-interface
ip-address 10.86.5.100/22 gateway 10.86.4.1
vlan 52
exit
end

configure terminal
port coax
exit
end

configure terminal
headend
exit
end
```

4. Revise one NC's working frequency, change the default 1000MHz TO 1100MHz.

```
GD.LINK> enable / /*access initial mode*/
Password: admin /*enter password*/
GD.LINK# configure terminal . /*access global configuration mode*/
GD.LINK(config)# service stop /*stop NC service, access head-end configuration mode available only after NC stop */
GD.LINK(config)# headend /*access head-end configuration mode*/
GD.LINK(config-headend)# frequency 1100 /*revise the working frequency as 1100MHz*/
GD.LINK(config-headend)# exit /*back to the previous operation mode*/
GD.LINK(config)# service start /*start NC service*/
GD.LINK(config-if)# end / /*back to privilege configuration mode*/
GD.LINK# write /*save the configuration*/
GD.LINK# show running-config / /*check the finished program*/
configure terminal
exit

configure terminal
end

configure terminal
interface manage-interface
exit
end

configure terminal
port coax
exit
end

configure terminal
headend
frequency 1100
exit
end
```

This configuration is mainly for solving the basic interference problems. Use “show online” command under NC to observe whether the NC's attenuation value is in a normal range or not. If the forwarding or receiving rate is on the low side, or the error packet number in each refresh is constantly increased, and even leads CPEs often off-line, then it means the interference may existed in this frequency range. You can try to change the NC's default frequency to see whether you can solve the problem. NC's working frequency is between 950 ~1500MHz with total 23 frequency channels, and each channel's stepping is 25MHz. Apparently greater frequency modification occurs greater attenuation.

5. Configuration command based on authentication mode

```
GD.LINK> enable          \\Access privilege mode
Password: admin         \\Enter Password
GD.LINK# con t          \\Access overall configuration mode
GD.LINK(config)# service stop  \\Stop NC forwarding
GD.LINK(config)# headend      \\Access head-end configuration mode
GD.LINK(config-headend)# authentication on  \\Start authentication mode, when this mode start, all
                                           terminal CPEs must be configured manually again,
                                           otherwise CPEs can not be connected (shut down by
                                           default allows all CPEs' accesses).

GD.LINK(config-headend)# exit  \\Exit head-end mode
GD.LINK(config)# service start  \\Start NC forwarding
GD.LINK(config)# user 1        \\Permit access CPE' s ID number
GD.LINK(config-user 1)# uid xx:xx:xx:xx:xx  \\Permit access CPE' s MAC number
GD.LINK(config-user 1)# cpe-port 1 enable  \\Enable to set up CPE port 1
GD.LINK(config-user 1)# cpe-port 1 access-vlan xx  \\Set up VLAN of CPE port 1
GD.LINK(config-user 1)# end    \\Exit to privilege mode
GD.LINK# show run             \\Check configuration
GD.LINK#write                 \\Save Configuration
```

6. Change login password

```
GD.LINK> enable          \\Access privilege mode
Password:admin           \\Enter password admin
GD.LINK# con t          \\Access overall configuration mode
GD.LINK(config)# enable password xxx  \\ Enable Configure password
GD.LINK(config)#end     \\Exit to privilege mode
GD.LINK#write           \\Save configuration
```

7. Loop detection

```
GD.LINK> enable          \\Access privilege mode
Password:admin           \\Enter password admin
GD.LINK# con t          \\Enter overall configuration mode
GD.LINK(config)# looppdetect enable  \\Start loop detection (default is shut down)
GD.LINK(config)#end     \\Exit to privilege mode
GD.LINK#write           \\Save configuration
```

8. Check bit error rate

```
GD.LINK> enable          \\Enter privilege mode
Password:admin           \\Enter password admin
GD.LINK# show on        \\Check online CPE
```

GD.LINK# show o

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CPE MAC Add., Forwarding rate, Receiving Rate, Actual Attenuation,

Error Packet Number