

High Availability Local Networks



CONTRACTOR DISTANCES IN CONTRACTOR OF A DESCRIPTION OF A

HALNY NETWORKS ONT HALNY SFU ONT HL-1GE Configuration on CALIX OLT e7-2

OLT CALIX with firmware version 3.4.10.35





Configuration is related to below ONT:



HL-1GE 1GE GPON Uplink



1. Create ONT profile on OLT

CALIX OLT: ONTs > PROFILES > ONT PROFILE > PROFILES > CREATE:

- NAME should be set as ONTMODEL_CXNK (e.g HL-1GE_CXNK)
- VENDOR should be set as CXNK
- MODEL should be empty
- Profile should have ONT physical ports count defined (VOICE, GIG ETH, RF VIDEO)
- ETH OAM CAPABLE should be "N"
- CONVERT MULTICAST CAPABLE should be "N"
- RESIDENTIAL SERVICE should be "Y"
- FULL BRIDGE should be "Y,,
- DEFAULT TO RG MODE can be "Y" or "N"



2. GPON ONT SN auto change (HALN \rightarrow CXNK):

On ONT there is implemented automatic change of GPON SN when You connect to CALIX OLT. You don't need to do anything before connect ONT to OLT, just connect and ONT will change GPON SN. Even if You restore ONT to default settings it will change it again to CALIX (if still connected to OLT). ONT just need to have right firmware version which supports Extended IOP.



3. Add ONT to GPON port:

ONTs > DISCOVERED ONTS > Link to new Provisioning



4. Check if ONT is properly added

ONTs > PROVISIONING > click on ONT ID (e.g. 33)

ONT 33 (Location -	GPONPort:1-1-4)	ONT Status 33	
Admin State	enabled 💌	Operational Status	enable
Serial #	86044b0	Additional Status	child-prov present
Registration ID			
Subscriber ID		Model	HL-1GE_00
Description		Vendor	CXNK
PWE3 Profile	×	CLEI	HL-1GE
ONT Profile *	HL-1GE_CXNK	Downstream SDBER Rate	5
Upstream SDBER Rate	5	System Uptime	0 day, 00:15
NE Rx Optical Power Low Threshold (dBm)	-35.00	Optical Signal Level (dBm)	-17.618
NE Rx Optical Power High Threshold (dBm)	-7.00	Transmit Optical Lvl (dBm)	1.180
Battery Present	enable 💌	Receive Level at OLT (dBm)	-17.000
Pse Max Power Budget (watts) (effective in ONT	30	Current Downstream SDBER Rate (10^-n)	9
only if ownership is omci)		SDBER Rate (10^-n)	9
Poe High Power Mode	disabled 💌	Range Length (meters)	133
		Product Code	P8
		Current Software Version	V2.0.18

ONT Status 33	
Operational Status	enable
Additional Status	child-prov present
Model	HL-1GE_001
Vendor	CXNK
CLEI	HL-1GE
Downstream SDBER Rate	5
System Uptime	0 day, 00:15:29
Optical Signal Level (dBm)	-17.618
Transmit Optical Lvl (dBm)	1.180
Receive Level at OLT (dBm)	-17.000
Current Downstream SDBER Rate (10^-n)	9
Current Upstream SDBER Rate (10^-n)	9
Range Length (meters)	133
Product Code	P8
Current Software Version	V2.0.18
Alternate Software Version	V2.0.18ecx
Current Commited	true
RG Config File Version	
VoIP Config File Version	
Current Customer Version	
Alternate Customer Version	
ONU MAC	e0:5a:9f:60:44:b0



5. Create DBA profile

E7 > PROFILES > SERVICE > ETHERNET BANDWIDTH > PROFILES > CREATE

Navigation 🔹 🔠 帐	SYSTEM MANAGEME	NT RSTP ERPS G8	8032RING POLICIES	MULTICAST DHCP E	THERNET OAM PROFILES
■ E7	SERVICE GOS COS	PPPOE DSCP IP PR	EC IGMP SECURITY	ACCESS IDENTIFIER	VOICE POLICY
Shelf1	TAGGING ETHERNET B	ANDWIDTH MULTICAST	MULTICAST WHITE LIS	T ETHERNET SERVICE N	AMES SIP RMT SIP GV
Interfaces	PROFILES USAGE				
DNTs	CREATE DELETE ACTION	REFRESH APPLY Rows	s Per Page: 20 🔽 < >		
	NAME 🔺	COMMITTED RATE FOR	PEAK RATE FOR UPST	PEAK RATE FOR DOWN	DOWNSTREAM PEAK B
	IPTV_10s	512k	90m	0k	none
	Internet MAX	0k	1200m	1200m	none

5.1 Set Name and Upstream Rate, click create and check if DBA has been created (REFRESH).





6. Create multicast profile for IPTV services

E7 > PROFILES > SERVICE > MULTICAST > MULTICAST > PROFILES > CREATE

♦ SYSTEM	MANAGEMEN	NT RSTP	ERPS G80	32RING	POLICIES	MULTICAST	DHCP	ETHERNET	ОАМ	PROFILES
SERVICE	GOS COS	PPPOE	DSCP IP PRE	C IGMP	SECURITY	ACCESS II	ENTIFIER	VOICE P	OLICY	
TAGGING	ETHERNET BA	NDWIDTH	MULTICAST	MULTICAS	ST WHITE LIS	T ETHERNE	T SERVICE	NAMES	SIP RMT	SIP GW
MULTICAST	MULTICAST MAPS MVR									
PROFILES	USAGE									
CREATE DELETE ACTION - REFRESH APPLY Rows Per Page: 20 - < >										
NAME 🔺		MAX STREA	MS	MULTICAST	MAPS	MVR PROFIL	E	GENER/	AL QUERY	INTE C

6.1 Fill Name and click CREATE





ACCESS CONFIGURATION

If ONT has been working in TRANSPARENT mode, after setup to ACCESS mode You may need to disable/enable Data Service or reboot ONT.





7. Add mach-list for VLAN 100 ACCESS (Internet service)

E7 > PROFILES > SERVICE > TAGGING > MATCH LISTS > PROFILES > CREATE



7.1 Set Match List name

High Availability Local Networks







8. Create VLAN TAGGING ACTION for VLAN 100 ACCESS (Internet service)

E7 > PROFILES > SERVICE > TAGGING > TAG ACTIONS > PROFILES > CREATE

Navigation	🔹 🔠 🐱	+ SYSTEM	MANAGE	MENT RST	P ERPS	5 G8032	RING	POLICIES	MULTICAST	DHCP	ETHERNE	r oam	PROFILES
< <u>■E7</u>]		SERVICE	GO5 CO	5 РРРОЕ	DSCP	IP PREC	IGMP	SECURITY	ACCESS II	ENTIFIER	VOICE P	POLICY	
Shelf1		TAGGING	ETHERNET	BANDWIDTH	MULT	ICAST N	ULTICA	ST WHITE LIS	T ETHERNE	T SERVICE	NAMES	SIP RM	SIP G
▷ Interfaces		TAG ACTIO	NS MATC	H LISTS									
Donts		PROFILES	USAGE										
			ELETE ACT	ON - REFRE	SH APPL	Y Rows Pe	r Page: 💈	20 🗸 < >					

8.1 Fill all necessery fields, and click CREATE

reate						
Create Service Tag Action						
Name * ADD_VLAN_100						
Action * Add Tag						
Match List * 5 - (ADD_VLAN_100)						
S-VLAN (Outer Tag) 100						
Outer P-Bit Source Specify P-Bit						
Outer P-Bit 0						
Eth Type 0x8100 🗸						
Inner P-Bit Source same-as-outer						
Untagged P-Bit 0						
The inner-pbit controls and untagged pbit controls are applicable for ONLY GPON						
CREATE CANC	EL					



9. Access configuration Data Service (Internet) E7 > SHELF > CARD > GPON > ONT > SERVICES > TABLE> CREATE > DATA SERVICE



NOTE: Data service is used only in SFU MODE

In order to change mode to HGU You need to create Gateway Service instead of Data Service

9.1 Select Subscriber Port, Service Name, BW Profile and Service Tag Action from drop-down menu

Create					
Create Data Service					
Service Name*	Data1	•			
BW Profile *	1G	*	Service Tag Action *	ADD_VLAN_100	×
PON CoS	derived	*	Admin State	enabled	¥
Upstream Peak Rate Override	none	~	ownstream Peak Rate Override	none	~
Upstream Committed Rate Override	none	*			
Hot Swap	disabled	~			
PPPoe Force Discard					
					CREATE CANCEL





10. Add mach-list for VLAN 200 ACCESS (IPTV service)

E7 > PROFILES > SERVICE > TAGGING > MATCH LISTS > PROFILES > CREATE



10.2 Double-click on newly created match-list (ADD_VLAN_200) and add new Unagged Match Rule

10.1 Set Match List name

High Availability Local Networks





10.3 Leave all values default

Create							
Create Untagged Match Rule							
Source MAC	ignore		v				
Source MAC Mask	none		v				
Ethertype	any		*				
VPI	none		v				
VCI	none		v				
		CREATE	CANCEL				

11. Create VLAN TAGGING ACTION for VLAN 200 ACCESS (IPTV service)

E7 > PROFILES > SERVICE > TAGGING > TAG ACTIONS > PROFILES > CREATE

Navigation	🔹 🔠 🐱	← SYSTEM	MANAGEM	ENT RSTP	ERPS	G8032	RING	POLICIES	MULTICAST	DHCP	ETHERNET	OAM	PROFILES
< <u>■ E7</u>		SERVICE	GOS COS	PPPOE	DSCP	IP PREC	IGMP	SECURITY	ACCESS II	ENTIFIER	VOICE F	OLICY	
Shelf1		TAGGING	ETHERNET E	ANDWIDTH	MULT	ICAST N	IULTICA	ST WHITE LIS	T ETHERNE	T SERVICE	NAMES	SIP RMT	SIP 🐢
▷ Interfaces		TAG ACTIO	NS MATCH	LISTS									
DONTS		PROFILES	USAGE										
			ELETE ACTIO	N 🔻 🛛 REFRE	SH APPL	Y Rows Per	r Page: 💈	20 🔽 < >					

11.1 Fill all necessery fields, and click CREATE





12 Access configuration Video Service (IPTV)

E7 > SHELF > CARD > GPON > ONT > SERVICES > TABLE> CREATE > VIDEO SERVICE



12.1 Select Subscriber Port, Service Name, BW Profile and Service Tag Action from drop-down menu

Create			
Create Video Service			
Subscriber Port on	ONT 33		
Subscriber Port *	GE-1	~	
Subscriber ID			Description
** The ONT Subscriber ID	and Description will be copied	to th	e Port if the fields are left empty.
Create Video Servio	e		
Service Name*	Data1	~	
BW Profile *	1G	~	Service Tag Action * ADD_VLAN_200
Multicast Profile *	multicast-v-200	~	
PON CoS	derived	~	
Upstream Peak Rate Override	none	~	Downstream Peak Rate Override
Upstream Committed Rate Override	none	~	
Multicast White List (Hold down the Ctrl key to select or deselect multiple items)		+	Selected Multicast White List
Hot Swap	disabled	~	
PPPoe Force Discard			
			CREATE CANCEL



TRANSPARENT CONFIGURATION

If ONT has been working in ACCESS mode, after setup to TRANSPARENT mode You may need to disable/enable Data Service or reboot ONT





13. Add mach-list for VLAN 100 TRANSPARENT(Internet service)

E7 > PROFILES > SERVICE > TAGGING > MATCH LISTS > PROFILES > CREATE





13.2 Double-click on newly created match-list (VLAN_100) and add new Tagged Match Rule

SERV	ICE	GOS	CO5	PPPOE	DSCP	IP PREC			
TAGGING ETHERNET BANDWIDTH MULTICAST									
TAG	TAG ACTIONS MATCH LISTS								
PRO	PROFILES USAGE								
CRE	ATE -	DELETE		ON - REF	RESH AP	PLY TAB			
	Tagged Match Rule								
Untagged Match Rule									
I									

13.3 Set S-VLAN ID to 100

Create		
Create	Tagged Match Rule	
S-	VLAN (Outer Tag) 100	Y
	Outer P-Bit any	v
		CREATE CANCEL



14. TRANSPARENT configuration (Internet)

E7 > SHELF > CARD > GPON > ONT > SERVICES > TABLE> CREATE > DATA SERVICE



NOTE: Data service is used only in SFU MODE

In order to change mode to HGU You need to create Gateway Service instead of Data Service

14.1 Select Subscriber Port, Service Name, BW Profile and Service Tag Action from drop-down menu

Create Data Service	
Subscriber Port on ONT 33	
Subscriber Port * GE-1	
Subscriber ID	Description
** The ONT Subscriber ID and Description will be	copied to the Port if the fields are left empty.
Create Data Service	
Service Name* Data1	▼
BW Profile * 1G	Service Tag Action * VLAN_100
PON CoS derived	✓
Upstream Peak Rate Override	Downstream Peak Rate
Upstream Committed Rate Override	✓
Hot Swap disabled	▼
PPPoe Force Discard	
	CREATE CANCEL





15. Add mach-list for VLAN 200 TRANSPARENT (IPTV service)

E7 > PROFILES > SERVICE > TAGGING > MATCH LISTS > PROFILES > CREATE

lavigation	e 8 ĸ	← SYSTEM	MANAGEM	ENT RST	P ERPS	5 G8032	RING	POLICIES	MULTICAST	DHCP	ETHERNE	T OAM	PROFILES
4 <u>E7</u>		SERVICE	GOS COS	PPPOE	DSCP	IP PREC	IGMP	SECURITY	ACCESS I	DENTIFIER	VOICE	POLICY	
Shelf1		TAGGING	ETHERNET	BANDWIDTH	MULT	ICAST N	IULTICA	ST WHITE LIS	T ETHERN	ET SERVICE	NAMES	SIP RM	SIP GW
Interfaces		TAG ACTIO	NS MATCH	LISTS									
DNTs		PROFILES	USAGE										
		CREATE D	ELETE ACTIO	N - REFRE	ESH APPL	Y Rows Per	r Page: 2	20 🔽 < >					

15.1 Set Match List name



15.2 Double-click on newly created match-list (VLAN_200) and add new Tagged Match Rule

SERVICE	GOS	CO5	PPPOE	DSCP	IP PREC
TAGGING	ETHE	RNET B	ANDWIDTH	MUL	TICAST
TAG ACTIO	ONS	матсн	LISTS		
PROFILES	US/	AGE			
	DELET		ON - REF	RESH AP	PLY TAB
Tagge	ed Matc	h Rule			
Untag	jged Ma	tch Rule	0		

15.3 Set S-VLAN ID to 200

Create	
Create Tagged Match Rule	
S-VLAN (Outer Tag) 200	v
Outer P-Bit any	*
	CREATE CANCEL



16. Create VLAN TAGGING ACTION for VLAN 200 TRANSPARENT (IPTV service)

E7 > PROFILES > SERVICE > TAGGING > TAG ACTIONS > PROFILES > CREATE

lavigation	🛎 🔠 🚳	+ SYS	EM M	ANAGEME	NT RSTP	ERPS	G8032	RING	POLICIES	MULTICAST	DHCP	ETHERNE	T OAM	PROFILES
E7		SERVIC	GOS	COS	PPPOE	DSCP	IP PREC	IGMP	SECURITY	ACCESS I	DENTIFIER	VOICE	POLICY	
Shelf1		TAGGI	G ETI	IERNET BA	NDWIDTH	MULT	ICAST	MULTICA	ST WHITE LIS	T ETHERN	ET SERVICE	NAMES	SIP RM	SIP G
▷ Interfaces		TAG AC	TIONS	MATCH	ISTS									
DNTs		PROFI	LES U	SAGE										
		CREAT	DELET	ACTION	REFRE	SH APPLY	/ Rows Pe	r Page:	20 🗸 < >					

16.1 Fill all necessery fields, and click CREATE





17. Transparent configuration Video Service (IPTV)

E7 > SHELF > CARD > GPON > ONT > SERVICES > TABLE> CREATE > VIDEO SERVICE





17.1 Select Subscriber Port, Service Name, BW Profile and Service Tag Action from drop-down menu

Create Video Service		
Subscriber Port on ONT 33		
Subscriber Port * GE-1	v	
Subscriber ID	Description	
** The ONT Subscriber ID and Description will be o	copied to the Port if the fields are left empty.	
Create Video Service		
Service Name* Data1	<u>▼</u>	
BW Profile * 1G	Service Tag Action * VLAN_200	v
Multicast Profile * multicast-v-200	▼	
PON CoS derived	▼	
Upstream Peak Rate Override	Downstream Peak Rate Override none	*
Upstream Committed Rate Override	▼	
Multicast White List	A	A
(Hold down the Ctrl key to select or deselect	Selected Multicast White List	
multiple items)	·	•
Hot Swap disabled	✓	
PPPoe Force Discard		
		CREATE CANCEL

In transparent mode You can send via ONT up to 10 VLANs.

Video Service									
ID 🔺	SUBSCRIBER ID	DESCRIPTION	SERVICE TAG ACTION	BW PROFILE	S-VLAN (OUTER TAG)				
GE-1-Data2 😑			VLAN_200	1G	200				
₹									
Data Service									
ID 🔺	SUBSCRIBER ID	DESCRIPTION	SERVICE TAG ACTION	BW PROFILE	S-VLAN (OUTER TAG)				
GE-1-Data1 😑			VLAN_100	1G	100				
GE-1-Data3 😑			VLAN_400	1G	400				
4									





THANK YOU

HALNY

High Availability Local Networks