

CMS Scenario Configuration Guide V1.2

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1. CMS Introduction

CMS (Cloud Managed System) is a full-life cloud management platform launched by Sidit from planning, deployment, operation and maintenance to optimization. It provides an integrated and integrated O&M management solution for small and medium-sized operators, including centralized management, visual monitoring and intelligent operation and maintenance of network equipment such as ONU, OLT, switches and routers. In order to improve the efficiency of network management and reduce service costs.

1.1 Core Features

Centralized management <ul style="list-style-type: none">• Support TR-069 direct management of ONUs, compatible with third-party ONUs• Support MQTT management of OLTs and manages ONUs	Intelligent operation and maintenance <ul style="list-style-type: none">• Device and alarm data statistics, added trend analysis• Graphical monitoring of core indicators• User fault automatic diagnosis analysis	Graphical interaction <ul style="list-style-type: none">• One-click installation deployment• Upgrade/monitoring/diagnosis process guidance• Device/configuration visualization• Support for CMS App
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indirectly through

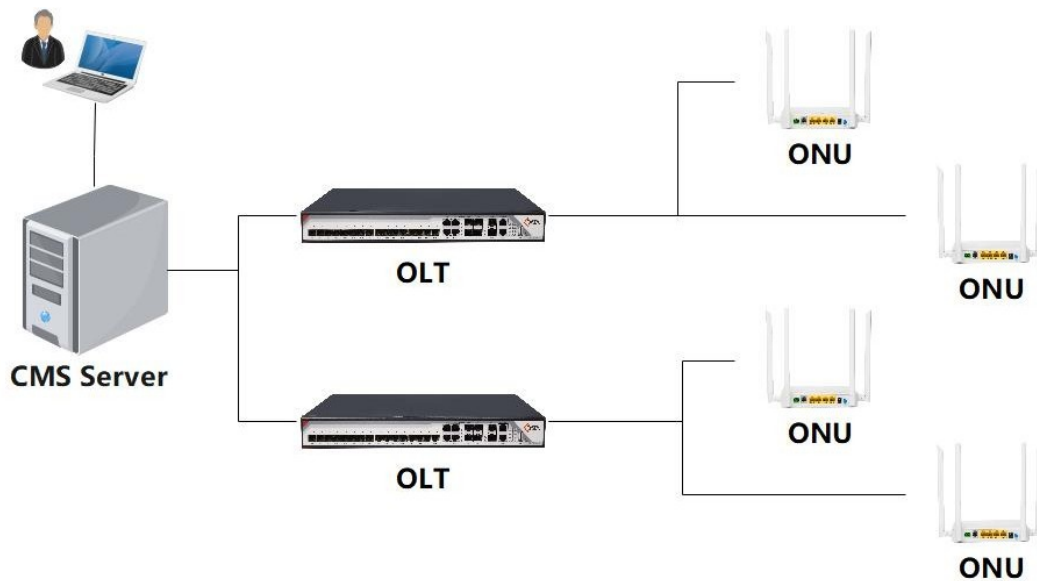
OMCI

- ONU/OLT batch configuration operation

- North interface

2. Installation and deployment

The CMS supports private deployment and can be installed on either a physical machine or a cloud host.



2.1 Step1-Prepare the environment

Before installing the CMS service, match the CMS configuration and operating system (OS) based on the scale of managed devices. Supports horizontal expansion and unlimited device access.


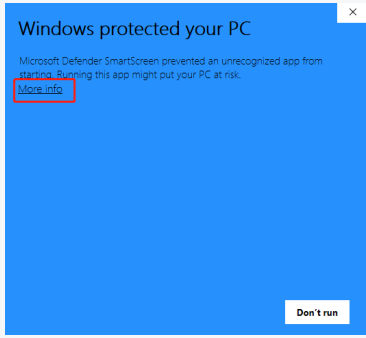
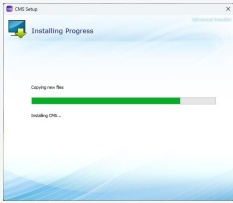

Minimum configuration requirements: CPU: 2 cores, memory: 4G, free hard disk space: 64 GB.

Device Size	CPU	Memory	Hard Disk Space
500k	Main frequency 2.65GHz 32 core	64G	4TB of free space, PCI-E 3.0 x 4 spec SSD drive
300k	Main frequency 2.65GHz 24 core	64G	2TB of free space, PCI-E 3.0 x 4 spec SSD drive

200k	Main frequency 2.65GHz 16 core	32G	2TB of free space, PCI-E 3.0 x 4 spec SSD drive
100k	Main frequency 2.65GHz 12 core	32G	1TB of free space, PCI-E 3.0 x 2 spec SSD drive
50k	Main frequency 2.65GHz 8 core	16G	512GB of free space, SATA spec SSD drive
30k	Main frequency 3.0GHz 4 core	16G	512GB of free space, SATA spec SSD drive

2.2 Step2-Install Wizard

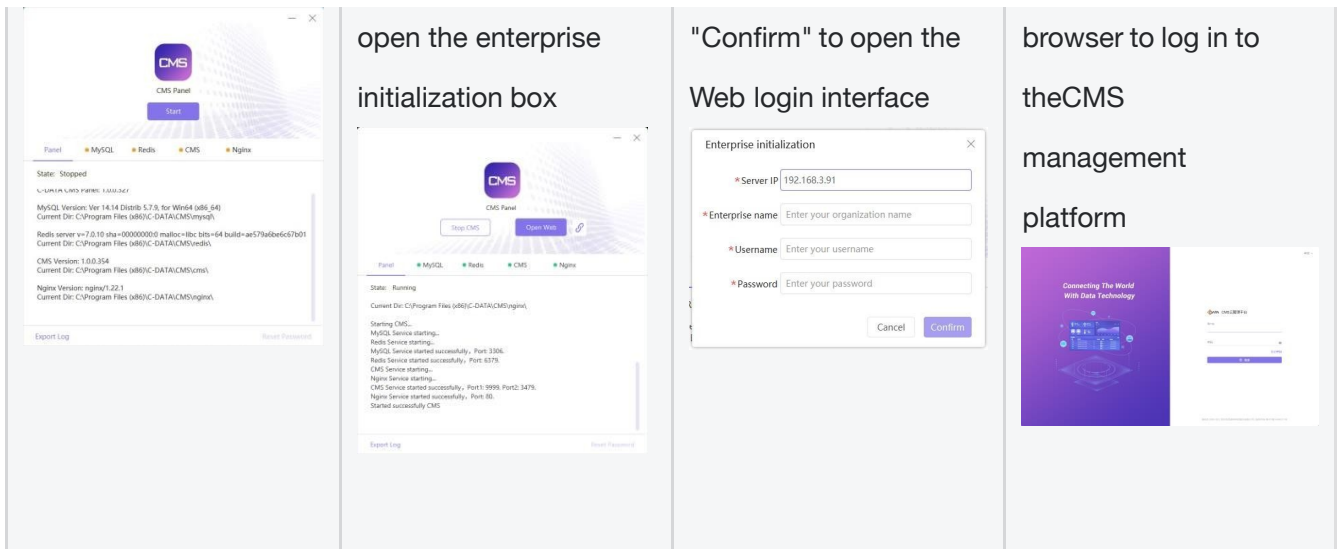
Open the CMS installer provided by the C-DATA sales and follow the wizard to complete the installation.

<p>1. Double-click the installation package to open the installation program</p> 	<p>2. After clicking "More info", select still want to run</p> 	<p>3. Follow the Installing process to install</p> 	<p>4. After the installation is complete, generate the CMS Panel icon on the desktop</p> 
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2.3 Step3-Start service

Open the desktop CMS Panel to start the service.

<p>1. Click "Start" to start the CMS service</p>	<p>2. After the startup is completed, click "Open Web" to</p>	<p>3. Fill in the enterprise initialization information and click</p>	<p>4. Enter the IP address of the CMS server in your</p>
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3. Single Device Bind

Once the CMS installation is completed, you can bind a single ONU or OLT to the CMS to make it easy to quickly see the display.

3.1 ONU Binding

The CMS manages the ONU through TR-069, which is compatible with third-party devices. The binding procedure consists of the following four steps.

Prerequisites: The ONU has been registered to OLT, and the OLT has been configured to ensure that the ONU can communicate with CMS.

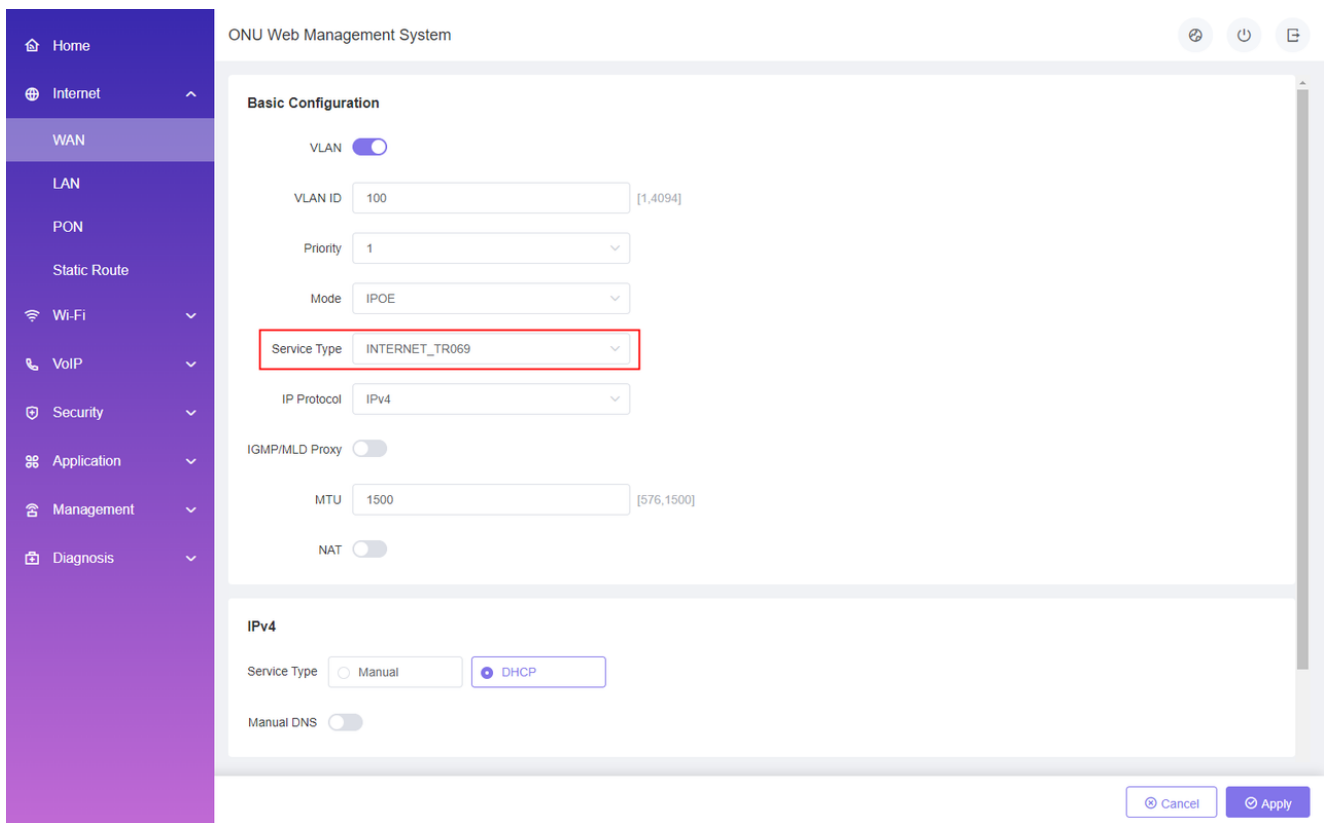
Upgraded ONU	TR-069 WAN Configuration	TR-069 Server Parameter Configuration
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3.1.1 ONU device upgrade

Log on to the ONU Web interface and upgrade the 07C model to version 3.1.0 or later. (Ignore this step if you are a third party ONU)

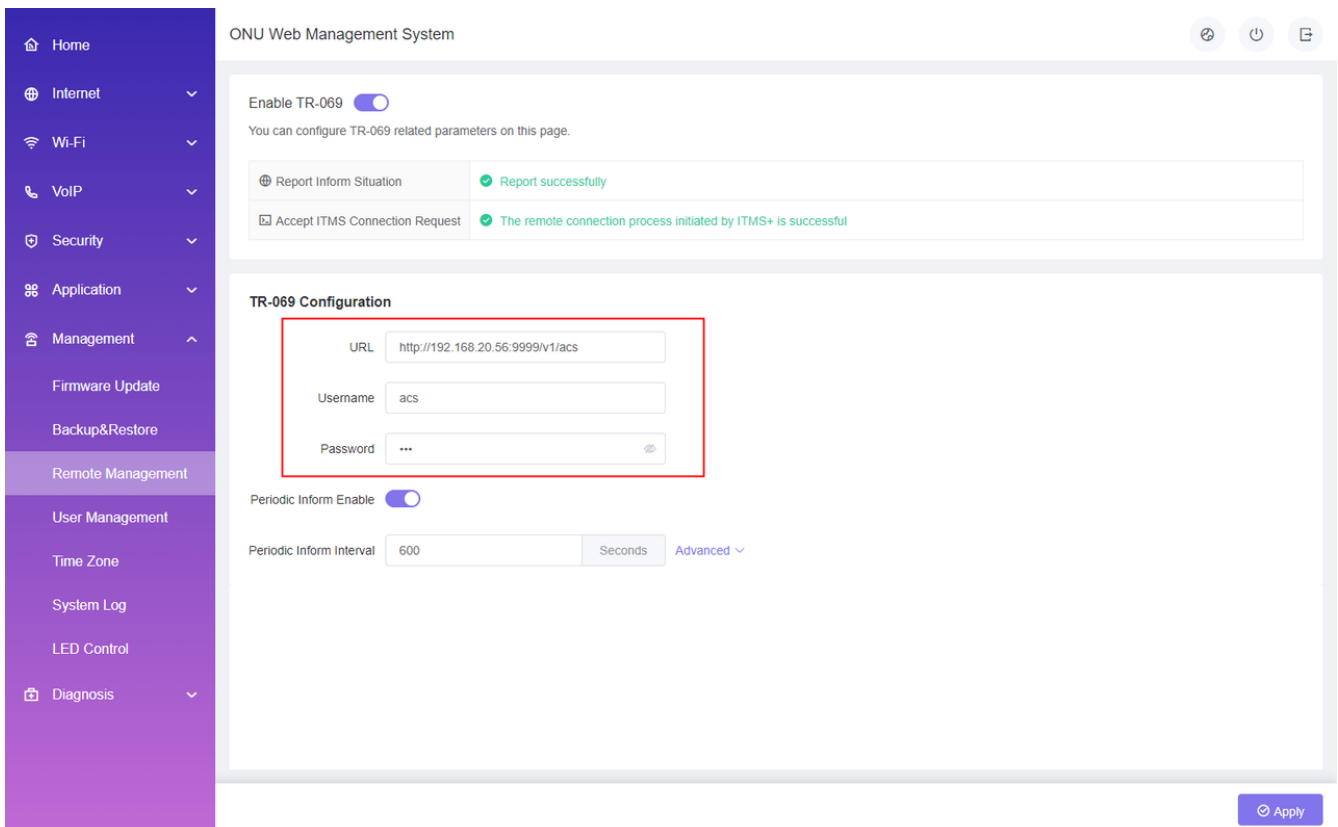
3.1.2 TR-069 WAN Configuration

Log in to the ONU Web interface, open the [Internet-WAN] interface, click "Add", select the TR-069 related type for Service Type, and create a TR-069 WAN.

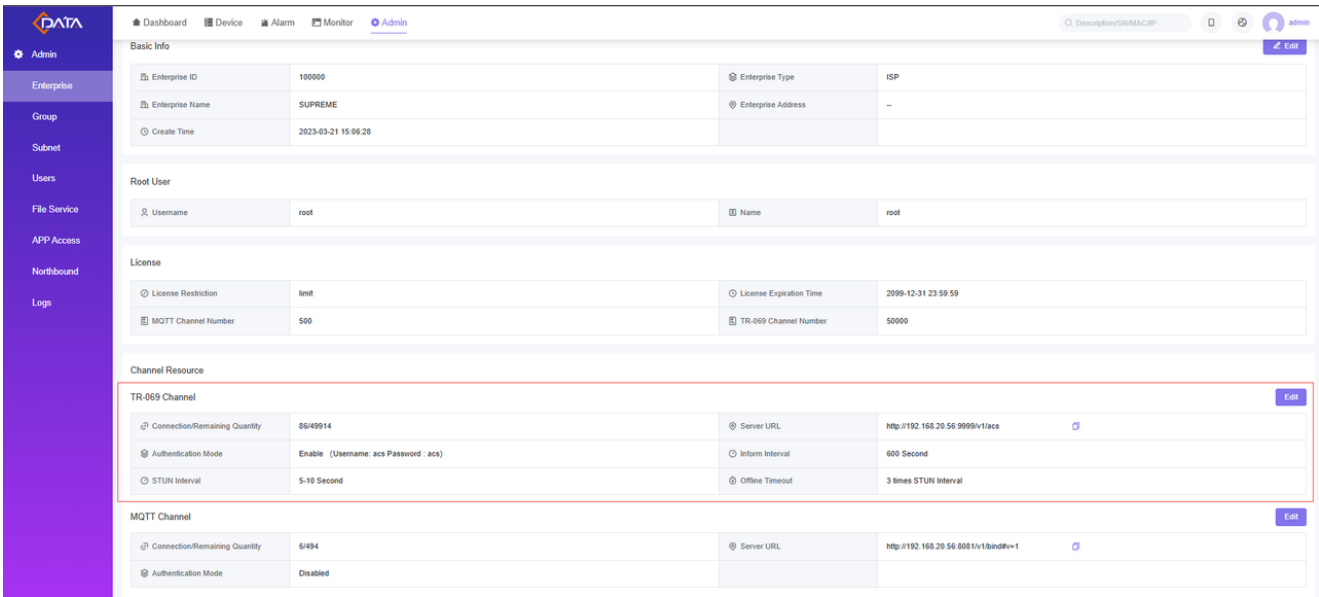


3.1.3 TR-069 server parameter configuration

Log in to the ONU Web page, open the [Management-Remote Management] page, and set the TR-069 parameters, including the server address, Username, and Password.

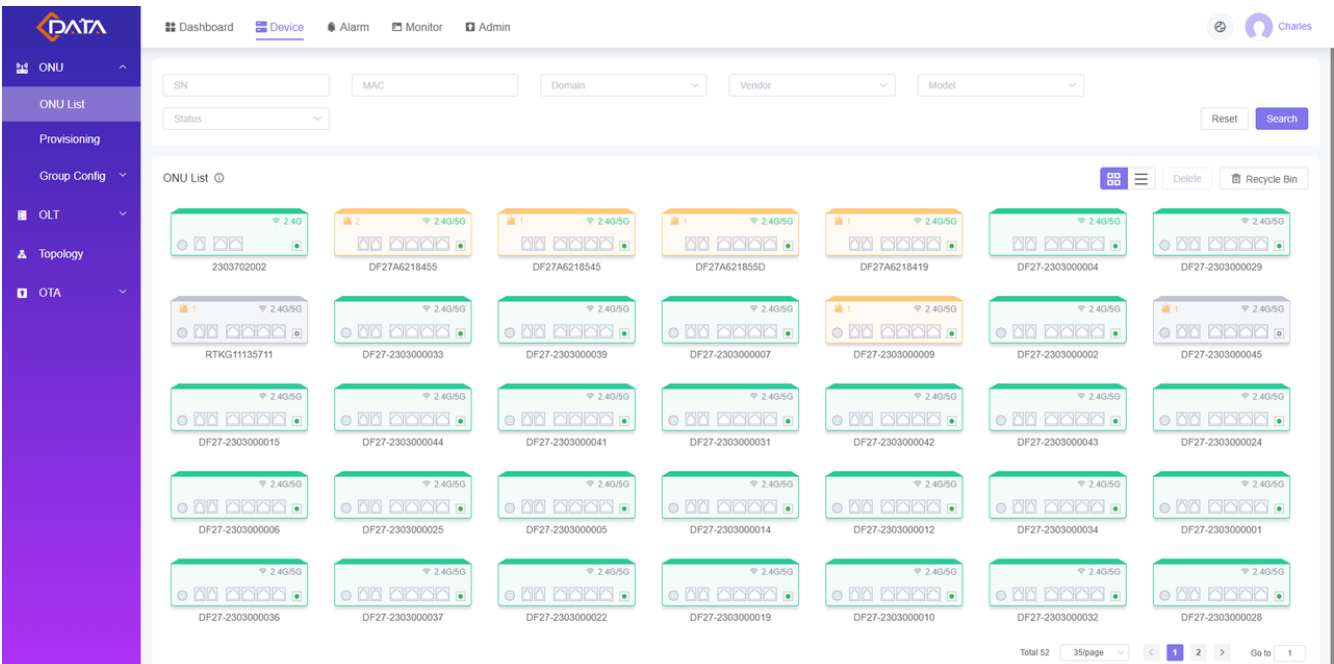


You can view the TR-069 parameters on the CMS [Admin-Enterprise] page.



3.1.4 Viewing the Binding result

Log in to the CMS management platform and open the **【Device-ONU-ONU List】** interface. You can view the bound ONUs in the list.



3.2 OLT Binding

CMS manages OLTs via MQTT and currently only supports C-DATA OLT bindings, with third-party OLT bindings supported in later versions.

Prerequisites: The OLT is routable to the CMS.

Upgrade OLT device

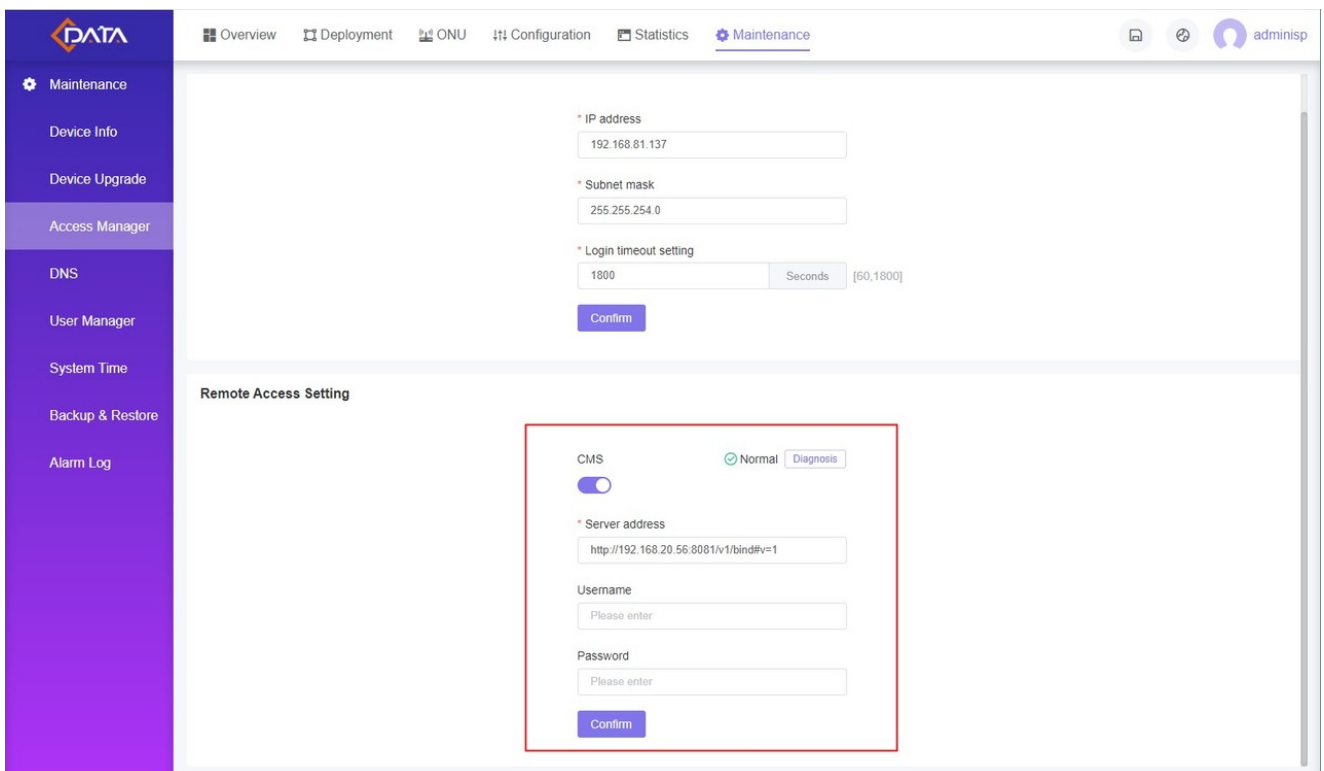
Enable the CMS remote access

3.2.1 OLT device upgrade

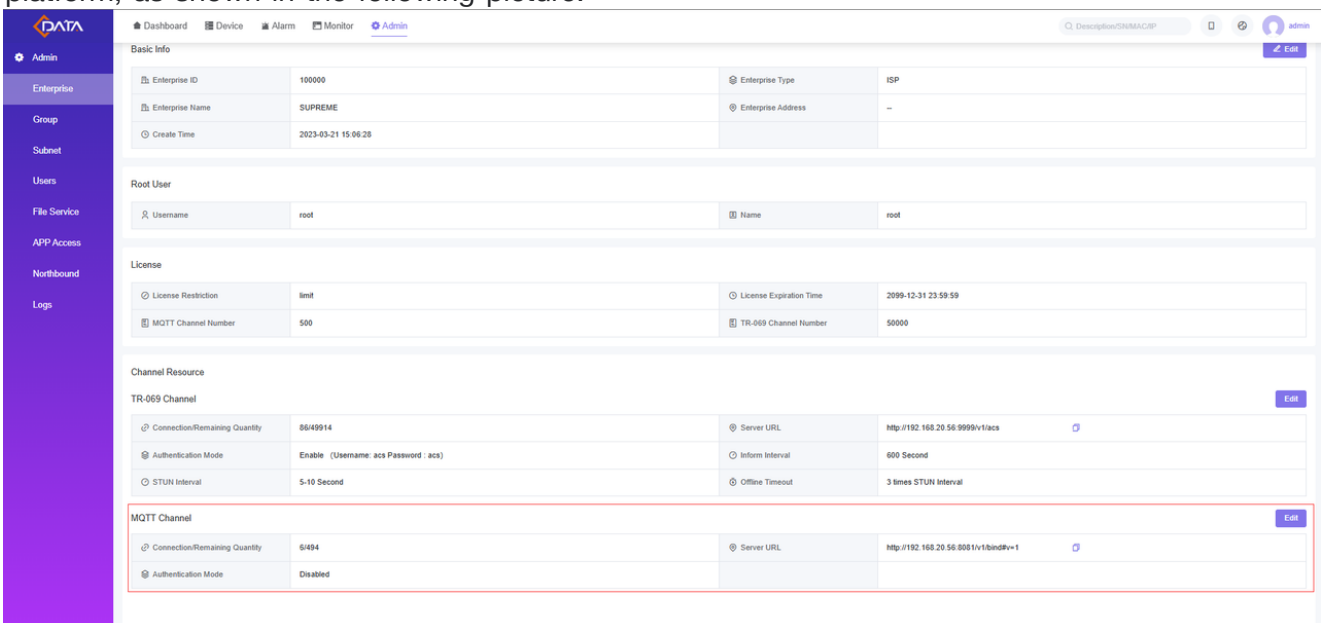
Log on to the ONU Web interface to upgrade your GPON 16 series model to version 3.2 and above.

3.2.2 Enable CMS remote access

Log in to the OLT Web Management platform, open the [Maintenance-Access Manager] interface, start the CMS switch, and fill in the CMS Server URL, as shown in the following picture.

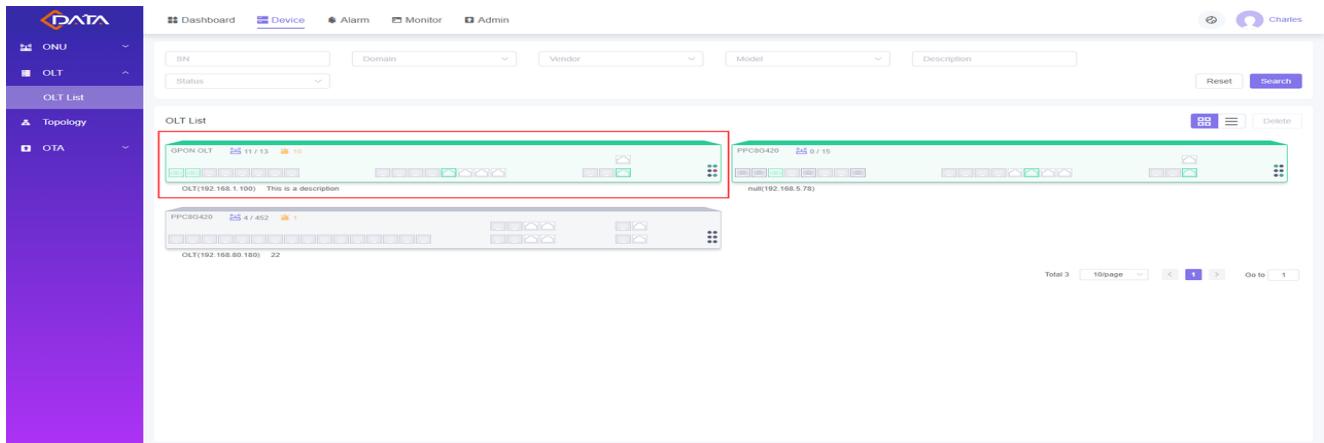


The CMS Server can be viewed in the [Admin-Enterprise] interface of CMS management platform, as shown in the following picture.



3.2.3 View the binding result

After the CMS is bound to the OLT successfully, log in to the CMS management platform and view the OLT information on the [Device-OLT-OLT List] interface, as shown in the following figure.



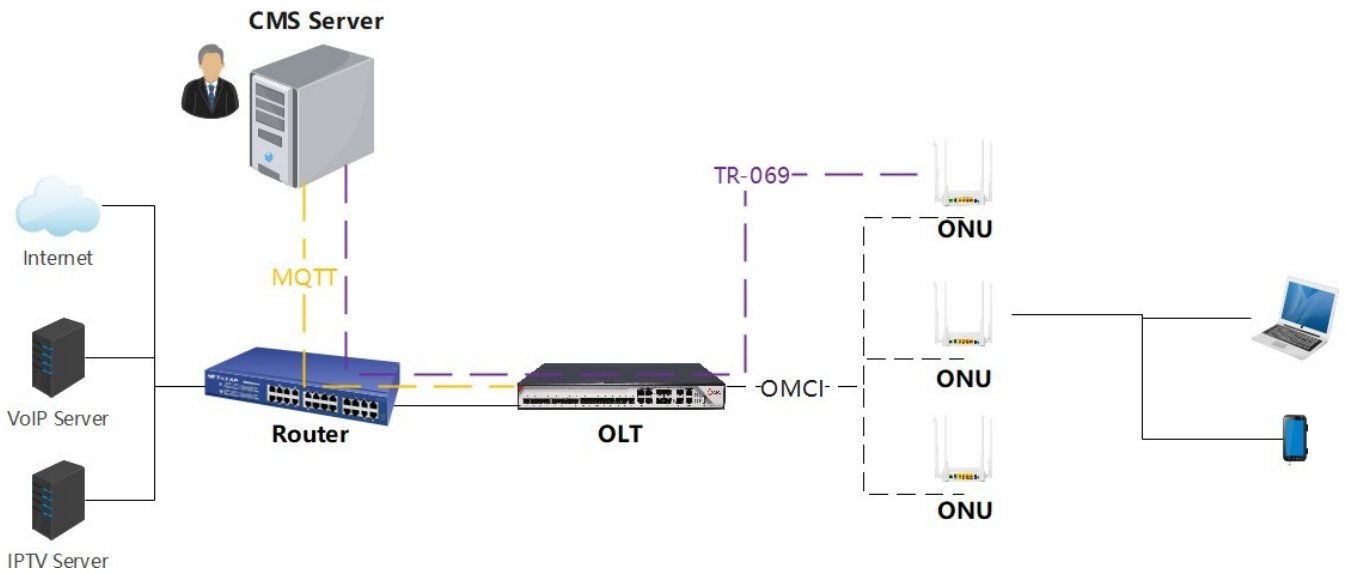
4. Network Management Scenario

After a single ONU/OLT binding is completed, the optimal solution is provided in the following three scenarios based on whether the OLT and ONU are managed by CMS and how they are managed.

1. CMS manages OLT and HGU at the same time. OLT is managed through MQTT and HGU is managed through TR-069.
2. CMS manages only OLT and OLT manages SFU through OMCI;
3. CMS does not manage OLTs, but directly manages HGU through TR-069, including third-party HGU.

4.1 Scenario 1: CMS manages OLTs via MQTT and HGU via TR-069

The network architecture as follows:



The recommended configuration procedure as follows:

The OLT is routable to the CMS	The OLT is bound to the CMS	OLT easy deployment	ONU bindir
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4.1.1 Step1 The OLT is routable to the CMS

To connect the OLT to the upstream route, you need to configure VLANIF interfaces and route.

4.1.1.1 Configure VLANIF Interfaces

- Log in to the OLT Web management platform, open the VLAN Planning page, add VLAN 300, and bind VLAN 300 to the GE1 port for management.

The screenshot shows the OLT Web management platform interface. The left sidebar contains navigation options: Configuration, Port Management, VLAN, VLAN Planning (selected), Port VLAN, VLANIF, Link Aggregation, IGMP, DHCP, Profile Management, MAC, and Loopback Detection. The main content area is titled 'VLAN Planning' and includes a search bar for 'VLAN ID', a 'Reset' button, and a 'Search' button. Below the search bar is a table with the following data:

<input type="checkbox"/>	VLAN ID	Description	Untag port	Tag port	Operate
<input type="checkbox"/>	1	N/A	ge 0/0/1,ge 0/0/3,xge 0/0/1	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	2	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	3	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	4	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	5	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	6	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete
<input type="checkbox"/>	7	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0/...	Details Edit Delete

At the bottom of the table, there is a pagination bar showing 'Total 4017', '20/page', and page numbers 1, 2, 3, 4, 5, 6, ..., 201, with a 'Go to' field set to 1. The 'Add VLAN' button is highlighted with a red box.

Add ×

* VLAN
 [1,4094]

Description

Port configuration

Port	Mode	Forbidden	Tag	Untag
ge 0/0/1	Hybrid	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ge 0/0/2	Hybrid	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/3	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/4	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
xge 0/0/1	Trunk	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Configure the management IP address 192.168.4.123 for VLAN 300.

DATA

Overview Deployment ONU Configuration Statistics Maintenance

charles

VLANIF ID VLANIF name IP address Reset Search

VLANIF Gateway Add

VLAN ID	VLANIF name	Description	Connection status	IP address	Subnet mask	Operate
100	Vlanif100	Optilink_MGMT	up	172.168.100.100	255.255.255.0	Edit Delete
200	Vlanif200	vlan200-Interface	up	192.168.95.249	255.255.248.0	Edit Delete

Configuration

Port Management

VLAN

VLAN Planning

Port VLAN

VLANIF

Link Aggregation

IGMP

DHCP

Add

* VLAN

300

* IP mode

Static IP

* IPv4 address

192.168.4.123

* Subnet mask

255.255.255.0

Description

manage_ip

Cancel Confirm

DATA

Overview Deployment ONU Configuration Statistics Maintenance

root

VLANIF ID VLANIF name IP address Reset Search

VLANIF Gateway Add

VLAN ID	VLANIF name	Description	Connection status	IP address	Subnet mask	Operate
100	Vlanif100	Optilink_MGMT	up	172.168.100.100	255.255.255.0	Edit Delete
200	Vlanif200	vlan200-Interface	up	192.168.95.249	255.255.248.0	Edit Delete
300	Vlanif300	manage_ip	up	192.168.4.123	255.255.255.0	Edit Delete

Configuration

Port Management

VLAN

VLANIF

Link Aggregation

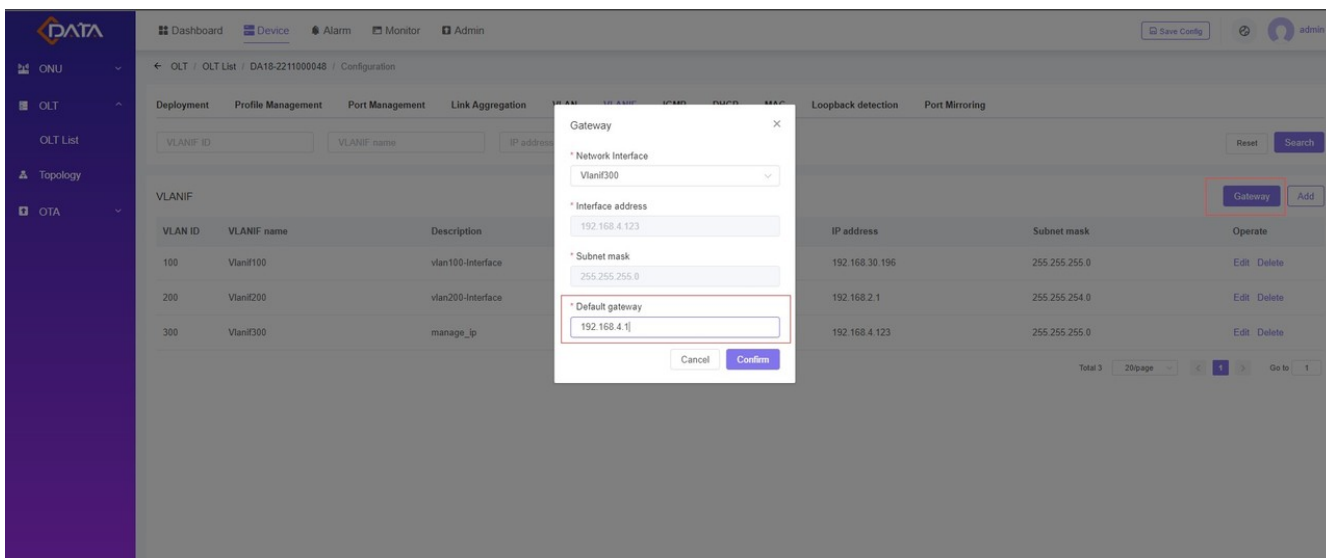
IGMP

DHCP

Profile Management

4.1.1.2 Configure Route

Configure the default route 192.168.4.1 for vlanif 300



4.1.2 Step2 Bind the OLT to the CMS

CMS manages OLTs through MQTT, currently only C-DATA OLT binding is supported, and later versions of third-party OLTs are supported.

OLT upgrade

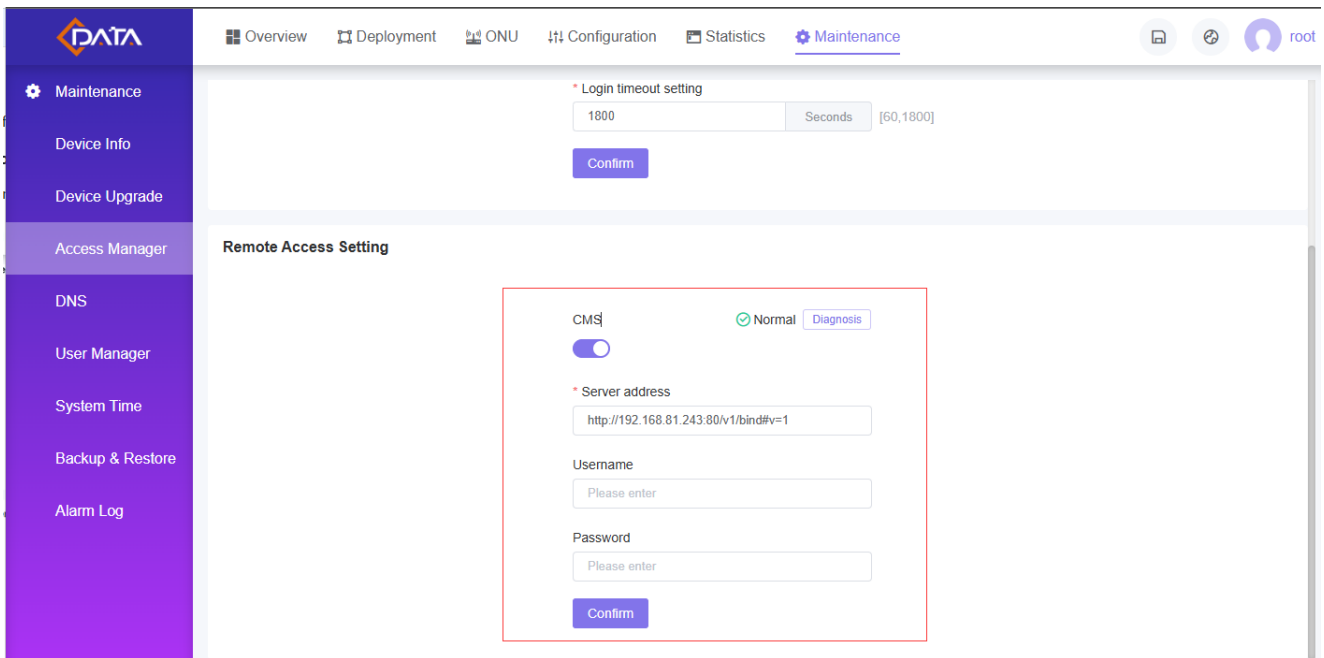
Enable the CMS remote access function

4.1.2.1 OLT upgrade

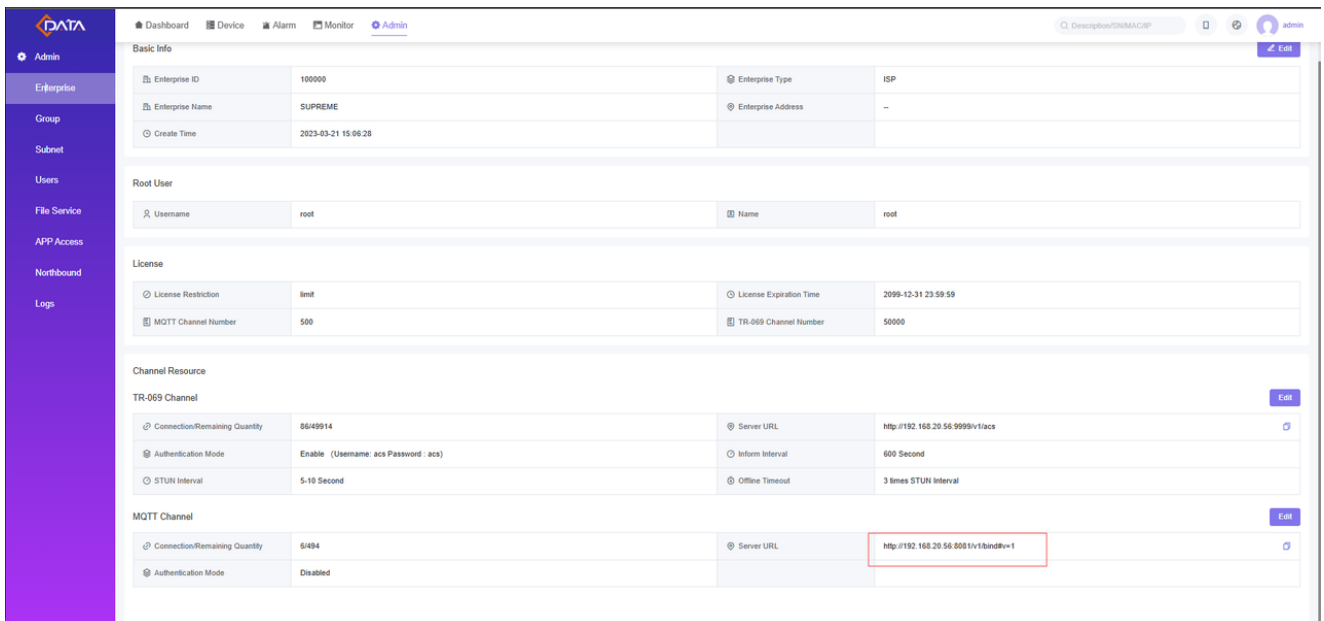
Log on to the OLT Web interface to upgrade your GPON 16 series OLT to version 3.2 or newer.

4.1.2.2 Enable CMS remote access

Log in to the OLT Web Management platform, open the [Maintenance-Access Manager] interface, start the CMS switch, and fill in the CMS Server and Port, as shown in the following figure.

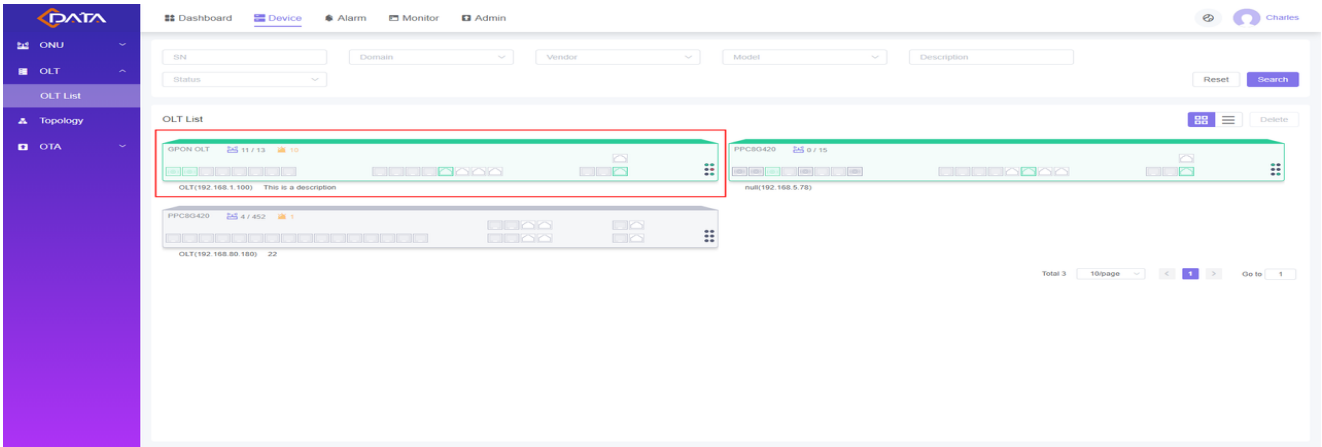


CMS Server and Port can be viewed on the **【Admin-Enterprise】** interface of CMS management platform, as shown in the following picture.



4.1.2.3 View the binding result

After the CMS is bound to the OLT successfully, log in to the CMS management platform and view the OLT information on the [Device-OLT-OLT List] interface, as shown in the following figure.



4.1.3 Step3 deployment of OLT

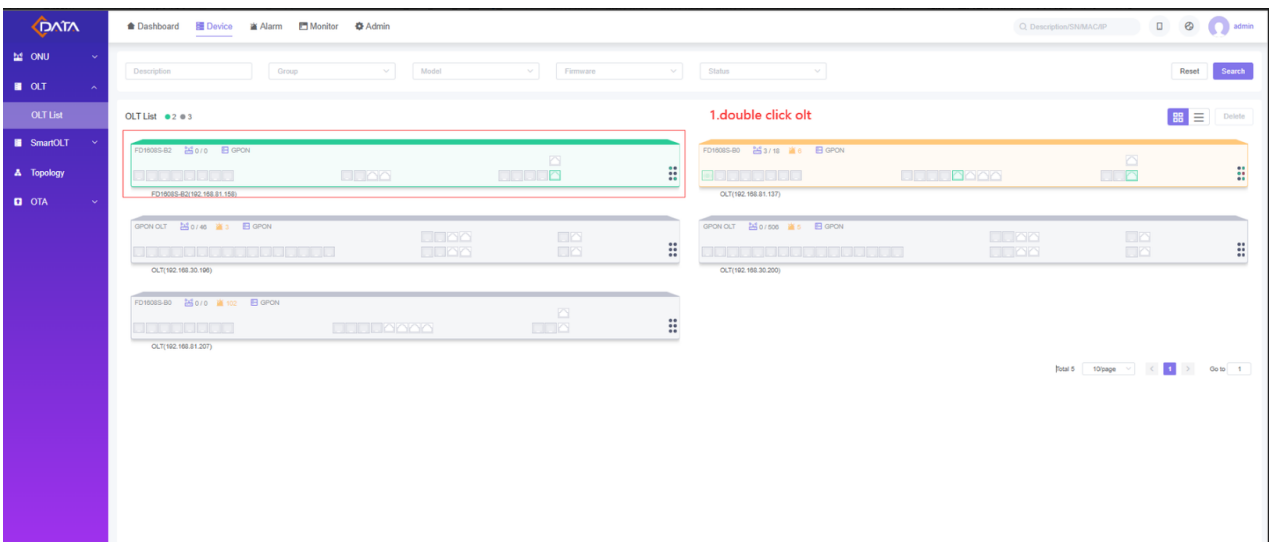
After the OLT is powered on, the simple deployment allows you to quickly configure the OLT globally and create deployment policies. After the ONU is power on, the policies are automatically delivered to the ONU connected the OLT.

Take the HGU as an example to implement Internet access services through simple deployment. The steps are as follows:

4.1.3.1 Prerequisites

Complete the configuration of the line profile, service profile, tr069 profile, Wan profile

- Create the line profile



Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description? | admin

ONU | OLT | OLT List | SmartOLT | Topology | OTA

OLT / OLT List / AF2101-160170001

ONU Manage | ONU Upgrade | **Configuration** | Port Statistics | More

2. click "Configuration"

Count: 2 pcs State: Running (Power)
Count: 3 pcs State: Running (FAN)
57% CPU | 24% Memory | 37.5°C Temperature

ONU Summary

Registered	0
Online	0
Active	0
Alarm	0

Rate

Unit:Mbps	Upload	Downstream
5		
4		
3		
2		
1		
0		

Alarm

Level	Alarm Name	Device Type	Alarm Source	Alarm Time
Major	PON 0/0/1 The TX output power of ...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 13:55:23
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 18:07:26
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:36:25
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:30:25

Alarm Trend

Subnet	Device Name	Description
Unassigned Subnet	FD1608S-B2	FD1608S-B2(192.168.81.158)
Device Type	Vendor	Model
--	C-Data	FD1608S-B2
SN	Hardware Version	Firmware
AF2101-160170001	V1.1	V3.1.56_240301
Inband MAC	Outband MAC	System Time
E0:67:83:39:56:07	E0:67:83:39:56:06	2024-4-23 17:37:15

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description? | admin

ONU | OLT | OLT List | SmartOLT | Topology | OTA

OLT / OLT List / AF2101-160170001 / Configuration

Deployment | **Profile Management** | Port Management | VLAN | VLANIF | Link Aggregation | ICMP | DHCP | MAC | Loopback detection | Port Mirroring | PPPoE+ | STP

Profile Management

DBA Profile | **Line Profile** | Service Profile | TR-069 Profile | WAN Profile

4. select "Line Profile"

Profile ID: Profile name:

Line Profile

Profile ID	Profile name	Operate
0	line-profile_0	Details Edit Delete
1	line-profile_yao	Details Edit Delete

5. click "Add"

Total 2 | 20page | 1 | Go to 1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description? | admin

ONU | OLT | OLT List | SmartOLT | Topology | OTA

OLT / OLT List / AF2101-160170001 / Configuration / New Profile

Global Configuration

* Profile name: 6. Profile name is "line-profile_yao"

* Mapping mode:

Tcont

Tcont1

*DBA

dba-profile_1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description:01 | admin

Tcont

Tcont1

*DBA
dba-profile_1 [Select] [Add]

Gemport

Tip: It is a suggestion to assign different Gemports for different businesses when configuring business channels

Gemport1

Mapping

Mapping1

*VLAN-transparent

*User VLAN
1000

*Tag-action
Vlan-Transparent

[Cancel] [Confirm]

7.gemport 1 vian 1000 for management

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description:01 | admin

Tcont

Tcont1

*DBA
dba-profile_1 [Select] [Add]

Gemport

Tip: It is a suggestion to assign different Gemports for different businesses when configuring business channels

Gemport1

Mapping

Mapping1

*VLAN-transparent

*User VLAN
1000

*Tag-action
Vlan-Transparent

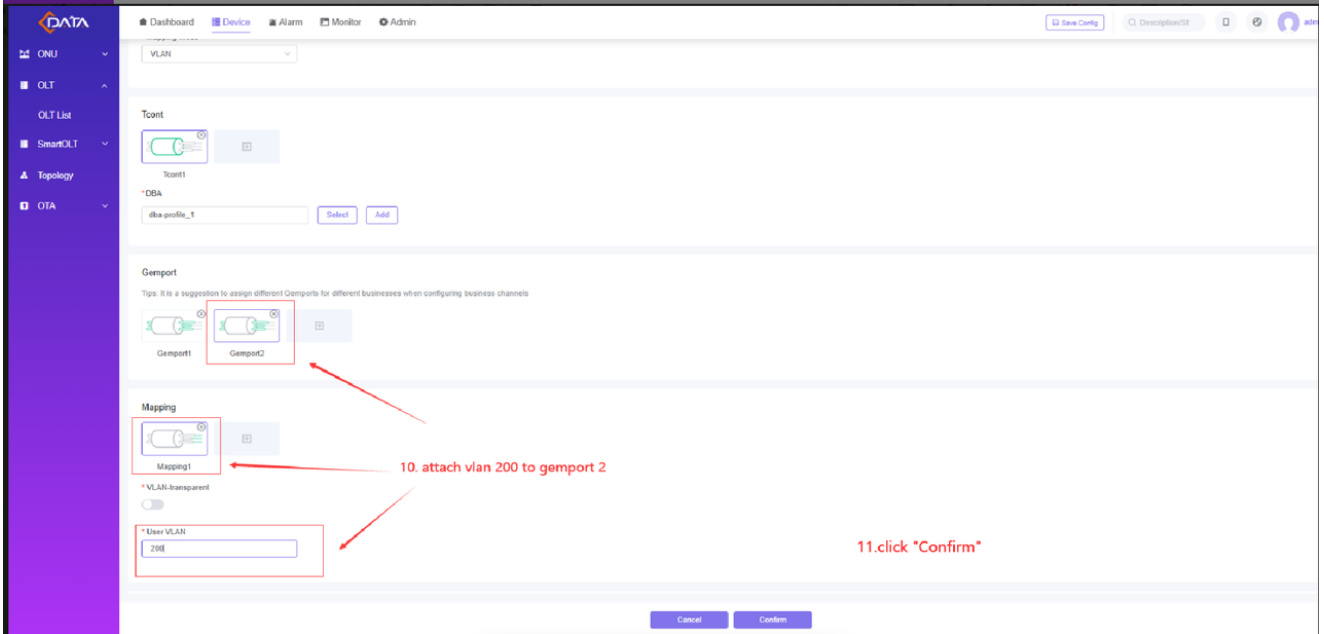
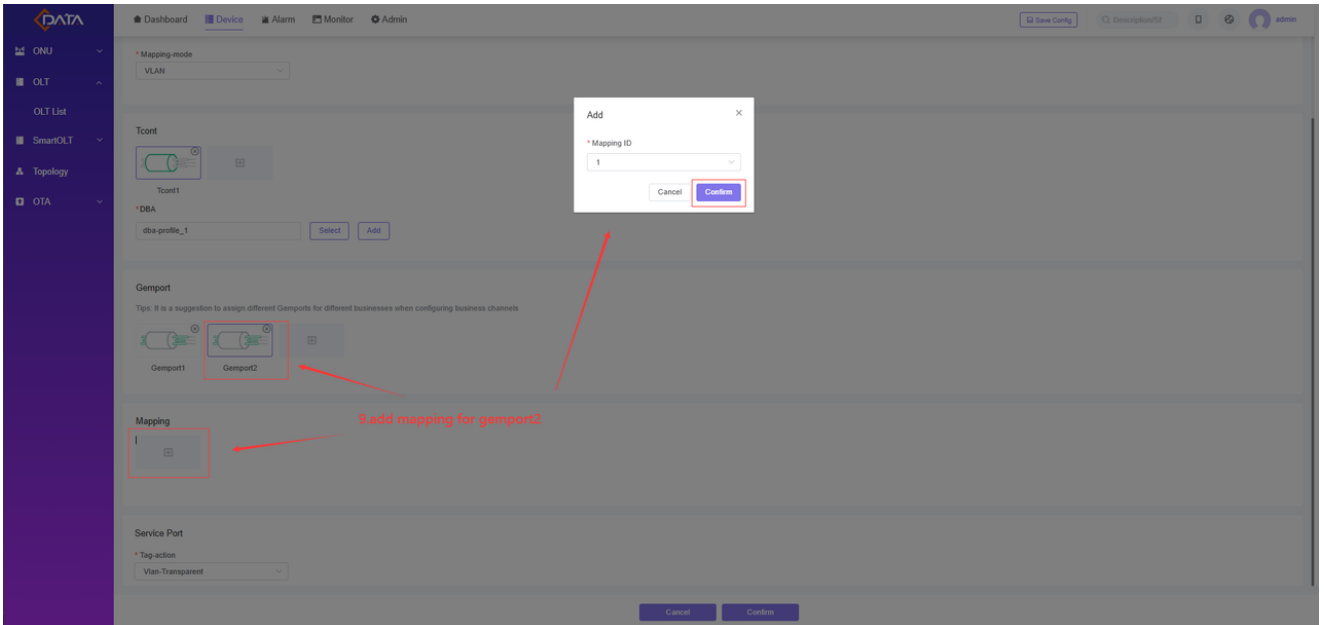
[Cancel] [Confirm]

Add

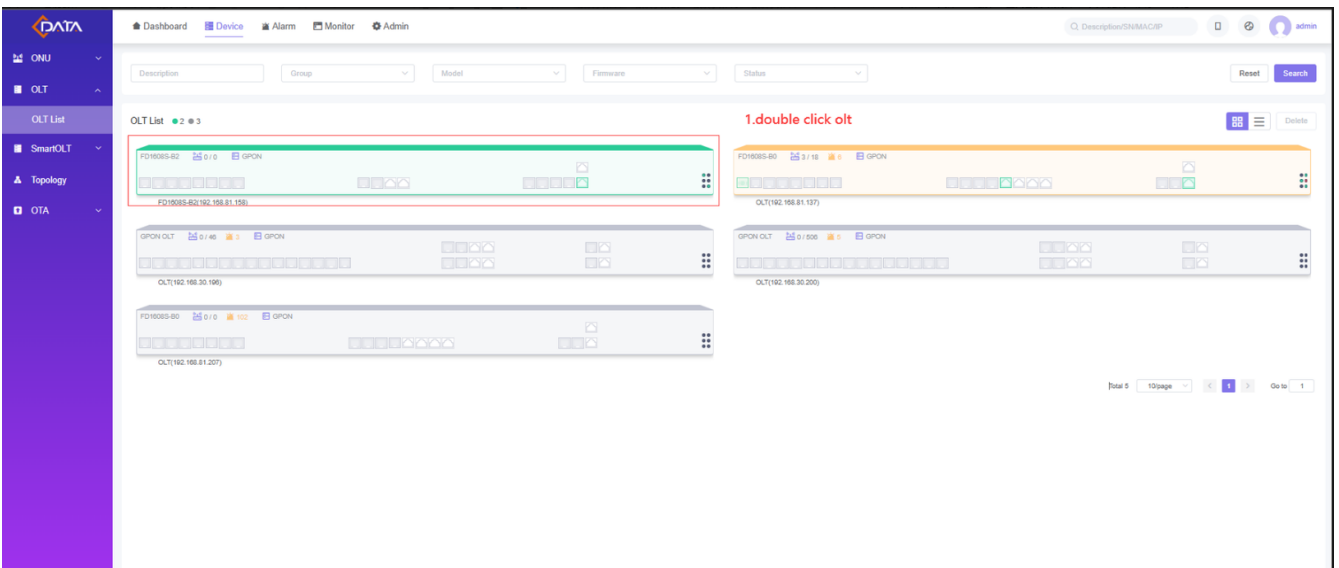
*Gemport ID
2

[Cancel] [Confirm]

8.add another gemport for internet service



• Create a service profile



Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SF | admin

ONU Manage | ONU Upgrade | **Configuration** | Port Statistics | More

2. click "Configuration"

Level	Alarm Name	Device Type	Alarm Source	Alarm time
Major	PON 0/01 The TX output power of ...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 13:55:23
Minor	PON 0/01 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 18:07:26
Minor	PON 0/01 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:36:25
Minor	PON 0/01 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:30:25

Subnet	Device Name	Description
Unassigned Subnet	FD1608S-B2	FD1608S-B2(192.168.81.158)
Device Type	Vendor	Model
--	C-Data	FD1608S-B2
SN	Hardware Version	Firmware
AF2101-160170001	V1.1	V3.1.56_240301
Inband MAC	Outband MAC	System Time
E0:67:83:39:56:07	E0:67:83:39:56:06	2024-4-23 17:37:15

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SF | admin

Profile Management | Port Management | VLAN | VLANIF | Link Aggregation | IGMP | DHCP | MAC | Loopback detection | Port Mirroring | PPPoE+ | STP

3. click "Profile Management"

4. click "Service Profile"

5. click "Add"

Profile Management

DBA Profile | Line Profile | **Service Profile** | TR-069 Profile | WAN Profile

Profile ID: Profile name: Reset Search

Service Profile

Profile ID	Profile name	Operate
0	srv-profile_0	Details Edit Delete

Total 1 | 20page | 1 | Go to 1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SF | admin

ONU Manage | ONU Upgrade | Configuration | Port Statistics | More

Configuration / New Profile

1 Basic Configuration | 2 IP Host | 3 ONU Port | 4 ONU Multicast | 5 Completed

Basic Info

* Profile name: 6. Profile name is "srv-profile_yao"

* Loopback detection:

ONU Capability Planning

* ETH:

* POTQ:

* CATV:

* IP Host:

7. onu capability keep default

Next 8. click "Next"

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/ST | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

IP Host Configuration

+

9. don't need configure iphost, click next

Previous **Next**

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/ST | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

Port configuration

* Native VLAN

Concern Unconcern

Port VLAN Configuration

Port	Native VLAN	Native VLAN priority	Operate
1	1	0	Edit Delete
2	1	0	Edit Delete
3	1	0	Edit Delete
4	1	0	Edit Delete

Add

Configure VLAN Rules For Ports

Port	VLAN mode	Service VLAN	Service VLAN priority	User VLAN	User VLAN priority	Operate
1	Transparent	N/A	N/A	N/A	N/A	Edit Delete

Add

10. ONU port keep default and click Next

Previous **Next**

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/ST | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

ONU Multicast

ONU Multicast

* Multicast mode

Snooping

* Fast-leave

11. enable multicast mode and click "Next"

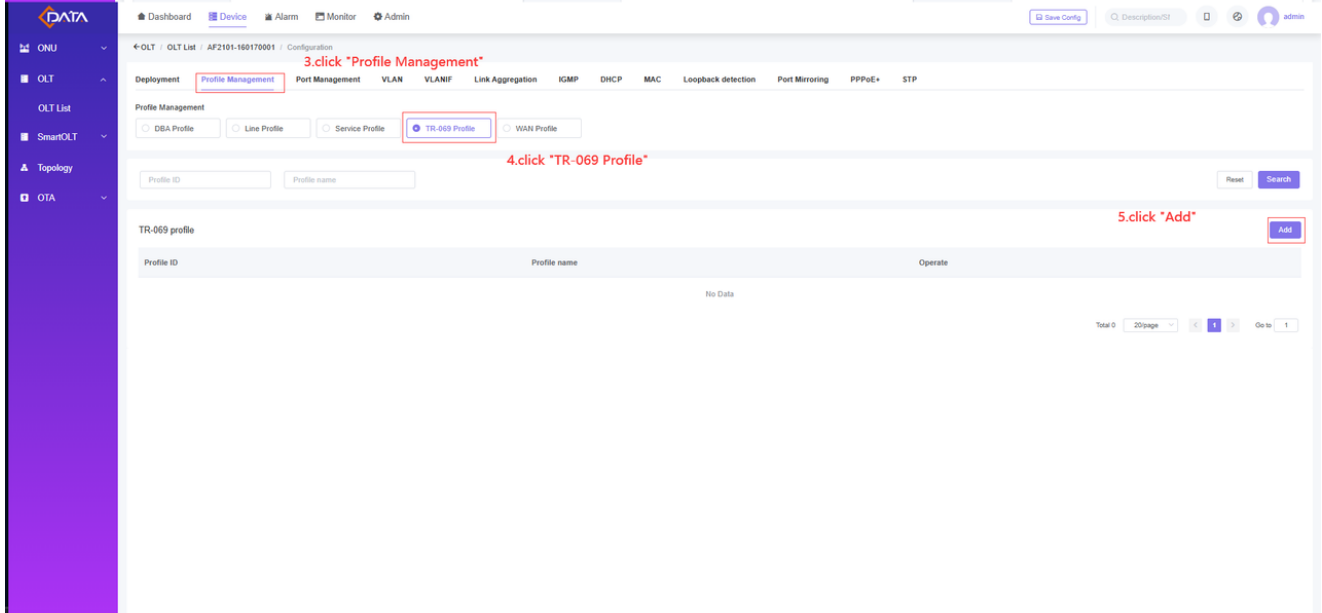
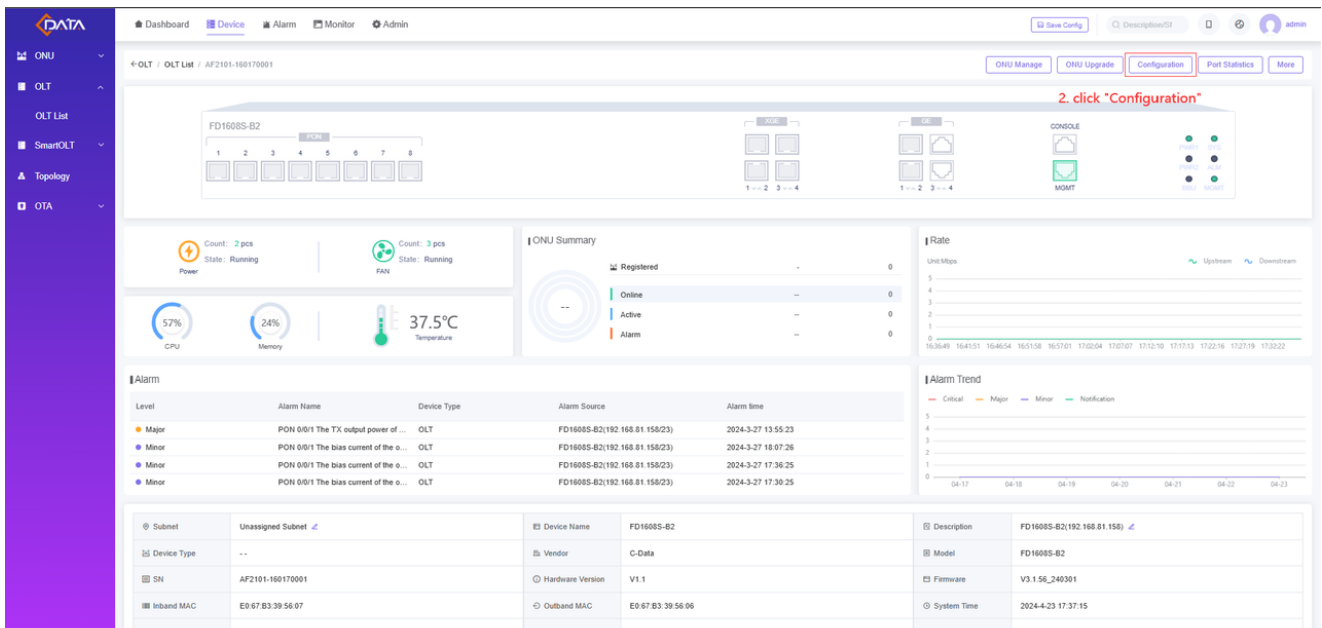
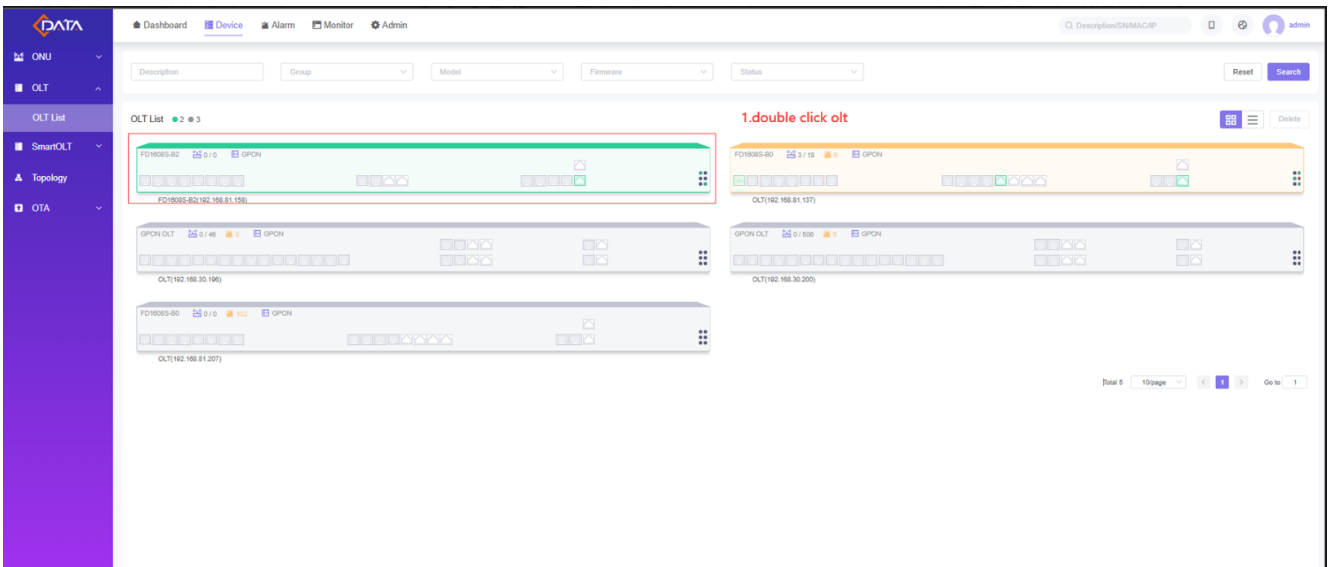
Multicast Rules Configuration

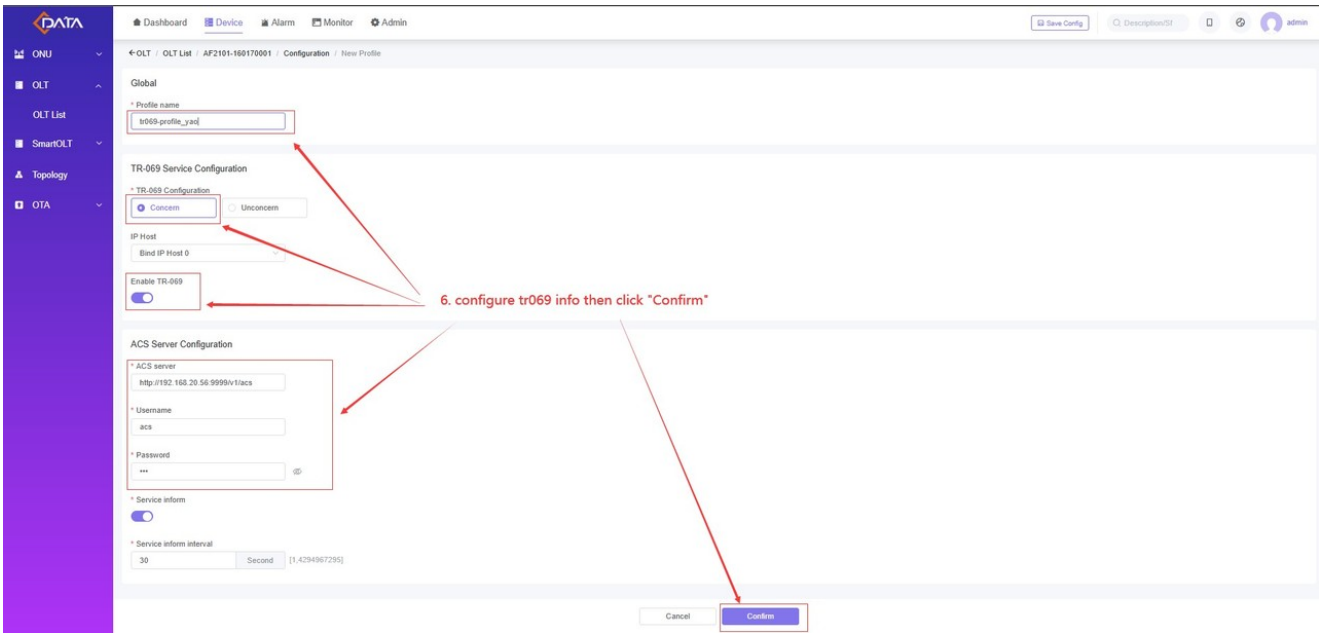
Port	Multicast VLAN	Multicast IP type	Multicast IP address		Forwarding mode	IGMP-Forward		Multicast-Forward	Operate
			Starting IP	Ending IP		Default VLAN	Default VLAN priority		
No Data									

Add

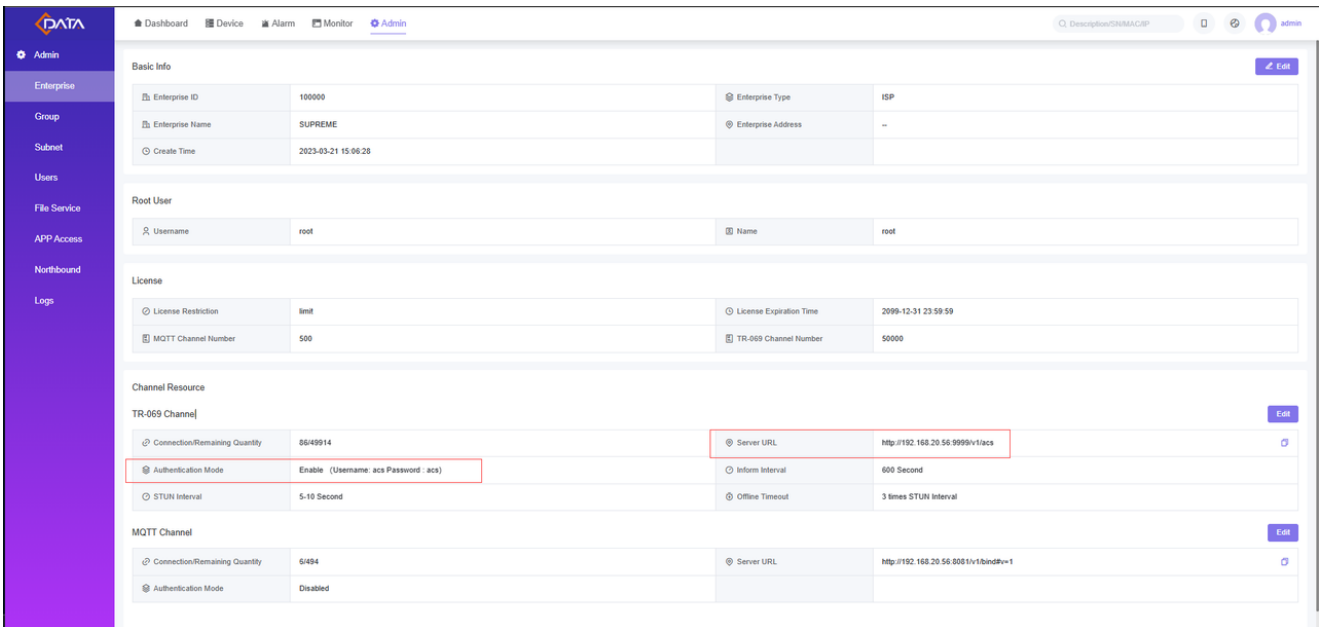
Previous **Next**

● Create a tr069 profile





Note: ACS server Configuration requires and [Admin-Enterprise], as shown in the image below:



- Create wan profile

Dashboard | Device | Alarm | Monitor | Admin

Search: Description/ONU/MAC/IP

OLT List #2 #3

1. double click olt

FD1608S-B2 0/1/0 GPON
OLT/192.168.81.158

FD1608S-B2 0/1/0 GPON
OLT/192.168.81.137

GPON OLT 0/1/0 GPON
OLT/192.168.30.190

GPON OLT 0/1/0 GPON
OLT/192.168.30.200

FD1608S-B2 0/1/0 GPON
OLT/192.168.81.207

Page 5 | 10page | Go to 1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/ST

ONU Manage | ONU Upgrade | Configuration | Port Statistics | More

2. click "Configuration"

FD1608S-B2

Power: 2 pcs, State: Running | FAN: 3 pcs, State: Running

CPU: 57% | Memory: 24% | Temperature: 37.5°C

ONU Summary

Registered	0
Online	0
Active	0
Alarm	0

Rate

Link Mbps	Upstream	Downstream
3		
4		
3		
2		
1		
0		

Alarm

Level	Alarm Name	Device Type	Alarm Source	Alarm time
Major	PON 0/0/1 The TX output power of ...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 13:55:23
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 18:07:26
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:36:25
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:30:25

Subnet: Unassigned Subnet | Device Name: FD1608S-B2 | Description: FD1608S-B2(192.168.81.158)

Device Type: ... | Vendor: C-Data | Model: FD1608S-B2

SN: AF2101-160170001 | Hardware Version: V1.1 | Firmware: V1.1.56_240301

Inband MAC: E0:67:83:39:56:07 | Outband MAC: E0:67:83:39:56:06 | System Time: 2024-4-23 17:37:15

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Notice: Delete successfully

Deployment: Profile Management | Port Management | VLAN | VLANIF | Link Aggregation | IGMP | DHCP | MAC | Loopback detection | Port Mirroring | PPPoE+ | STP

3. click "Profile Management"

Profile Management

DBA Profile | Line Profile | Service Profile | TR-069 Profile | WAN Profile

4. click "WAN Profile"

Profile ID: | Profile name: | Reset | Search

WAN Profile

5. click "Add"

Add

Profile ID	Profile name	Operate
No Data		

Total 0 | 20page | Go to 1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description | admin

← OLT / OLT List / DA18-2211000047 / Configuration / New Profile

1 Basic Configuration 2 WAN 3 Completed

Basic Configuration

* Profile name

wan-profile_yao

6. profile name is "wan-profile_yao"

Next

Dashboard | Device | Alarm | Monitor | Admin

← OLT / OLT List / DA18-2211000047 / Configuration / New Profile

1 Basic Configuration 2 WAN 3 Completed

WAN Configuration

Name	Mode	VLAN	Multicast VLAN	IP protocol	IP address	Gateway
No Data						

7. Add tr069 wan

Previous Next

Add WAN

Basic Configuration

VLAN

* VLAN ID: 1000 [1,4094]

* VLAN priority: 5

* Mode: IPoE

* Service type: TR069

* IP protocol: IPv4

* MTU: 1500 [576,1500]

IPv4 Configuration

* Mode: Static IP DHCP

Cancel Confirm

8. Add internet wan

9. click "Confirm"

4.1.3.2 Deployment

1. double click olt

Dashboard Device Alarm Monitor Admin Save Config Description/ST admin

← OLT / OLT List / AF2101-160170001

ONU Manage ONU Upgrade **Configuration** Port Statistics More

2.click "Configuration"

FD1608S-B2

Power: Count: 2 pcs, State: Running; FAN: Count: 3 pcs, State: Running

CPU: 58%; Memory: 23%; Temperature: 37.5°C

IONU Summary

Registered	-	0
Online	--	0
Active	--	0
Alarm	--	0

Rate

Unit: Mbps; Upstream; Downstream

Alarm

Level	Alarm Name	Device Type	Alarm Source	Alarm time
Major	PON 0/0/1 The TX out...	OLT	FD1608S-B2(192.168.81.15...	2024-3-27 13:55:23
Minor	PON 0/0/1 The bias c...	OLT	FD1608S-B2(192.168.81.15...	2024-3-27 18:07:26

Alarm Trend

Dashboard Device Alarm Monitor Admin Save Config Description/ST admin

← OLT / OLT List / DA18-2211000047 / Configuration

Deployment Profile Management Port Management VLAN VLANIF Link Aggregation IGMP DHCP MAC Loopback detection Port Mirroring PPPoE+ STP

Deployment

Auth Policy Policy Apply

Policy ID: Policy name: Reset Search

Auth Policy

3.click "Create Policy" Create Policy

Policy ID	Policy name	Operate
0	default-mult-srv-profile	Details Edit Delete
1	test	Details Edit Delete
2	CmsAutofind	Details Edit Delete
3	mult_srv_profile_3	Details Edit Delete
4	mult_srv_profile_4	Details Edit Delete
5	mult_srv_profile_5	Details Edit Delete
6	mult_srv_profile_6	Details Edit Delete

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/ST | admin

ONU | OLT | OLT List | SmartOLT | Topology | OTA

K-OLT / OLT List / DA18-2211000047 / Configuration / Create Policy

Global | Policy | Completed

4.click "Add VLAN"

OLT VLAN Configuration

Port	VLAN-mode	Native VLAN	Tag VLAN	Untag VLAN	Operate
ge 0/0/1(lag1)	Access	100	N/A	100	Edit
ge 0/0/2	Access	1	N/A	1	Edit
ge 0/0/3	Hybrid	1	N/A	1	Edit
ge 0/0/4(lag2)	Access	100	N/A	100	Edit
xge 0/0/1(lag5)	Hybrid	1	N/A	1	Edit
xge 0/0/2	Access	100	N/A	100	Edit
gpon 0/0/1	Trunk	1	1-4090	N/A	Edit
gpon 0/0/2	Trunk	1	1-4090	N/A	Edit
gpon 0/0/3	Trunk	1	1-4090	N/A	Edit

Next

Add

* VLAN

1000 [1,4094] 5.enter vlan id

Description

Please enter the specified VLAN description information

Port	VLAN-mode	Forbidden	Tag	Untag
ge 0/0/1	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/2	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/3	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/4	Access	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
xge 0/0/1	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.select uplink port

7.click

Cancel Confirm

OLT VLAN Configuration Add VLAN

Port	VLAN-mode	Native VLAN	802.1P	Tag VLAN	Untag VLAN	Operate
ge 0/0/1	● Access	100	0	N/A	100	Edit
ge 0/0/2	● Access	100	0	N/A	100	Edit
ge 0/0/3	● Access	2	0	N/A	2	Edit
ge 0/0/4	● Access	1000	0	N/A	1000	Edit
xge 0/0/1	● Access	1	0	N/A	1	Edit

Next
8.click "Next"

Dashboard | Device | Alarm | Monitor | Admin Save Config | Description | admin

← OLT / OLT List / DA18-2211000047 / Configuration / Create Policy Exit

1 Global —
 2 Policy —
 3 Completed

* Policy name
mlt_srv_profile_yao

* Line Profile
line-profile_yao Manage

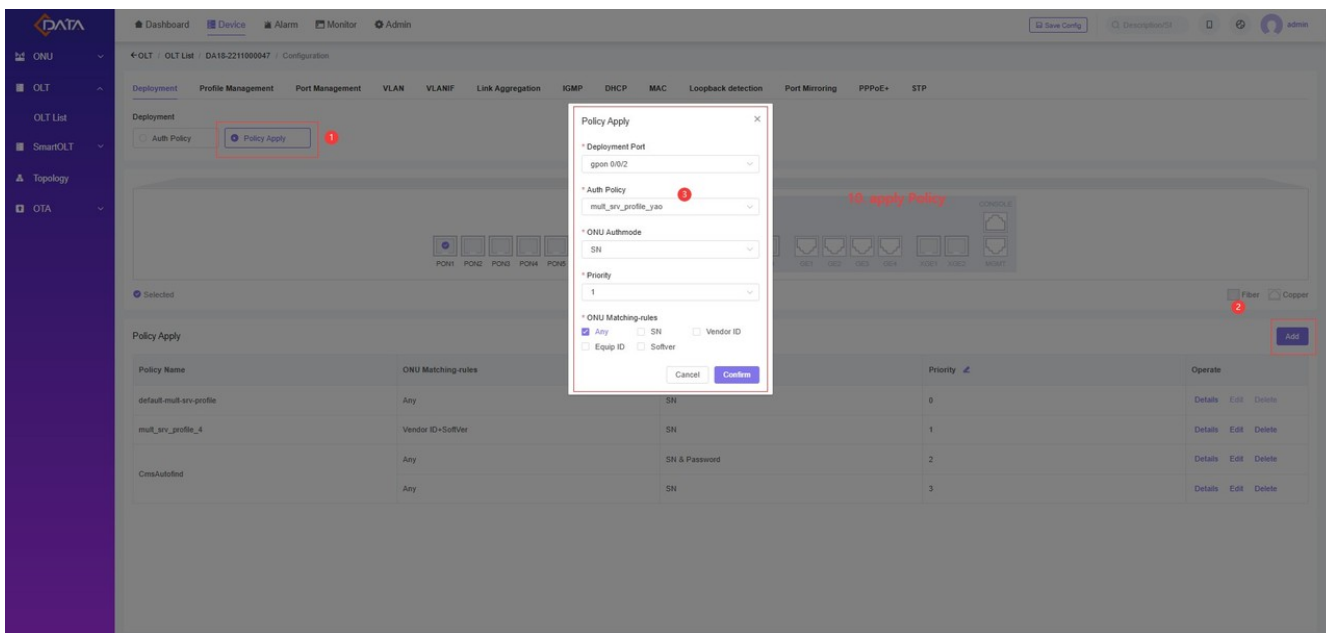
* Service Profile
srv-profile_yao Manage

TR-069 profile
tr069-profile_yao Manage

WAN Profile
wan-profile_yao Manage

9.select profile and click "Next"

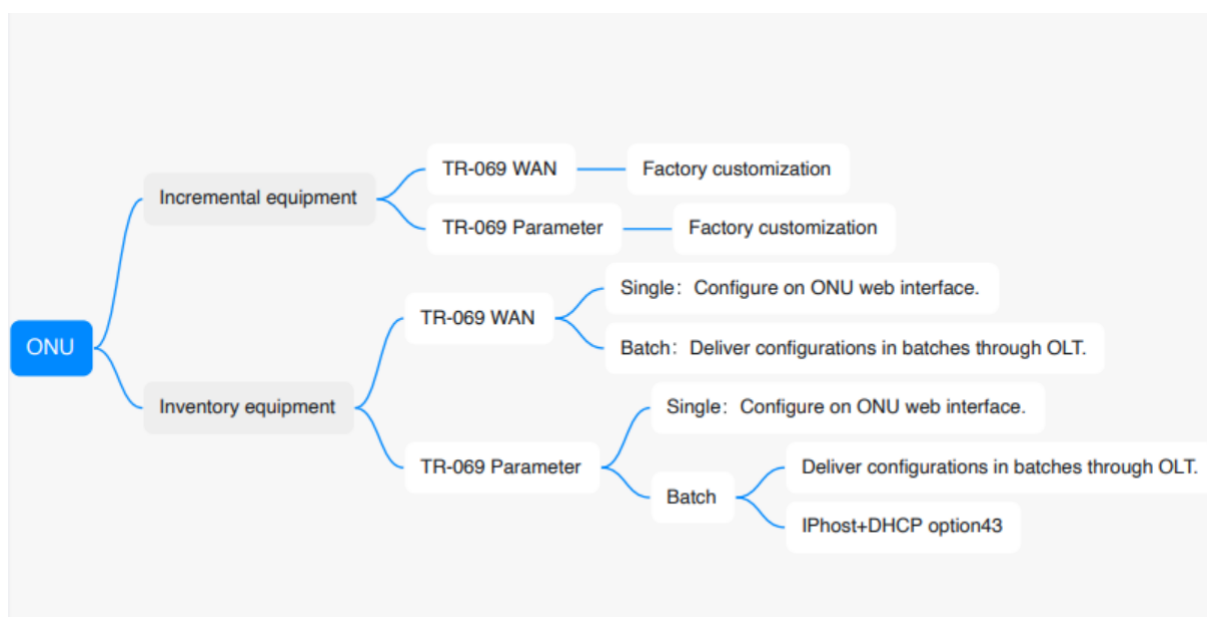
Next



4.1.4 Step4 Bind the ONU to the CMS

ONU configuration TR-069 WAN connection and TR-069 server parameter method,

- Incremental device: recommended unified factory customization;
- Stock device: for a single device can be directly configured on the ONU Web interface, for multiple devices can be delivered in batches through OLT.



4.1.4.1 TR-069 WAN batch configuration

Batch WAN profile via OLT (some vendor OLTs, or older versions of ONUs do not support private protocol), using cdata gpon OLT as an example:

See [4.1.3 Step3 deployment of OLT - Prerequisites - Creating a wan profile]

4.1.4.2 TR-069 Batch Configuration of Server parameters (OLT batch delivery)

Batch delivery of TR069 parameter profile through OLT (some manufacturers OLT, or older versions of ONUs do not support private protocol), using cdata gpon OLT as an example:

See [4.1.3 Step3 deployment of OLT - Prerequisites - Creating a tr069 profile]

4.1.4.3 TR-069 Batch configuration of server parameters (IPhost+DHCP option43)

IPhost is the GPON standard protocol, which is generally supported by ONU. TR069 channel can be established through IPhost. TR069 server parameters can be delivered through DHCP option 43 field, including the ACS server address, ACS server user name and password.

Using a Huawei DHCP Server as an example, you can run the following command to configure ACS parameters: `option 43 hex 01length URL username password`, where the URL, username, and password must be in ASCII hexadecimal format.

Parameters	Instructions	Example Parameter Values	Hexadecimal value
length	The total length of the argument following the keyword <code>option 43 hex 01</code>	40 characters	28
URL	ACS's address	<u>http://192.168.20.56:9999/v1/acs</u>	687474703A2F2F3139322E3136382E32302E35363A393939392F76312F6163732061637320616373
username	ACS user name	acs	61637320
password	Password for ACS	acs	616373

The configuration commands are as follows:

∨
复制代码

```
<Sysname> system-view
[Sysname] dhcp server ip-pool 0
[Sysname-dhcp-pool-0] option 43 hex
0128687474703A2F2F3139322E3136382E32302E35363A393939392F76312F6163732061
637320616373
```

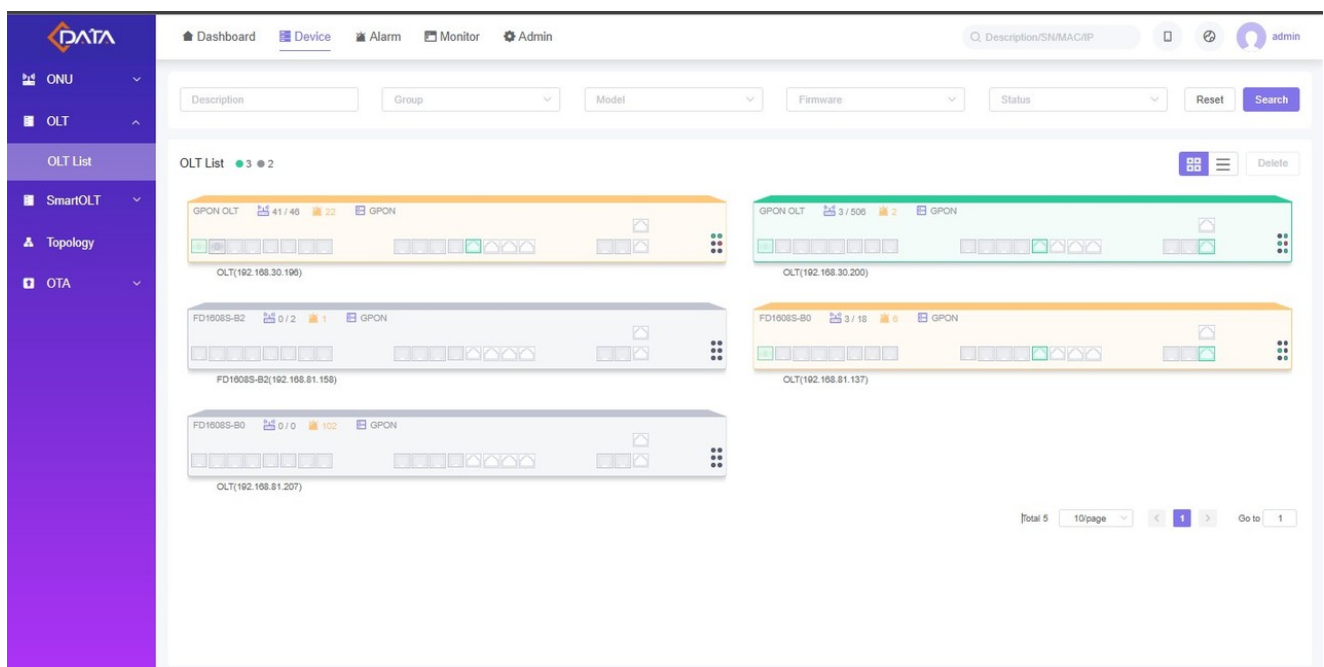
4.1.5 Step5 Routine maintenance

4.1.5.1 OLT routine maintenance

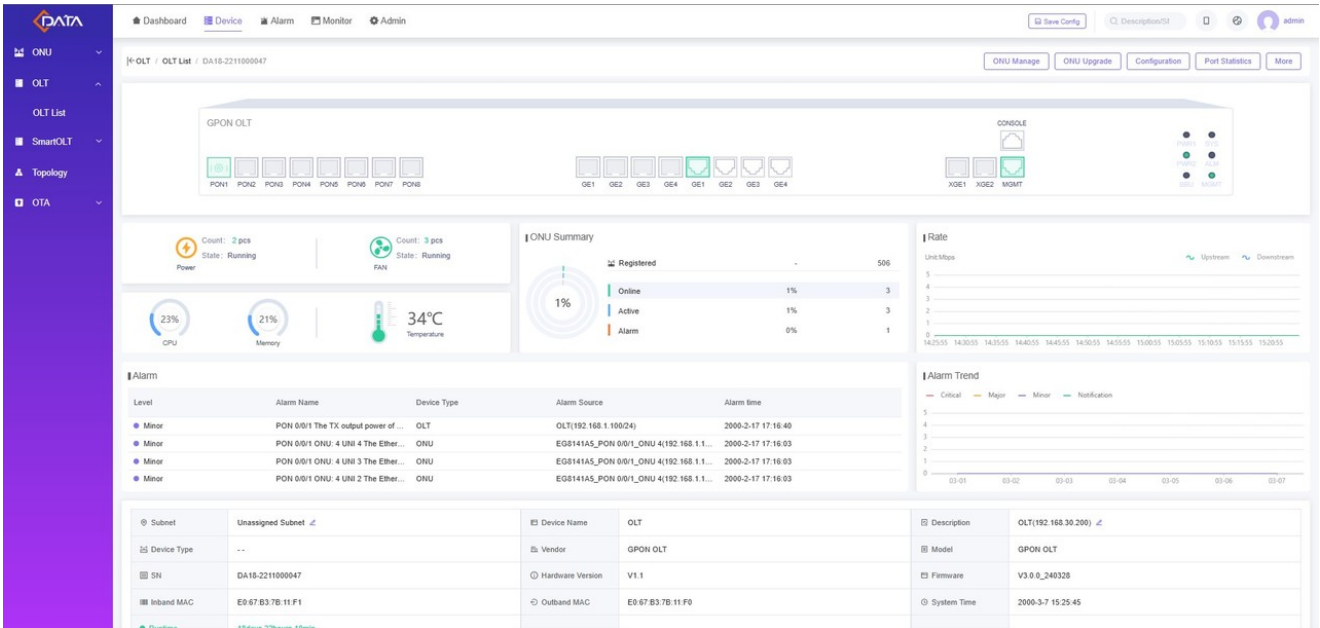
OLT routine maintenance includes viewing lists and details, single configuration, device upgrade, restart, factory restoration, etc.

4.1.5.1.1 OLT list and details view

Select [Device-OLT-OLT List] to display the OLT List interface as follows, you can view all bound OLT devices.

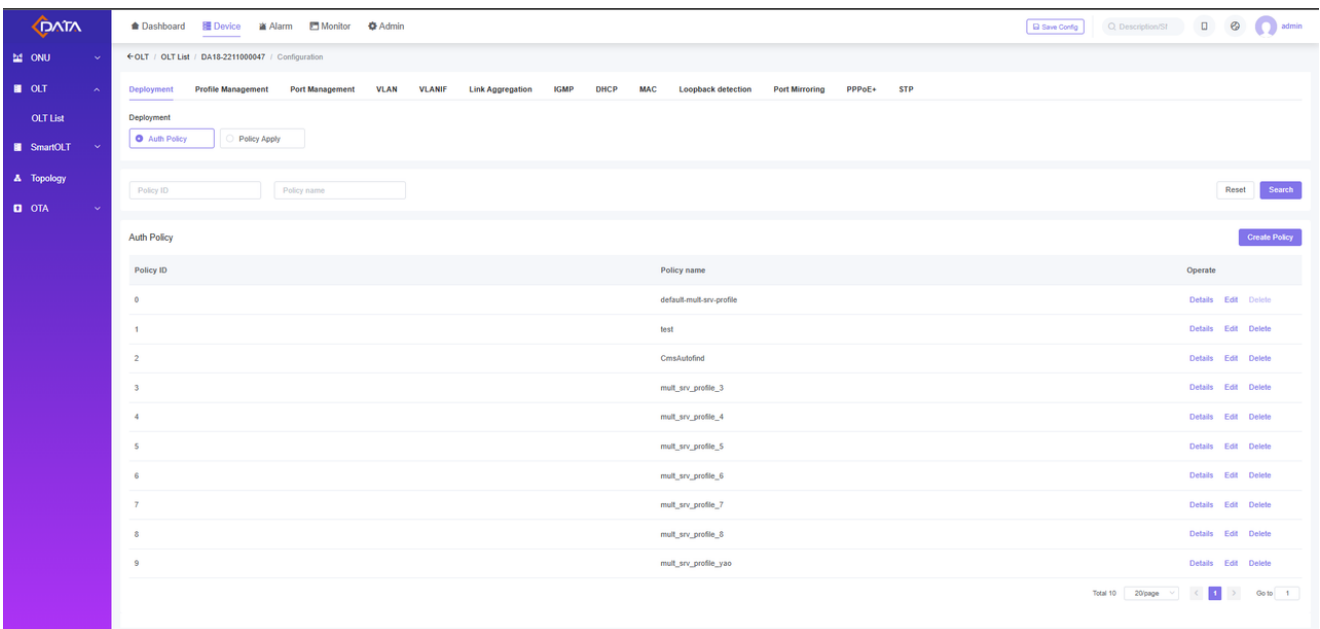


Double-click the card to enter the OLT details displayed as follows, you can view the OLT port status, running status, alarm and other information.



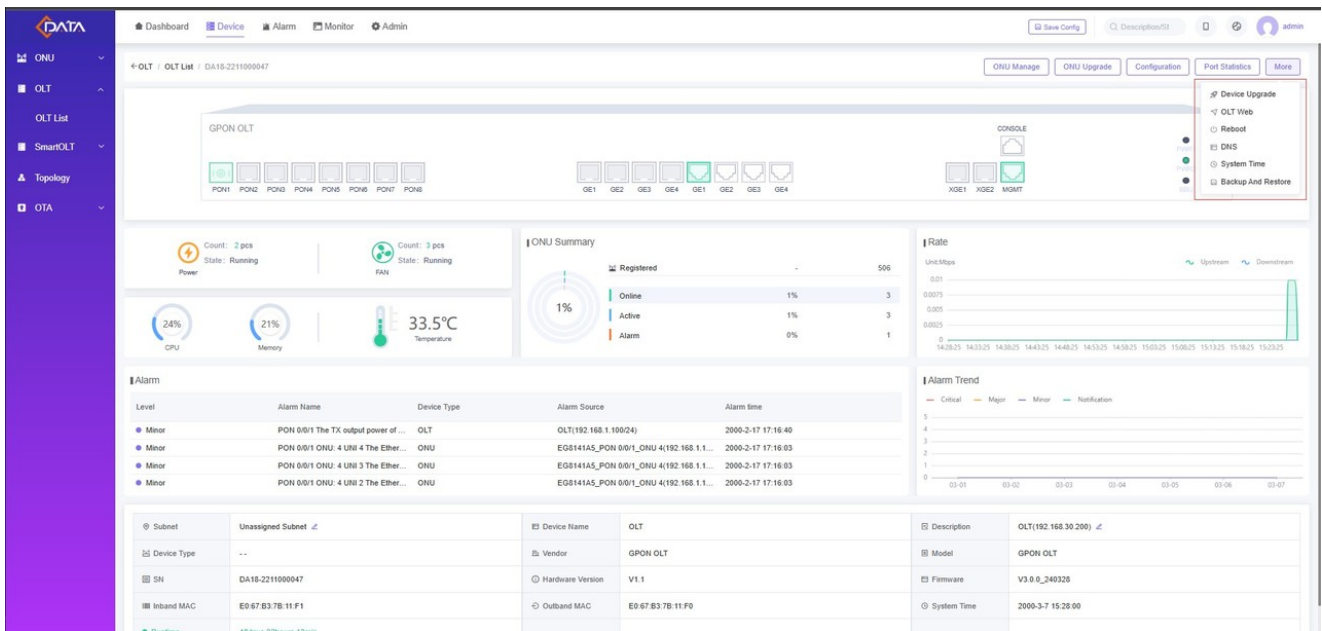
4.1.5.1.2 Single OLT configuration

On the OLT details screen, click 'Configuration' to enter the OLT configuration screen. You can create and apply deployment policies and configure port vlans, link aggregation, vlans, and VLANIF configurations.



4.1.5.1.3 OLT More operations

on the OLT details screen, click "More" to upgrade the device, open the OLT Web, and restart and restore the factory.



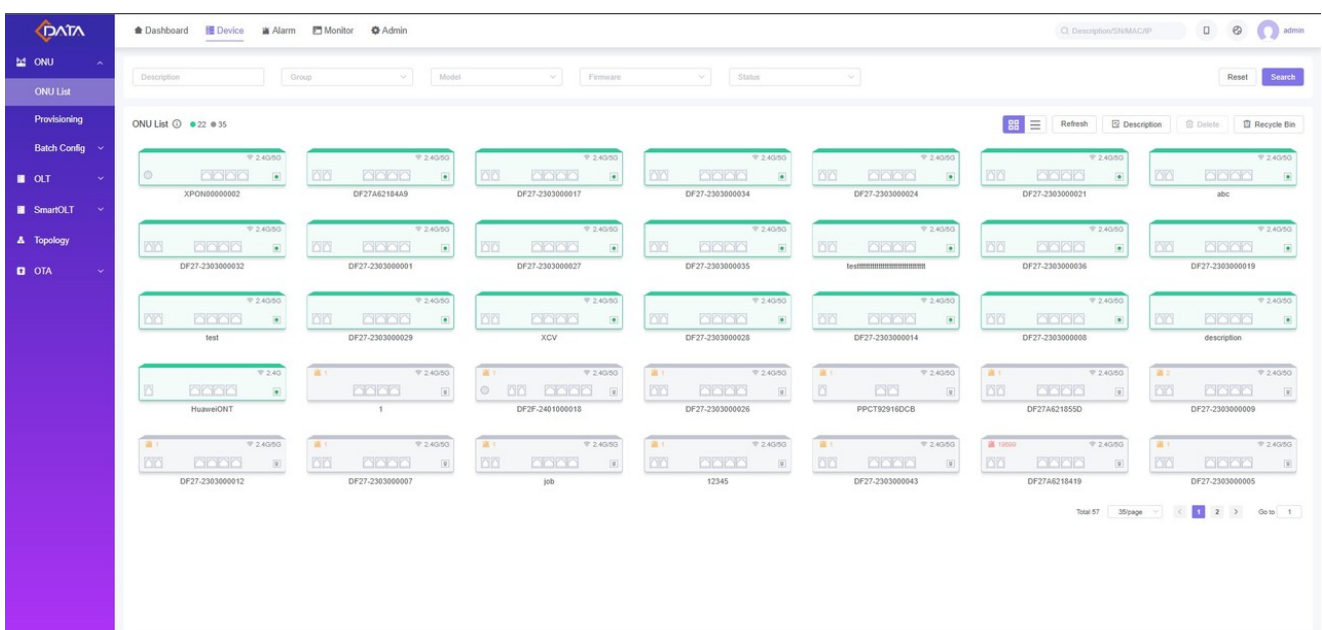
O

4.1.5.2 Routine maintenance of ONU

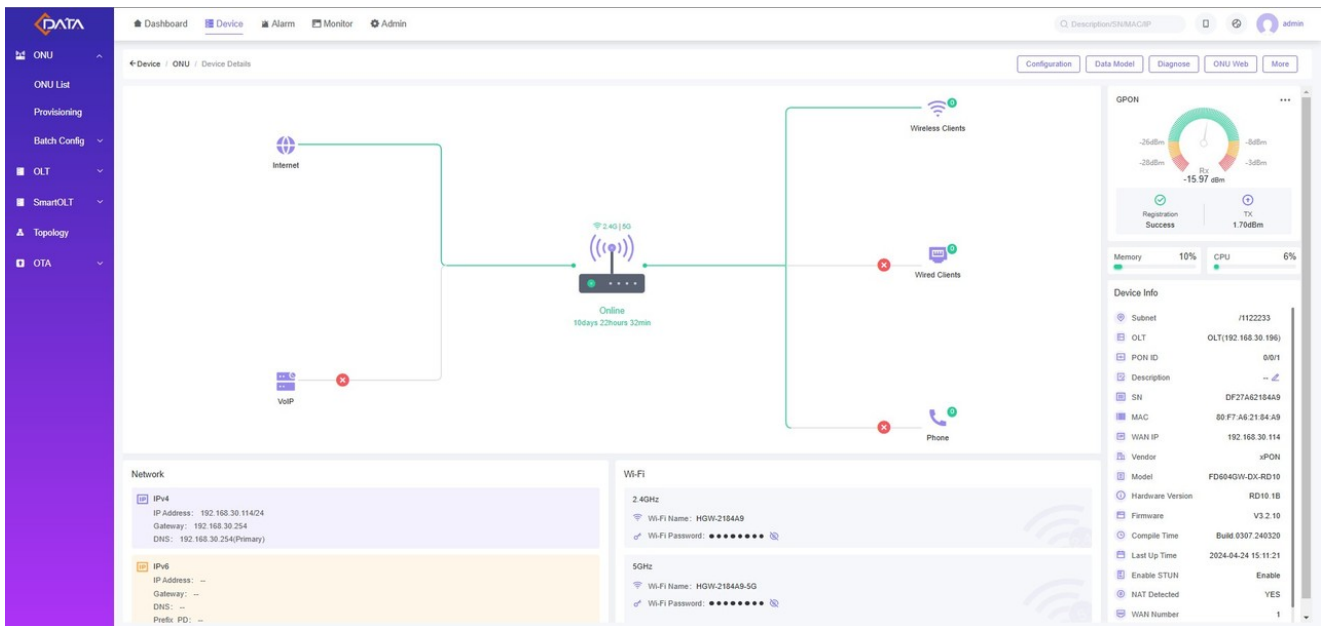
ONU routine maintenance includes list and details view, single configuration, batch configuration, OTA upgrade, etc.

4.1.5.2.1 ONU list and details view

Select [Device-ONU-ONU List] to display the ONU list interface as follows, you can view all the ONU devices bound by TR-069.



Double-click the card to enter the ONU details screen displayed as follows, you can view ONU capability and connection status, PON optical power, network and Wi-Fi information.



4.1.5.2.2 Create an ONU preconfiguration

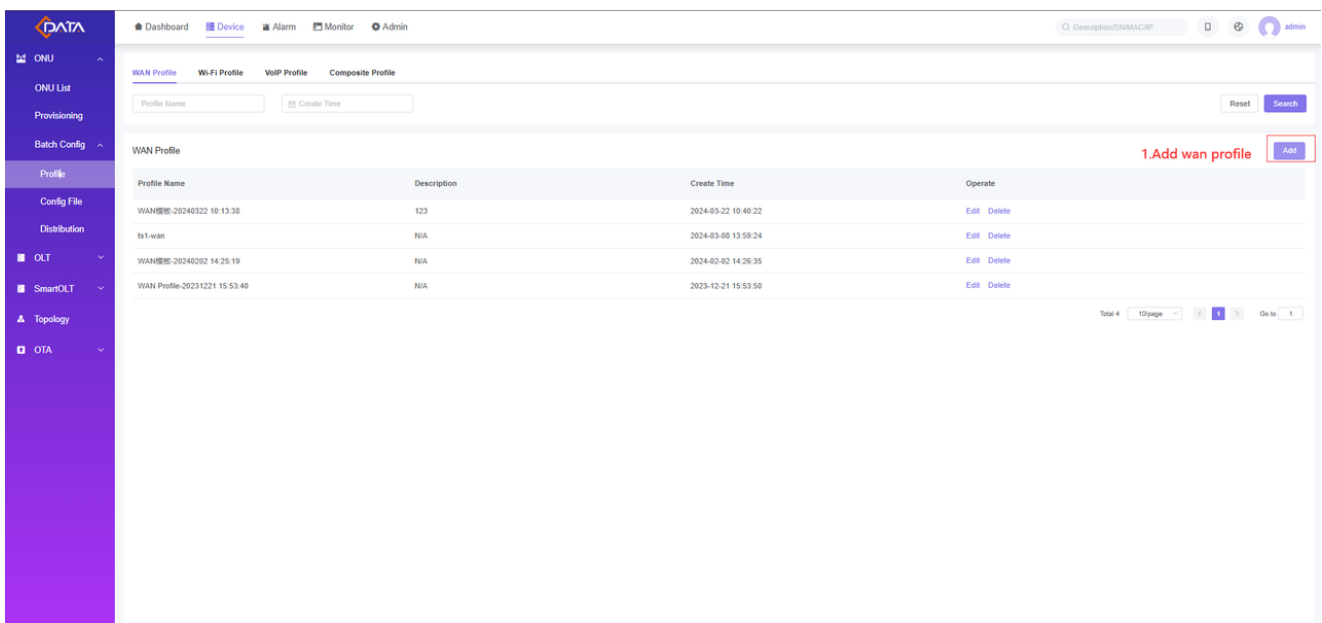
After the ONU is connected to the OLT, the CMS can directly deliver service configurations based on the TR-069 protocol to realize zero-configuration commissioning. Preconfiguration of the ONU consists of the following three steps.

Creating a Configuration profile	Create a preconfiguration task	View the preconfiguration task
----------------------------------	--------------------------------	--------------------------------

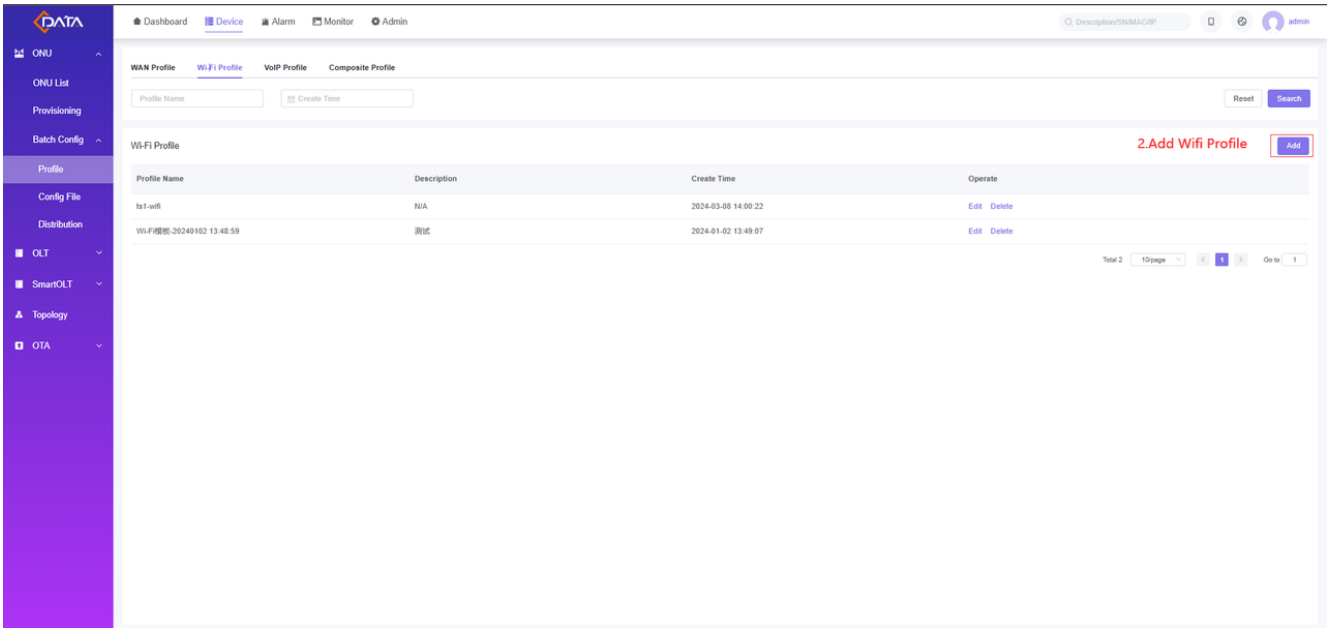
1. Create a configuration profile

Open the [Device-Batch Config-Profile] screen and create a profile that includes WAN, Wi-Fi, and VoIP services.

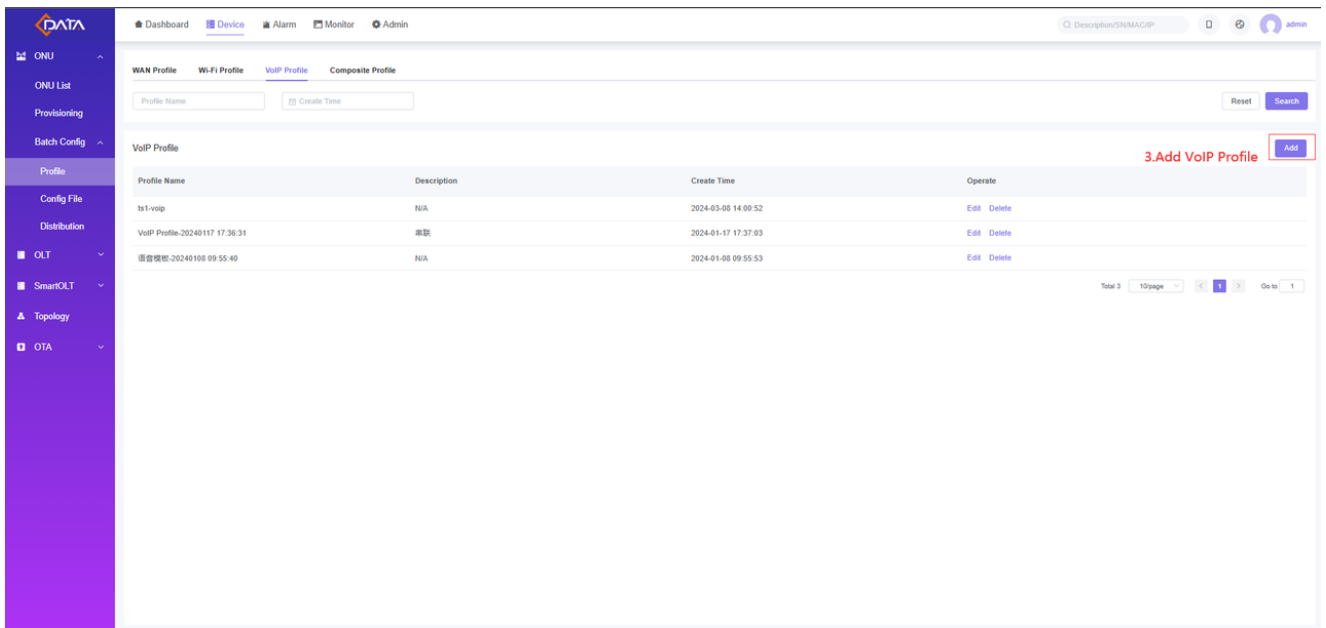
- Create a WAN profile



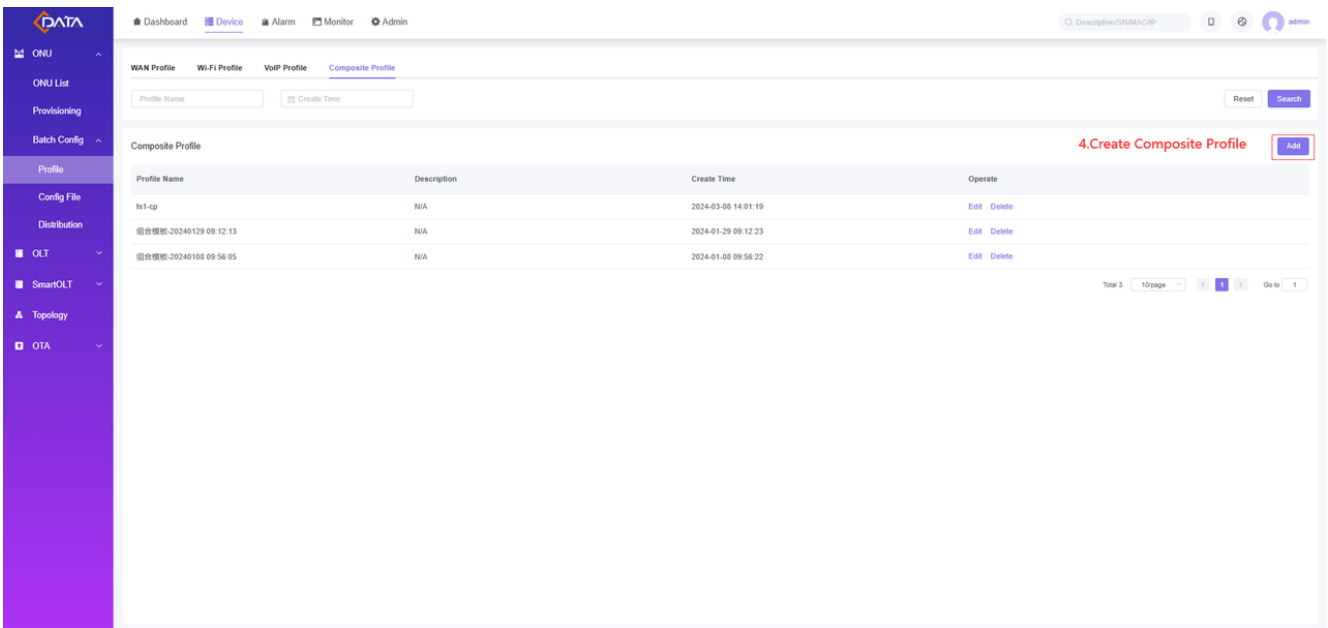
- Create a Wi-Fi profile



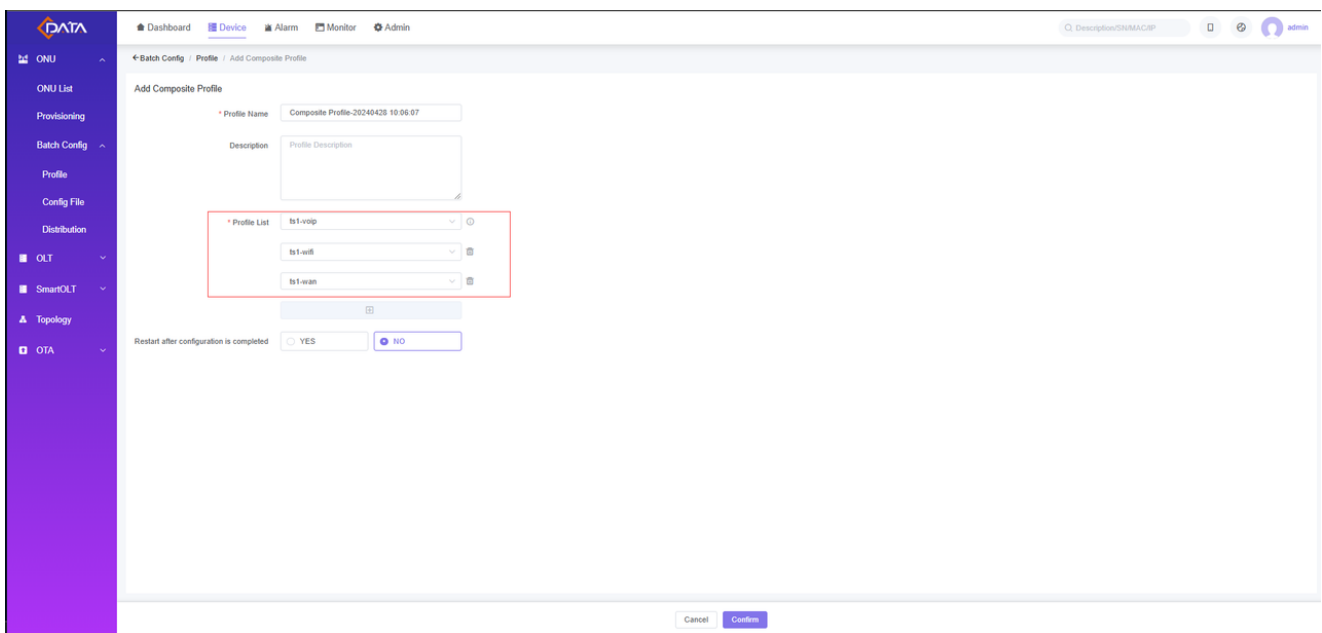
- Create a VoIP profile



- Create a composite profile

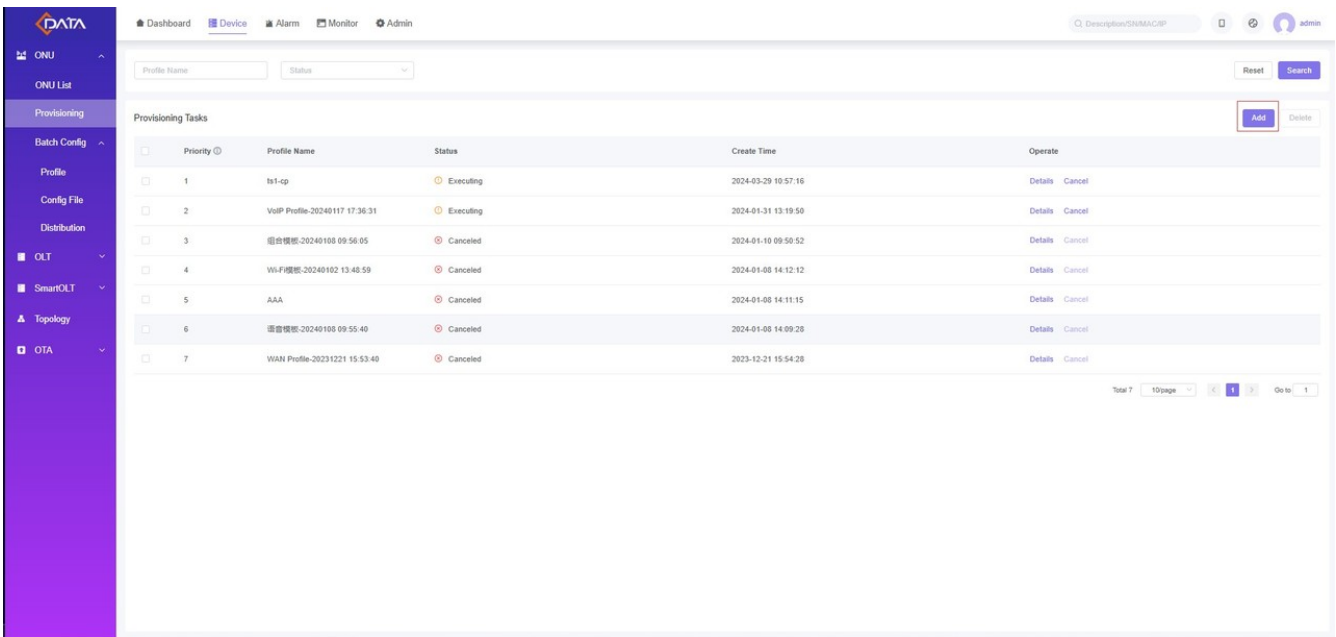


Select the WAN, Wi-Fi, and VoIP templates created earlier and click "Confirm".

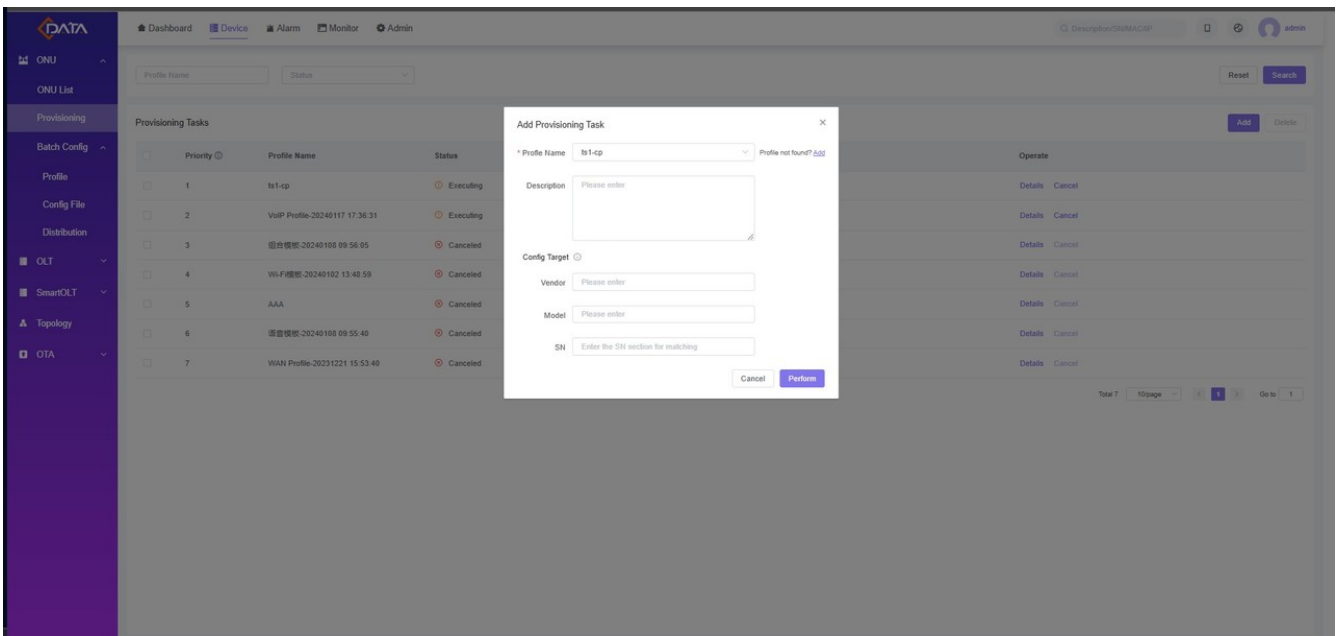


2. Create a Provisioning task

Open the [Device-Provisioning] interface and click "Add" to add a preconfigured task.

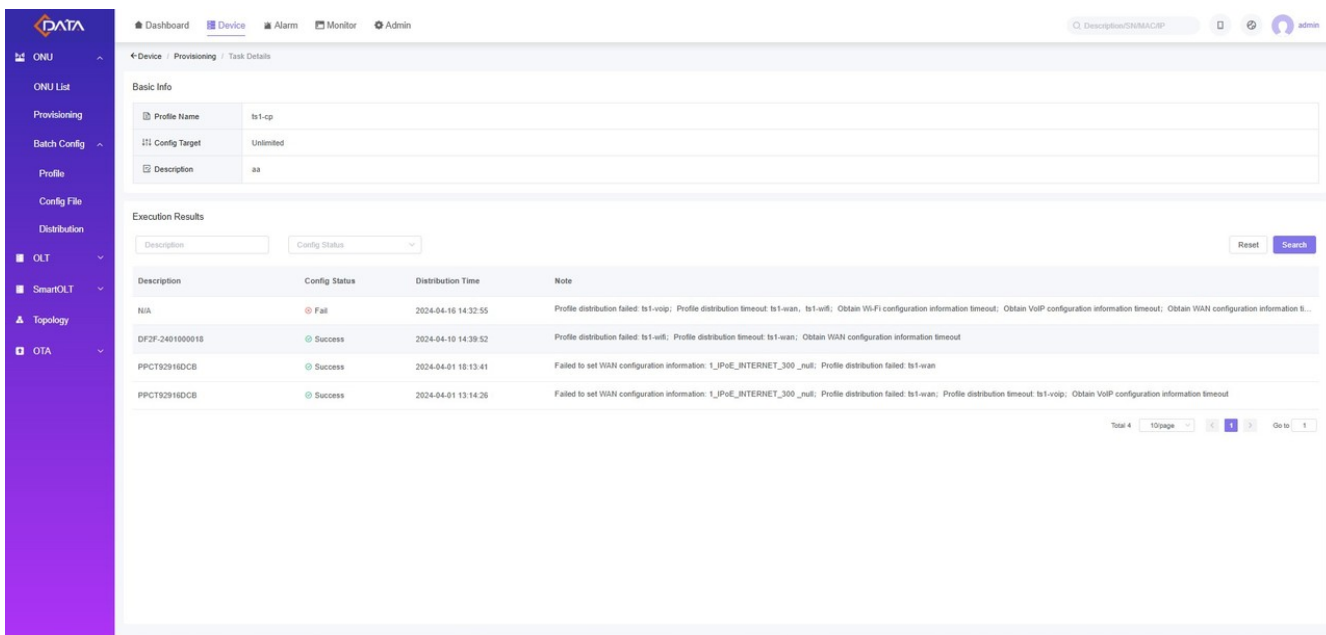


Select the profile name and config target. The config target can be matched with the device based on the vendor, model, or SN. If you enter multiple values, the intersection is selected. If neither of these parameters is specified, there is no limit. The profile will be automatically delivered to any device reported for the first time.



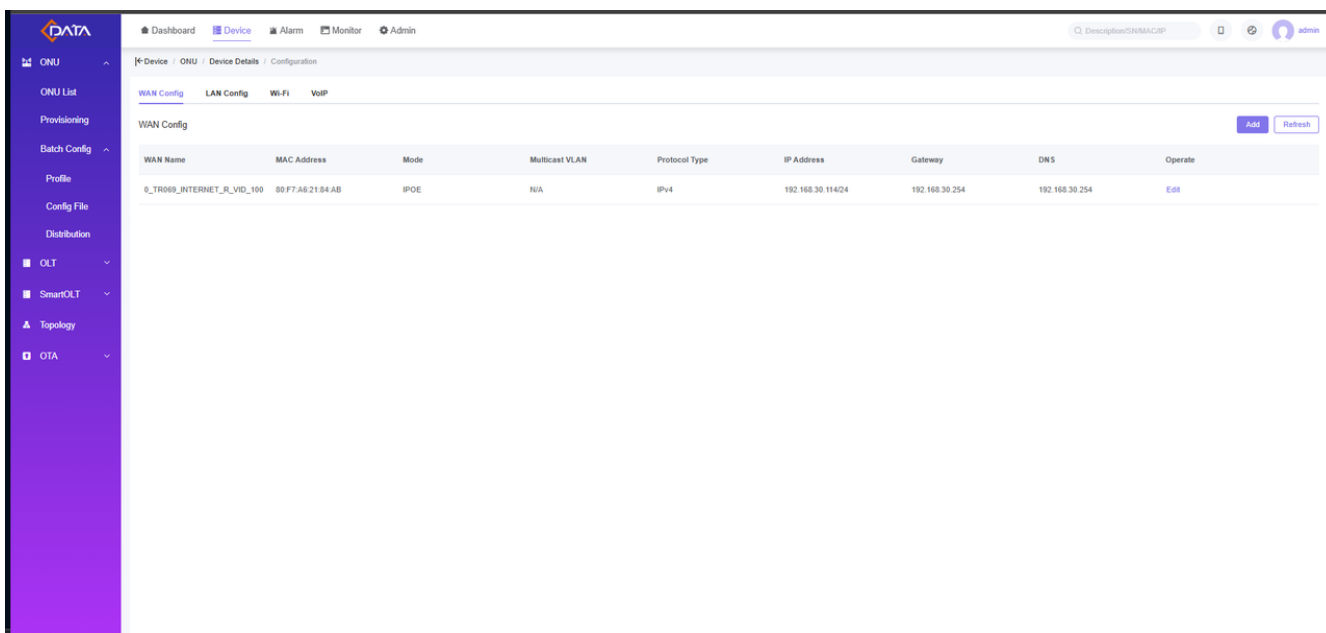
3.View the preconfiguration result

After the ONU is bound to the CMS using TR-069, the CMS automatically delivers the pre-configuration task. On the Provisioning page, click Details to view the execution of the matched ONU pre-configuration task.

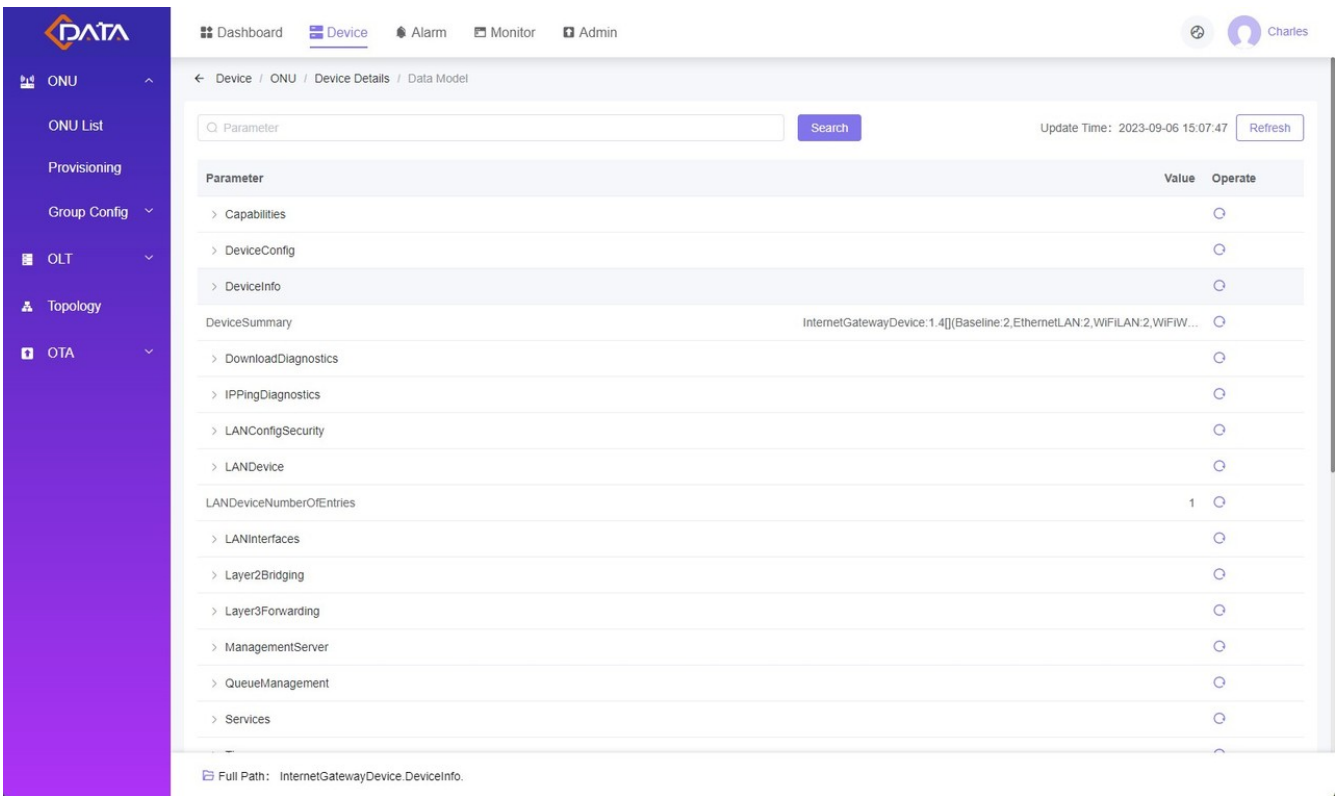


4.1.5.2.3 Configure a single ONU

On the ONU Details page, click "Configuration" to open the configuration screen shown as follows, which supports common service configurations such as WAN, LAN, Wi-Fi, VoIP, and CATV.



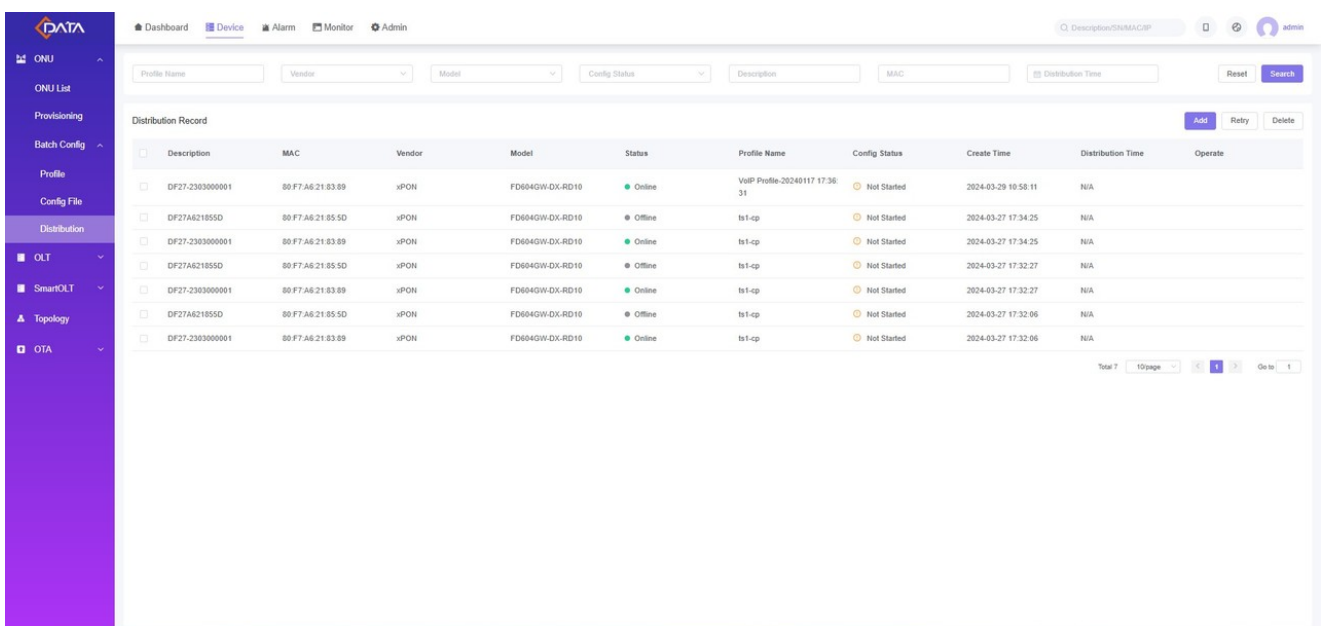
On the ONU details page, click "Data Model" to open the data model interface displayed as follows, which supports viewing and editing of all node information.



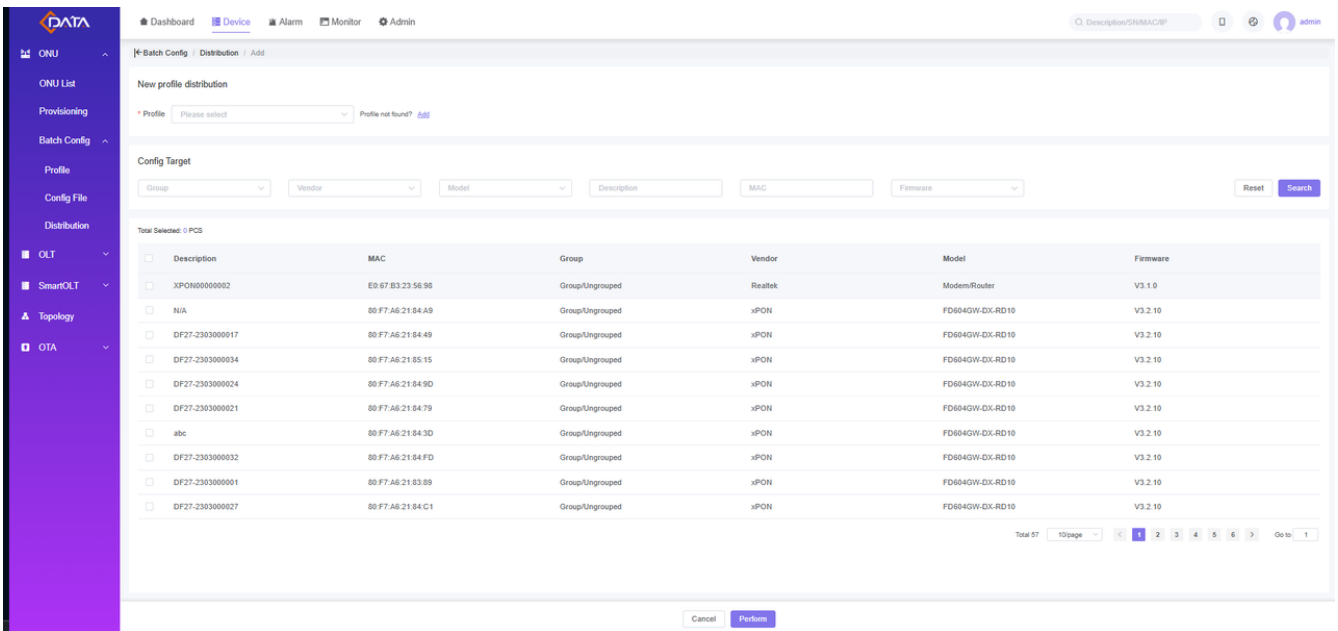
4.1.5.2.4 Batch configuration of ONU

ONU configurations can be changed in batches for ONU devices bound to CMS. Similar to pre-configuration, a configuration profile must be created in advance for batch configuration.

Select [Device-ONU-Batch Config-Distribution]. The following ONU batch configuration page is displayed. You can view the execution of all configurations delivered in batches in history.



Click Add to create a batch configuration task, select the configuration profile and object, and deliver the task directly.

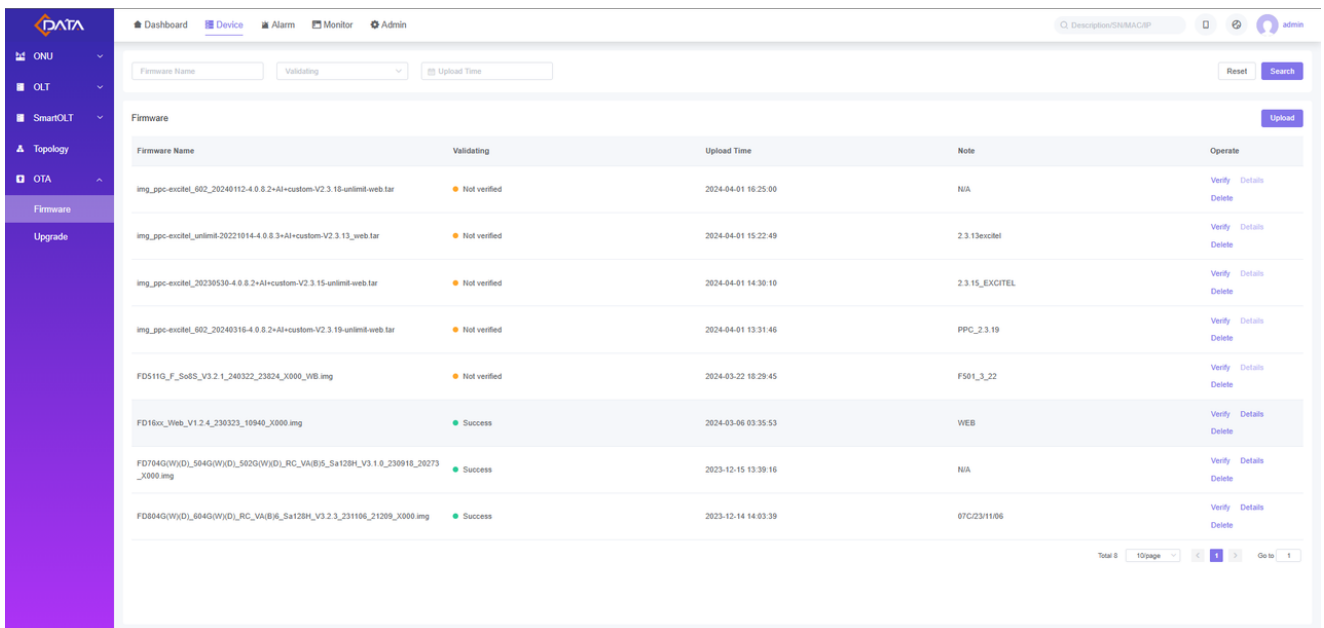


4.1.5.2.5 OTA Upgrade

Step1: Upload and verify the firmware

Step2: Create an upgrade task

- 1) Select [Device-OTA-Firmware] to display the firmware management interface as follows, you can upload the firmware and verify it;



- 2) Select [Device-OTA-Upgrade] to display the following upgrade management interface, which allows you to create upgrade tasks and view the upgrade status.

Upgrade Name	Vendor	Model	Firmware Name	Status	Effective Date	Upgrade Time Slot	Progress	Operate
OTA升级-20240402 11:34	PPCT	2K15X	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.1...	Completed	2024/04/02-2024/04/02	11:36-15:36	0/1	Details Pause
OTA升级-20240401 18:24	PPCT	2K15X	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.1...	Completed	2024/04/01-2024/04/01	18:26-22:26	1/1	Details Pause
OTA-20240401 18:14	PPCT	2K15X	img_ppc-exceltel_20230530-4.0.8.2+AI+custom-V2.3.15-un...	Completed	2024/04/01-2024/04/01	18:15-22:15	1/1	Details Pause
OTA-20240401 16:00	PPCT	2K15X	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.1...	Completed	2024/04/01-2024/04/01	16:01-20:01	1/1	Details Pause
OTA-20240401 15:43	PPCT	2K15X	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.1...	Completed	2024/04/01-2024/04/01	15:44-19:44	1/1	Details Pause
OTA-20240401 15:22	PPCT	2K15X	img_ppc-exceltel_unlimit-20221014-4.0.8.3+AI+custom-V2.3...	Completed	2024/04/01-2024/04/01	15:24-19:24	1/1	Details Pause
OTA升级-20240401 15:15	PPCT	2K15X	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.1...	Completed	2024/04/01-2024/04/01	15:16-19:16	1/1	Details Pause
OTA升级-20240401 14:43	PPCT	2K15X	img_ppc-exceltel_20230530-4.0.8.2+AI+custom-V2.3.15-un...	Completed	2024/04/01-2024/04/01	14:45-18:45	1/1	Details Pause
OTA-20240401 14:40	PPCT	2K15X	img_ppc-exceltel_20230530-4.0.8.2+AI+custom-V2.3.15-un...	Completed	2024/04/02-2024/04/03	02:42-06:42	1/1	Details Pause
OTA-20240401 14:30	PPCT	2K15X	img_ppc-exceltel_20230530-4.0.8.2+AI+custom-V2.3.15-un...	Completed	2024/04/01-2024/04/02	14:31-18:31	1/1	Details Pause

3) In the upgrade management interface, click "Details" to view the upgrade status of each device.

Basic Info

Upgrade Name	OTA-20240401 16:00
Vendor	PPCT
Model	2K15X
Firmware Name	img_ppc-exceltel_602_20240316-4.0.8.2+AI+custom-V2.3.19-unlimit-web.tar
Effective Date	2024/04/01 - 2024/04/01
Upgrade Time Slot	16:01-20:01
Note	--
Create Time	2024/04/01 16:00:40

Summary

Total: 1 PCS

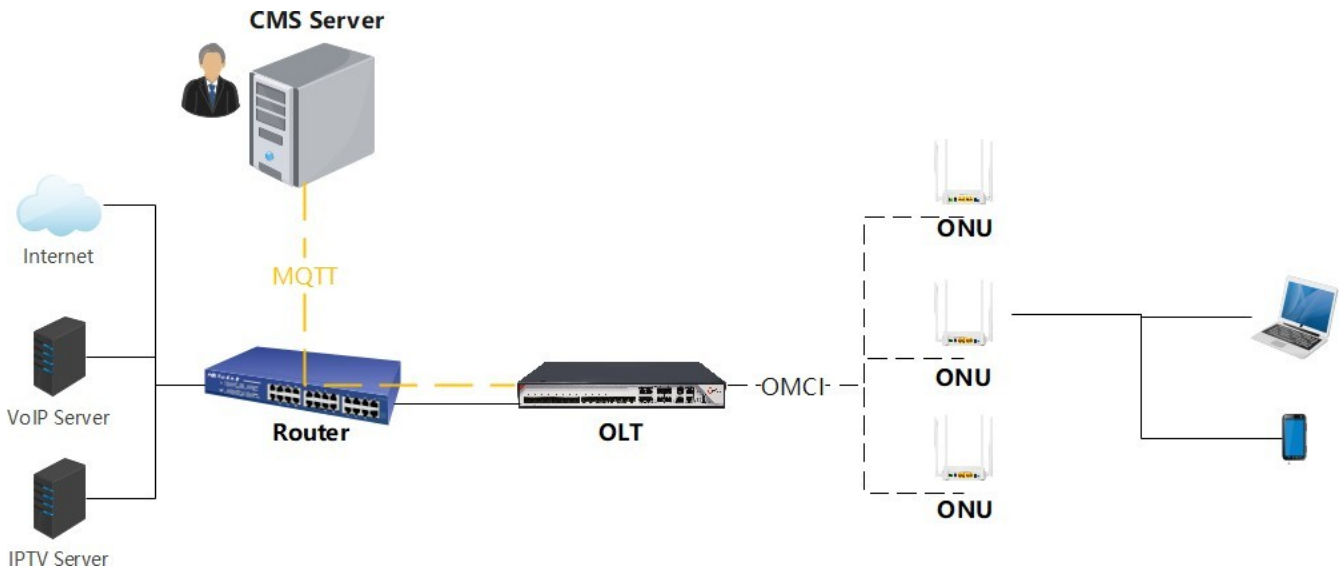
Success	1PCS	100%
Failed	0PCS	0%
Upgrading	0PCS	0%
Canceled	0PCS	0%
Not started	0PCS	0%

Upgrade Target

Description	Group	Firmware	Status	Upgrade Status	Note
PPCT92916DCB	Group/Ungrouped	V2.3.18PPCU	Offline	Success	

4.2 Scenario 2: CMS manages OLT via MQTT, OLT manages SFU via OMCI

CMS manages OLT via MQTT, OLT manages ONU via OMCI, and the network architecture is as follows:



The recommended configuration steps are as follows:

Step P1: The OLT is routable to the CMS	Step2: Bind the OLT to the CMS	Step3: OLT simple deployment
---	--------------------------------	------------------------------

4.2.1 Step1 The OLT is routable to the CMS

To connect the OLT to the upstream router, you need to configure VLANIF interfaces and routes.

4.2.1.1 Configuring VLANIF Interfaces

- Log in to the OLT Web management platform, open the VLAN Planning page, add VLAN 300, and bind VLAN 300 to the GE1 port for management.

The screenshot shows the OLT Web management platform interface. The left sidebar contains navigation options: Configuration, Port Management, VLAN, VLAN Planning, Port VLAN, VLANIF, Link Aggregation, IGMP, DHCP, Profile Management, MAC, and Loopback Detection. The main content area is titled 'VLAN Planning' and includes a search bar for VLAN ID, a table of existing VLANs, and an 'Add VLAN' button. The table has columns for VLAN ID, Description, Untag port, Tag port, and Operate. The 'Add VLAN' button is highlighted with a red box.

VLAN ID	Description	Untag port	Tag port	Operate
1	N/A	ge 0/0/1,ge 0/0/3,xge 0/0/1	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
2	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
3	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
4	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
5	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
6	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete
7	N/A	N/A	gpon 0/0/1,gpon 0/0/2,gpon 0/0...	Details Edit Delete

Add ✕

*** VLAN**
 [1,4094]

Description

Port configuration

Port	Mode	Forbidden	Tag	Untag
ge 0/0/1	Hybrid	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ge 0/0/2	Hybrid	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/3	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/4	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
xge 0/0/1	Trunk	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Configure the management IP address 192.168.4.123 for VLAN 300.

DATA

Overview
Deployment
ONU
Configuration
Statistics
Maintenance

charles

VLANIF ID

VLANIF name

IP address

Reset
Search

VLANIF
Gateway
Add

VLAN ID	VLANIF name	Description	Connection status	IP address	Subnet mask	Operate
100	Vlanif100	Optlink_MGMT	up	172.168.100.100	255.255.255.0	Edit Delete
200	Vlanif200	vlan200-Interface	up	192.168.95.249	255.255.248.0	Edit Delete

Add ×

* VLAN

* IP mode

* IPV4 address

* Subnet mask

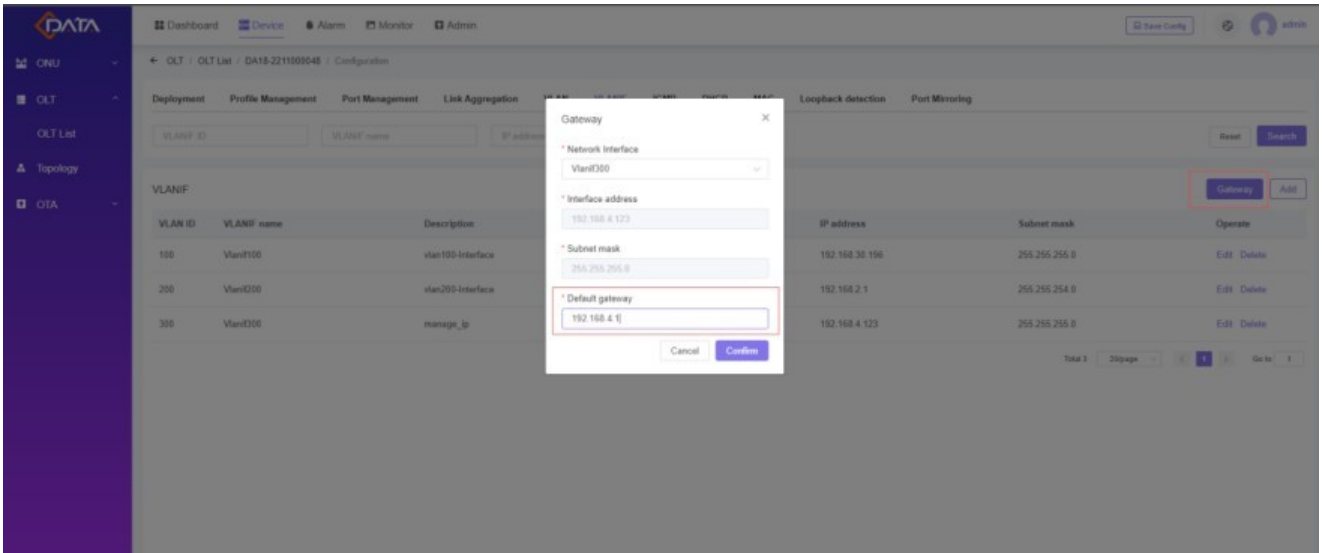
Description

The screenshot shows a network management interface with a sidebar on the left and a main content area. The sidebar includes a logo and a menu with items like Configuration, Port Management, VLAN, VLANIF, Link Aggregation, IGMP, DHCP, and Profile Management. The main content area has a top navigation bar with tabs for Overview, Deployment, ONU, Configuration, Statistics, and Maintenance. Below the navigation bar, there are search filters for VLANIF ID, name, and IP address. A table titled 'VLANIF' lists three entries: 100 (Vlanif100), 200 (Vlanif200), and 300 (Vlanif300). The entry for 300 is highlighted with a red border. The table columns are VLAN ID, VLANIF name, Description, Connection status, IP address, Subnet mask, and Operate. The Operate column contains 'Edit' and 'Delete' links for each entry.

VLAN ID	VLANIF name	Description	Connection status	IP address	Subnet mask	Operate
100	Vlanif100	Optilink_MGMT	up	172.168.100.100	255.255.255.0	Edit Delete
200	Vlanif200	vlan200-Interface	up	192.168.95.249	255.255.248.0	Edit Delete
300	Vlanif300	manage_ip	up	192.168.4.123	255.255.255.0	Edit Delete

4.2.1.2 Configure Route

Configure the default route 192.168.4.1 for vlanif 300



4.2.2 Step2 Bind the OLT to the CMS

CMS manages OLTs via MQTT and currently only supports C-DATA OLT bindings, with support for later versions of third-party OLTs.

OLT device upgrades

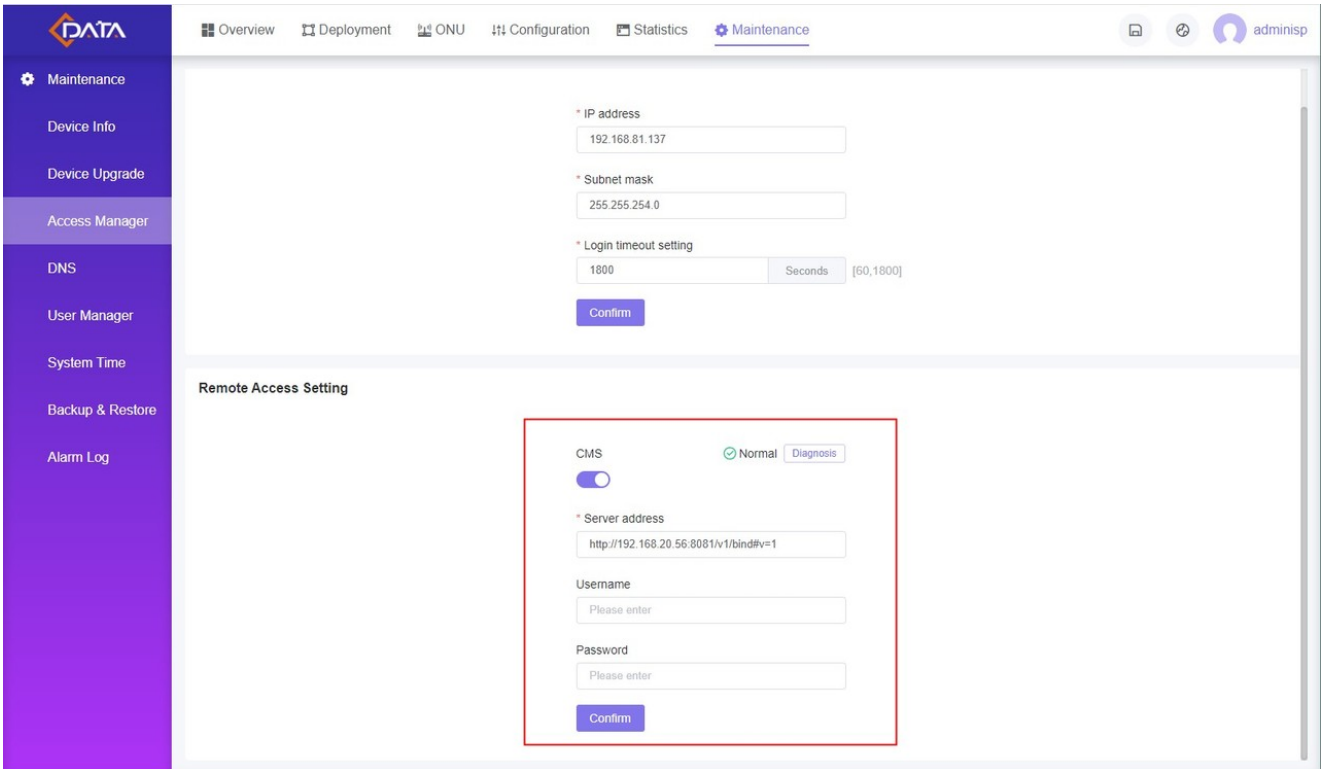
Enable CMS remote access

4.2.2.1 OLT device upgrade

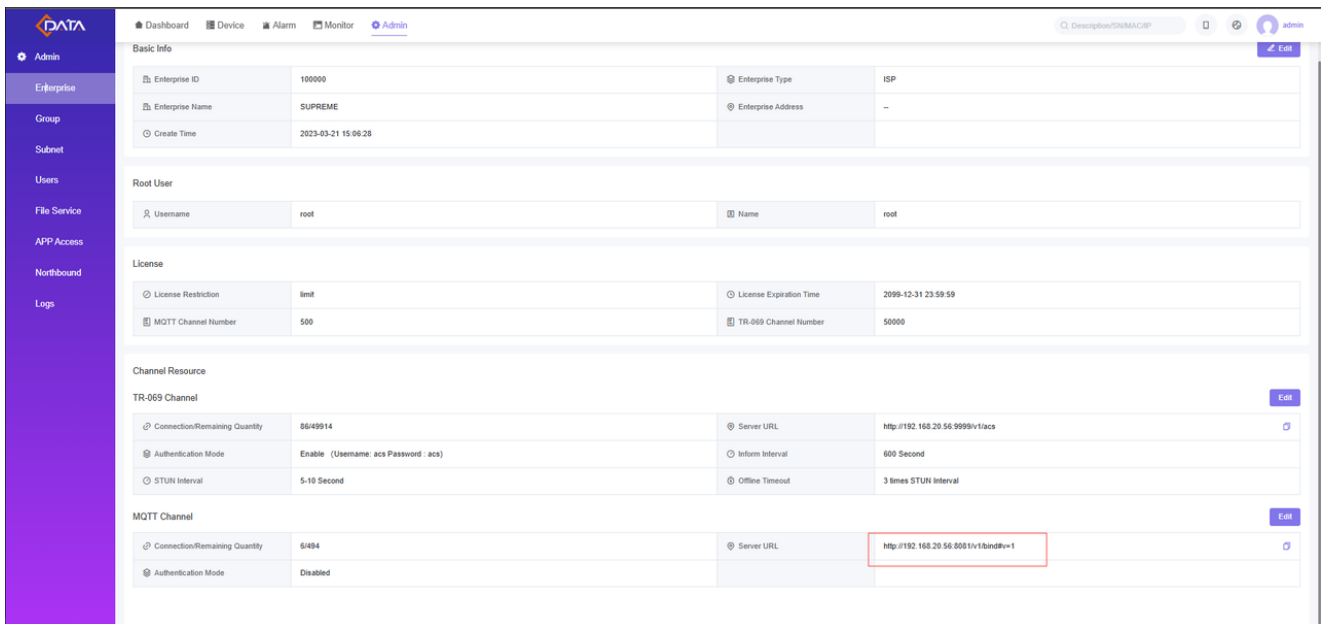
Log on to the ONU Web interface to upgrade your GPON 16 series model to version 3.2 and above.

4.2.2.2 Enable CMS remote access

Log in to the OLT Web Management platform, open the [Maintenance-Access Manager] interface, start the CMS switch, and fill in the CMS Server and Port, as shown in the following figure.

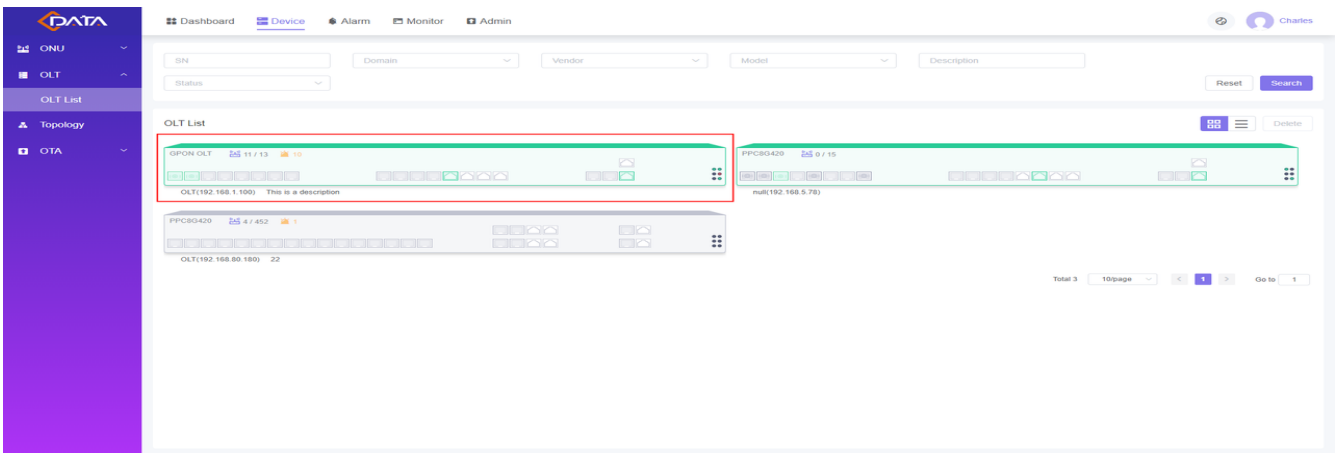


CMS Server and Port can be viewed on the **【Admin-Enterprise】** interface of CMS management platform, as shown in the following picture.



4.2.2.3 View the binding result

After the CMS is bound to the OLT successfully, log in to the CMS management platform and view the OLT information on the **[Device-OLT-OLT List]** interface, as shown in the following figure.



4.2.3 Step3 Simple deployment of OLT

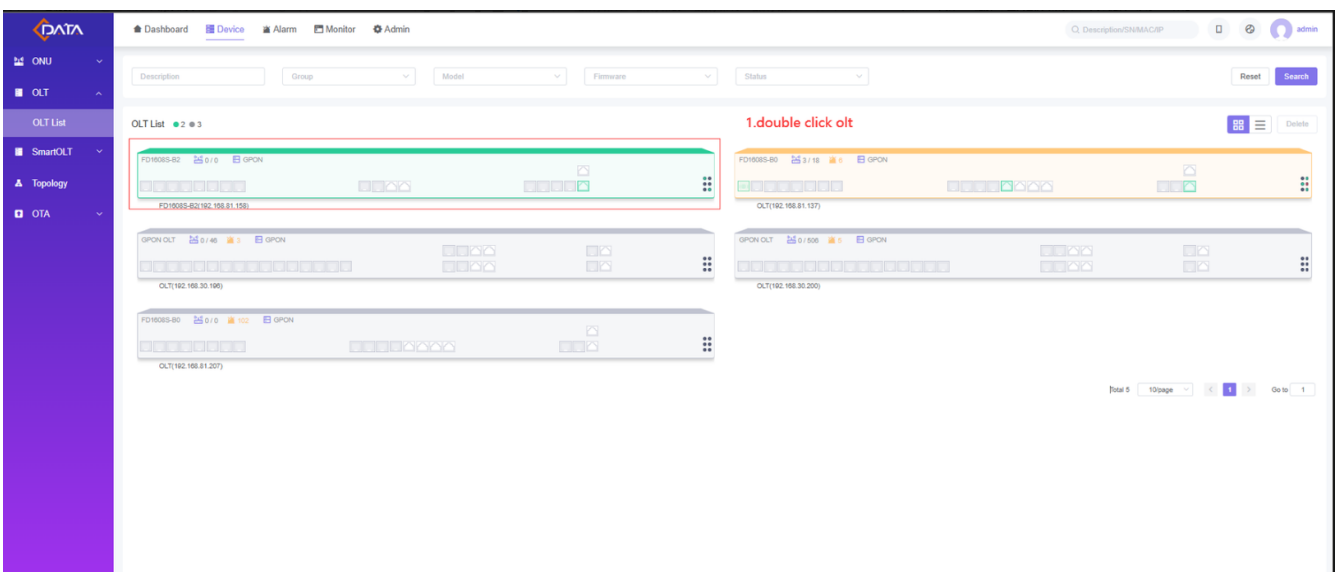
After the OLT is powered on, the simple deployment allows you to quickly configure the OLT globally and create deployment policies. After the ONU is powered on, the policies are automatically delivered to connect the ONU to the OLT.

Take the SFU as an example to implement Internet access services through simple deployment. The steps are as follows:

4.2.3.1 Prerequisites

The line template and service template are configured

- Create a line Profile



Dashboard Device Alarm Monitor Admin

Save Config Description

ONU Manage ONU Upgrade Configuration Port Statistics More

2. click "Configuration"

Count: 2 pcs State: Running Power
Count: 3 pcs State: Running FAN
57% CPU 24% Memory 37.5°C Temperature

ONU Summary

Registered	0
Online	0
Active	0
Alarm	0

Rate

Unit:Mbps	Upload	Download
5		
4		
3		
2		
1		
0		

Alarm

Level	Alarm Name	Device Type	Alarm Source	Alarm Time
Major	PON 0/0/1 The TX output power of ...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 13:55:23
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 18:07:26
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:36:25
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:30:25

Alarm Trend

Subnet	Device Name	Description
Unassigned Subnet	FD1608S-B2	FD1608S-B2(192.168.81.158)
Device Type	Vendor	Model
--	C-Data	FD1608S-B2
SN	Hardware Version	Firmware
AF2101-160170001	V1.1	V3.1.56_240301
Inband MAC	Outband MAC	System Time
E0:67:83:39:56:07	E0:67:83:39:56:06	2024-4-23 17:37:15

Dashboard Device Alarm Monitor Admin

Save Config Description

Profile Management Port Management VLAN VLANIF Link Aggregation ICMP DHCP MAC Loopback detection Port Mirroring PPPoE STP

3. click "Profile Management"

Profile Management

DBA Profile Line Profile Service Profile TR-069 Profile WAN Profile

4. select "Line Profile"

Profile ID Profile name

Line Profile

Profile ID	Profile name	Operate
0	line-profile_0	Details Edit Delete
1	line-profile_yao	Details Edit Delete

5. click "Add"

Dashboard Device Alarm Monitor Admin

Save Config Description

Global Configuration

Profile name line-profile_yao

6. Profile name is "line-profile_yao"

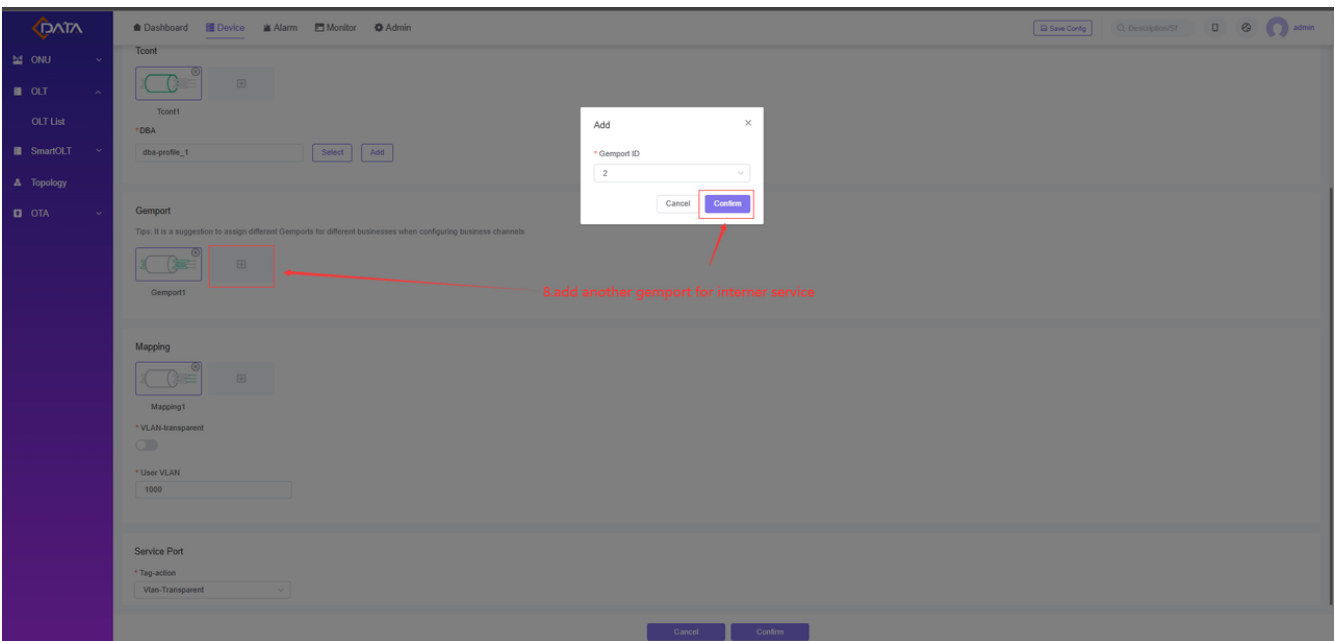
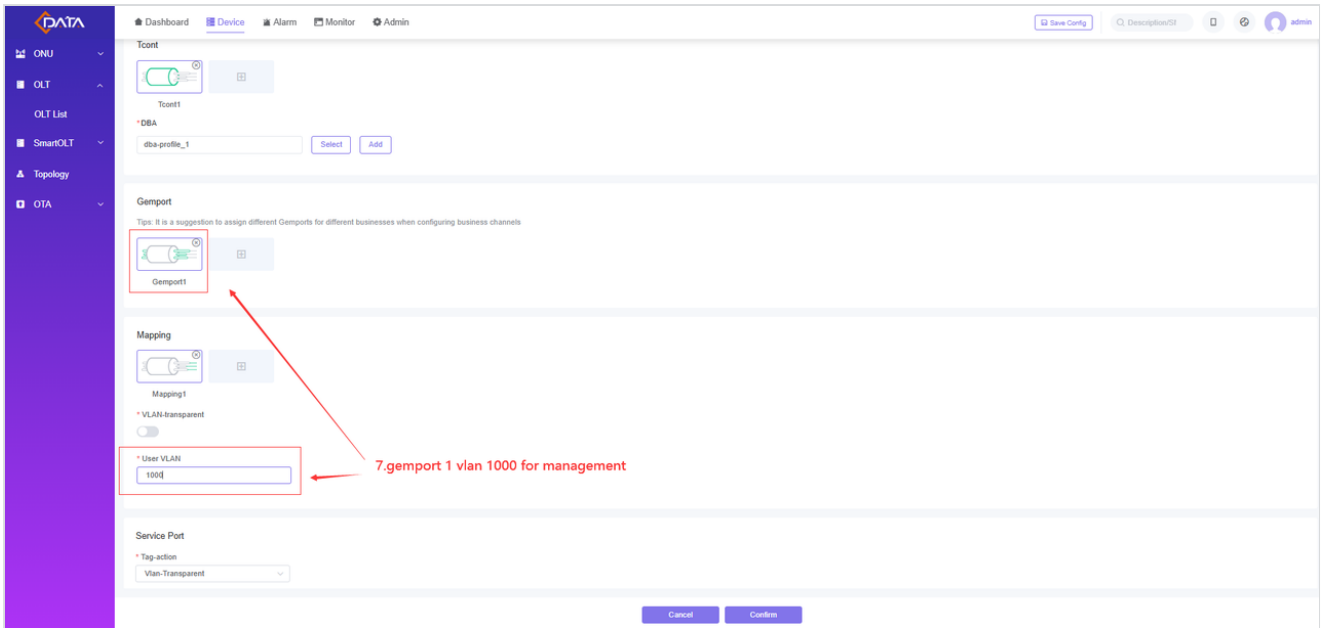
Mapping mode VLAN

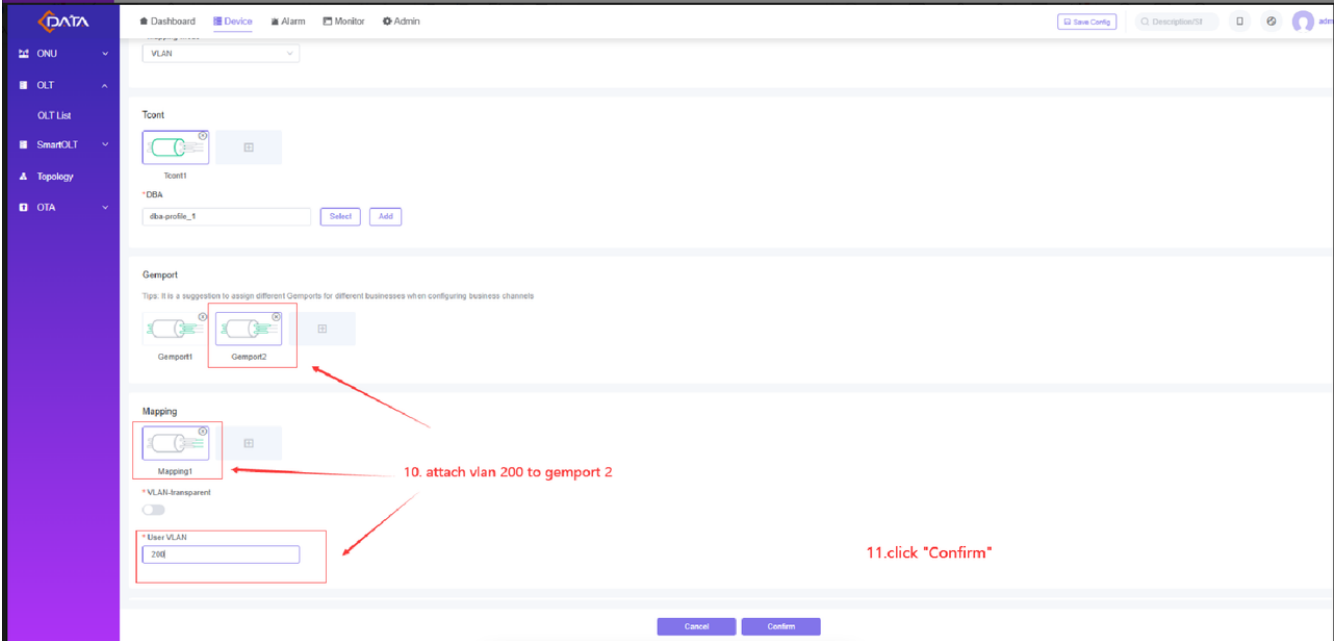
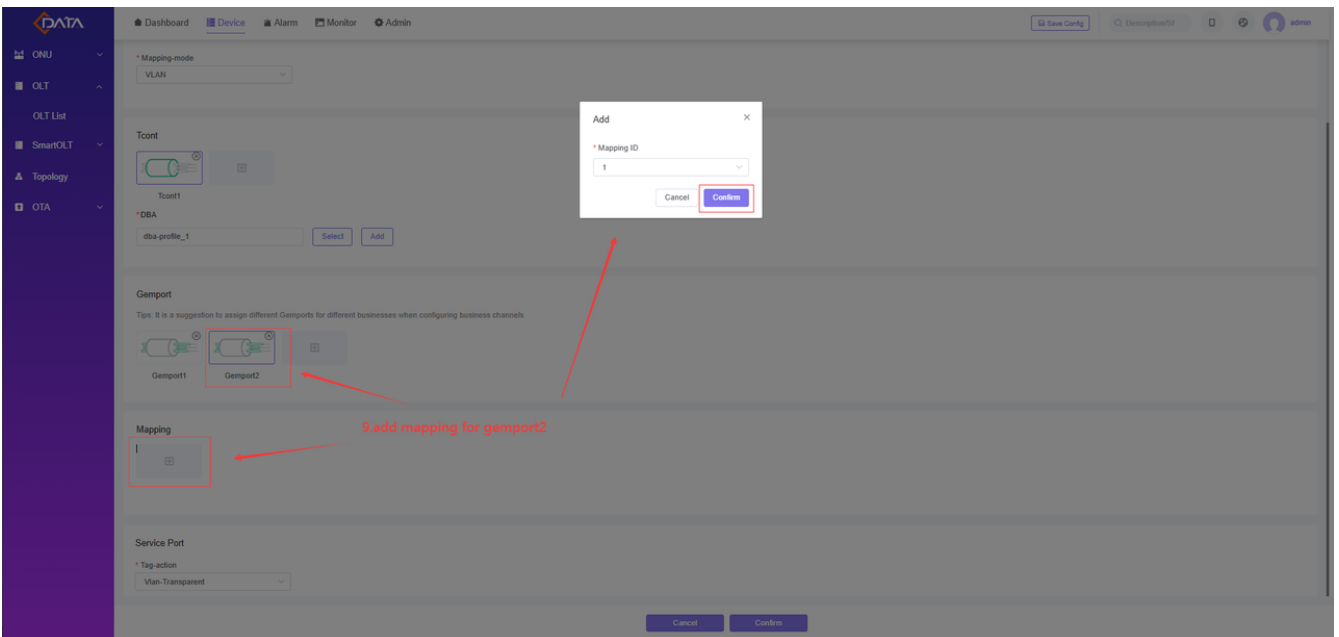
Tcont

Tcont1

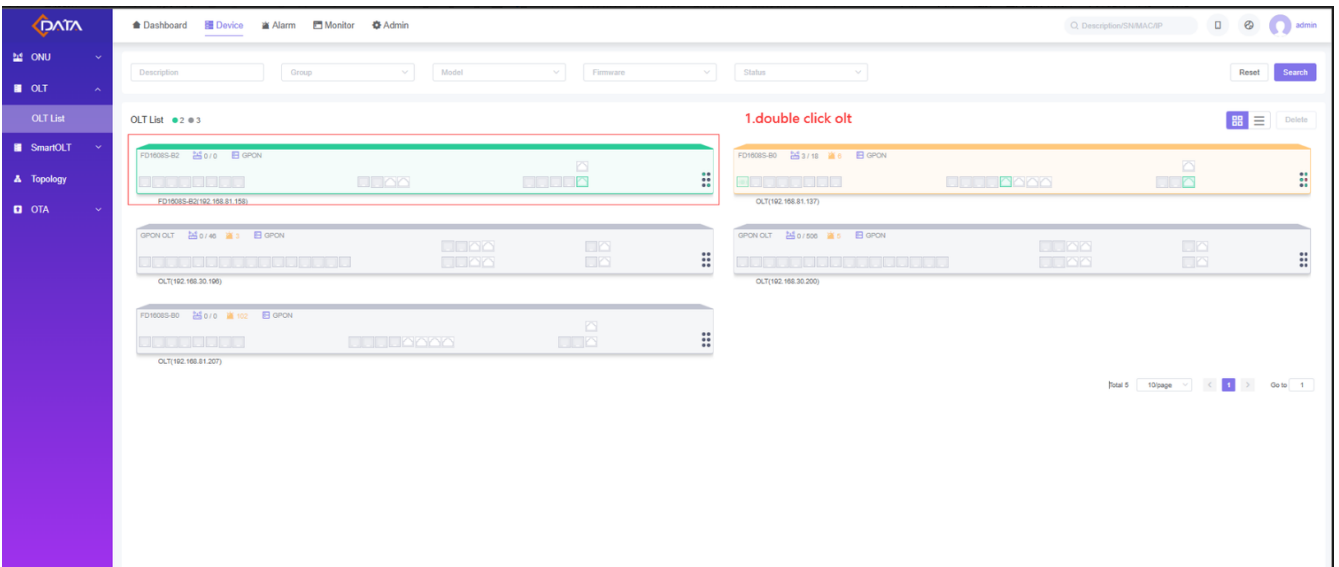
DBA

dba-profile_1





- Create a service profile



Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SI | admin

← OLT / OLT List / AF2101-160170001

ONU Manage | ONU Upgrade | **Configuration** | Port Statistics | More

2. click "Configuration"

Level	Alarm Name	Device Type	Alarm Source	Alarm time
Major	PON 0/0/1 The TX output power of ...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 13:55:23
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 18:07:26
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:36:25
Minor	PON 0/0/1 The bias current of the o...	OLT	FD1608S-B2(192.168.81.158/23)	2024-3-27 17:30:25

Subnet	Unassigned Subnet	Device Name	FD1608S-B2	Description	FD1608S-B2(192.168.81.158)
Device Type	--	Vendor	C-Data	Model	FD1608S-B2
SN	AF2101-160170001	Hardware Version	V1.1	Firmware	V3.1.56_240301
Inband MAC	E0-67-83-39-56-07	Outband MAC	E0-67-83-39-56-06	System Time	2024-4-23 17:37:15

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SI | admin

← OLT / OLT List / AF2101-160170001 / Configuration

Deployment | **Profile Management** | Port Management | VLAN | VLANIF | Link Aggregation | IGMP | DHCP | MAC | Loopback detection | Port Mirroring | PPPoE+ | STP

3. click "Profile Management"

Profile Management

DEA Profile | Line Profile | **Service Profile** | TR-069 Profile | WAN Profile

4. click "Service Profile"

Profile ID: Profile name: Reset Search

Service Profile

5. click "Add"

Profile ID	Profile name	Operate
0	srv-profile_0	Details Edit Delete

Total: 1 | 20page | 1 | Go to: 1

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description/SI | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration | 2 IP Host | 3 ONU Port | 4 ONU Multicast | 5 Completed

Basic Info

* Profile name: 6. Profile name is "srv-profile_yao"

* Loopback detection:

ONU Capability Planning

* ETH:
 * POTS:
 * CATV:
 * IP Host:

7. onu capability keep default

8. click "Next"

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

IP Host Configuration

+

9. don't need configure iphost, click next

Previous Next

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description | admin

← OLT / OLT List / DA18-2211000047 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

Port configuration

* Native VLAN

Concern Unconcern

Port VLAN Configuration

Native VLAN: 208 (1,409)

Native VLAN priority: 0

Cancel Confirm

10. configure onu lan port native vlan and click next

Port	Native VLAN	Priority	Operate
1	1	0	Edit Delete
2	1	0	Edit Delete
3	1	0	Edit Delete
4	1	0	Edit Delete

Configure VLAN Rules For Ports

Port	VLAN mode	Service VLAN	Service VLAN priority	User VLAN	User VLAN priority	Operate
1	Transparent	N/A	N/A	N/A	N/A	Edit Delete

11. enable multicast mode and click "Next"

Previous Next

Dashboard | Device | Alarm | Monitor | Admin

Save Config | Description | admin

← OLT / OLT List / AF2101-160170001 / Configuration / New Profile

1 Basic Configuration 2 IP Host 3 ONU Port 4 ONU Multicast 5 Completed

ONU Multicast

ONU Multicast

* Multicast mode: Snooping

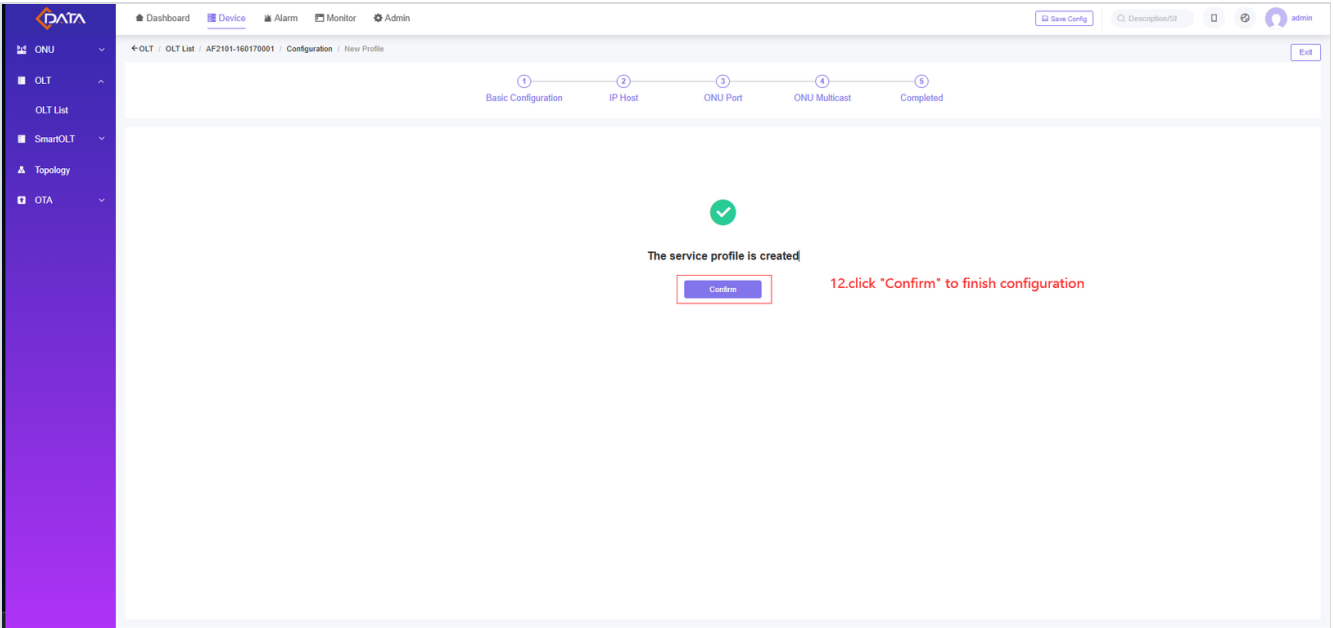
* Fast-leave:

11. enable multicast mode and click "Next"

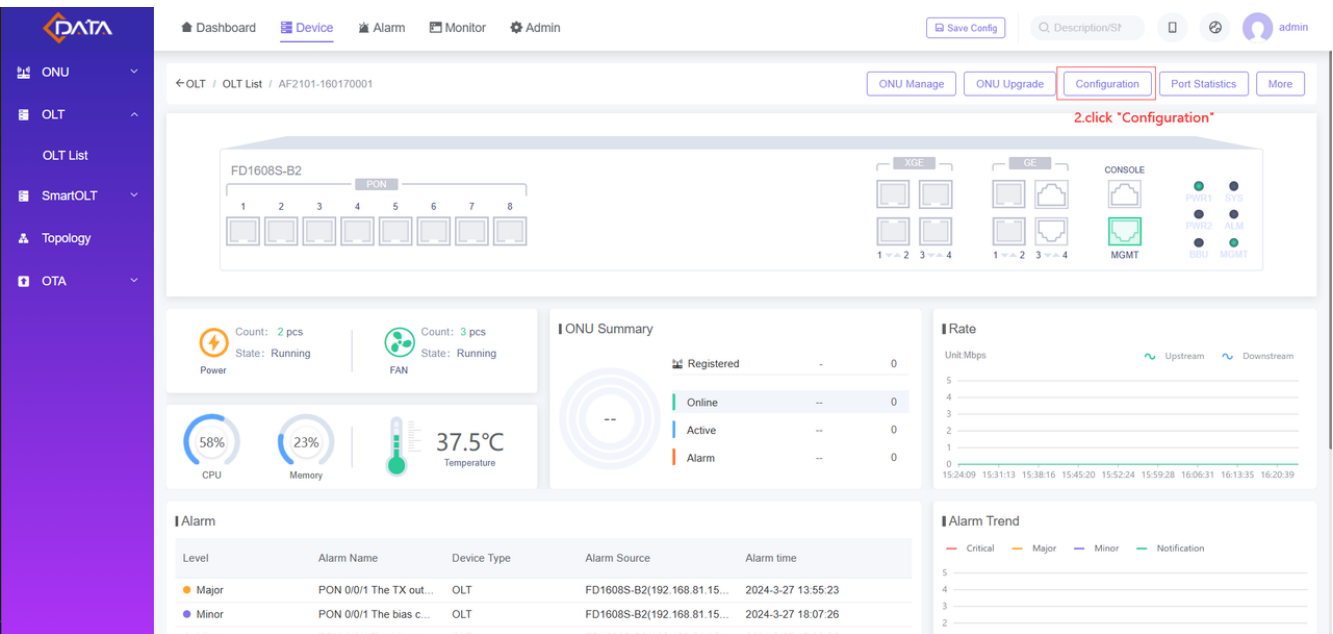
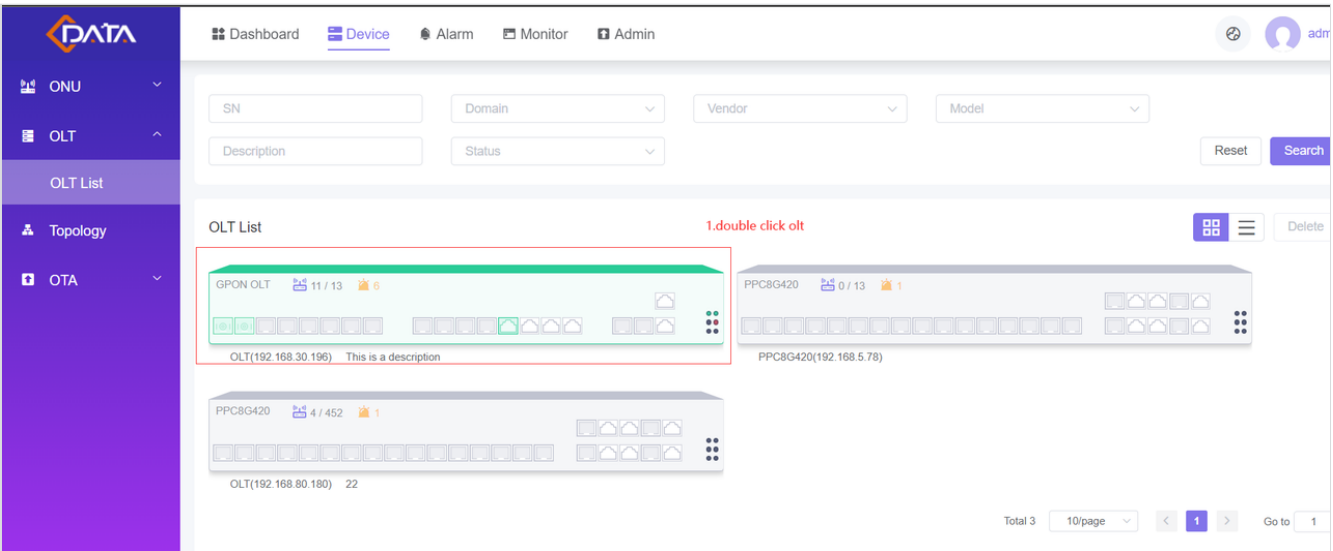
Multicast Rules Configuration

Port	Multicast VLAN	Multicast IP type	Multicast IP address		Forwarding mode	IGMP-Forward		Multicast-Forward	Operate
			Starting IP	Ending IP		Default VLAN	Default VLAN priority		
No Data									

Previous Next



4.2.3.2 Deployment



Dashboard Device Alarm Monitor Admin Save Config Description/ST admin

← OLT / OLT List / DA18-2211000047 / Configuration

Deployment Profile Management Port Management VLAN VLANIF Link Aggregation IGMP DHCP MAC Loopback detection Port Mirroring PPPoE+ STP

Deployment

Auth Policy Policy Apply

Policy ID Policy name Reset Search

Auth Policy 3.click "Create Policy" [Create Policy](#)

Policy ID	Policy name	Operate
0	default-mult-srv-profile	Details Edit Delete
1	test	Details Edit Delete
2	CmsAutofind	Details Edit Delete
3	mult_srv_profile_3	Details Edit Delete
4	mult_srv_profile_4	Details Edit Delete
5	mult_srv_profile_5	Details Edit Delete
6	mult_srv_profile_6	Details Edit Delete

Dashboard Device Alarm Monitor Admin Save Config Description/ST admin

← OLT / OLT List / DA18-2211000047 / Configuration / Create Policy [Exit](#)

1 Global 2 Policy 3 Completed

OLT VLAN Configuration 4.click "Add VLAN" [Add VLAN](#)

Port	VLAN-mode	Native VLAN	Tag VLAN	Untag VLAN	Operate
ge 0/0/1(lag1)	Access	100	N/A	100	Edit
ge 0/0/2	Access	1	N/A	1	Edit
ge 0/0/3	Hybrid	1	N/A	1	Edit
ge 0/0/4(lag2)	Access	100	N/A	100	Edit
xge 0/0/1(lag5)	Hybrid	1	N/A	1	Edit
xge 0/0/2	Access	100	N/A	100	Edit
gpon 0/0/1	Trunk	1	1-4080	N/A	Edit
gpon 0/0/2	Trunk	1	1-4080	N/A	Edit
gpon 0/0/3	Trunk	1	1-4080	N/A	Edit

[Next](#)

Add ×

* VLAN

5.enter vlan id [1,4094]

Description

Port	VLAN-mode	Forbidden	Tag	Untag
ge 0/0/1	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/2	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ge 0/0/3	Access	<input checked="" type="radio"/> 6.select uplink port	<input type="radio"/>	<input type="radio"/>
ge 0/0/4	Access	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
xge 0/0/1	Access	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

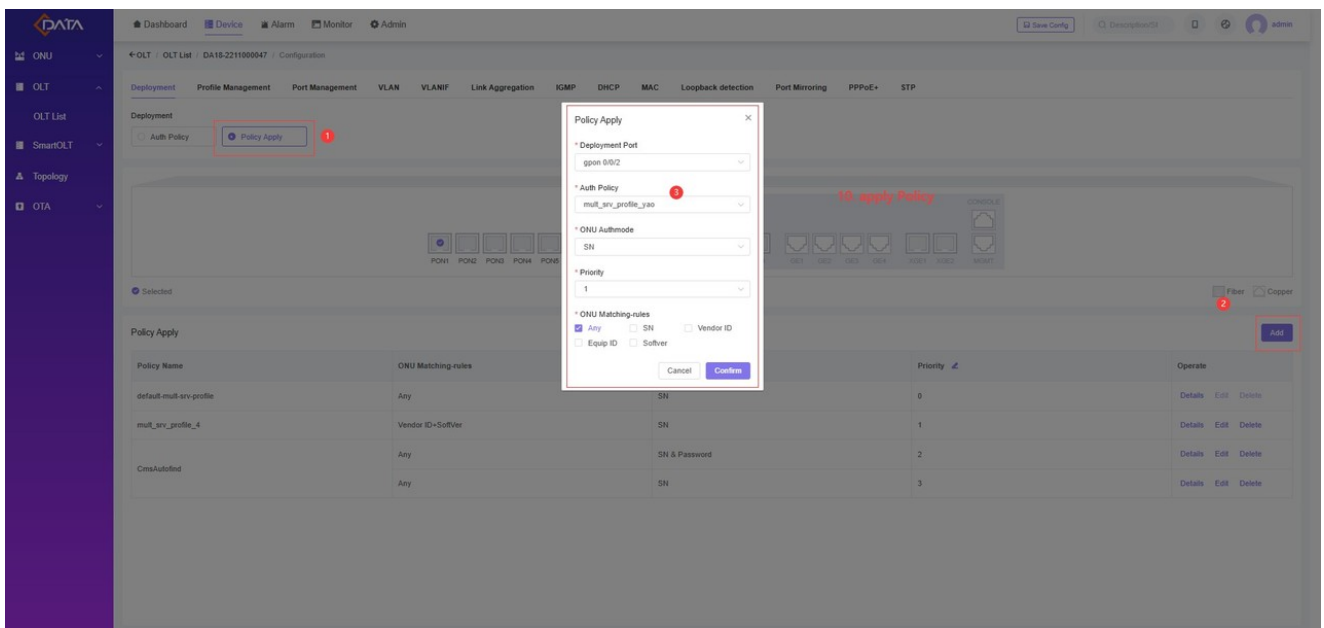
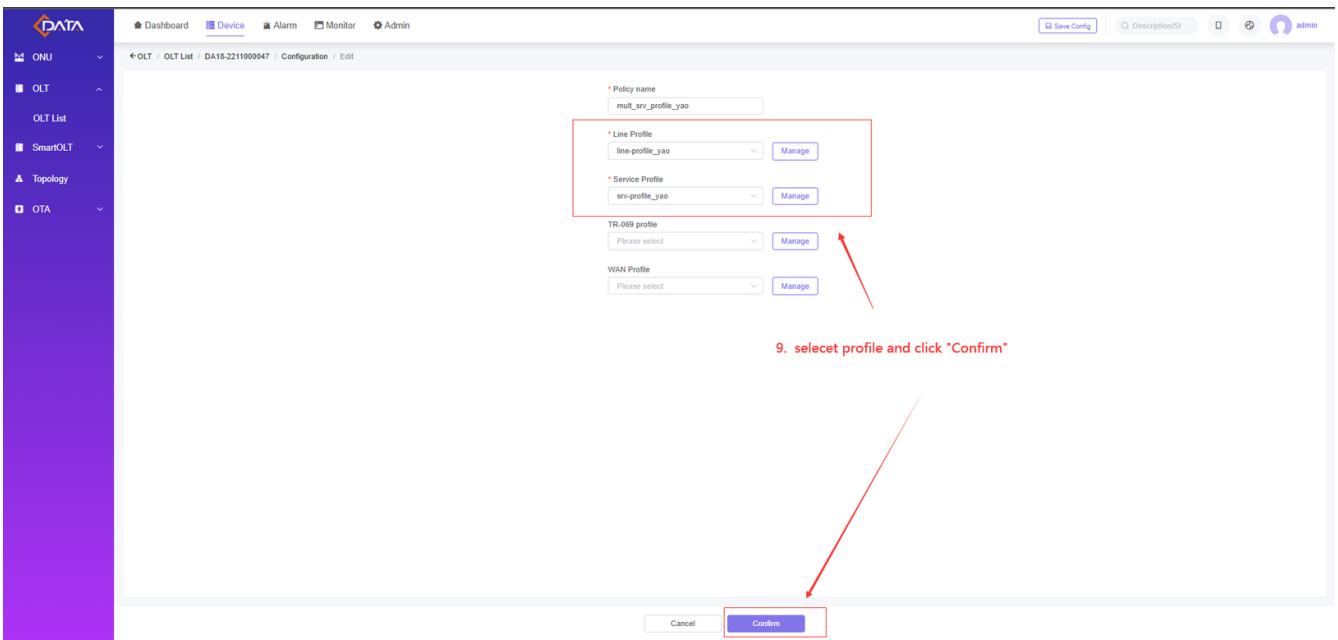
7.click

OLT VLAN Configuration Add VLAN

Port	VLAN-mode	Native VLAN	802.1P	Tag VLAN	Untag VLAN	Operate
ge 0/0/1	● Access	100	0	N/A	100	Edit
ge 0/0/2	● Access	100	0	N/A	100	Edit
ge 0/0/3	● Access	2	0	N/A	2	Edit
ge 0/0/4	● Access	1000	0	N/A	1000	Edit
xge 0/0/1	● Access	1	0	N/A	1	Edit

Next

8.click "Next"



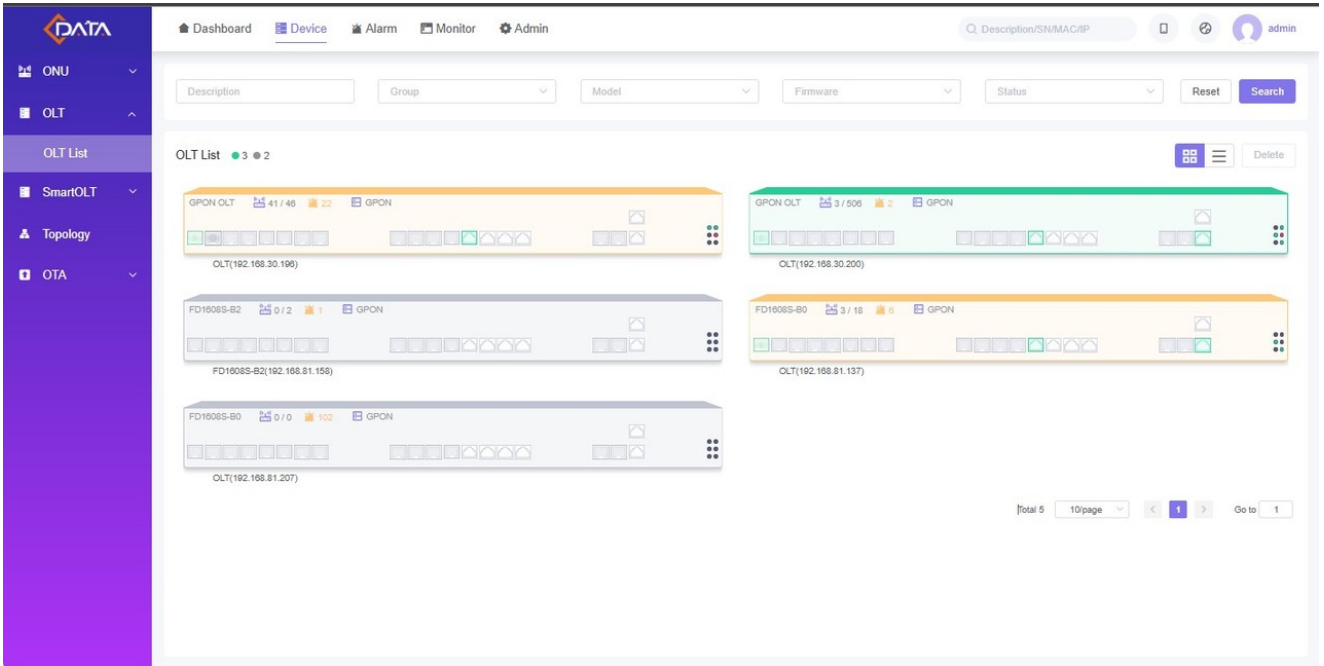
4.2.4 Step4 Routine maintenance of OLT/SFU

4.2.4.1 OLT routine maintenance

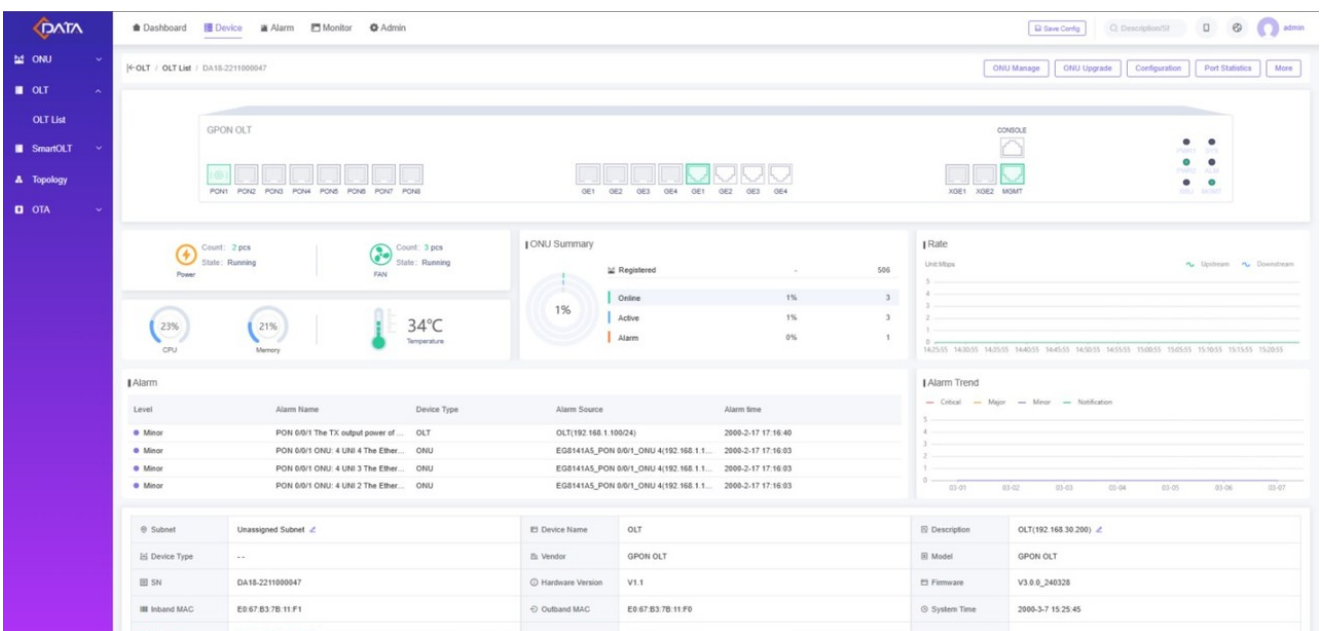
OLT routine maintenance includes viewing lists and details, single configuration, device upgrade, restart, factory restoration, etc.

4.2.4.1.1 OLT list and details view

Select [Device-OLT-OLT List] to display the OLT List interface as follows, you can view all bound OLT devices.

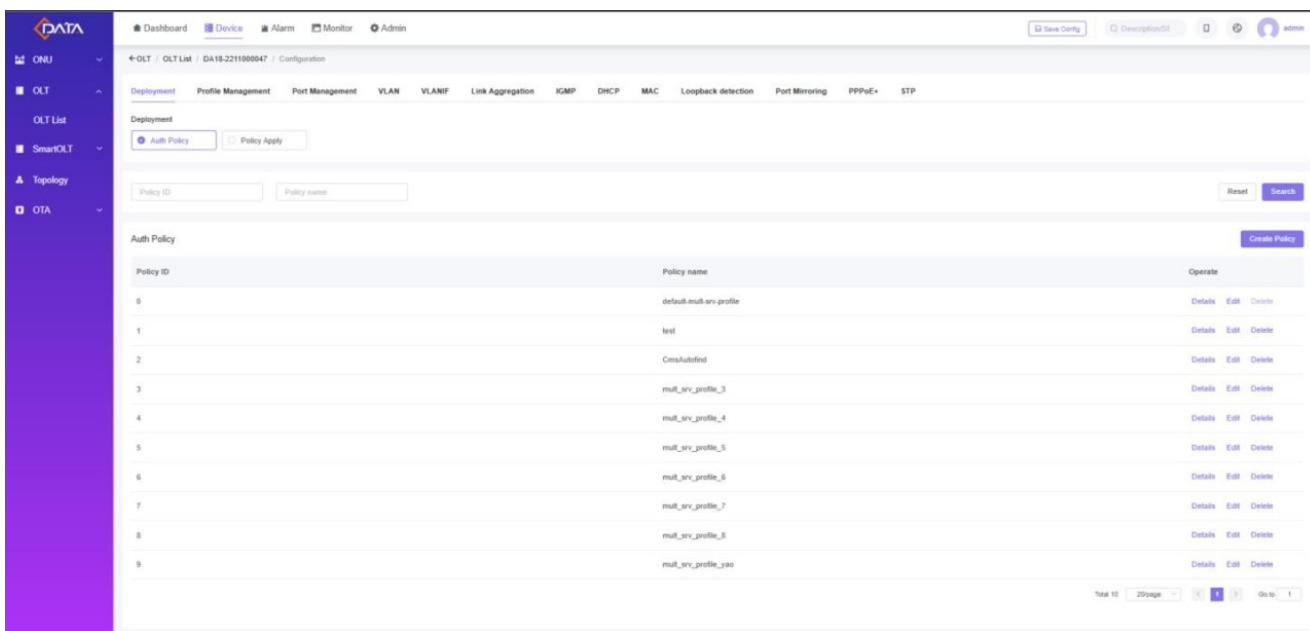


Double-click the card to enter the OLT details displayed as follows, you can view the OLT port status, running status, alarm and other information.



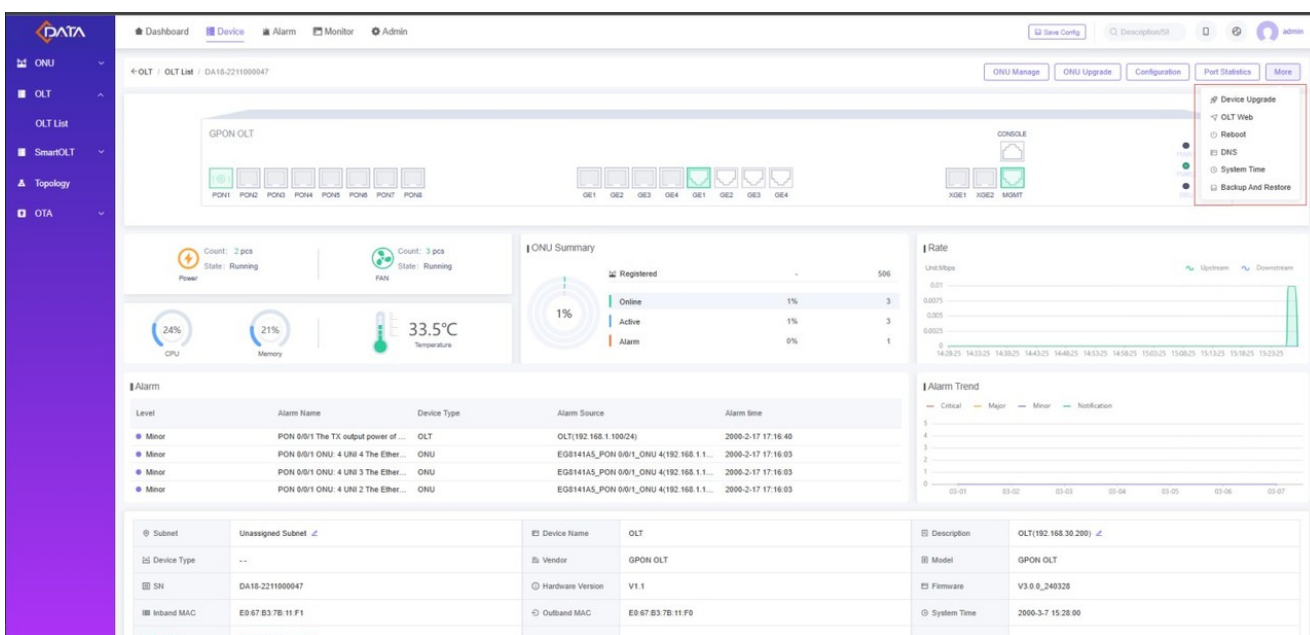
4.2.4.1.2 Single OLT configuration

On the OLT details screen, click "Configuration" to enter the OLT configuration screen. You can create a deployment policy and apply it, and configure port VLAN, link aggregation, VLAN, VLANIF, etc.



4.2.4.1.3 OLT More operations

On the OLT details screen, click "More" to upgrade the device, open the OLT Web, and restart and restore the factory.



4.2.4.2 Routine maintenance of ONU

CMS manages the ONU indirectly through OLT, based on the OMCI protocol.

4.2.4.2.1 See the list of ONUs and details

On the ONU upper-layer OLT device details page, click ONU Manager to enter the ONU list screen.

The screenshot shows the 'ONU Manager' interface. At the top, there are navigation tabs: 'Configured', 'Unconfigured', 'ONU Optical Info', 'Auth Setting', 'ONU Blacklist', 'Rogue ONU', and 'ONU MAC'. Below these are search filters for 'PON ID', 'ONU ID', 'PON SN', and 'Status'. A table lists the configured ONUs with columns for PON ID, ONU ID, Device Name, Description, Equipment ID, PON SN, Firmware, Status, TR-069, Configuration, Auth Policy, and Operate. The table contains several rows, including ONUs with IDs 1, 4, 7, 38, 39, and 40. Each row has a checkbox and 'Details' and 'More' links.

PON ID	ONU ID	Device Name	Description	Equipment ID	PON SN	Firmware	Status	TR-069	Configuration	Auth Policy	Operate
0/0/1	1	IGD_PON 0/0/1_ONU 1	N/A	IGD	RTKG11111111	V3.1.0	Online	N/A	Success	CmsAutofind	Details More
0/0/1	4	EG8141A5_PON 0/0/1_ONU 4	N/A	EG8141A5	HWTC526D0E9B	V5R019C10 S100	Online	TR-069	Success	CmsAutofind	Details More
0/0/1	7	ONT4GE2P2WR_PON 0/0/1_O...	N/A	ONT4GE2P2WR	DF276A1C6BB8	V3.2.3	Online	N/A	Success	CmsAutofind	Details More
0/0/2	38	_PON 0/0/2_ON U 38	N/A	N/A	N/A	N/A	Offline	N/A	Initial	default-mult-srv-p profile	Details More
0/0/2	39	_PON 0/0/2_ON U 39	N/A	N/A	N/A	N/A	Offline	N/A	Initial	default-mult-srv-p profile	Details More
0/0/2	40	_PON 0/0/2_ON U 40	N/A	N/A	N/A	N/A	Offline	N/A	Initial	default-mult-srv-p profile	Details More

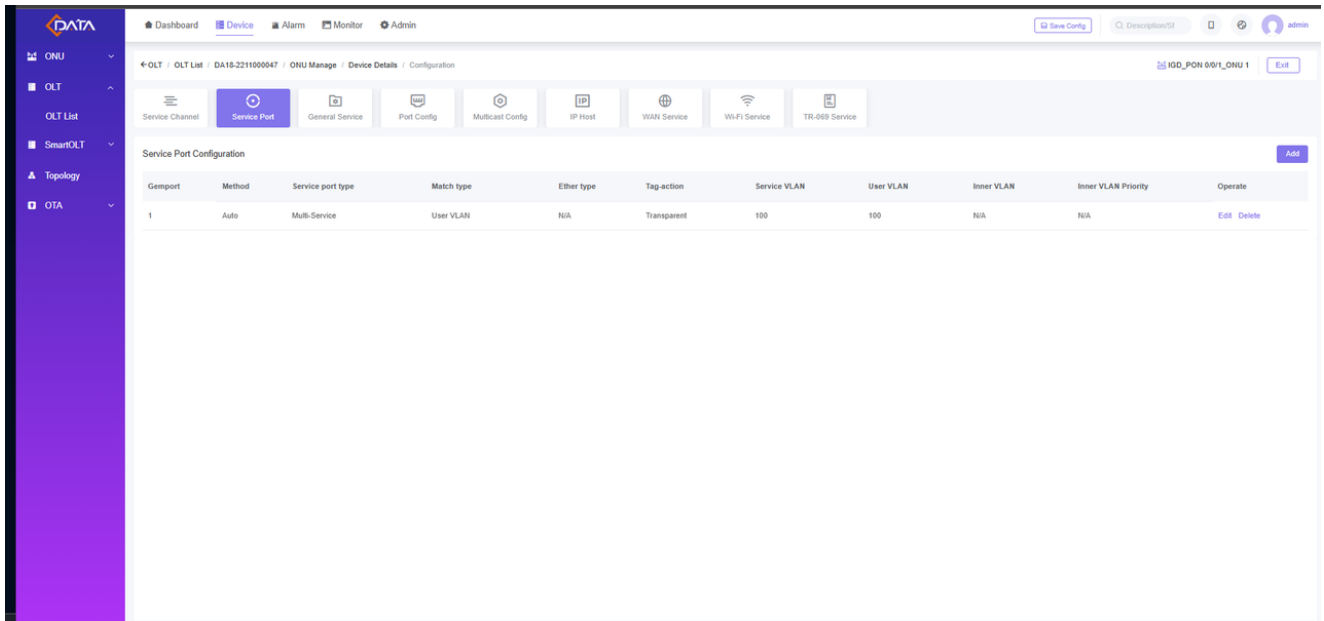
In the authenticated ONU list interface, double-click a row of an ONU to enter the details page displayed as follows, you can view ONU capability status, PON optical power, service channel, WAN, VoIP and other information.

The screenshot shows the 'ONU Manager / Device Details' page. It features a network diagram at the top showing connections between OLT, ONU, and ETH. Below the diagram is a 'GPON' section with a circular gauge showing optical power levels (Rx: -10.97dBm, Tx: 2.03dBm) and a status indicator (Online). The 'Service Channel' section includes a 'T-CONT' diagram. On the right, 'Device Information' lists details for PON ID (0/0/1), ONU ID (4), Device Name (EG8141A5_PON 0/0/1_ONU 4), Description, Equipment ID (EG8141A5), MAC, SN, and PON SN (HWTC526D0E9B).

Tcont ID	DBA Profile	Gemport ID	Mapping ID	User VLAN	Operate

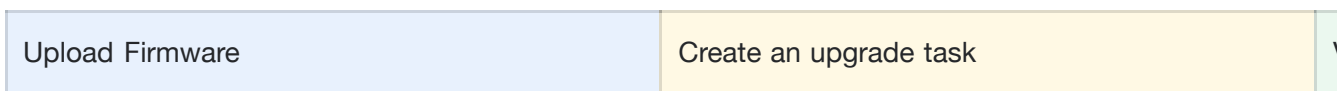
4.2.4.2.2 Configure a single ONU

In the ONU details screen, click "Configuration" to enter the ONU configuration screen displayed as follows, you can modify the Service Channel, Service Port, General Service, etc.

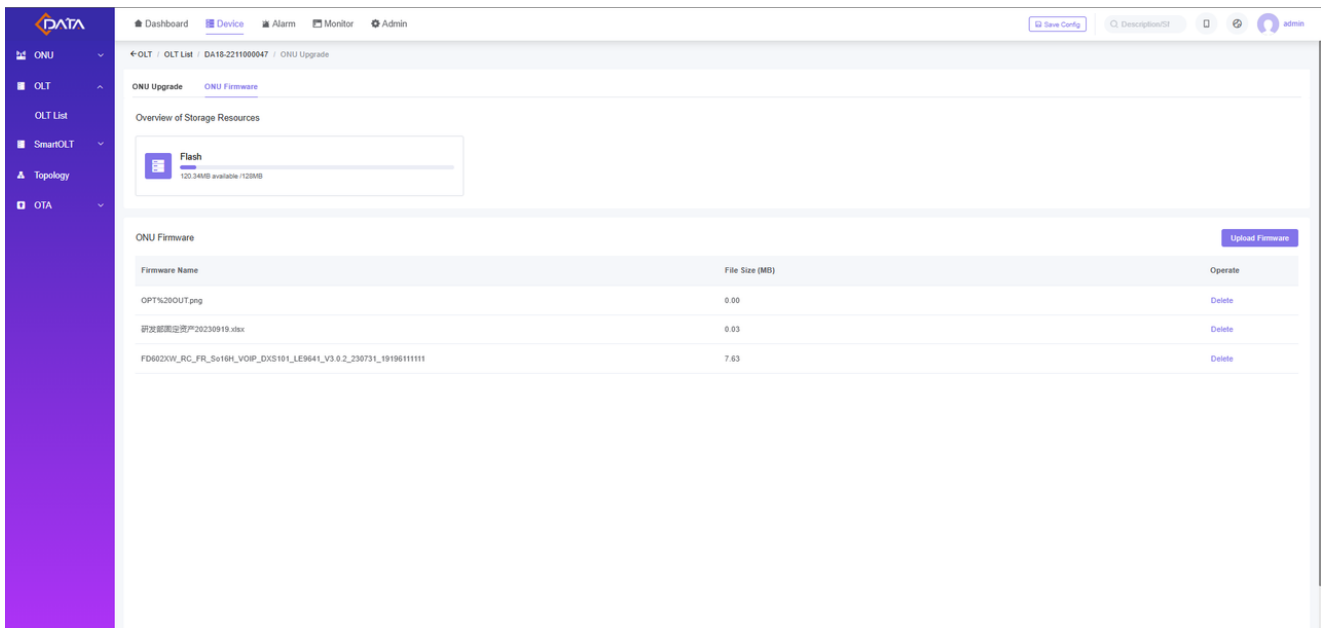


4.2.4.2.3 Batch upgrade ONU

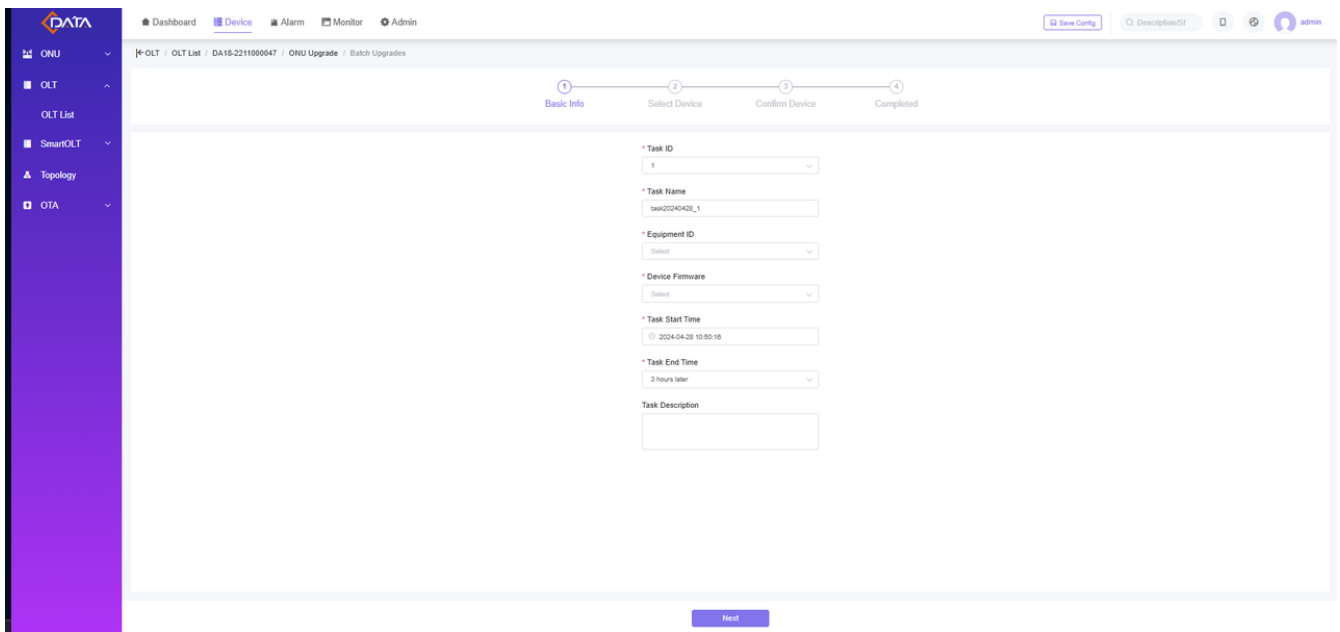
On the OLT Details screen, click "ONU Upgrade" to access the ONU Batch upgrade screen.



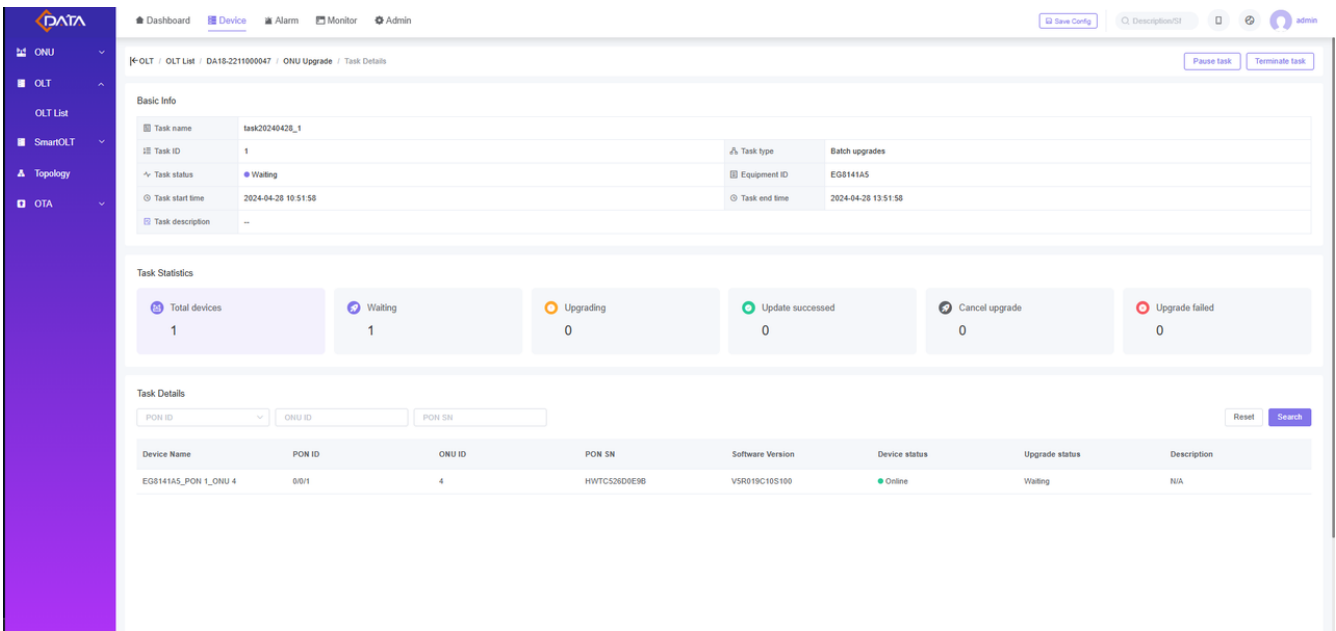
- 1) On the ONU Firmware Management screen, you can upload firmware.



2) On the ONU Firmware Upgrade interface, click "Add Task" to create an upgrade task.

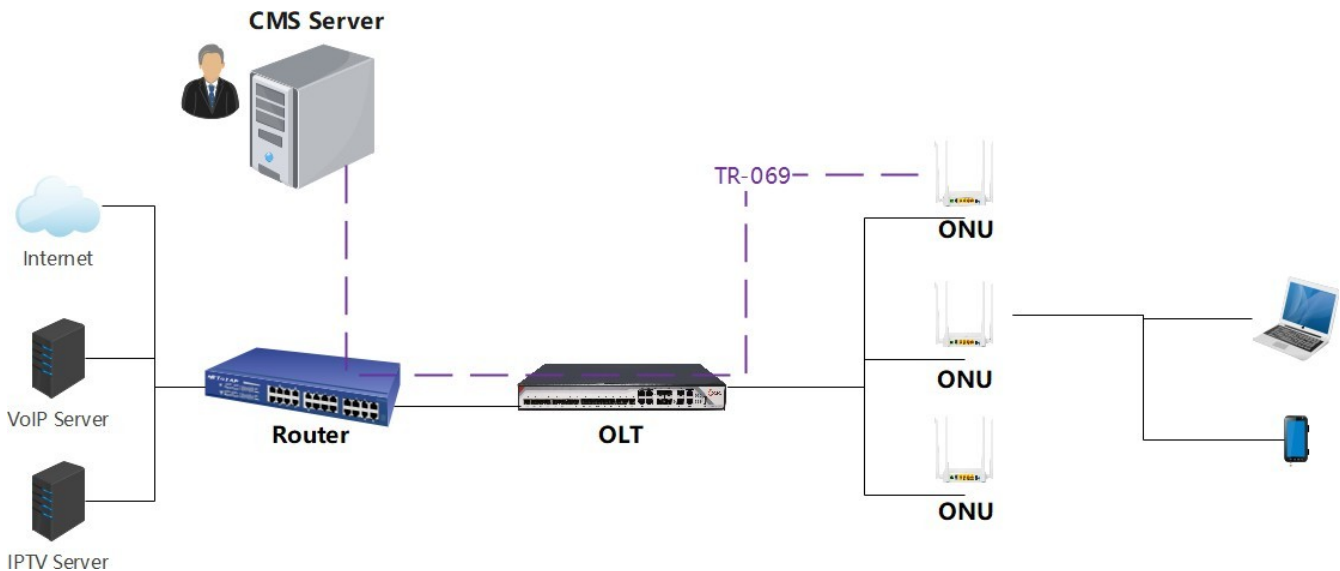


3) On the ONU Firmware Upgrade screen, click "Details" to view the device upgrade status.



4.3 Scenario 3: The CMS does not manage the OLT, but manages the ONU via TR-069

The CMS manages the ONU directly through the TR-069, including third-party devices. The network architecture is as follows:



The recommended configuration steps are as follows:

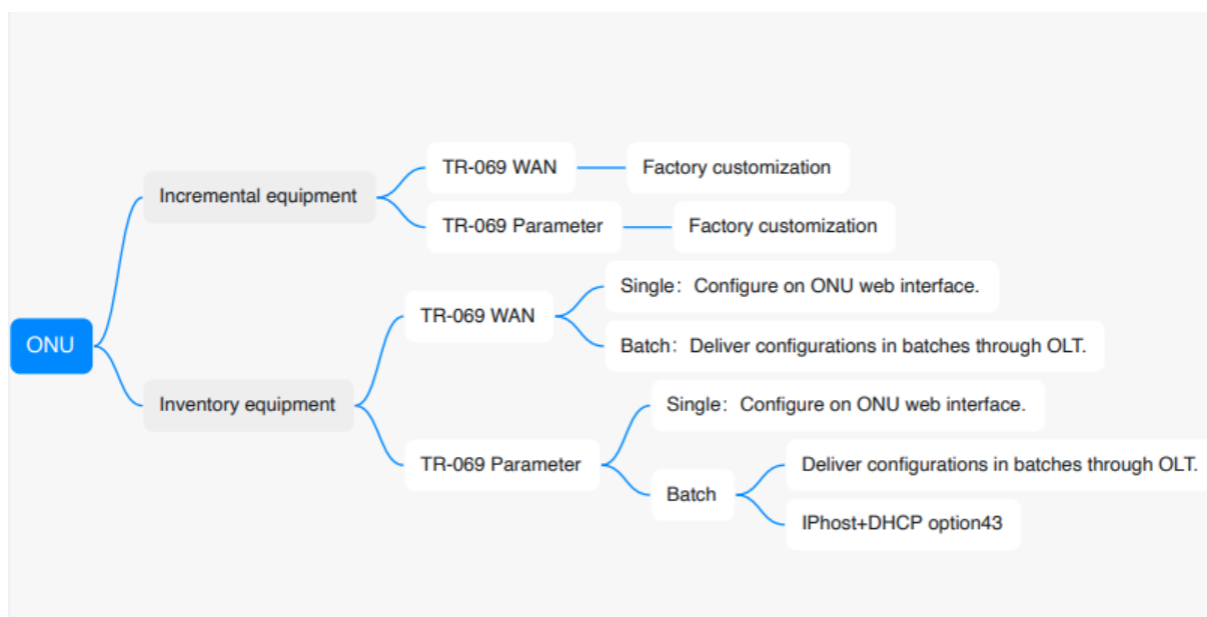
Prerequisites: The ONU has been registered with the OLT and the OLT has been configured to ensure that the ONU is connected to the CMS.

Step P1: Bind the ONU to the CMS	Step2: ONU routine maint
----------------------------------	--------------------------

4.3.1 Step 1 Bind the ONU to the CMS

ONU Configuration TR-069 WAN Connection and TR-069 Server Parameter method,

- Incremental device: recommended unified factory customization;
- Stock device: for a single device can be directly configured on the ONU Web interface, for multiple devices can be delivered in batches through OLT.



TR-069 WAN batch configuration

Batch WAN templates via OLT (some vendor OLTs, or older versions of ONUs do not support proprietary protocols), using cdata gpon OLT as an example:

See[Scenario 1 - Step3 Simple deployment of OLT - Prerequisites - Creating a wan Profile]

TR-069 Batch Configuration of Server parameters (OLT batch delivery)

See [Scenario 1 - Step3 Simple deployment of OLT - Prerequisites - Creating a tr069 Profile]

Batch configuration of TR-069 Server parameters (IPhost+DHCP option43)

IPhost is the GPON standard protocol, which is generally supported by OLT. TR069 channel can be established through IPHost. TR069 server parameters can be delivered through DHCP option 43 field, including the ACS server address, ACS server user name and password.

Take Huawei DHCP Server as an example, you can use the command line to configure the ACS parameters. The command format is as follows: `option 43 hex 01length URL username password`, where the URL, username, and password must be in ASCII hexadecimal format.

Parameters	Instructions	Parameter value example	Hexadecimal value
length	The total length of the argument following the keyword option 43 hex 01	40 characters	28
URL	ACS's address	<u>http://192.168.20.56:9999/v1/acs</u>	687474703A2F2F3139322E3136382E32302E35363A393939392F76312F616373206163732061637320
username	ACS user name	acs	61637320
password	Password for ACS	acs	616373

The configuration commands are as follows:

∨
复制代码

```

<Sysname> system-view
[Sysname] dhcp server ip-pool 0
[Sysname-dhcp-pool-0] option 43 hex
0128687474703A2F2F3139322E3136382E32302E35363A393939392F76312F616373206163732061637320616373

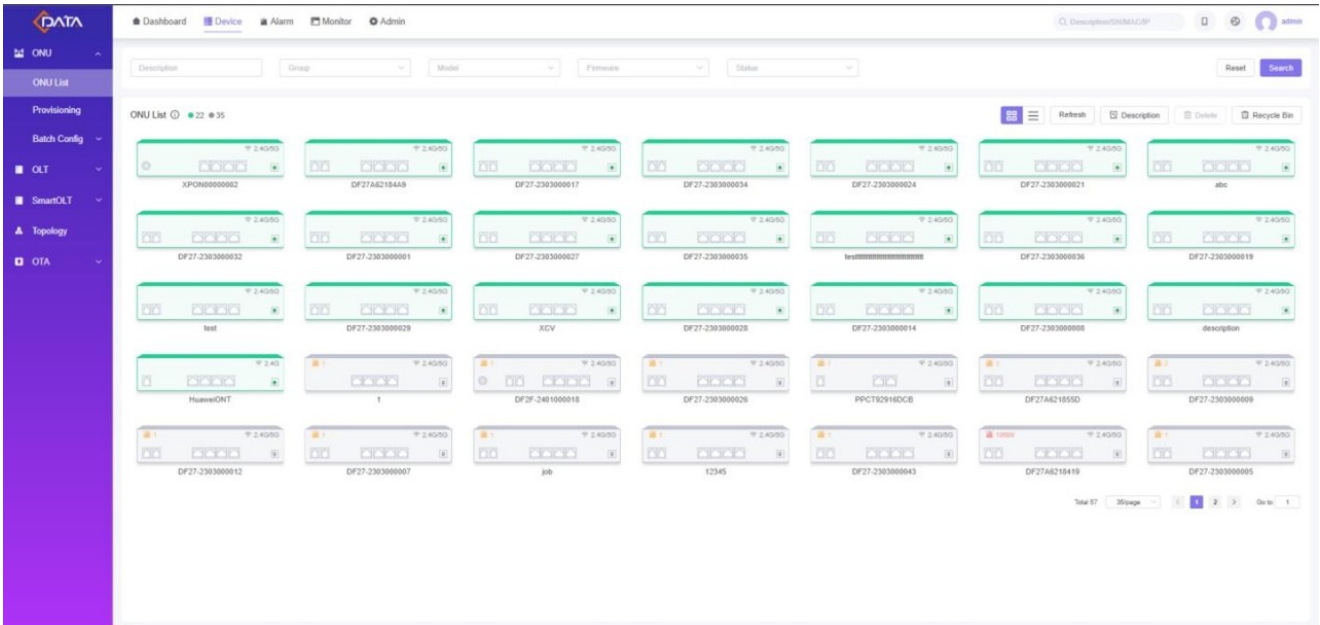
```

4.3.2 Step2 Perform routine maintenance on the ONU

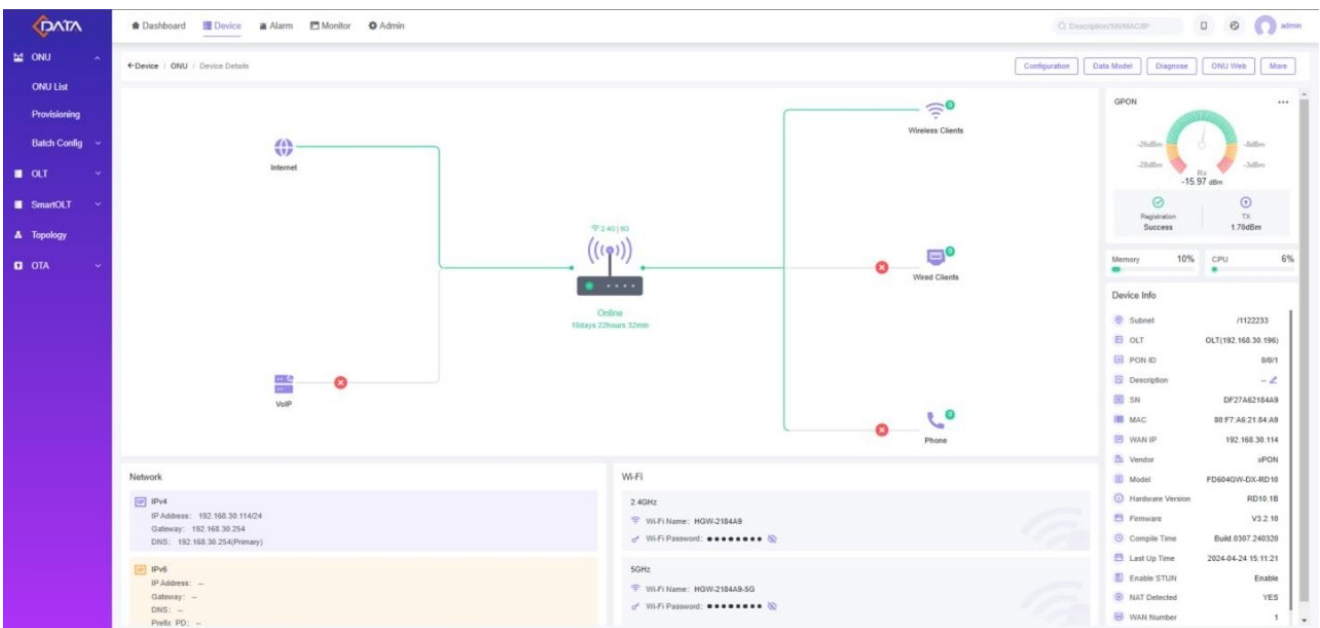
ONU routine maintenance includes list and details view, single configuration, batch configuration, OTA upgrade, etc.

4.3.2.1 ONU list and details view

Select [Device-ONU-ONU List] to display the ONU list interface as follows, you can view all the ONU devices bound by TR-069.



Double-click the card to enter the ONU details screen displayed as follows, you can view ONU capability set and connection status, PON optical power, network and Wi-Fi information.



4.3.2.2 Create an ONU preconfiguration

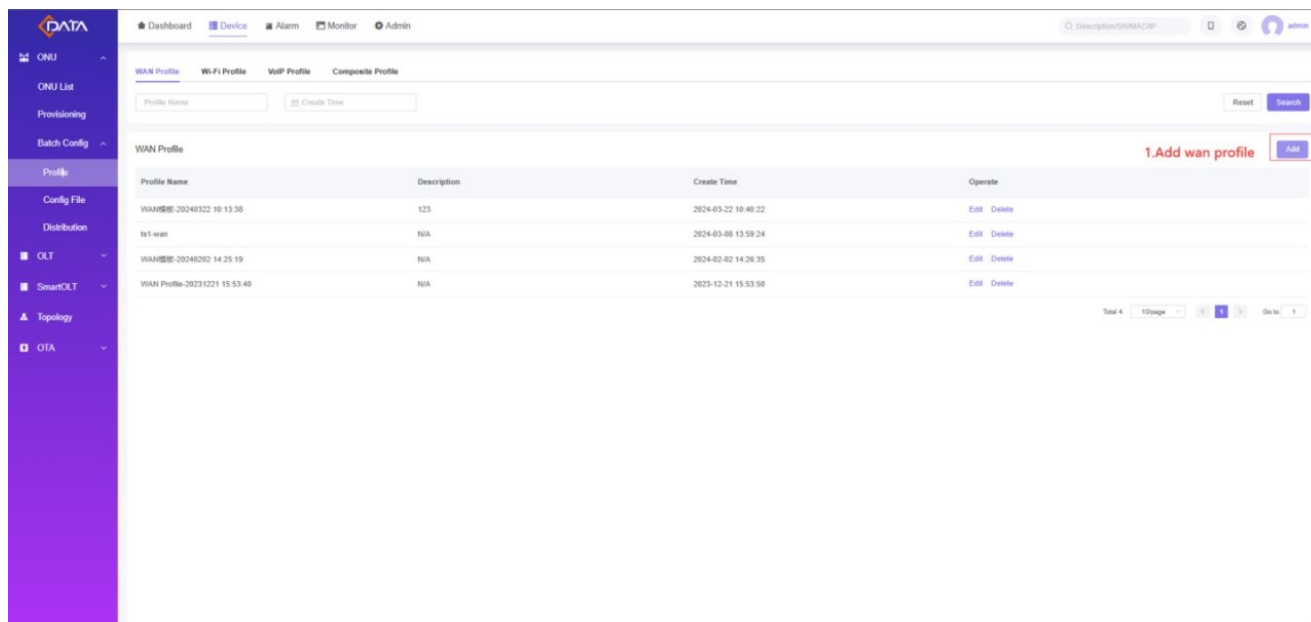
After the ONU is connected to the OLT, the CMS can directly deliver service configurations based on the TR-069 protocol to realize zero-configuration commissioning. Pre-configuration of the ONU consists of the following three steps.

Creating a Configuration Template	Create a pre-configuration task	View the pre-c
-----------------------------------	---------------------------------	----------------

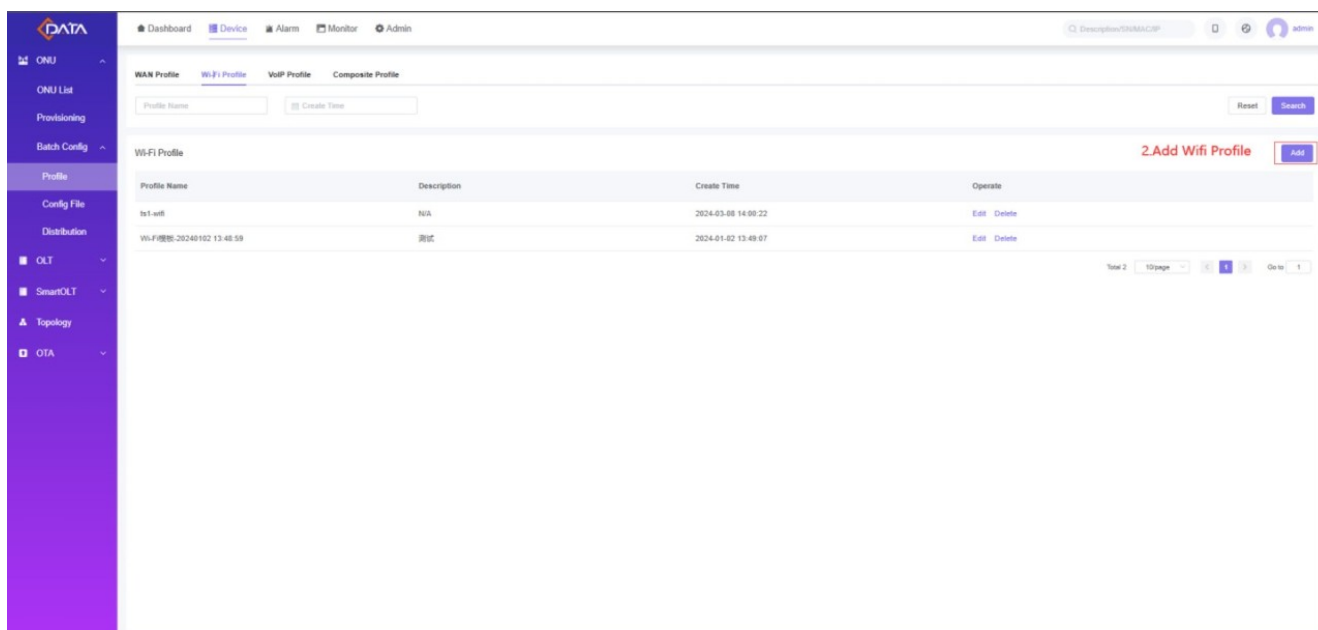
1) Create a configuration profile

Open the [Device-Batch Config-profile] screen and create a profile that includes WAN, Wi-Fi, and VoIP services.

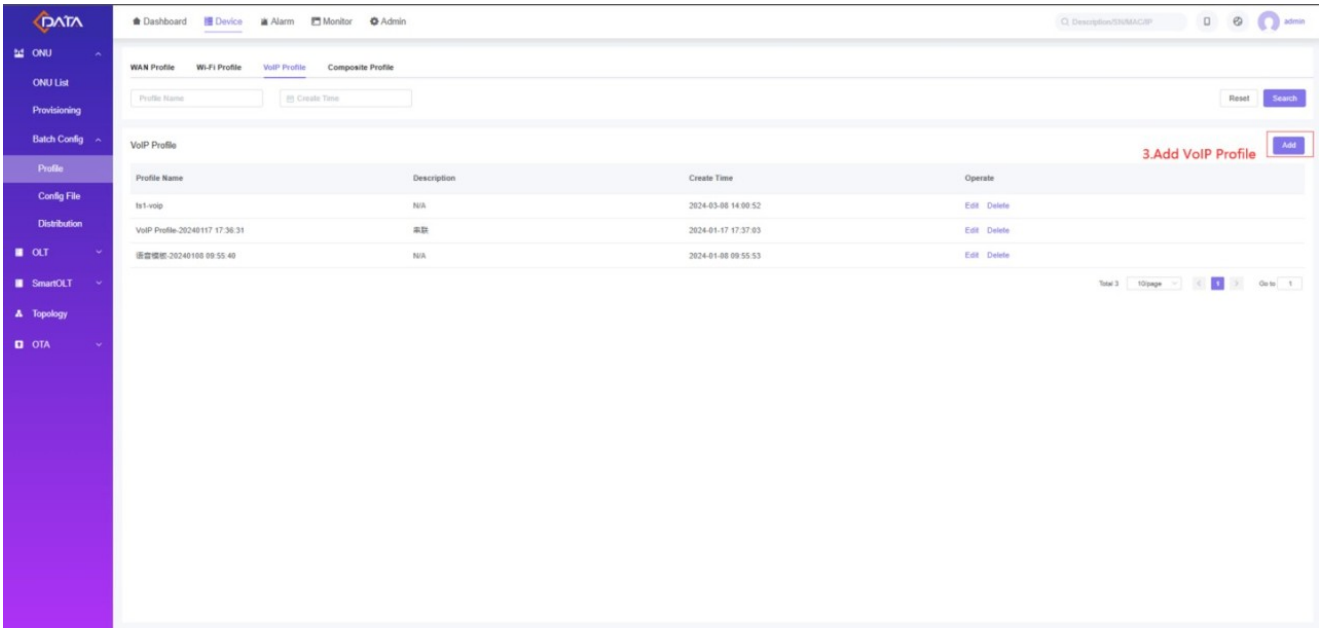
- Create a WAN Profile



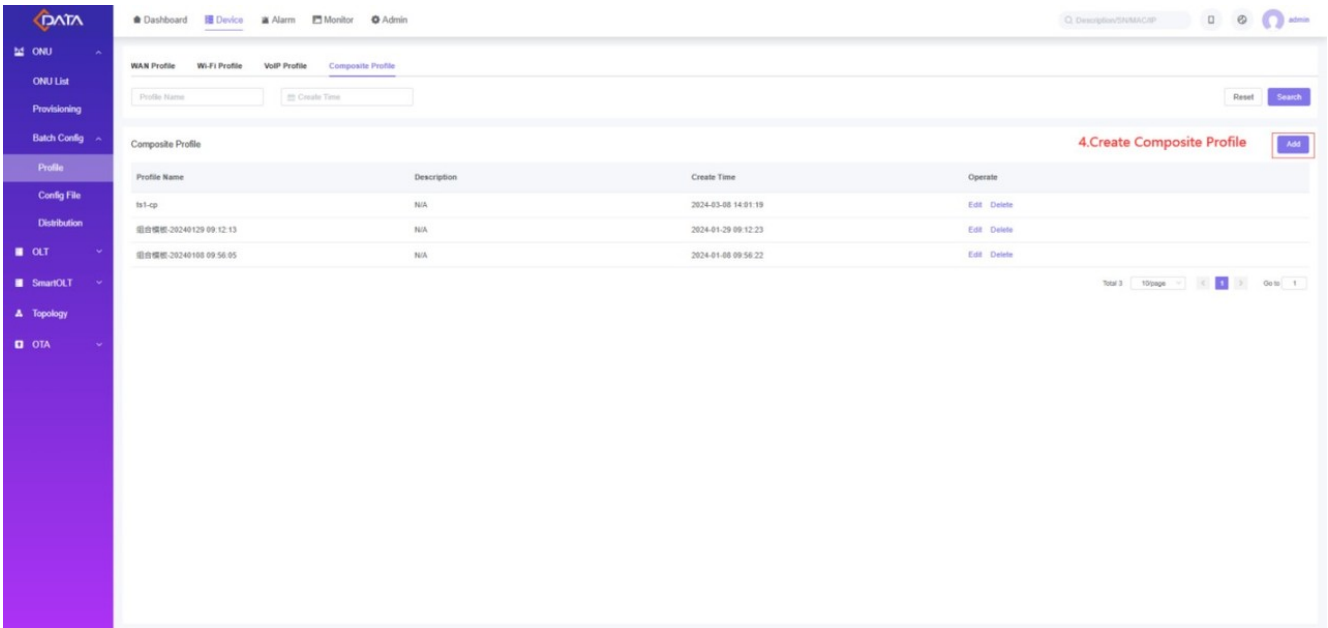
- Create a Wi-Fi profile



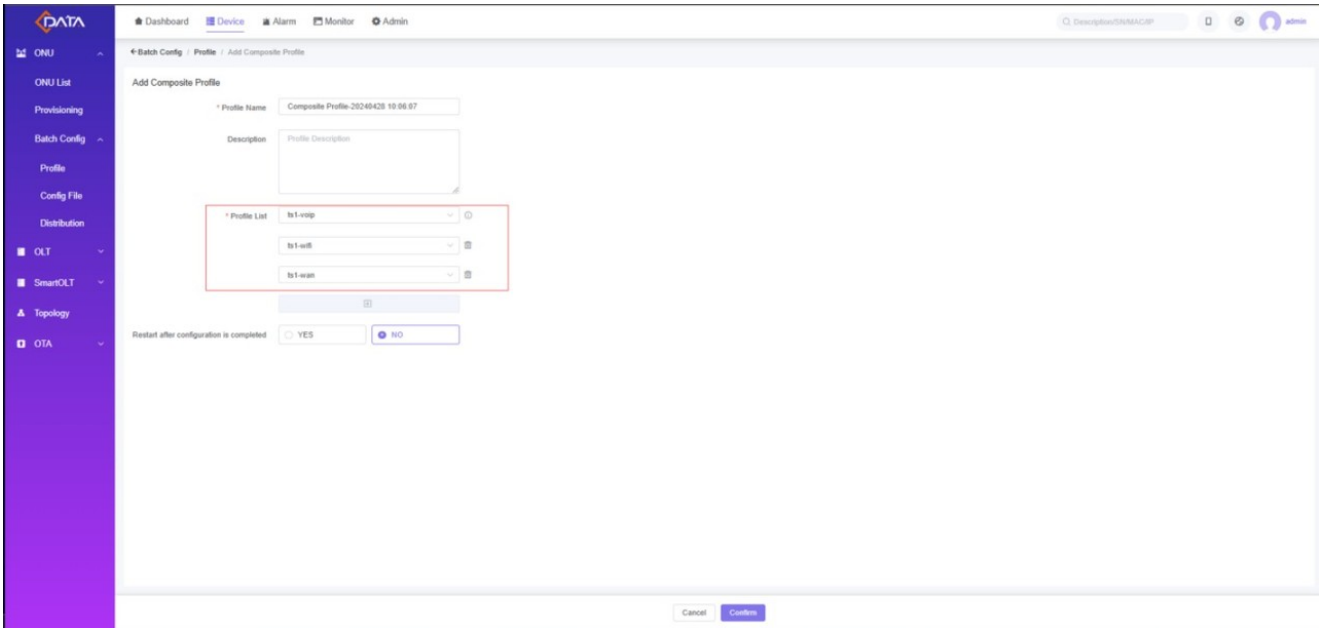
- Create a VoIP Profile



- Create a composite Profile

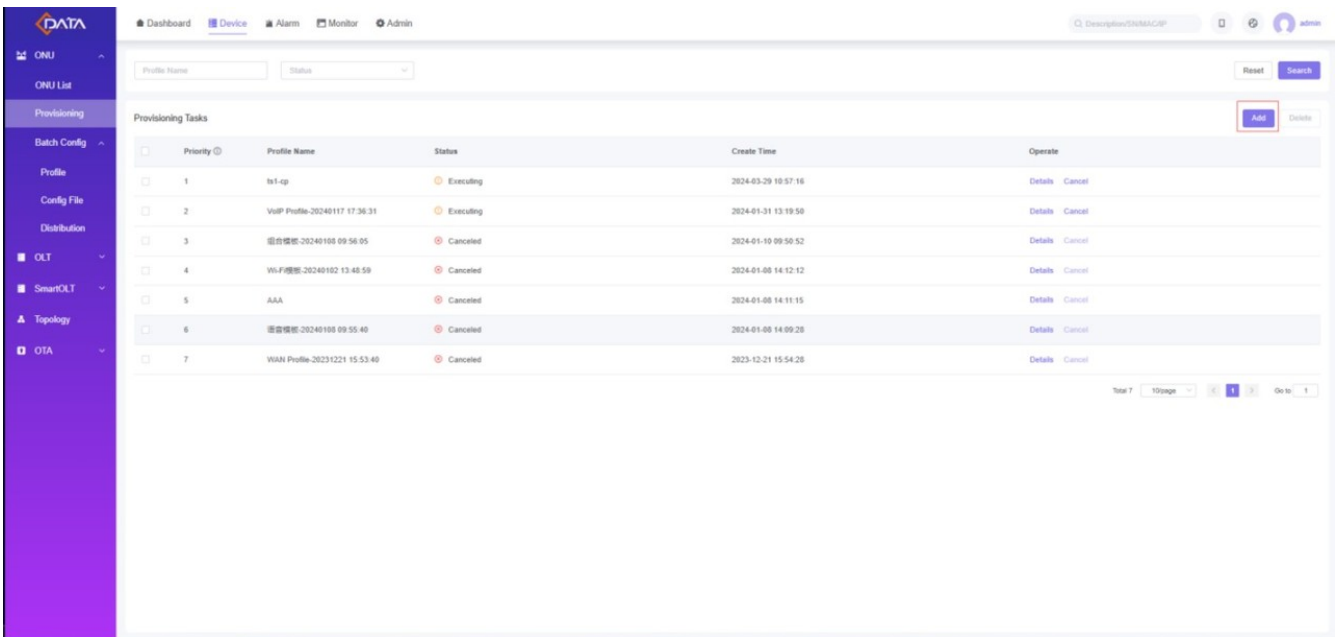


Select the WAN, Wi-Fi, and VoIP templates created earlier and click "Confirm".

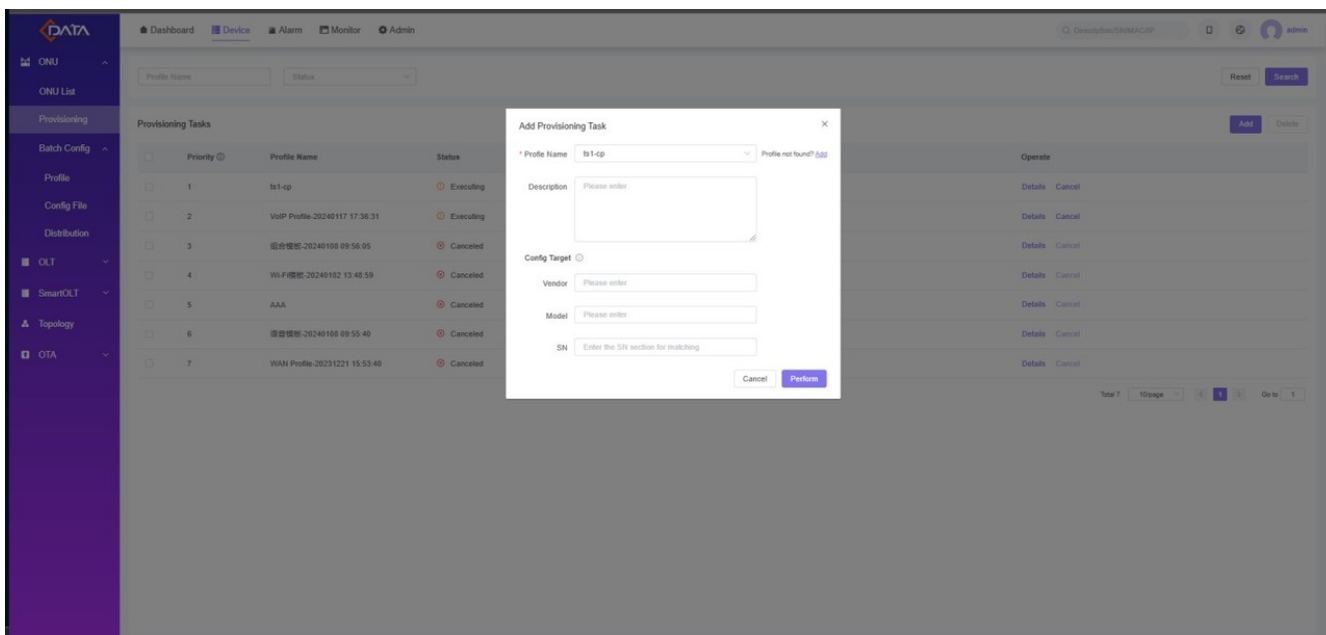


2) Create a Provisioning task

Open the [Device-Provisioning] interface and click "Add" to add a preconfigured task.

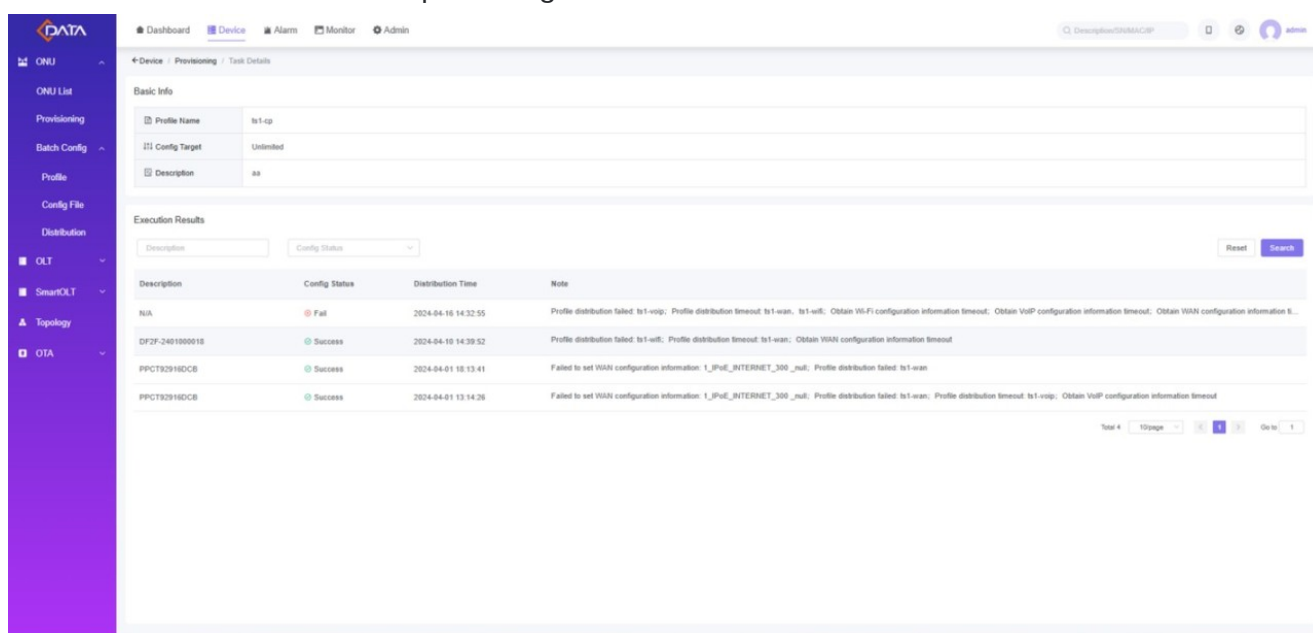


Select the configuration profile and the configuration object. The configuration object can match the device according to the vendor, model or SN. If multiple items are entered, the intersection match will be taken. If neither of these parameters is specified, there is no limit. The profile will be automatically delivered to any device reported for the first time.



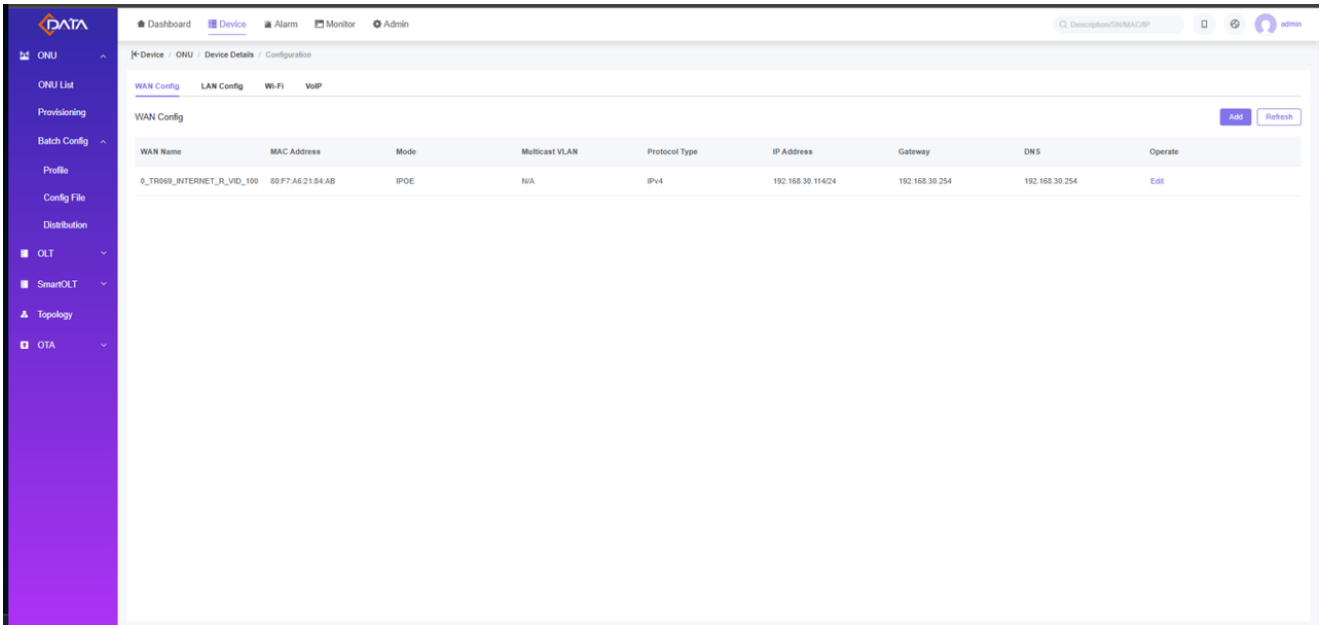
3)View the preconfiguration result

After the ONU is bound to the CMS through TR-069, the CMS automatically delivers the pre-configuration task. On the Provisioning page, click Details to enter the task details. You can view the execution of the matched ONU pre-configuration section task.

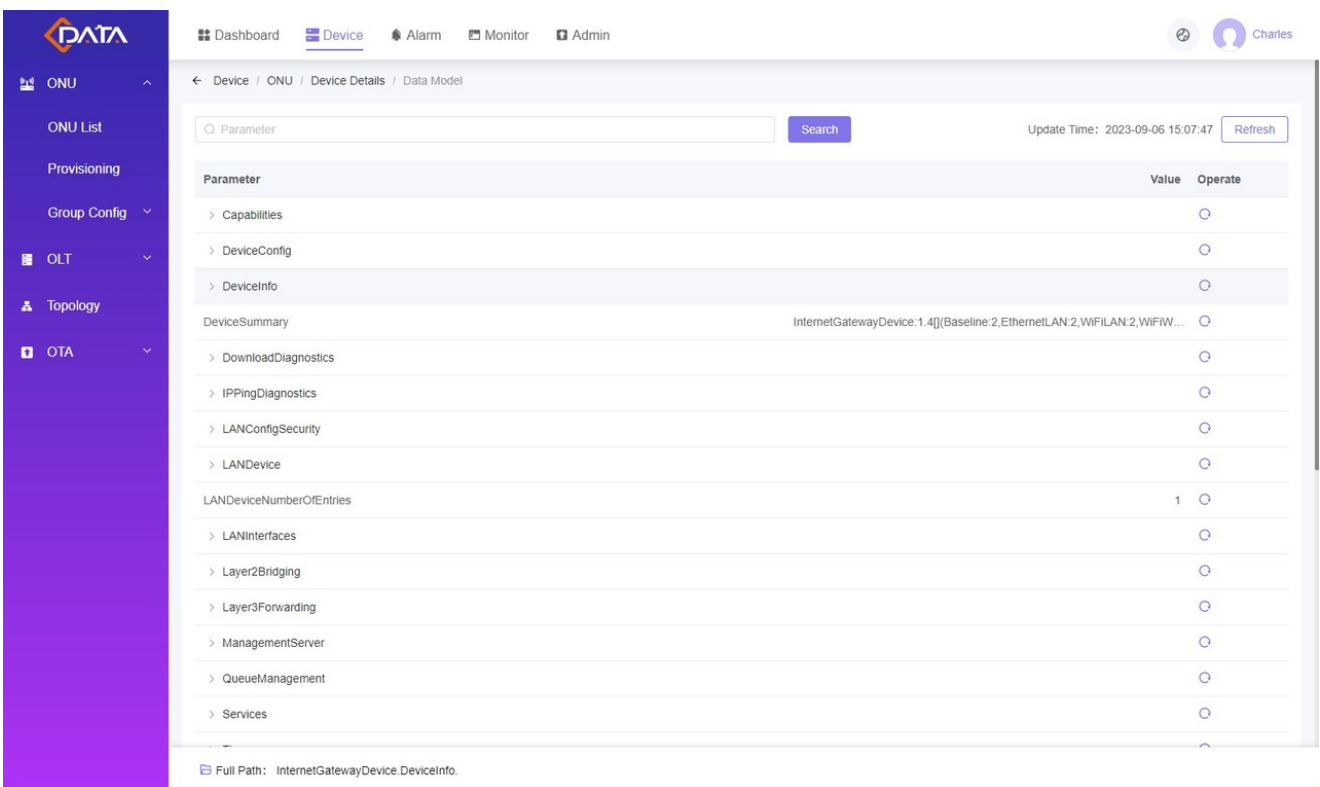


4.3.2.3 Configure a single ONU

On the ONU Details page, click "Configuration" to open the configuration screen shown as follows, which supports common service configurations such as WAN, LAN, Wi-Fi, VoIP, and CATV.

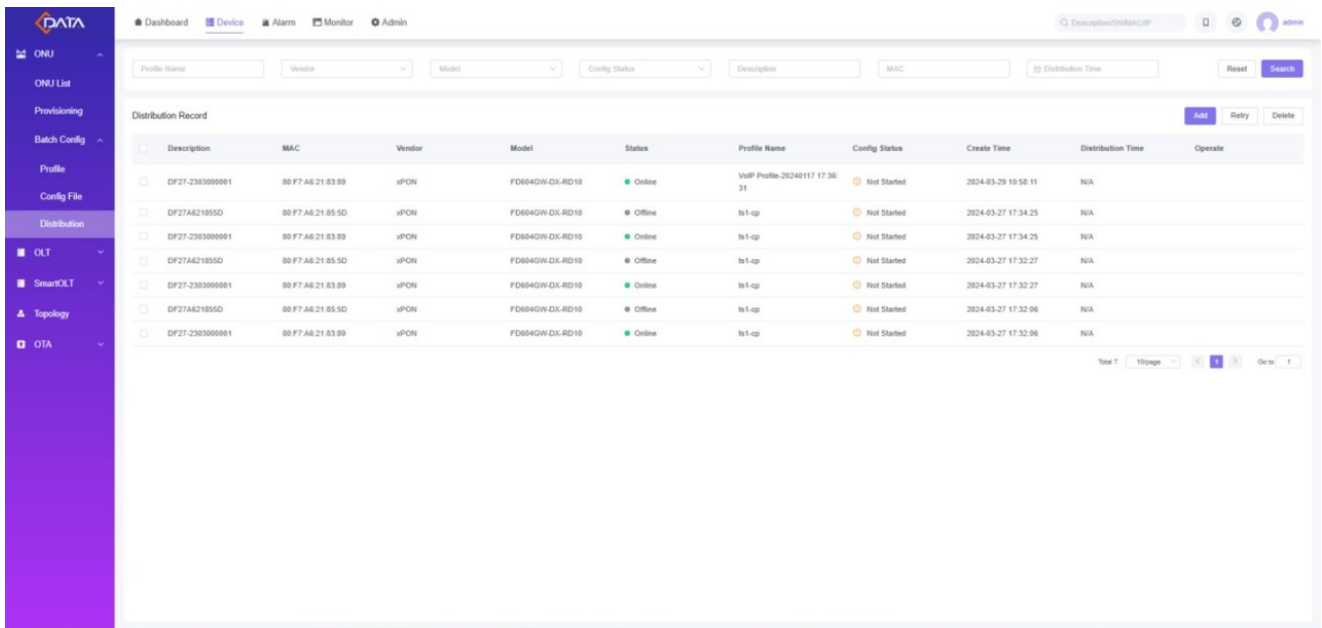


On the ONU details page, click "Data Model" to open the data model interface displayed as follows, which supports viewing and editing of all node information.

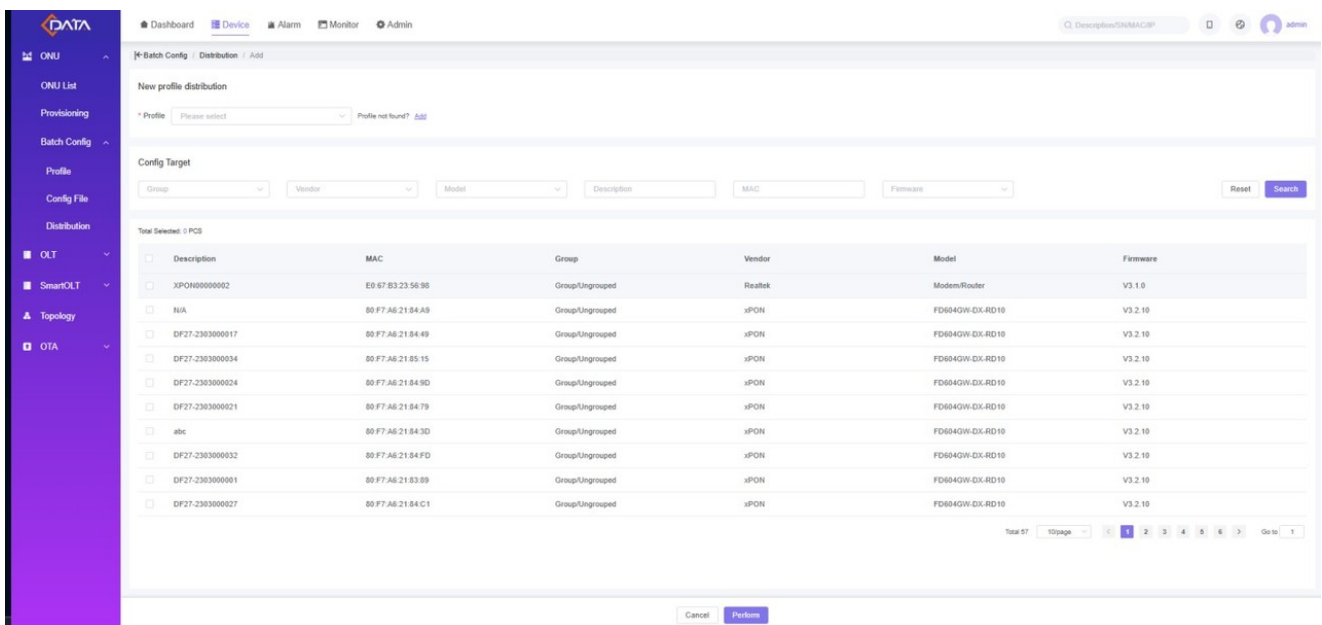


4.3.2.4 Batch configuration of ONU

Batch configuration ONU configurations can be changed in batches for ONU devices bound to CMS. Similar to pre-configuration, a configuration profile must be created in advance for batch configuration. Select [Device-ONU-Batch Config-Distribution]. The following ONU batch configuration page is displayed. You can view the execution of all configurations delivered in batches in history.



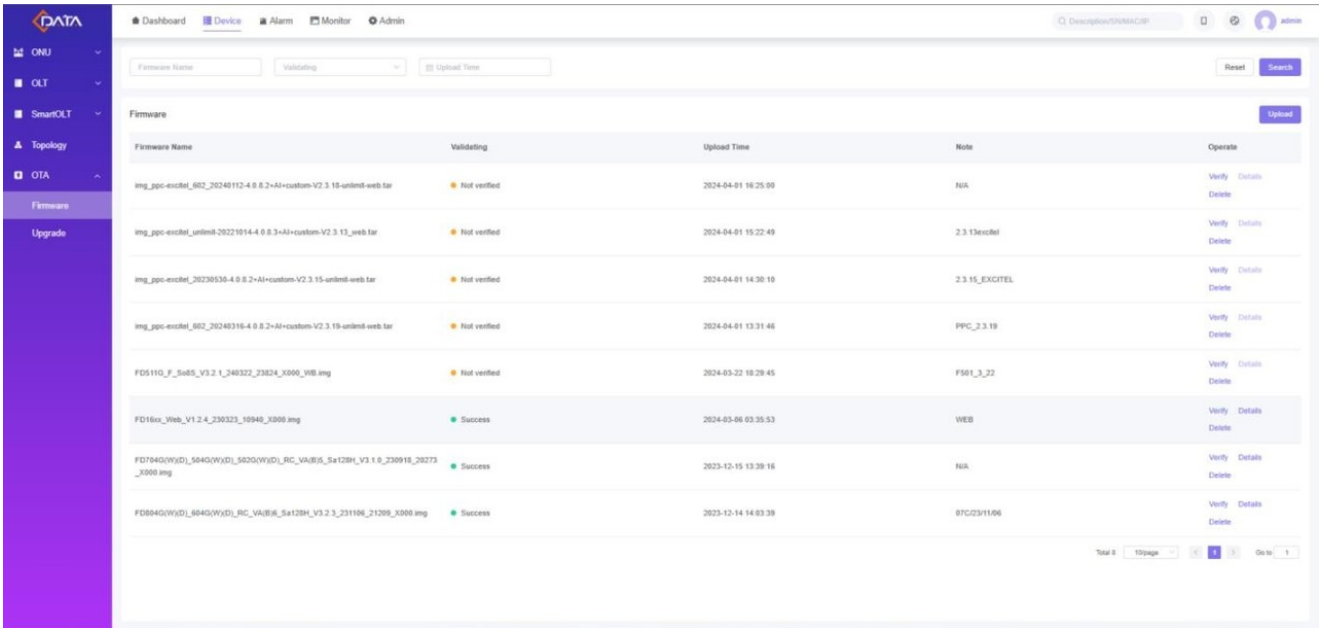
Click Add to create a batch configuration task, select the configuration profile and object, and deliver the task directly.



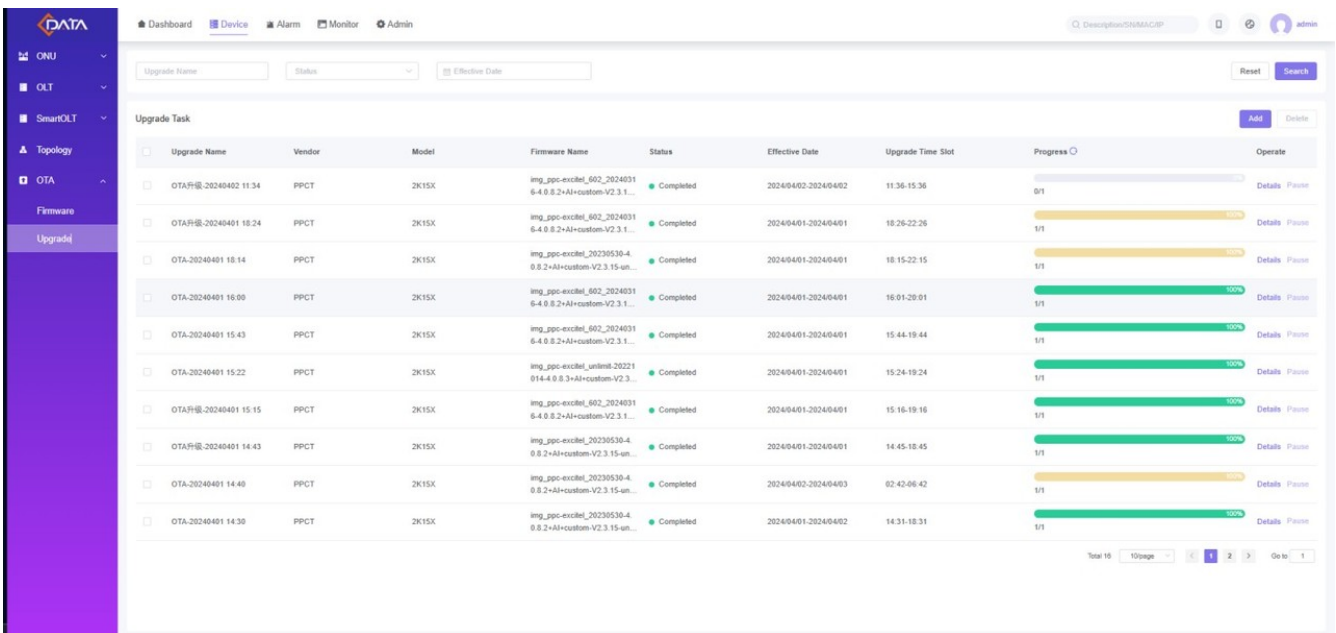
4.3.2.5 OTA Upgrade

- 1) Upload and verify the firmware
- 2) Create an upgrade task

1) Select [Device-OTA-Firmware] to display the following firmware management interface, you can upload the firmware and verify it.



Select [Device-OTA-Upgrade] to display the upgrade management interface as follows, where you can create upgrade tasks and view the upgrade status.




2) In the upgrade management interface, click "Details" to view the upgrade status of each device.

← OTA / Upgrade / Upgrade Details

Basic Info

Upgrade Name	OTA-20240401 16:00
Vendor	PPCT
Model	2K15X
Firmware Name	img_ppc-exctel_602_20240316-4.0.8.2-AI+custom-V2.3.19-unlimit-web.tar
Effective Date	2024/04/01 - 2024/04/01
Upgrade Time Slot	16:01:20:01
Note	--
Create Time	2024/04/01 16:00:40

Summary



100%

Total	1 PCS	
Success	1PCS	100%
Failed	0PCS	0%
Upgrading	0PCS	0%
Canceled	0PCS	0%
Not started	0PCS	0%

Upgrade Target

Description	Group	Firmware	Status	Upgrade Status	Note
PPCT82916DCB	Group/Ungrouped	V2.3.18PPCU	Offline	Success	

Total: 1 | 10/page | 1 | 2 | Go to: 1