



NETWORK MANAGEMENT SYSTEM

EOC-M350-MS

Operation manual

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## Operation instructions

### 1. Main Interface

Double click run in the EOC-M350-MS folder, start the NMS, show as the figure 1:

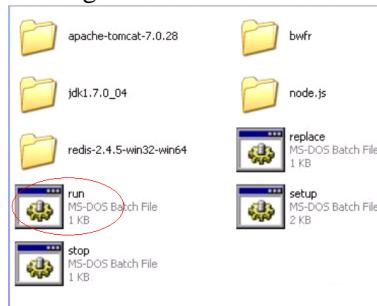


Figure 1

When the program completely start, like the figure 2, then input the IP address (<http://127.0.0.1:3000> or <http://localhost:3000>), then we can see the interface as the figure 3:

```
cmd C:\WINDOWS\system32\cmd.exe
C:\ARCOTEL\arcotel-eocnms-0117-v1.1.26\eoc>SET topDir="C:\ARCOTEL\arcotel-eocnms
-0117-v1.1.26\eoc"
info - socket.io started
Express server listening on port 3000
```

Figure 2

# ARCOTEL

The default user name is admin, password is admin; input the user name and password, click log in so that we can enter into the NMS;:

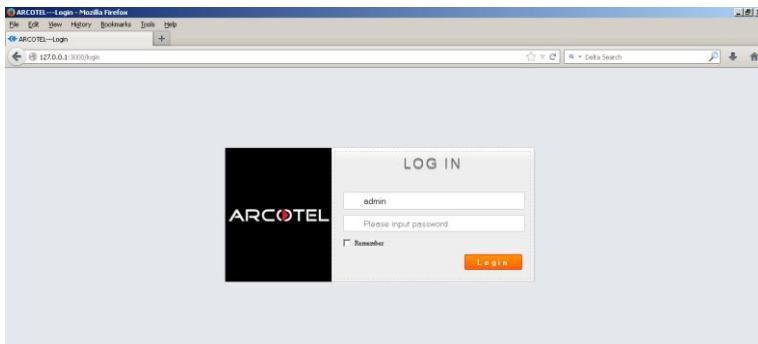


Figure 3

Click log in, showed as the figure 4:

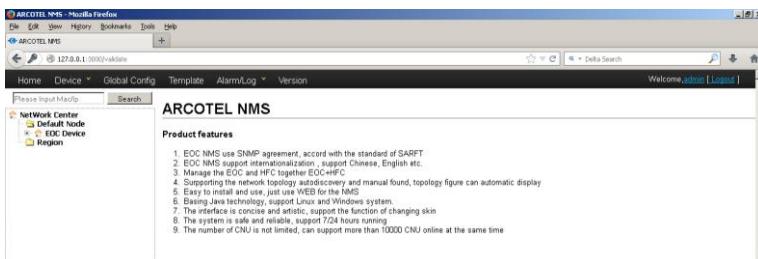


Figure 4

If the device online and the trap server IP match the trap server IP on NMS, so the device will appear on the left of the interface, look at the figure 5:

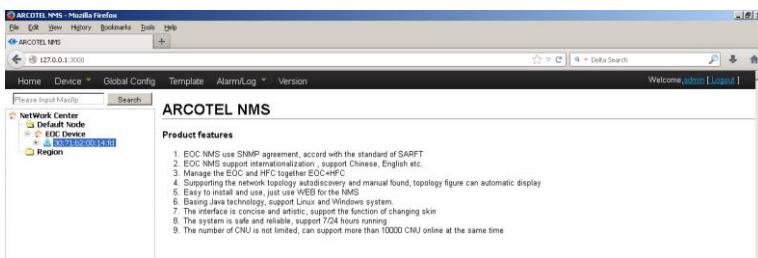


Figure 5

## 2. District management

Click network center to unfold the function, if want to add new district, right click the district which upon the district you want to add, like the figure 6:

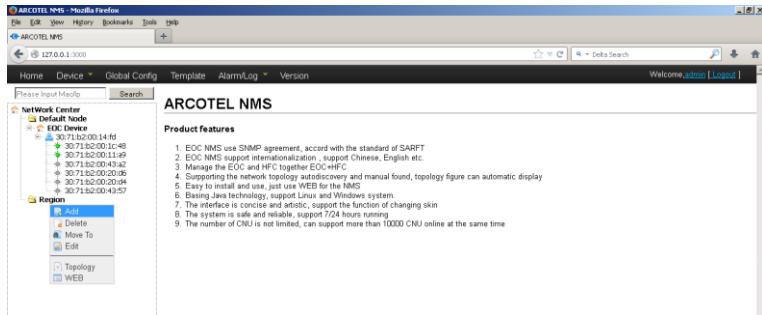


Figure 6

And click add, then put in the name of the district, as the figure 6:

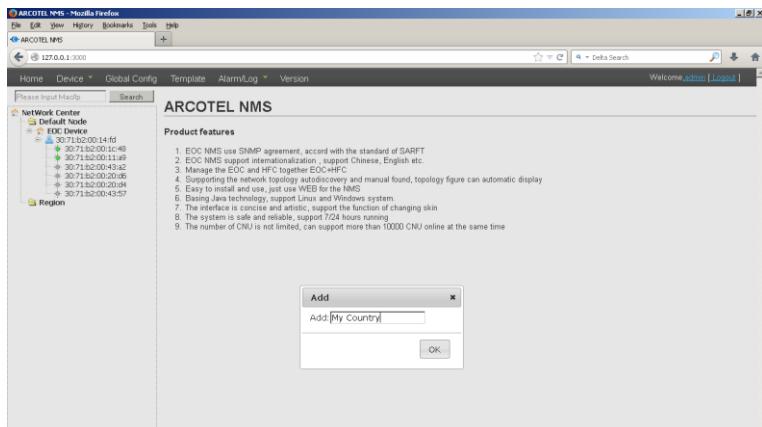


Figure 7

Click OK, then the new district added.

If you want to delete or edit the district, please do the operations as the add district.

If you want to move the device to the district, right click the device, then you can see the interface as the figure 8:

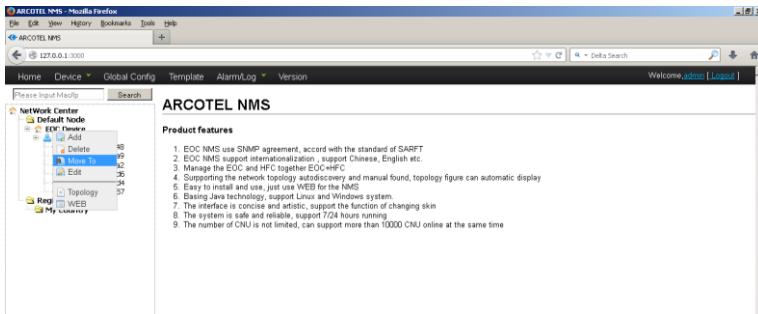


Figure 8

Click move to, like figure 9 showed:



Figure 9

Then double click the district that you want to move to, so that you will enter into the interface as the figure 10:

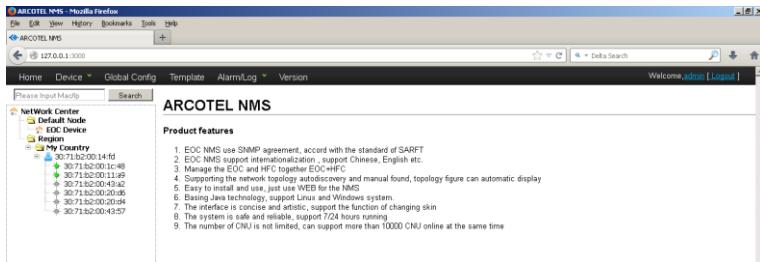


Figure 10

Also you can delete this device and the district which contain the device, like the figure 11:



Figure 11

Click delete, then the device will return to the EOC Device, as the figure 12 show:

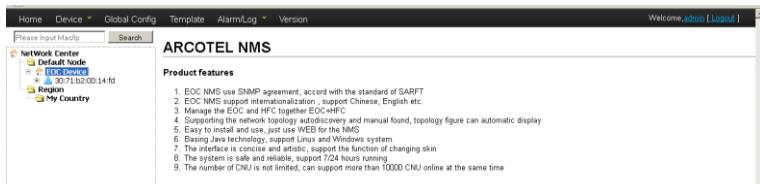


Figure 12

### 3. User management

Click user name on the top right corner then can manage the all register, like the figure 13:

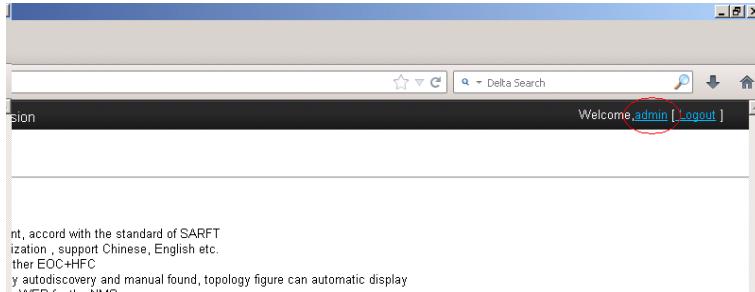


Figure 13

Then appear the next figure 14:

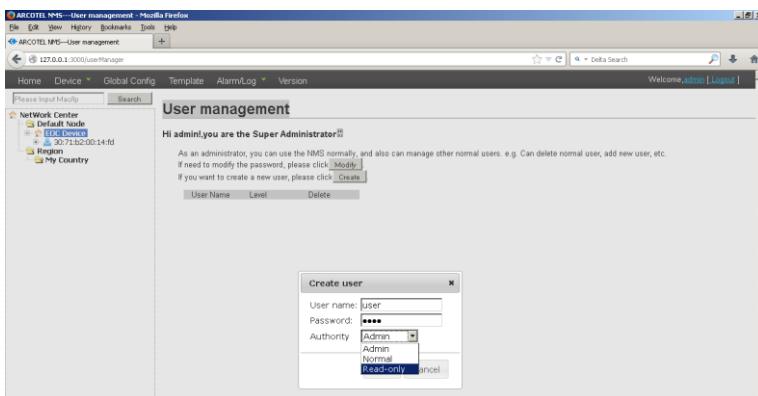


Figure 14

Here can divide the all user into three type:

Admin: manage the NMS and also can manage other users;

Normal user: manage the NMS but can't manage other users;

Read-only user: can't manage the NMS or manage other users; as the figure 15:

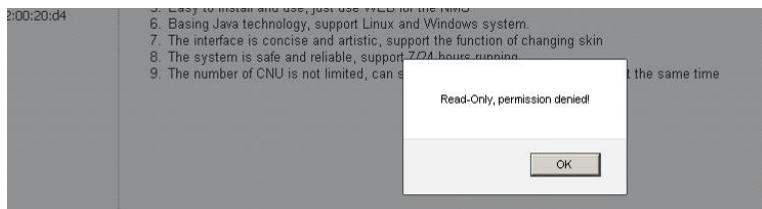


Figure 15

Here also can modify the password and create new user, look at the figure 16:

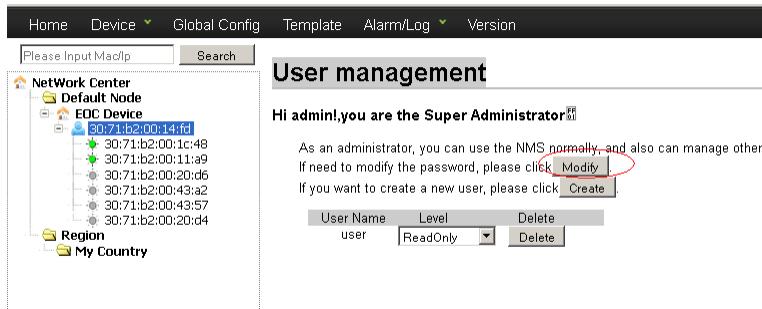


Figure 16

Click modify button, enter into the next figure:

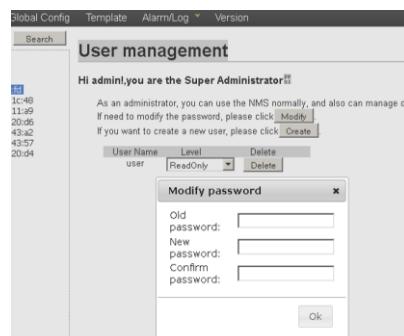


Figure 17

Putting in the old and new password, then click OK. The password modify successful.

We can also create a new user here, click create button, enter into the next figure:

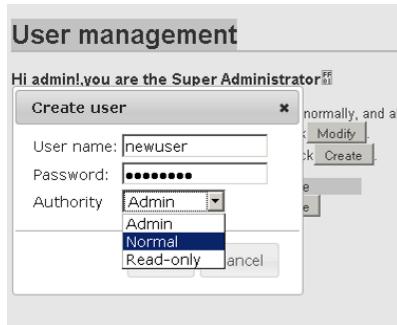
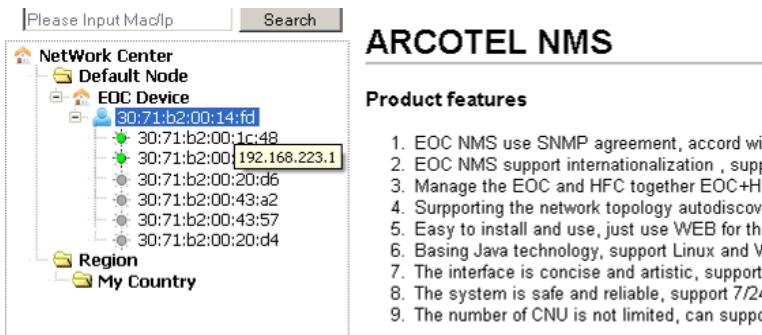


Figure 18

Putting in the user name and password, choose the user authority, then click OK.

## 4. CBAT Management

It will show the device IP when the mouse put on the device lable as the figure 19 shows:



**Product features**

1. EOC NMS use SNMP agreement, accord with IEC62056-21
2. EOC NMS support internationalization , support Chinese
3. Manage the EOC and HFC together EOC+HFC
4. Supporting the network topology autodiscovery
5. Easy to install and use, just use WEB for the management
6. Basing Java technology, support Linux and WinXP
7. The interface is concise and artistic, support IE6.0
8. The system is safe and reliable, support 7/24
9. The number of CNU is not limited, can support up to 1000 CNU

Figure 19

Double click the device Label so that we can view the Cbat's detail information, like figure 20:

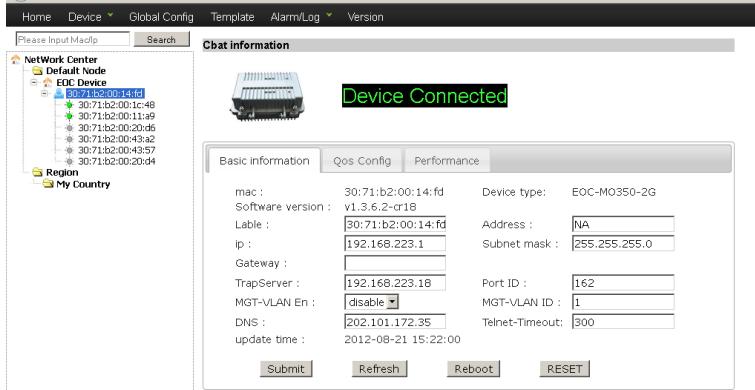


Figure 20

We can view the software version, device label, IP, subnet mask, gateway, Trap Server, port ID, management VLAN and management VLAN ID, etc. If need to modify the information, please modify in the options and click submit, then the NMS will send the configuration to the Cbat; click refresh button will read the Cbat information to NMS; click reboot button then the cbat will be reboot; click RESET button if need to Load Fail-Safe Default.

## 4.1 CNU management

If we need to check the CNU information and number, please click the plus sign on the left of the Cbat lable, like the figure 21:



Figure 21

Viewing the CNU information the same as the Cbat, double click the CNU lable, enter into the interface like figure 22:



Figure 22

This figure shows the CNU offline.



Figure 23

This shows the CNU online.

Here can view the detail information about this CNU like MAC, device label, address, phone, etc.

We can modify the device label so that we can find it easily.



#### CNU information



Device Connected

Basic information

Config information

Qos information

Status information

mac : 30:71:b2:00:11:a9 Device type: EOC-S100-4F

Label: Sunrise Ltd. Address: Main st.

Contact : 111

Phone: 1234567

Name: John Smith

Figure 24

Click modify, like figure 25:

#### CNU information



Device Connected

Basic information

Config information

Qos information

Status information

mac : 30:71:b2:00:11:a9 Device type: EOC-S100-4F

Label: Sunrise Ltd. Address: Main st.

Contact : 111

Phone: 1234567

Name: John Smith

x

Tips

OK

Figure 25

Click OK, it will appear on the left with the new label.

Click config information we can view the information about the template information with this CNU.

## CNU information



**Device Connected**

Basic information		Config information		Qos information		Status information	
Profile name :	Factory Template	Authorization :	<input checked="" type="checkbox"/> enable				
VLAN En :	<input type="checkbox"/> disable	ETH2VLAN:	<input type="text" value="1"/>	ETH3VLAN:	<input type="text" value="1"/>		
ETH1VLAN:	<input type="text" value="1"/>	ETH2VLAN:	<input type="text" value="1"/>	ETH3VLAN:	<input type="text" value="1"/>		
ETH4VLAN:	<input type="text" value="1"/>	Down Global Limit :	<input type="text" value="0"/>	ETH1 down limit:	<input type="text" value="0"/>		
Down LimitEn :	<input type="checkbox"/> disable	ETH3 down limit:	<input type="text" value="0"/>	ETH4 down limit:	<input type="text" value="0"/>		
ETH2 down limit:	<input type="text" value="0"/>	Up Global Limit :	<input type="text" value="0"/>	ETH1 up limit:	<input type="text" value="0"/>		
Up limitEn :	<input type="checkbox"/> disable	ETH3 up limit:	<input type="text" value="0"/>	ETH4 up limit:	<input type="text" value="0"/>		
ETH2 up limit:	<input type="text" value="0"/>						
<input type="button" value="Refresh"/>				<input type="button" value="Submit"/>			

Figure 26

If we need to modify the config information, modify the option that we want and click submit.

## CNU information



**Device Connected**

Basic information		Config information		Qos information		Status information	
Profile name :	Factory Template	Authorization :	<input type="checkbox"/> enable				
VLAN En :	<input type="checkbox"/> disable	<input type="checkbox"/> enable	<input type="checkbox"/> disable	ETH2VLAN:	<input type="text" value="1"/>	ETH3VLAN:	<input type="text" value="1"/>
ETH1VLAN:	<input type="text" value="1"/>	ETH2VLAN:	<input type="text" value="1"/>	ETH3VLAN:	<input type="text" value="1"/>		
ETH4VLAN:	<input type="text" value="1"/>	Down Global Limit :	<input type="text" value="0"/>	ETH1 down limit:	<input type="text" value="0"/>		
Down LimitEn :	<input type="checkbox"/> disable	ETH3 down limit:	<input type="text" value="0"/>	ETH4 down limit:	<input type="text" value="0"/>		
ETH2 down limit:	<input type="text" value="0"/>	Up Global Limit :	<input type="text" value="0"/>	ETH1 up limit:	<input type="text" value="0"/>		
Up limitEn :	<input type="checkbox"/> disable	ETH3 up limit:	<input type="text" value="0"/>	ETH4 up limit:	<input type="text" value="0"/>		
ETH2 up limit:	<input type="text" value="0"/>						
<input type="button" value="Refresh"/>				<input type="button" value="Submit"/>			

Figure 27

Click OK, wait for sending the configuration to the CNU and restart. Then click refresh button, it will tell us the new configuration of the CNU.

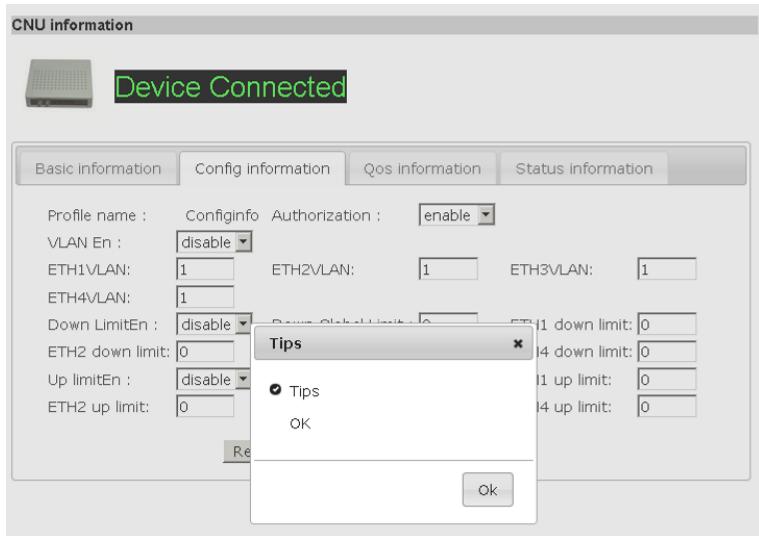


Figure 28

## 5. Device management

Click pull-down list of device management, appears the follow figure:

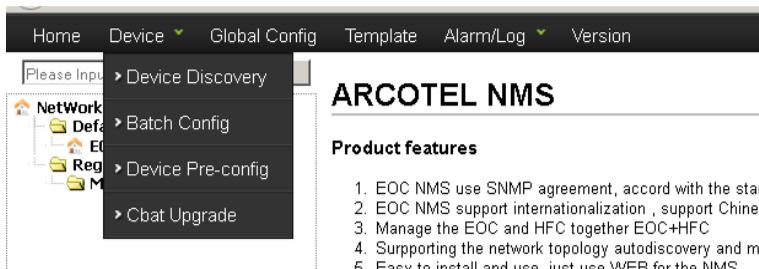


Figure 29

Here had four functions: device discovery, batch config, device pre-config, Cbat upgrade.

## 5.1 Device Discovery

Before searching, please modify the Trap Server of the NMS as the same as the computer IP.



Figure 30

Clicking the Device Discovery on the top of the pull-down list, we can find the interface that we need on the right. If we want to find the master which IP range between 192.168.88.1 to 192.168.88.10, we can input 192.168.88.1 in the form of the starting IP and input 192.168.88.10 in the form of the terminating IP.



Figure 31

Clicking the Search button, then just wait as the following figure 32:



Figure 32

The devices that we find can be viewed in the Result except the device shows on the left side, look like the figure 33:



Figure 33

## 5.2 Batch config

With this function, we can config the CNU easier and much more quickly.

Clicking the navigation bar of Batch config, enter into the following interface.

## Batch config

Select array      Search device:

Choice	MAC	Status	Table	Device type	Cbat IP	Current template
<input type="checkbox"/>	30:71:b2:00:11:a9	Online	30:71:b2:00:11:a9	EOC-S100-4F	192.168.223.1	Factory Template
<input type="checkbox"/>	30:71:b2:00:1c:48	Online	30:71:b2:00:1c:48	EOC-S100-4F	192.168.223.1	Factory Template
<input type="checkbox"/>	30:71:b2:00:43:57	Offline	30:71:b2:00:43:57	EOC-S100-4F	192.168.223.1	Factory Template
<input type="checkbox"/>	30:71:b2:00:43:a2	Offline	30:71:b2:00:43:a2	EOC-S100-4F	192.168.223.1	Factory Template

All     

Figure 34

Choose the CNU which need to config. Here we can select array or all, and we can search the device that we want to config. Like figure 35:

## Batch config

Select array      Search device:

Choice	MAC	Status	Table	Device type	Cbat IP	Current template
<input checked="" type="checkbox"/>	30:71:b2:00:11:a9	Online	30:71:b2:00:11:a9	EOC-S100-4F	192.168.223.1	Factory Template
<input checked="" type="checkbox"/>	30:71:b2:00:1c:48	Online	30:71:b2:00:1c:48	EOC-S100-4F	192.168.223.1	Factory Template
<input type="checkbox"/>	30:71:b2:00:43:57	Offline	30:71:b2:00:43:57	EOC-S100-4F	192.168.223.1	Factory Template
<input type="checkbox"/>	30:71:b2:00:43:a2	Offline	30:71:b2:00:43:a2	EOC-S100-4F	192.168.223.1	Factory Template

All     

Figure 35

Click Next.

## Select template

Please choose one template:

<input type="radio"/> Basic configuration	<input type="radio"/> Downstream configuration	<input type="radio"/> Upstream configuration
Template name : Factory Template Authorization: enable		
VLAN_Eng: disable		
ETH1VLAN: 1	ETH2VLAN: 1	ETH3VLAN: 1
ETH4VLAN: 1	ETH4VLAN: 1	ETH4VLAN: 1

Figure 36

In this interface we can choose the template that we want, and then click next:

## Confirm

The selected CNU

MAC	Status	Identification	Device type
30:71:b2:00:11:a9	Online	30:71:b2:00:11:a9	EOC-S100-4F
30:71:b2:00:1c:48	Online	30:71:b2:00:1c:48	EOC-S100-4F

Config information

Basic configuration	Downstream configuration	Upstream configuration
Template name: Standard 2M Authorization: enable VLAN_En: disable ETH1 VLAN: 1      ETH2 VLAN: 1 ETH3 VLAN: 1      ETH4 VLAN: 1		

[Back](#)

[Submit](#)

Figure 37

Making sure the template and the CNU that we choose is all right, we can click Submit at last.

## Confirm

The selected CNU

MAC	Status	Identification	Device type
30:71:b2:00:11:a9	Online	30:71:b2:00:11:a9	EOC-S100-4F
30:71:b2:00:1c:48	Online	30:71:b2:00:1c:48	EOC-S100-4F

Config information

Basic configuration	Downstream configuration	Upstream configuration
Template name: Standard VLAN_En: disable ETH1 VLAN: 1 ETH3 VLAN: 1		

**Prompt**

⚠ Prompt.  
Config multiple CNU at the same time, it will takes long time, please wait!

2/2

[Back](#)

[Ok](#)

Figure 38

Here we can see the succeeded-config device and the failed-config device.

## 5.3 Pre-config

When we know the CNU's MAC and want to pre-config, so we can use device pre-config.

## Device pre-config

Please choose the add model:  Single add  Batch add Please choose one template:

Factory Template
Shduft Template
Standard 1M
Standard 4M

**Pre-config list**

MAC	Template name	Operate
No data has been discovered		

Figure 39

In this interface we can choose Single add or Batch add to pre-config.

## Device pre-config

Please choose the add model:  Single add  Batch add Please choose one template:

Please input CNU MAC:

**Pre-config list**

MAC	Template name	Operate
No data has been discovered		

Figure 40

Like the figure 36 shows that pre-config single one, choose single add and template, click add button, enter into the next figure:

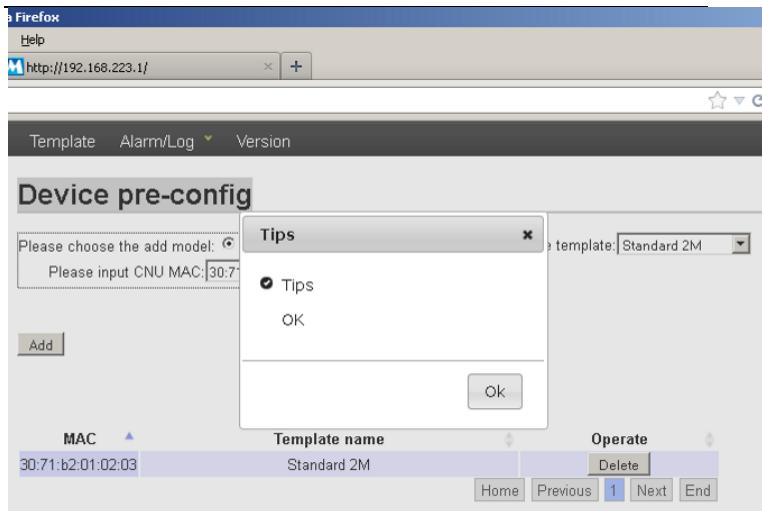


Figure 41

Clicking OK, so only to connect the CNU to one Cbat, it will auto send configuration to this CNU.

If the CNU is already exist or pre-config, so the interface will prompt you like the figure 42

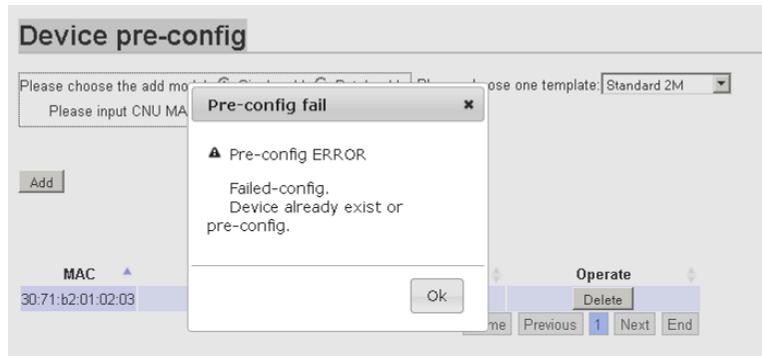


Figure 42

If we know the CNU MAC is one by one, so we can choose Batch Add, input the starting MAC and the terminating MAC in the form, choose the template, click Add, as the figure 43 shows:

## Device pre-config

Please choose the add model:  Single add  Batch add Please choose one template: Standard 2M

CNU starting MAC:	30:71:b2:00:00:02
CNU terminating MAC:	30:71:b2:00:00:06

**Add**

**Pre-config list**

MAC	Template name	Operate
30:71:b2:01:02:03	Standard 2M	<b>Delete</b>

Home Previous 1 Next End

Figure 43

If the CNU not need to pre-config, so we can delete this CNU, click Delete button.

## Device pre-config

Please choose the add model:  Single add  Batch add Please choose one template: Factory Template

CNU starting MAC:	30:71:b2:
CNU terminating MAC:	30:71:b2:

**Add**

**Pre-config list**

MAC	Template name	Operate
30:71:b2:00:00:02	Standard 2M	<b>Delete</b>
30:71:b2:00:00:03	Standard 2M	<b>Delete</b>
30:71:b2:00:00:04	Standard 2M	<b>Delete</b>
30:71:b2:00:00:05	Standard 2M	<b>Delete</b>
30:71:b2:00:00:06	Standard 2M	<b>Delete</b>

Home Previous 1 2 Next End

Figure 44

## 5.4 Update Cbat

When the software version of the Cbat is too low, it must be updated. Click Cbat Upgrade, like figure 45:

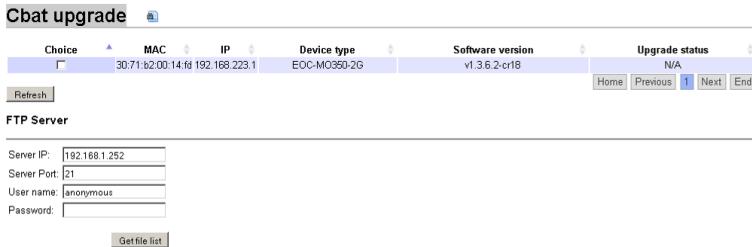


Figure 45

Choose the cbat that want be updated and set up the FTP server, input the Server IP, Server Port, FTP User name and password, then click Get file list, so that it will appear the interface like figure 46:

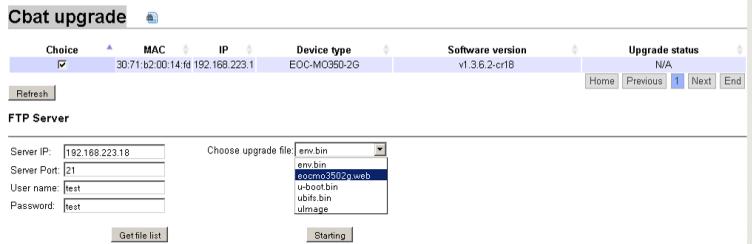


Figure 46

Choose the right software (firmware.img or firmware.web) and click Starting, then wait

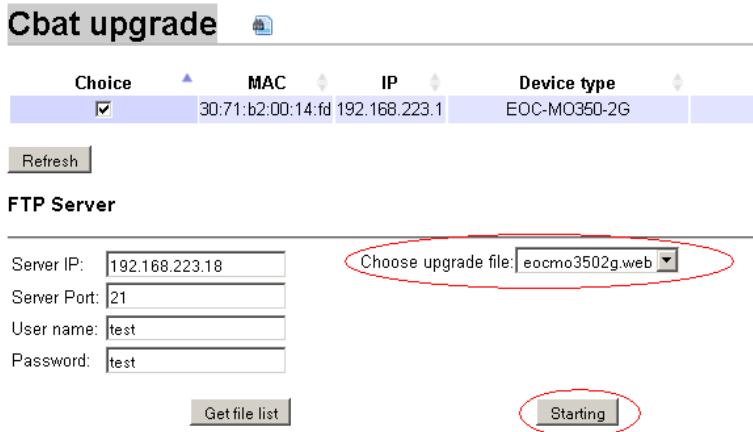


Figure 47

It shows upgrading as the figure 48:

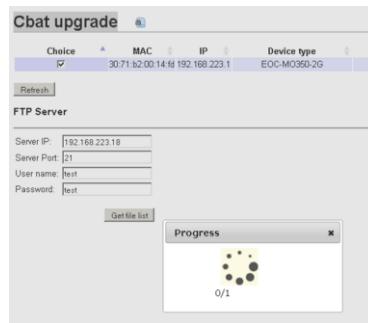


Figure 48

If the Cbat upgrade successfully, refresh the interface the Status will shows successful.

Cbat upgrade					
Choice	MAC	IP	Device type	Software version	Upgrade status
<input type="checkbox"/>	30:71:b2:00:14:f1	192.168.223.1	EOC-M0350-2G	v1.3.6.2-cr18	successful
<input type="button" value="Refresh"/>					
<b>FTP Server</b>					
Server IP:	<input type="text" value="192.168.223.18"/>				
Server Port:	<input type="text" value="21"/>				
User name:	<input type="text" value="test"/>				
Password:	<input type="text" value="test"/>				
	<input type="button" value="Getfile list"/>				

Figure 49

## 6. Global Config

### 6.1 System Config

The Global Config must be adapted to the computer's IP. If the trap server IP is not the same as the computer's IP, so we must change the trap server IP before we do the Device Discovery, then click the submit button as the Figure 50:

Global config	
<b>Trap Server config</b>	
Server is the heart part of the NMS, it receives message from device, e.g. message of device heartbeat, alarm information; If not set it correctly, so can not receive the alarm and changes of status from new or old device!	
Trap Server IP:	<input type="text" value="192.168.223.18"/>
Trap Server Port:	<input type="text" value="162"/> Change the Port ID should restart the NMS!
<input type="button" value="Submit"/>	
<b>Redis database operation</b>	
When use HFC mode, we must import HFC database to display HFC Alarm Information.	
<input type="button" value="ImportHFC Data"/>	
temperature alarm Set: When temperature > <input type="text" value="55"/> Produce the alarm.	
<input type="button" value="Submit"/>	
This NMS use the newest Redis MMDB, Increase efficiency of data store. Please click the Save button for saving the data to hard disk, so that core data will not easy to lose.	
<input type="button" value="Save"/>	

Figure 50

## 7. Template Config

Click template will appear the template management. As the flowing Figure 51:

The screenshot shows a web-based configuration interface for template management. At the top, there's a navigation bar with links for Home, Device, Global Config, Template, Alarm/Log, and Version. On the right, it says 'Welcome admin | Logout'. Below the navigation is a search bar labeled 'Search' and a 'Please input Model' field. A tree view on the left under 'Network Center' shows 'Default Node' with several entries like '30-71b2-0014-fd' and '30-71b2-0043-a2'. A 'Region' section is also visible. The main area is titled 'Template management' and contains a table with columns: ID, Template name, vlan en, Down rate-limit en, Down global rate-limit, Up rate-limit en, Up global rate-limit, and Detail information. There are four rows in the table, each with a 'view' link. At the bottom of the table are buttons for 'Create', 'Delete', and 'Edit'.

Figure 51

### 7.1 create template

If we want to add a template, we can click the create button, then we can see the interface like the Figure 52:

This screenshot shows the 'New template' dialog box. At the top, it says 'Template management' and 'New template'. It includes a note: 'Every option can not be null.' The dialog is divided into sections: 'Basic configuration', 'Downstream configuration (KB)', and 'Upstream configuration (KB)'. In 'Basic configuration', there are fields for 'Template name' (empty), 'Authorization' (set to 'enable'), 'Vlan en' (set to 'enable'), 'Vlan0ID' (set to '1'), 'Vlan1ID' (set to '1'), 'Vlan2ID' (set to '1'), and 'Vlan3ID' (set to '1'). In 'Downstream configuration (KB)', there are fields for 'Down rate-limit en' (set to 'enable'), 'Down global rate-limit' (set to '0'), 'ETH1 rate-limit' (set to '0'), 'ETH2 rate-limit' (set to '0'), 'ETH3 rate-limit' (set to '0'), and 'ETH4 rate-limit' (set to '0'). In 'Upstream configuration (KB)', there are fields for 'Up rate-limit en' (set to 'enable'), 'Up global rate-limit' (set to '0'), 'ETH1 rate-limit' (set to '0'), 'ETH2 rate-limit' (set to '0'), and 'ETH3 rate-limit' (set to '0'). At the bottom are 'Save' and 'Cancel' buttons.

Figure 52

Every option can't be null, so we must write the Template name, and choose the VLAN enable or disable,

rate-limit enable or disable. Then we can write down the right value in the right blank. Like the figure 53:

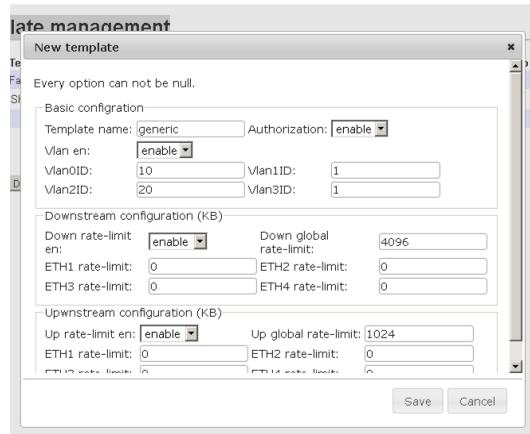


Figure 53

If we finish the blank, then click save button, the interface will turn in to the home of template configuration like Figure 54:

ID	Template name	vlan en	Down rate-limit en	Down global rate-limit	Up rate limit en	Up global rate-limit	Detail information
1	Factory Template	disable	disable	0	disable	0	<a href="#">view</a>
2	Shutoff Template	disable	enable	0	enable	0	<a href="#">view</a>
3	Standard 2M	disable	enable	2048	enable	1024	<a href="#">view</a>
4	Standard 4M	disable	enable	4096	enable	2048	<a href="#">view</a>
6	generic	enable	enable	4096	enable	1024	<a href="#">view</a>

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[Create](#) [Delete](#) [Edit](#)

Figure 54

When we want to edit this template, we can click this template and click the edit button, and then we change the value that we want to change:

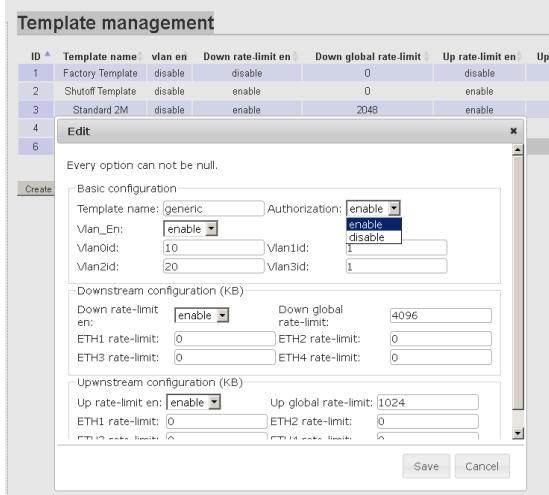


Figure 55

And click OK, the status will be changed.

**Note:** If any CNU has been used with this template, we can't edit or delete this template.

## 8. Alarm Management

It records situation of the running device, and it can report device runs whether regularly or not.

There are two parts of the alarm, such as History Alarm, and Current alarm.

### 8.1 History alarm

Click Alarm that we can view the history alarm like figure 56:

## History Alarm

Level	Occurrence time	Code	MAC	Running time	Information	Search:
●	2014-04-15 15:41:35	200901	30.71:b2:00:14:fd	0:00:28.32	cbatmac:30:71:b2:00:14:fd discovery cft index 1	
●	2014-04-15 15:41:36	200924	30.71:b2:00:14:fd	0:00:10.65	Unknown	
●	2014-04-15 15:41:36	200920	30.71:b2:00:14:fd	0:00:07.89	Mac:30:71:b2:00:14:fd Master online!	
●	2014-04-15 15:40:50	200909	30.71:b2:00:14:fd	0:33:19.85	Mac:30:71:b2:00:14:fd Upgrade Successfull	
●	2014-04-15 15:40:50	200921	30.71:b2:00:14:fd	0:33:19.86	Mac:30:71:b2:00:14:fd Master offline!	
●	2014-04-15 15:40:56	200909	30.71:b2:00:14:fd	0:33:15.01	Mac:30:71:b2:00:14:fd Upgrade Alarm information!	
●	2014-04-15 15:40:46	200921	30.71:b2:00:14:fd	0:33:15.13	Mac:30:71:b2:00:14:fd Master offline!	
●	2014-04-15 15:22:36	200916	30.71:b2:00:14:fd	0:15:05.00	auto config mod(1) for crnU1/ success	
●	2014-04-15 15:22:36	200916	30.71:b2:00:14:fd	0:15:05.08	auto config mod(2) for crnU1/2 success	
●	2014-04-15 15:22:11	200919	30.71:b2:00:14:fd	0:14:39.86	crnU1/2 force re-registration	

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**[ Prev ]** From 0 To 38 / Total 38 **[ Next ]**

Figure 56

Here we can input any value that we want to search, like choose MAC, Alarm Source or other relevant letters. Like the following figure:

Level	Occurrence time	Code	Cbat MAC	Cbat running time	Information	Search: [ 65 ]
●	2012-07-04 11:14:32	200902	30:71:b2:00:06:65	0:00:39.61	cbatmac:30:71:b2:00:06:65's slave[30:71:b2:00:02:ce] online	
●	2012-07-04 11:14:31	200901	30:71:b2:00:06:65	0:00:38.66	cbatmac:30:71:b2:00:06:65discovery cft index 1	
●	2012-07-04 11:14:11	200920	30:71:b2:00:06:65	0:00:18.57	Mac:30:71:b2:00:06:65 Master online!	
●	2012-07-04 11:13:37	200909	30:71:b2:00:06:65	0:01:06.32	Mac:30:71:b2:00:06:65 Upgrade Successfull	
●	2012-07-04 11:13:28	200921	30:71:b2:00:06:65	N/A	Mac:30:71:b2:00:06:65 Master offline!	
●	2012-07-04 11:12:42	200909	30:71:b2:00:06:65	0:00:10.85	Mac:30:71:b2:00:06:65 Upgrade Alarm information!	
●	2012-07-04 11:12:16	200921	30:71:b2:00:06:65	0:03:56.20	Mac:30:71:b2:00:06:65 Master offline!	
●	2012-07-04 11:08:59	200902	30:71:b2:00:06:65	0:00:39.79	cbatmac:30:71:b2:00:06:65's slave[30:71:b2:00:02:ce] online	
●	2012-07-04 11:08:58	200901	30:71:b2:00:06:65	0:00:38.84	cbatmac:30:71:b2:00:06:65discovery cft index 1	
●	2012-07-04 11:08:38	200920	30:71:b2:00:06:65	0:00:18.76	Mac:30:71:b2:00:06:65 Master online!	

Figure 57

## 8.2 Current alarm

Showing the device status at this time, for example offline or online, configuration change, etc. like the figure 58:

Level	Occurrence time	Mac	Code	Detail Information
●	2014-04-15 15:41:35	30:71:b2:00:14:fd	200901	cbatmac:30:71:b2:00:14:fd discovery cft index 1
●	2014-04-15 15:41:15	30:71:b2:00:14:fd	200920	Mac:30:71:b2:00:14:fd Master online!
●	2014-04-15 15:40:50	30:71:b2:00:14:fd	200921	Mac:30:71:b2:00:14:fd Master offline!
●	2014-04-15 15:40:46	30:71:b2:00:14:fd	200921	Mac:30:71:b2:00:14:fd Master offline!

Figure 58

## 9. Version

In this function we can see the Hash, Version, Publish, Copyright.



Figure 59