Hytera

DS-6310 NMC

Operation Guide



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Documentation Information

This section describes the conventions and revision history of this document.

Documentation Conventions

Instructional Icons

Icon	Description
Tip	Indicates information that can help you make better use of your product.
Note	Indicates references that can further describe the related topics.
Caution	Indicates situations that could cause data loss or equipment damage.
Warning	Indicates situations that could cause minor personal injury.
Danger	Indicates situations that could cause major personal injury or even death.

Notational Conventions

Convention	Description
“ ”	The quotation marks enclose the name of a software interface element. For example, click “OK”.
Bold	The text in boldface denotes the name of a hardware button. For example, press the **PTT** key.
->	The symbol directs you to access a multi-level menu. For example, to select “New” from the “File” menu, we will describe it as follows: “File -> New”.

Revision History

Version	Release Date	Description
V2.5	12-2013	● Updated the BS management ● Updated the MSO management ● Updated the LDS management

V2.0	09-2013	• Updated the MSO Management • Updated the BS Management • Added the Log Management • Added the LDS Management • Added the membership Management
V1.0	04-2012	Initial release

1. Introduction

DS-6310 DMR Simulcast System (“DS-6310”), consisting of the mobile switching office (“MSO”), base station (“BS”) and etc, is a new generation simulcast system delivering analog/digital compatibility. To monitor and manage the network and services, a dedicated network management application (“application”) is developed. This document is intended to provide guidance on how to operate this application installed on the network management client (“NMC”).

2. System Requirements

This chapter describes the software and hardware requirements. To ensure optimal performance, the following requirements must be met.

Item	Requirements
Hardware	➢ CPU: 2.4GHz or above ➢ Memory: 2GB or above ➢ Free disk space: 40GB or above ➢ Screen resolution: 1024*768 or above
Operating System	Windows 7
Software Package	NM_V2.5.00.00X
Other	● Microsoft .NET Compact Framework 3.5 ● Microsoft Visual C++ 2008 Redistributable ● Flash player

3. Login and Exit

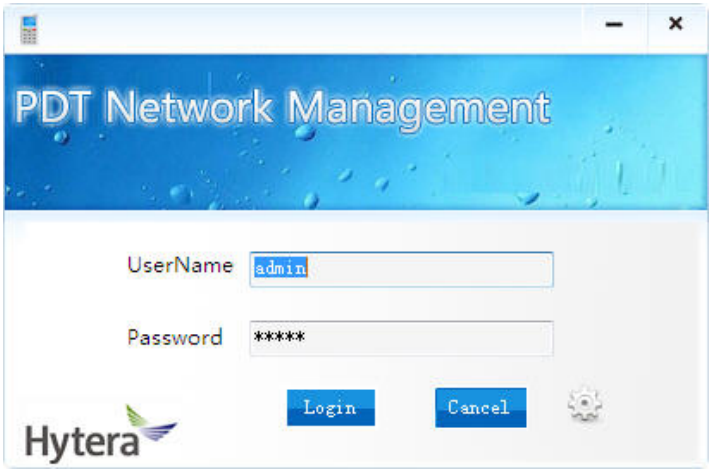
3.1 Logging in to the Application

Make sure that the software package has been copied into the computer where you want to install the application. All pictures in this guide are for reference only.

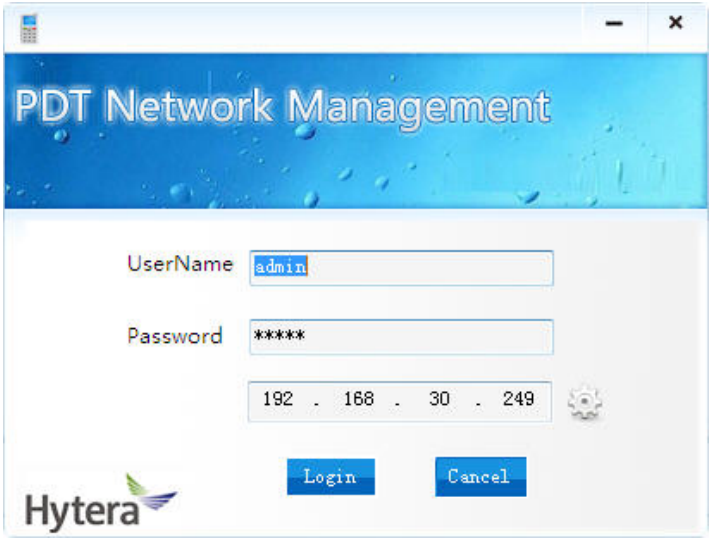
Step 1 Double-click the “NMS_UI.exe” file in the folder where the software package is stored.

Step 2 Enter the user name and password.

The default user name and password for the administrator are “admin”.



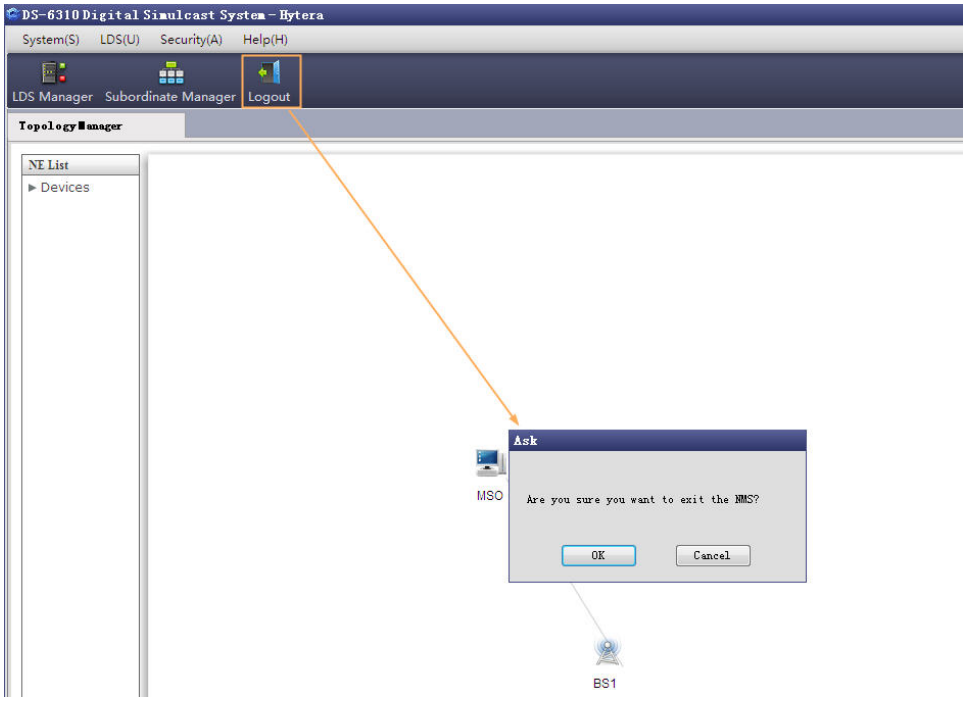
Step 3 Click  to set the IP address of the network management server (“NMS”).



Step 4 Click “Login” to log in to the application.

3.2 Exiting the Application

Step 1 Click “Logout” in the toolbar. Then the following dialog will appear.



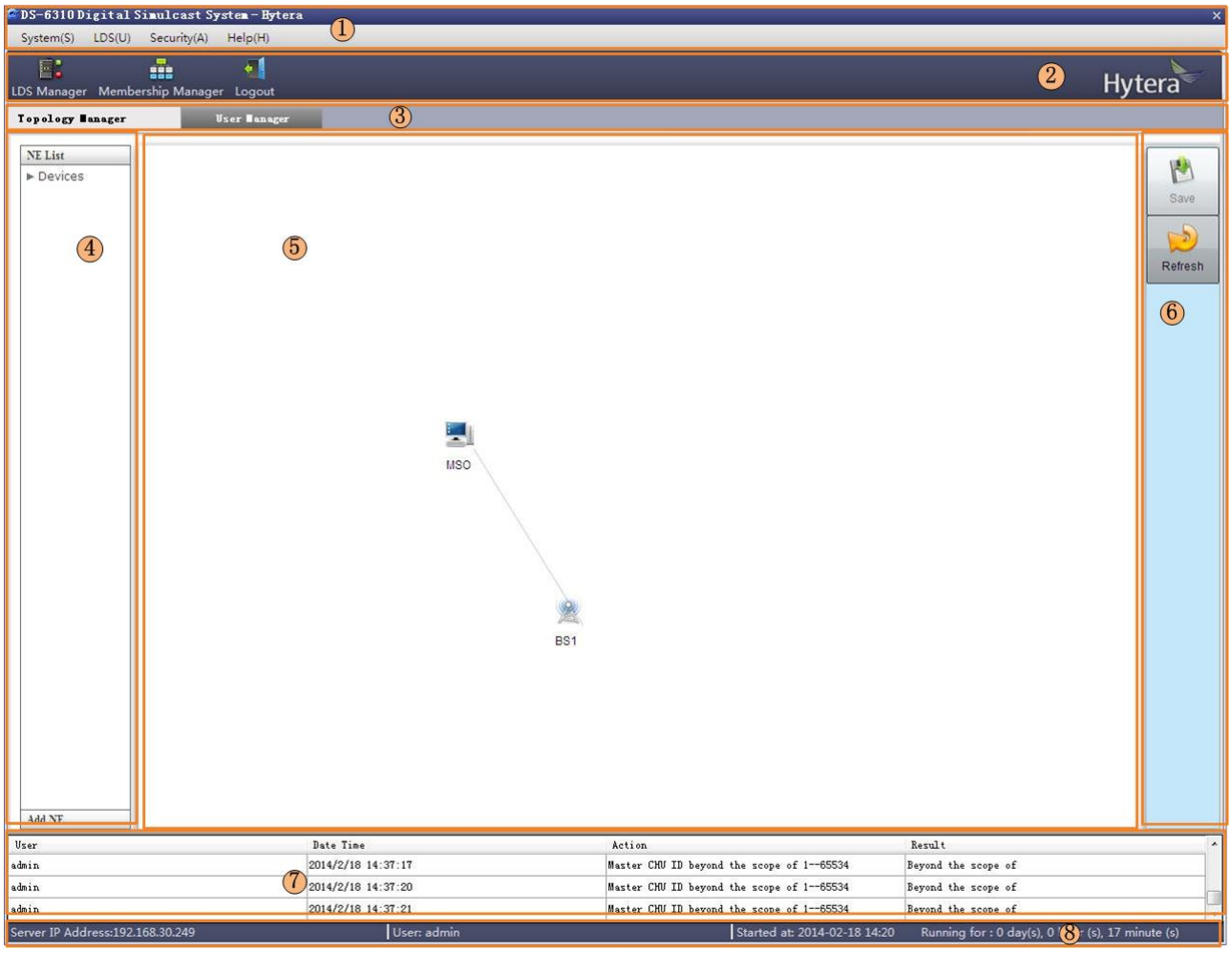
Step 2 Click “OK” to finish.

4. Topology Management

Topology management enables you to visualize the structure of your network and connections between network elements. Moreover, you can add and delete the network element depending on your actual needs.

4.1 Main Interface

The main interface includes a number of user interface elements, such as tabs, menus and panes that display specific types of information.



No.	Name	No.	Name
1	Menu Bar	5	Work Pane
2	Toolbar	6	Active Toolbar
3	Tabs	7	Log Pane

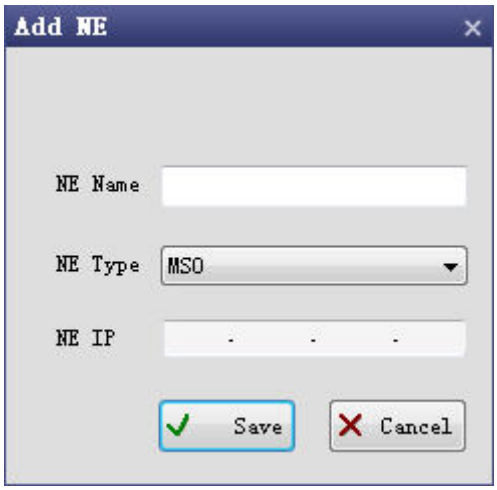
No.	Name	No.	Name
4	NE List	8	Status Bar

4.2 Adding an NE

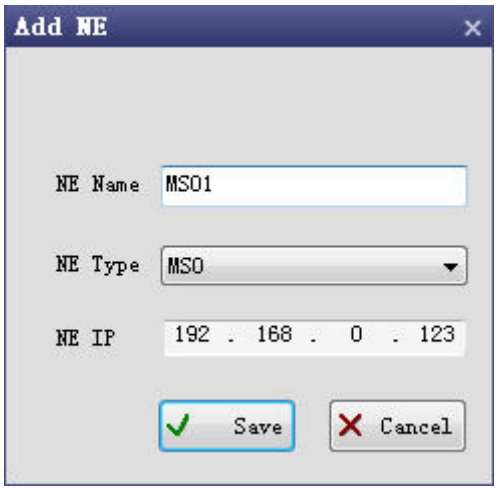
Right-click a blank area in the topology diagram and select “ADD”. Then the relevant dialog will appear.

4.2.1 Adding an MSO

Step 1 Select “MSO” from the drop-down list of the “NE Type” parameter.



Step 2 Configure other parameters as described in the following table.

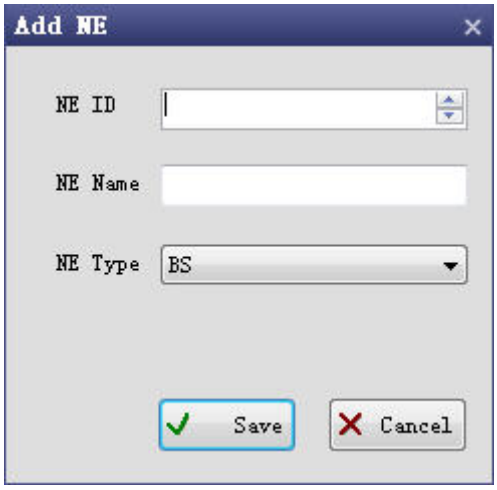


Parameter	Description
NE Name	Enters the alias for the MSO.
NE Type	Sets the NE type. Here, select “MSO”.
NE IP	Sets the IP address for the MSO.

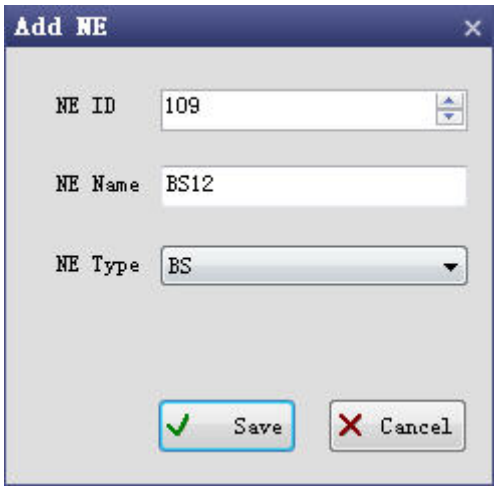
Step 3 Click “Save” to finish.

4.2.2 Adding a BS

Step 1 Select “BS” from the drop-down list of the “NE Type” parameter.



Step 2 Configure other parameters as described in the following table.

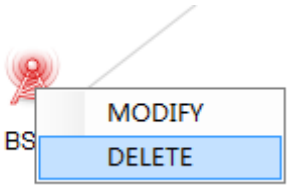


Parameter	Description
NE ID	Enters a number representing the identity of the BS. Up to 200 BSs can be added.
NE Name	Enters the alias for the BS.
NE Type	Sets the NE type. Here, select “BS”.

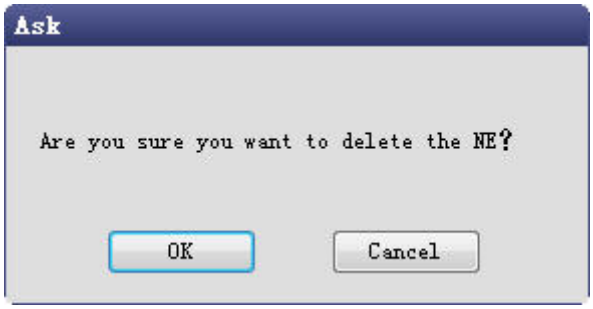
Step 3 Click “Save” to finish.

4.3 Deleting an NE

Step 1 Right-click an NE in the topology diagram, and select “DELETE” in the context menu.



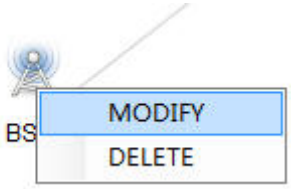
Step 2 Click “OK” in the pop-up dialog.



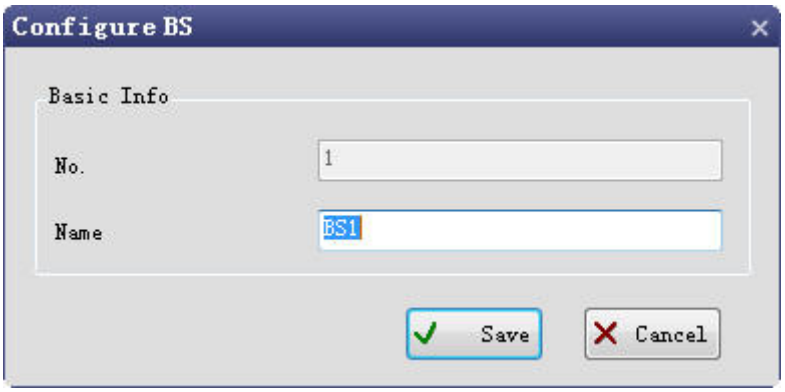
5. BS Management

5.1 Configuring the BS

Step 1 Right-click the BS in the topology diagram, and select “MODIFY” in the context menu.



Step 2 Configure the parameters.



Step 3 Click “Save” to finish.

5.2 Adding a CHU

Step 1 Double-click a BS in the topology diagram to access the BS block diagram.

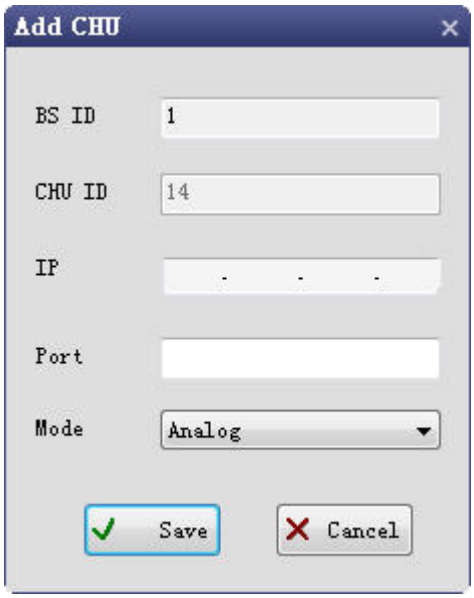


Step 2 Right-click the empty slot in dark grey and select “ADD”.


CHU
ADD

Step 3 Configure the CHU parameters.

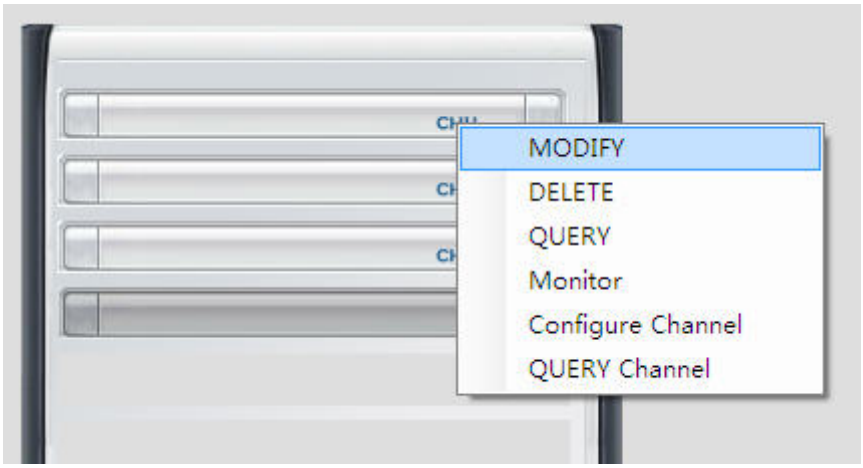
- IP: enters the IP address for the NMS.
- Port: enters the number of the port for connecting the CHU and NMS. The default port number is 161.



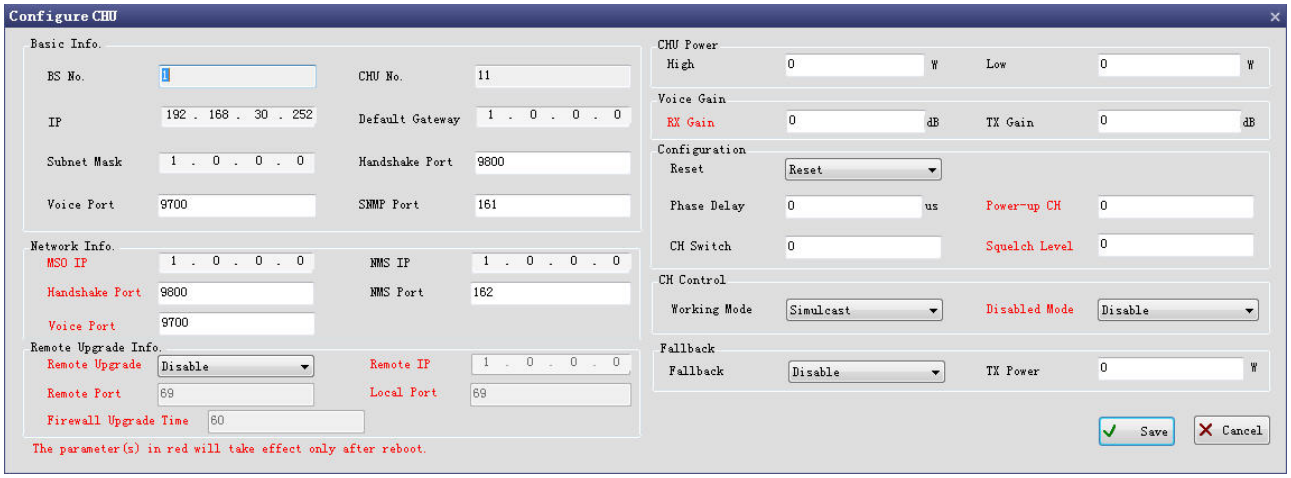
Step 4 Click “Save” to finish.

5.2.2 Configuring a CHU

Step 1 Right-click the CHU and select “MODIFY” in the context menu.



Step 2 Configure the parameters as described in the following table.



Parameter	Description	Default Value
Basic Info.		
BS No.	Enters the BS ID.	/
CHU No.	Enters the CHU ID.	/
IP	Enters the IP address for the CHU.	/
Default Gateway	Enters the default gateway.	/
Subnet Mask	Enters the subnet mask.	/
Handshake Port	Enters the number of the port for handshaking signal interaction between the CHU and MSO. This port is of the CHU.	9800
Voice Port	Enters the number of the port for voice transmission between the CHU and MSO. This port is of the CHU.	9700
SNMP Port	Enters the number of the port for SNMP protocol interaction between the CHU and NMS. This port is of the CHU.	161
Network Info.		
MSO IP	Enters the IP address for the MSO.	/
NMS IP	Enters the IP address for the NMS.	/
Handshake Port	Enters the number of the port for handshaking signal interaction between the CHU and MSO. This port is of the MSO.	9800

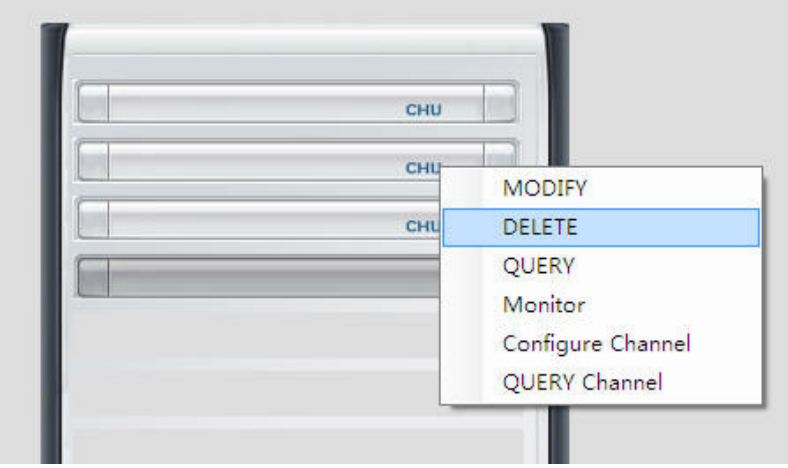
Parameter	Description	Default Value
NMS Port	Enters the number of the port for SNMP protocol interaction between the CHU and NMS. This port is of the NMS.	162
Voice Port	Enters the number of the port for voice transmission between the CHU and MSO. This port is of the MSO.	9700
CHU Power		
High	Sets the maximum TX power for the CHU.	50W
Low	Sets the minimum TX power for the CHU.	1W
Voice Gain		
RX Gain	Sets the voice gain in the uplink.	0
TX Gain	Sets the voice gain in the downlink.	0
Configuration		
Reset	Sets whether to reset the CHU after saving the parameter settings.	Reset
Phase Delay	Sets the TX phase delay.	0
Power-up CH	Sets the channel to which the CHU will jump after power-on. If this parameter is set to “0”, the CHU will go to the channel used before the previous power-off. The channel range is 1-6.	1
CH Switch	Switches the channel.	/
Squelch Level	Sets the RX squelch level.	4
CH Control		
Working Mode	Sets the operation mode for the CHU. It can work in the simulcast or repeater mode.	Simulcast
Disable Mode	Sets whether to disable the CHU. It is used to enable or disable the CHU remotely.	Disable
Fallback		

Parameter	Description	Default Value
Fallback	Sets whether to enable the fallback feature for the CHU. When the network malfunctions or GPS synchronization is failure, the CHU with the fallback feature enabled can only support the intra-BS repeating service rather than the inter-BS service. After the network or GPS synchronization recovers, the CHU will exit the fallback mode and work in the simulcast mode.	Off
TX Power	Sets the TX power for the CHU in the fallback mode.	10W

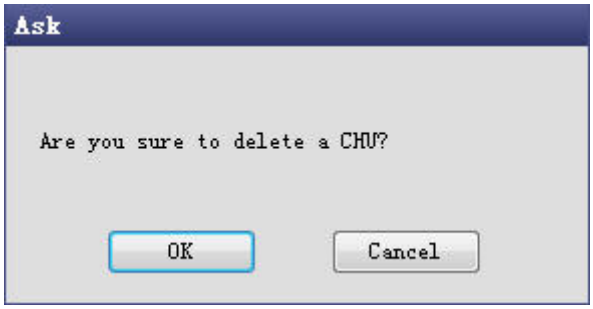
Step 3 Click “Save” to finish.

5.2.3 Deleting a CHU

Step 1 Right-click the CHU and select “DELETE” in the context menu.

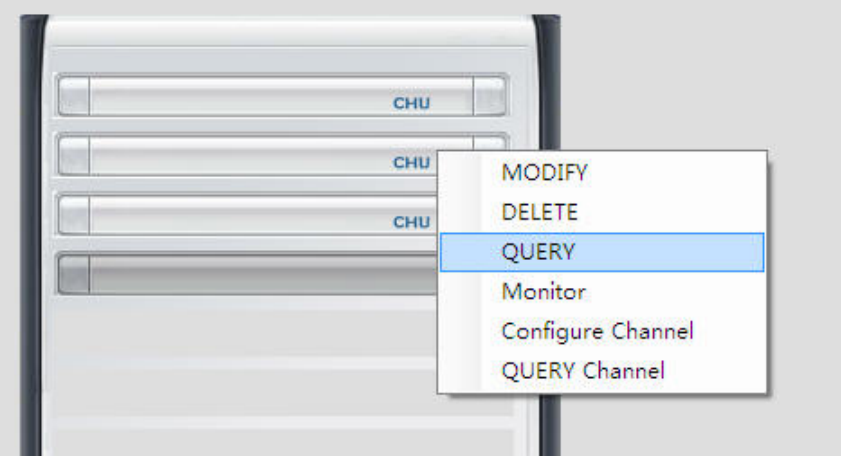


Step 2 Click “OK” in the pop-up dialogue.

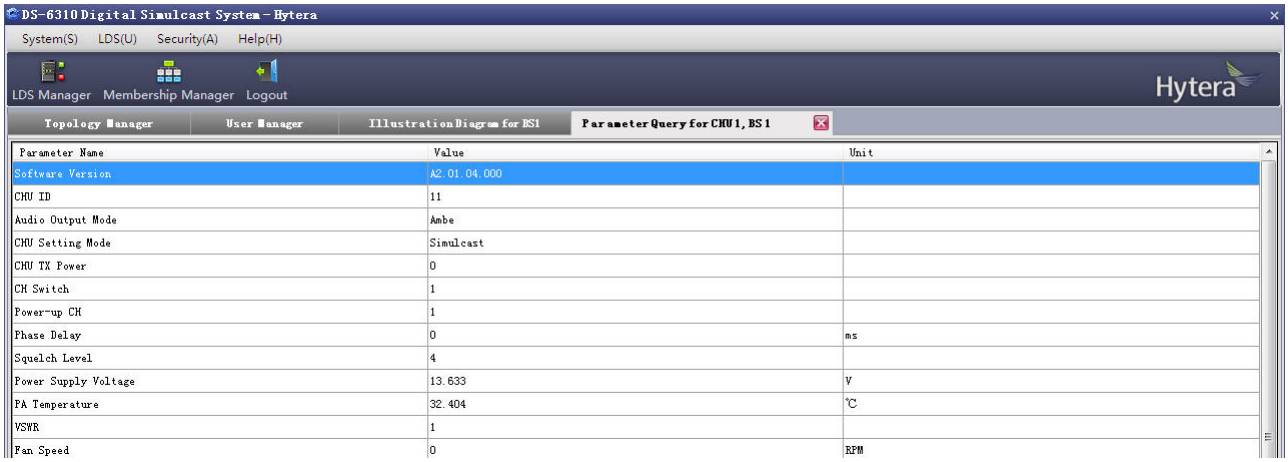


5.2.4 Viewing a CHU

Step 1 Right-click the CHU and select “QUERY” in the context menu.

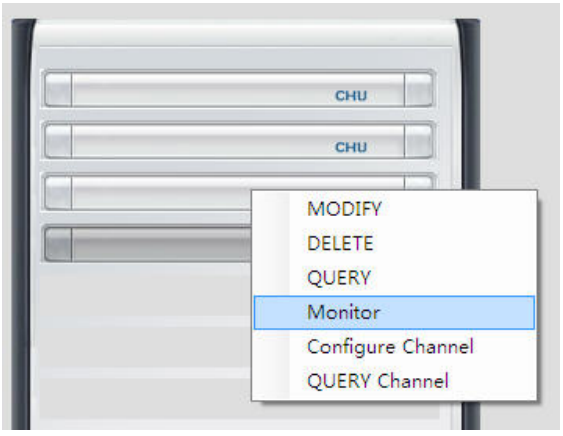


Step 2 View the CHU parameters.

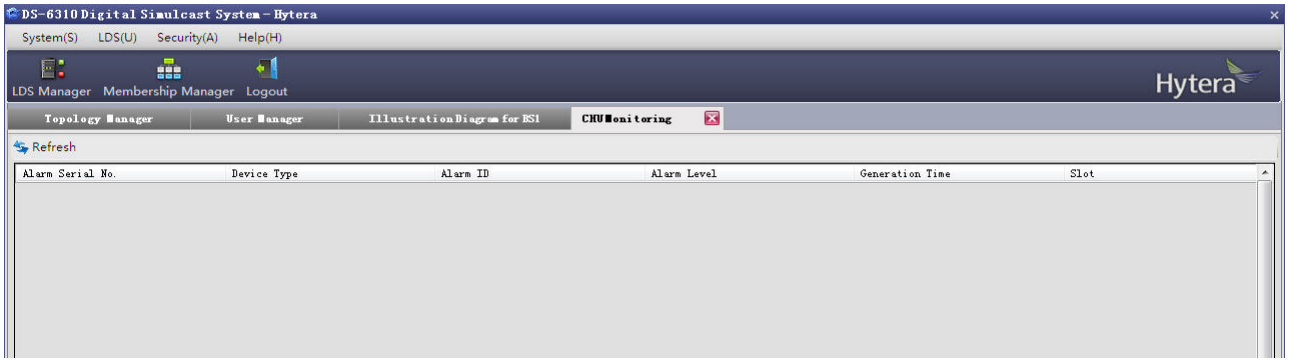


5.2.5 Monitoring a CHU

Step 1 Right-click the CHU and select “Monitor” in the context menu.

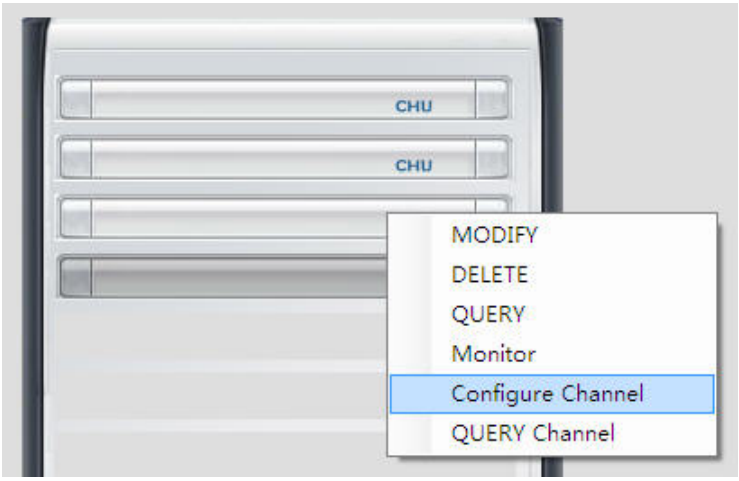


Step 2 View the CHU alarm.

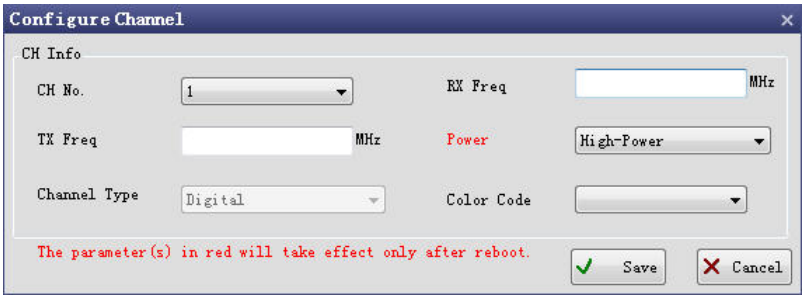


5.2.6 Configuring the Channel

Step 1 Right-click the CHU and select “Configure Channel” in the context menu.



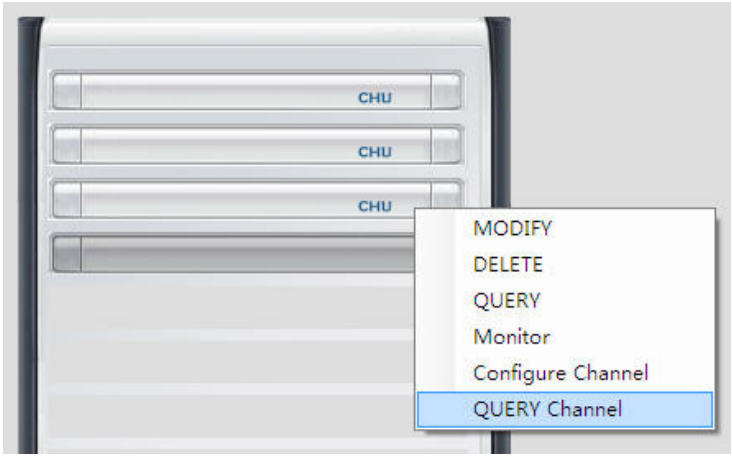
Step 2 Configure the parameters.



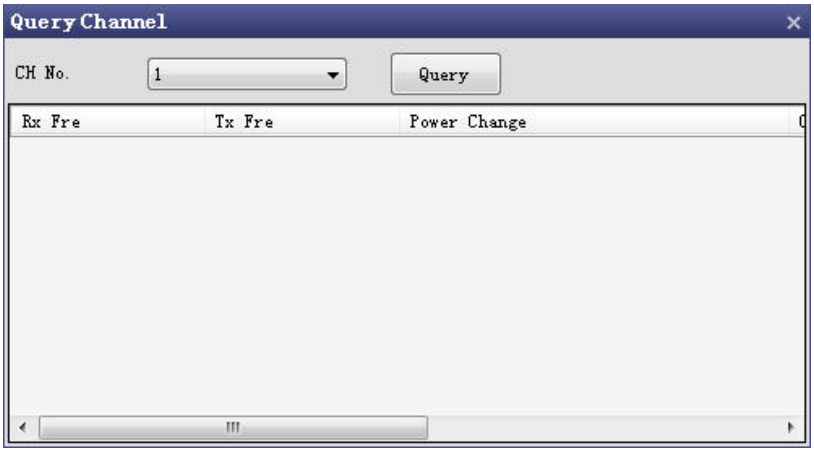
Step 3 Click “Save” to finish.

5.2.7 Querying the Channel

Step 1 Right-click the CHU and select “QUERY Channel” in the context menu.



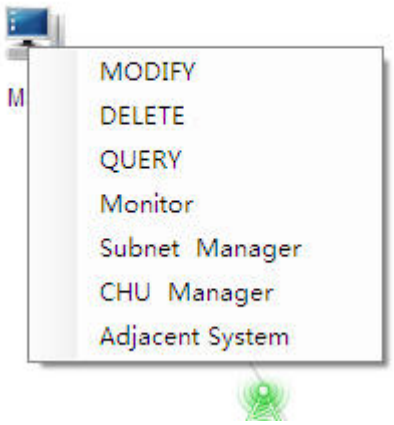
Step 2 Select the channel number and click “Query”.



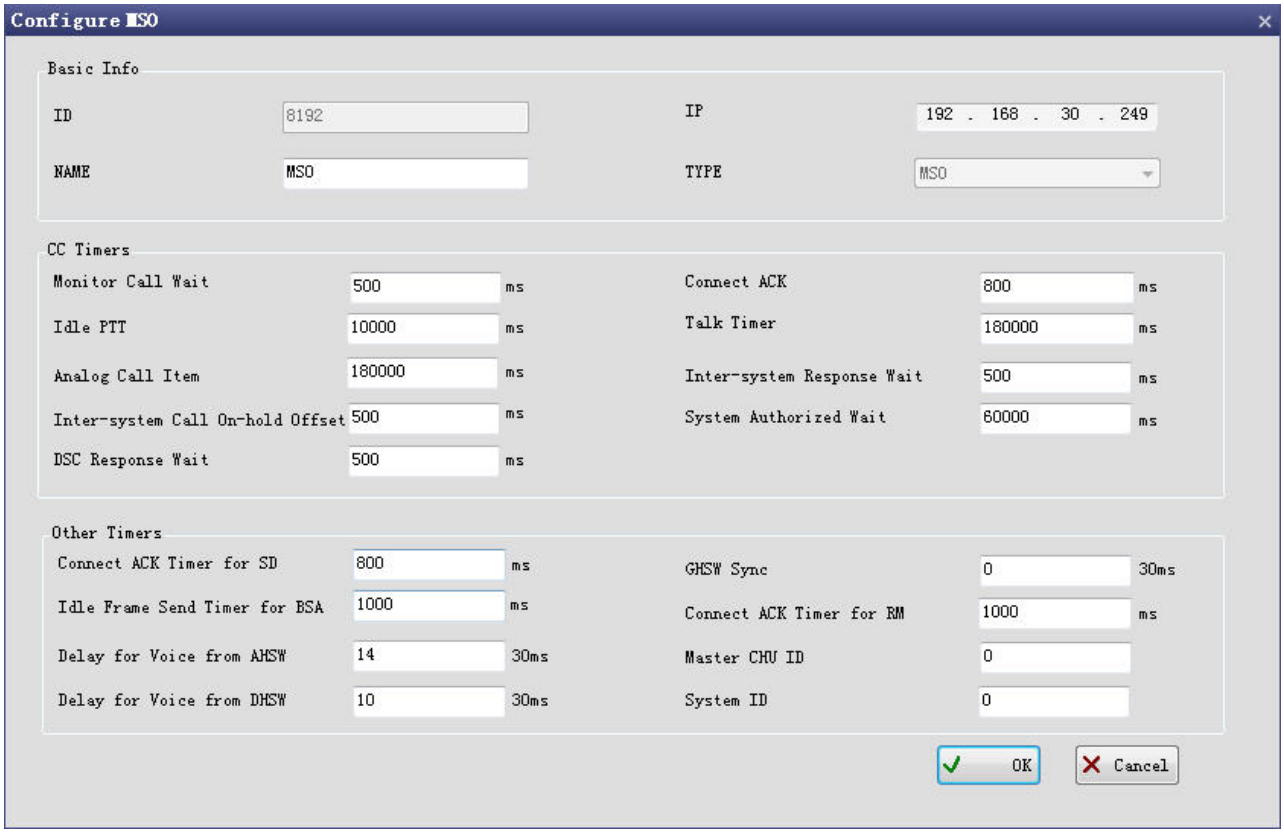
6. MSO Management

6.1 Configuring the MSO

Step 1 Right-click the MSO and select “MODIFY” in the context menu.



Step 2 Configure the parameters as described in the following table.



Parameter	Description

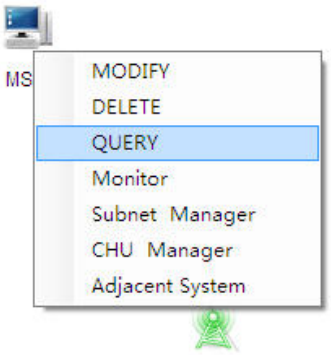
Parameter	Description
Basic Info.	
ID	Displays the number of the MSO. It cannot be edited.
NAME	Sets the alias for the MSO.
IP	Sets the IP address for the MSO.
TYPE	Displays the NE type.
CC Timers	
Monitor Call Wait	Sets the length of time to wait for response from the MS after the remote monitor request is sent to the MS.
Idle PTT	Sets the length of time for which the **PTT** can be idle during a call.
Analog Call Item	Sets the length of time for which an analog call initiated by the MS can last.
Inter-system Call On-hold Offset	As the call on-hold time in the initiating system is less than that in the participant system during inter-system call, the call offset time should be added to the call on-hold time in the participant system.
DSC Response Wait	Sets the amount of time that the MS waits for the response from DSC after it sends the call request to DSC.
Connect ACK	Sets the length of time to wait for an acknowledgement from the called party.
Talk Timer	Sets the length of time for which the **PTT** can be held down to talk.
Inter-system Response Wait	Limits the time for the system to wait for an acknowledgement from the called party after the MS makes an individual call.
System Authorized Wait	Sets the length of time for the participant system to wait for a permission granted by the initiating system during the inter-system call.
Other Timers	
Connect ACK Timer for SD	Sets the length of time to wait for an acknowledgement upon sending the SDS.

Parameter	Description
Idle Frame Send Timer for BSA	Sets the length time within which the IDLE frame is sent repeatedly.
Delay for Voice from AHSW	Sets the delay for voice from the AHSW. Actual delay =configured value (range: 12 to 16) x30ms.
Delay for Voice from DHSW	Sets the delay for voice from the DHSW. Actual delay =configured value (range: 1 to 20) x30ms.
GHSW Sync	Sets the delay offset.
Connect ACK Timer for RM	Sets the length of time to wait for the resource allocation.
Master CHU ID	Sets the ID of the master CHU.
System ID	Sets the ID of the current MSO.

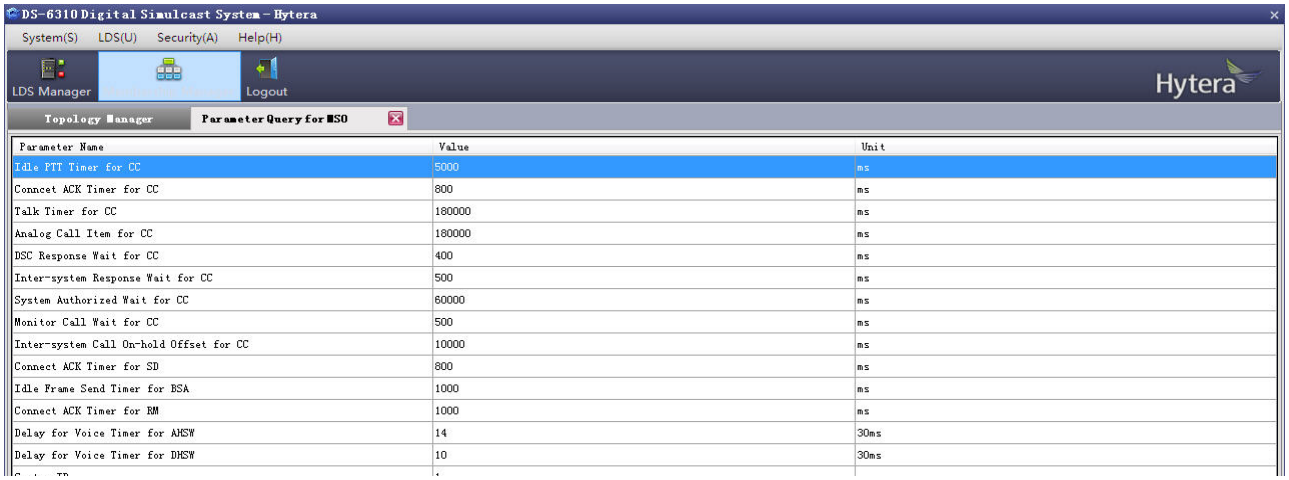
Step 3 Click “Save” to finish.

6.2 Viewing the MSO

Step 1 Right-click the MSO and select “QUERY”.

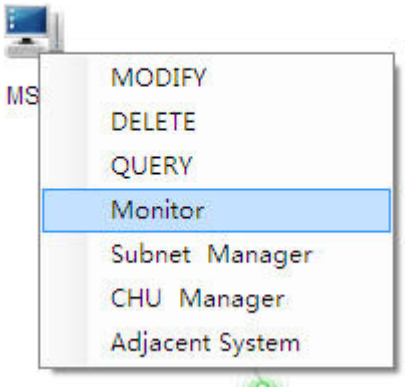


Step 2 View the MSO parameters.

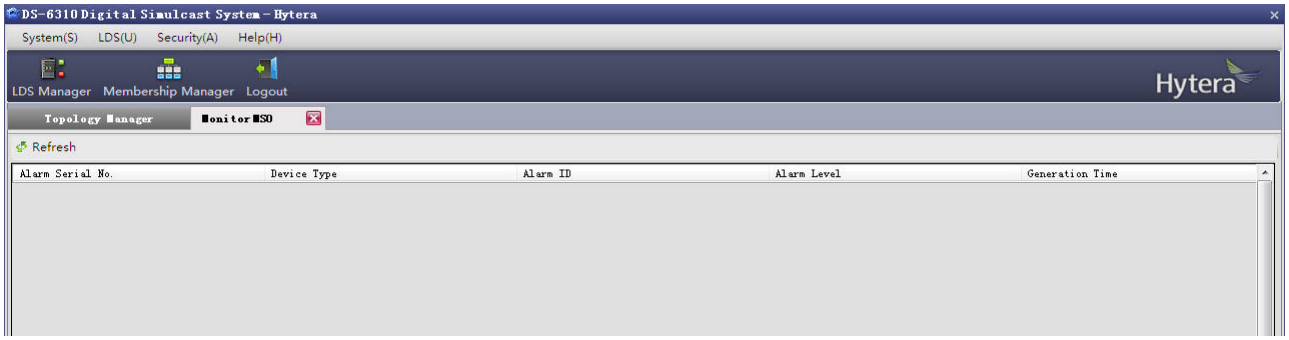


6.3 Monitoring the MSO

Step 1 Right-click the MSO and select “Monitor”.



Step 2 View the alarm information.



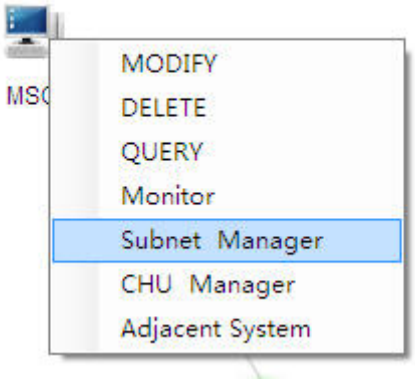
6.4 Managing the Subnet

6.4.1 Adding a Subnet

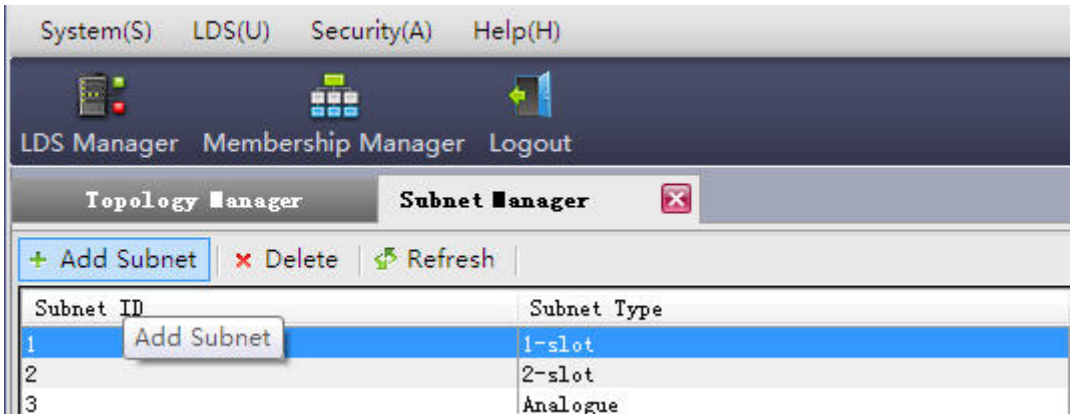
Caution

One time slot is allocated to one subnet only.

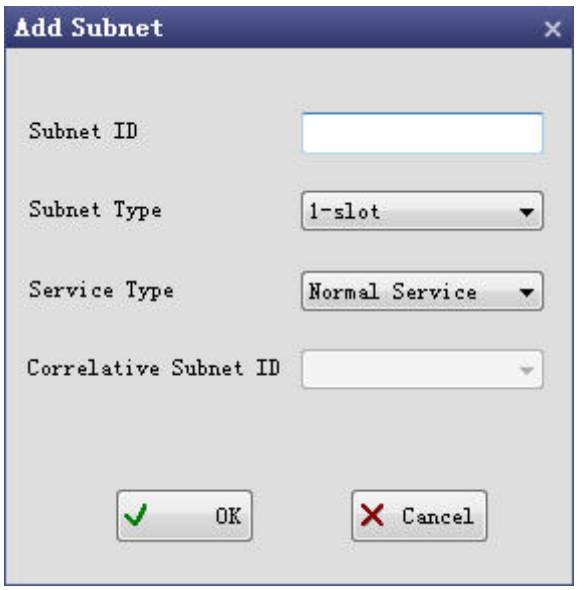
Step 1 Right-click the MSO, and select “Subnet Manager”.



Step 2 Click “Add Subnet” in the “Subnet Manager” interface.



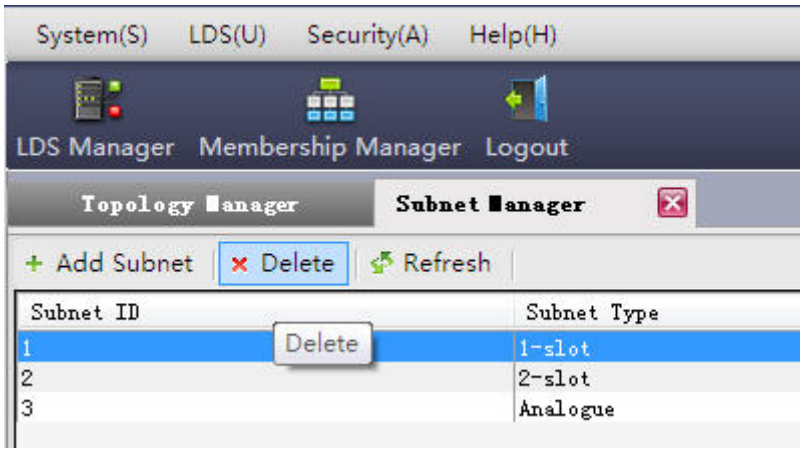
Step 3 Configure the subnet parameters.



Step 4 Click “OK” to finish.

6.4.2 Deleting a Subnet

Step 1 Select a subnet in the “Subnet Manager” interface, and click “Delete”.

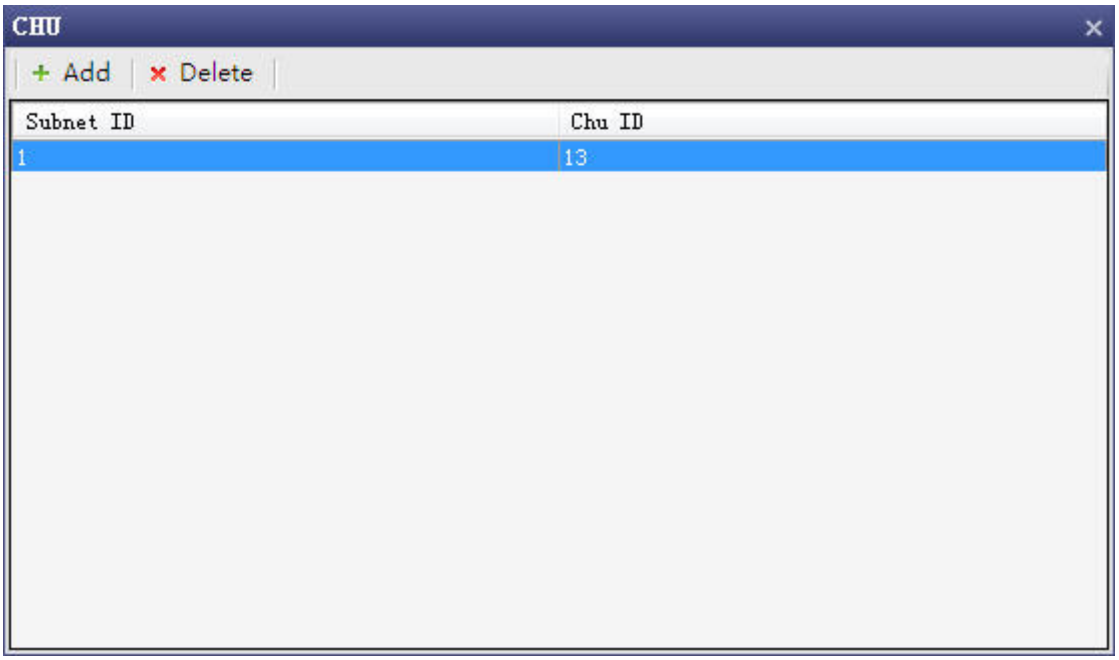


Step 2 Click “OK” in the pop-up dialog.

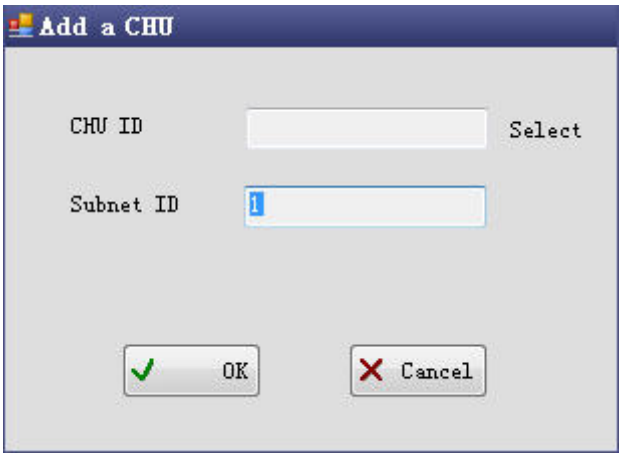


6.4.3 Adding a CHU

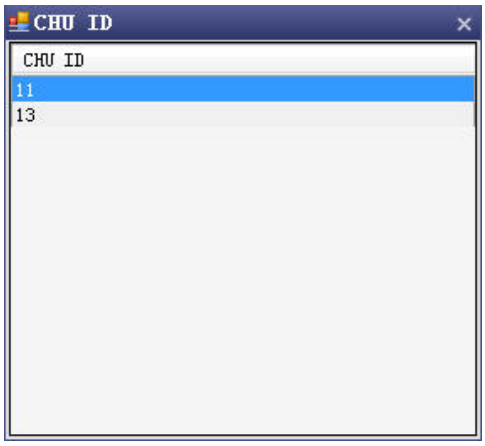
Step 1 Double-click the subnet in the “Subnet Manager” interface and click “Add” in the pop-up dialog.



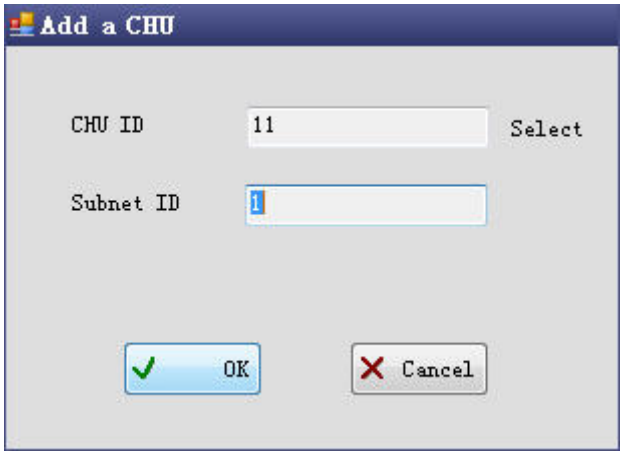
Step 2 Click “Select”.



Step 3 Double-click the CHU to be allocated to the subnet.

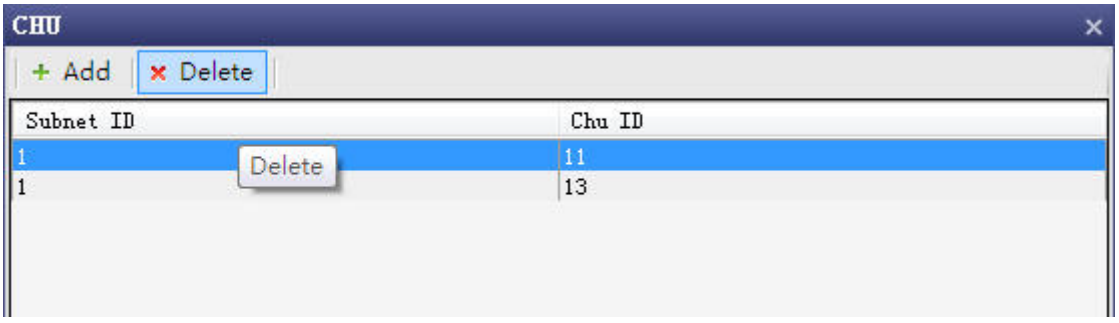


Step 4 Click “OK” to finish.

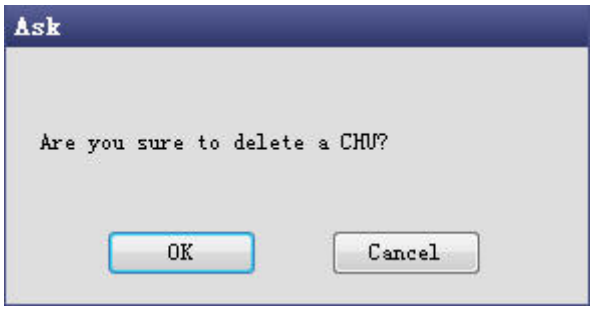


6.4.4 Deleting a CHU

Step 1 Select a CHU and click “Delete” in the “CHU” interface.



Step 2 Click “OK” in the pop-up dialog.

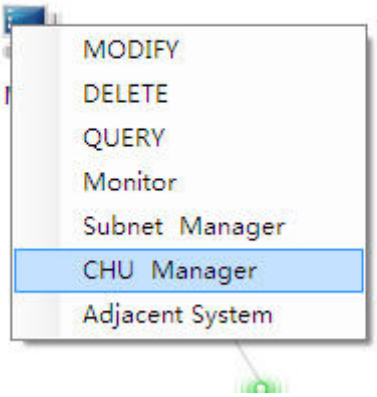


6.5 Managing the CHU

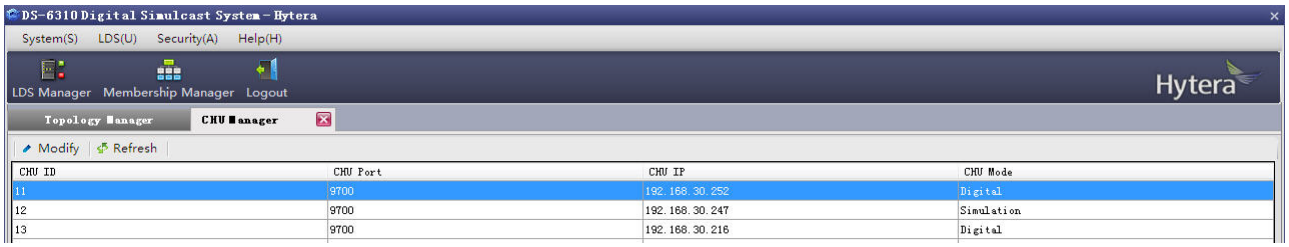
6.5.1 Viewing the CHU

To view the ID, port, IP address, and mode of the CHU, do as follows:

Step 1 Right-click the MSO in the topology diagram, and select “CHU Manager”.



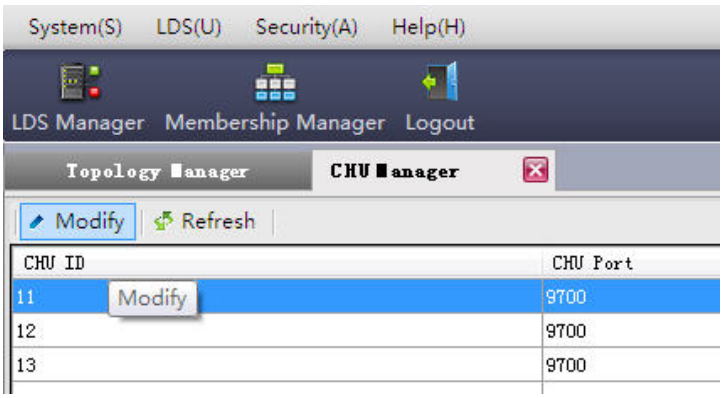
Step 2 View the CHU parameters.



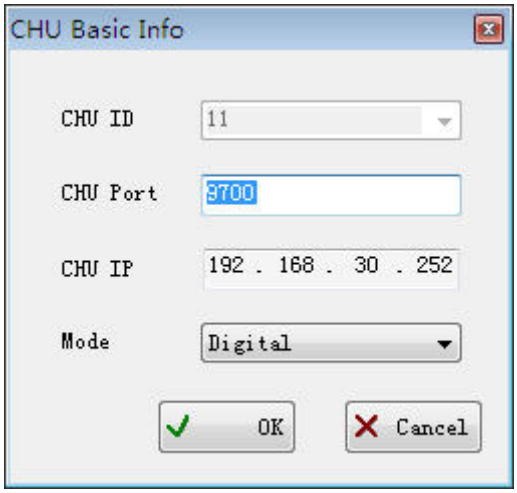
6.5.2 Modifying a CHU

You can modify the port, IP address, and operation mode of the CHU.

Step 1 Select a CHU and click “Modify” in the “CHU Manager” interface.



Step 2 Modify the CHU parameters.



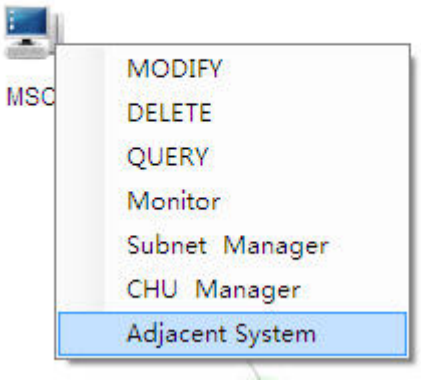
Step 3 Click “OK” to finish.

6.6 Managing the Adjacent System

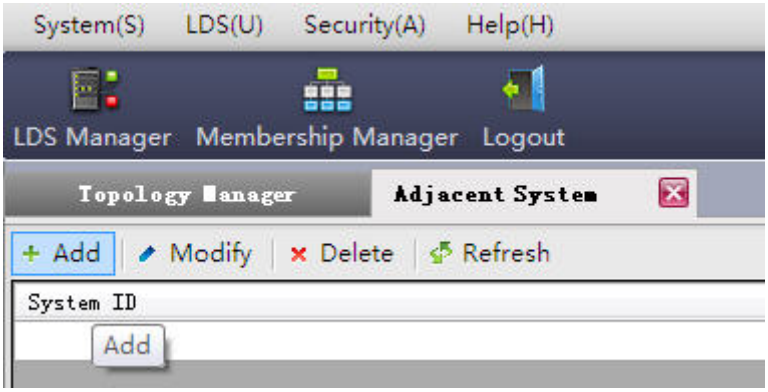
Multiple simulcast systems can be interconnected via the SIP gateway, to extend the communication coverage.

6.6.1 Adding an Adjacent System

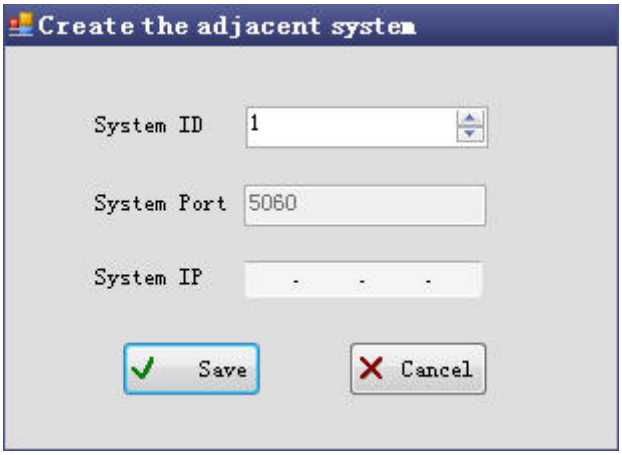
Step 1 Right-click the MSO in the topology diagram and select “Adjacent System”.



Step 2 Click “Add”.



Step 3 Configure the parameters.



Step 4 Click “Save” to finish.

6.6.2 Modifying an Adjacent System

Step 1 Select the adjacent system and click “Modify”.

Step 2 Modify the parameters and click “Save” to finish.

6.6.3 Deleting an Adjacent System

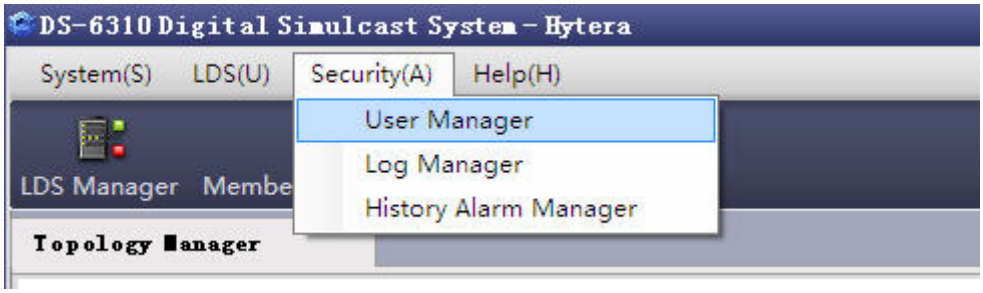
Step 1 Select the adjacent system and click “Delete”.

Step 2 Click “OK” in the pop-up dialog.

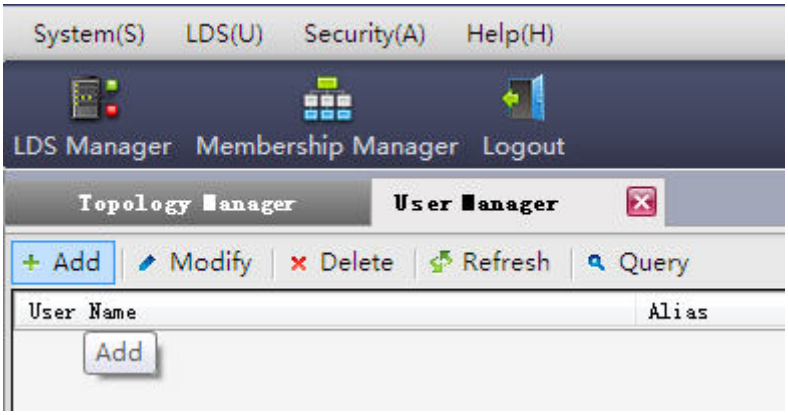
7. User Management

7.1 Adding a User

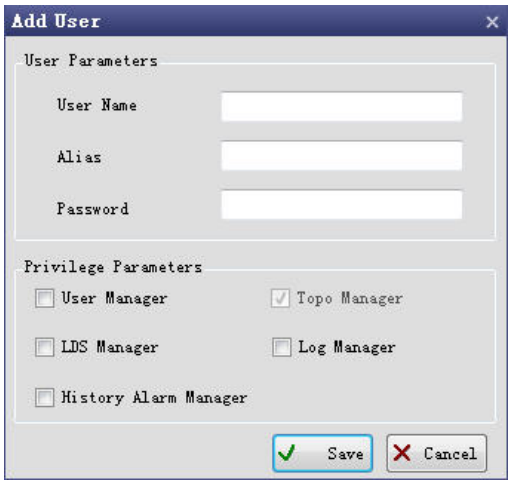
Step 1 Select “Security -> User Manager” in the menu bar.



Step 2 Click “Add”.



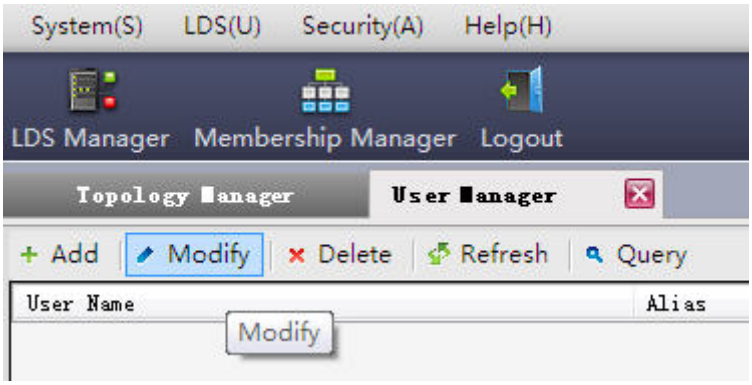
Step 3 Configure the parameters.



Step 4 Click “Save” to finish.

7.2 Modifying a User

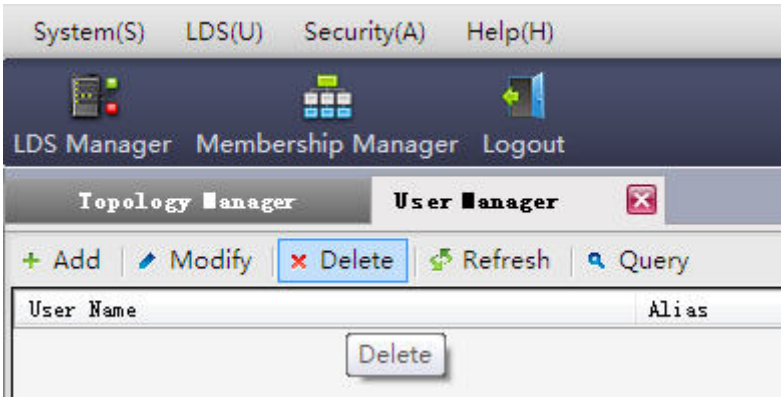
Step 1 Select a user in the “User Manager” interface and click “Modify”.



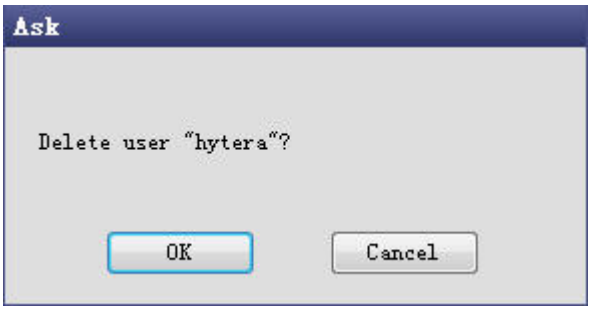
Step 2 Modify the settings and click “Save” to finish.

7.3 Deleting a User

Step 1 Select a user in the “User Manager” interface and click “Delete”.



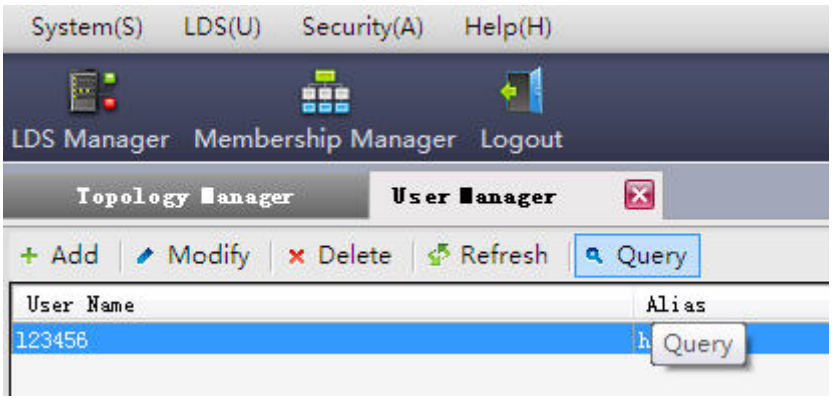
Step 2 Click “OK” in the pop-up dialog.



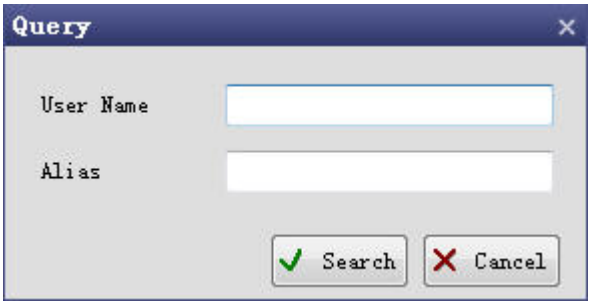
7.4 Querying a User

To query the account information of a user, do as follows:

Step 1 Click “Query” in the “User Manager” interface.


System(S)
LDS(U)
Security(A)
Help(H)
LDS Manager
Membership Manager
Logout
Topology Manager
User Manager
Add
Modify
Delete
Refresh
Query
User Name
Alias
123456
Query

Step 2 Enter the user name or alias, and click “Search”.

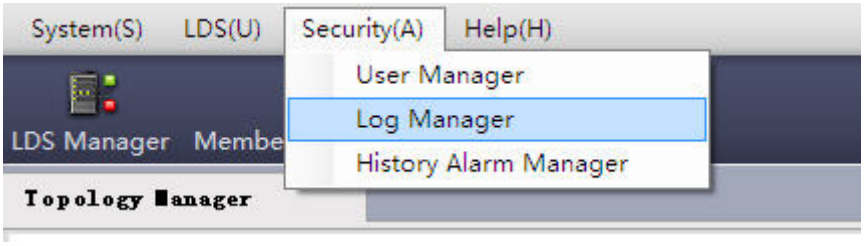


8. Log Management

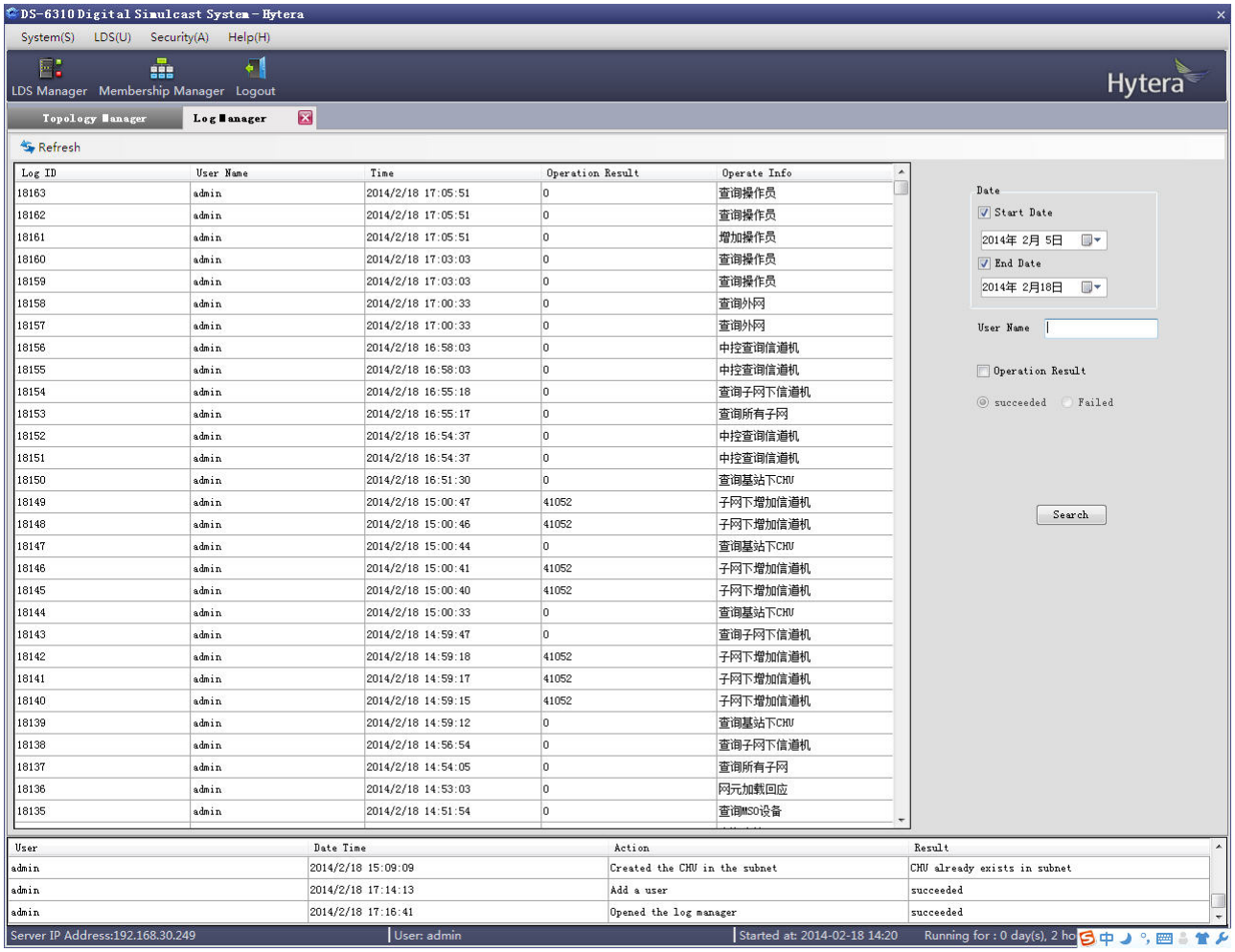
The system can record the operation events and system events in the log.

8.1 Querying the Log

Step 1 Select “Security -> Log Manager” in the menu bar.

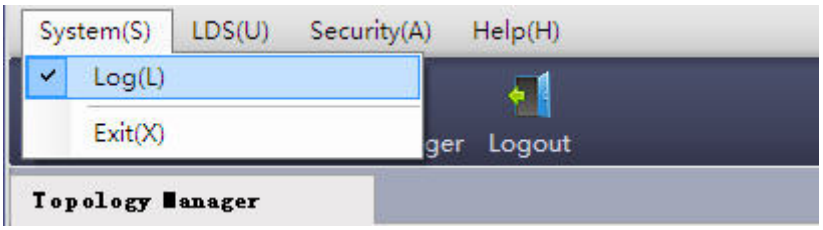


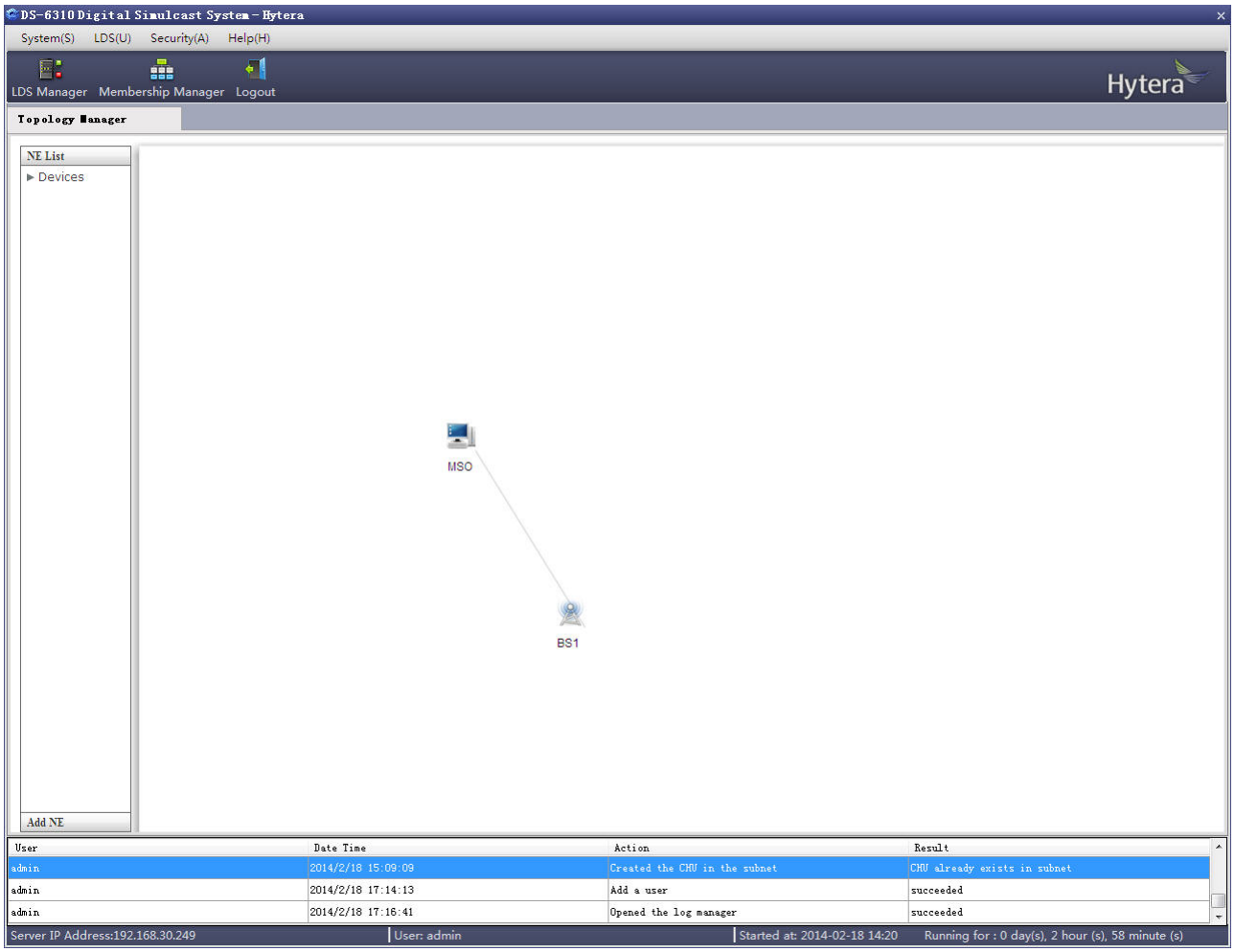
Step 2 Set the search criteria and click “Search” to finish.



8.2 Displaying the System Log

To display the system log, select “System -> Log” in the menu bar. The log list is displayed at the bottom of the interface.

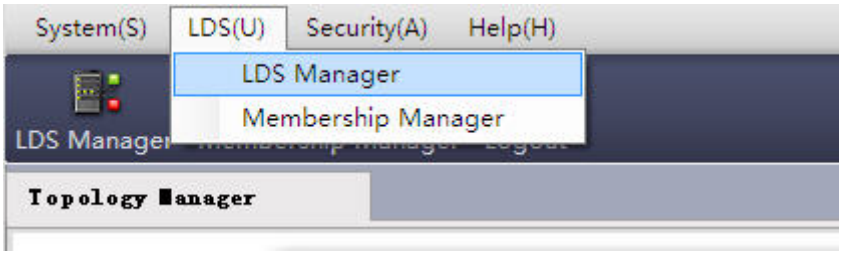

System(S)
LDS(U)
Security(A)
Help(H)
Log(L)
Exit(X)
Logout
Topology Manager


DS-6310 Digital Simulcast System - Hytera
System(S)
LDS(U)
Security(A)
Help(H)
LDS Manager
Membership Manager
Logout
Hytera
Topology Manager
NE List
Devices
Add NE
MSO
BS1
User
Date Time
Action
Result
admin
2014/2/18 15:09:09
Created the CHU in the subnet
CHU already exists in subnet
admin
2014/2/18 17:14:13
Add a user
succeeded
admin
2014/2/18 17:16:41
Opened the log manager
succeeded
Server IP Address:192.168.30.249
User: admin
Started at: 2014-02-18 14:20
Running for : 0 day(s), 2 hour (s), 58 minute (s)

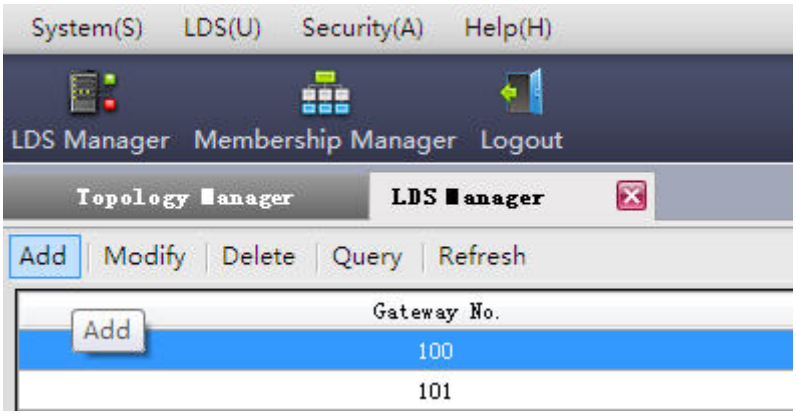
9. LDS Management

9.1 Adding an LDS

Step 1 Select “LDS -> LDS Manager”.

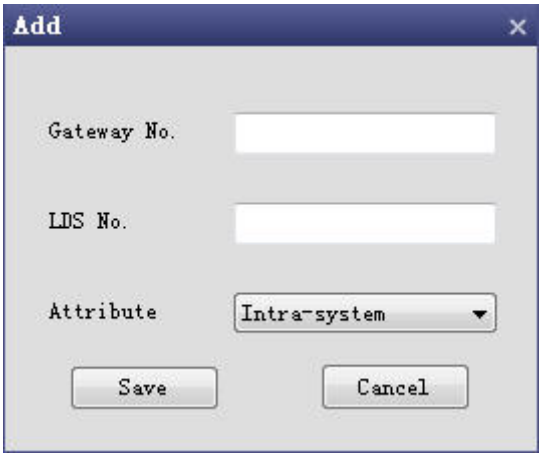


Step 2 Click “Add”.



Step 3 Configure the parameters.

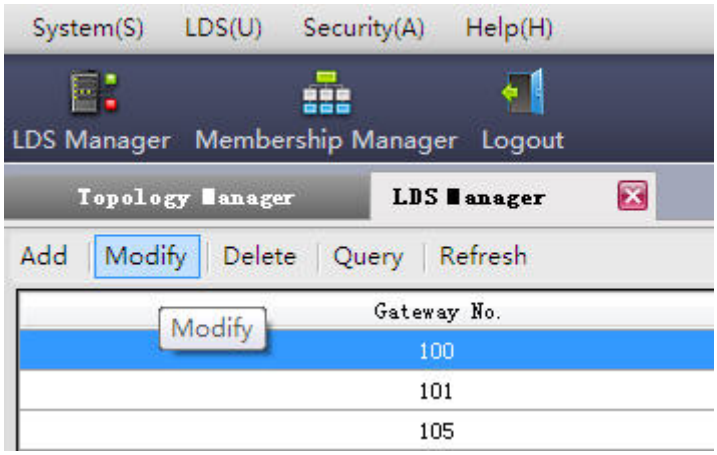
The gateway number range is 100-299, and the LDS number range is 800-999.



Step 4 Click “Save” to finish.

9.2 Modifying an LDS

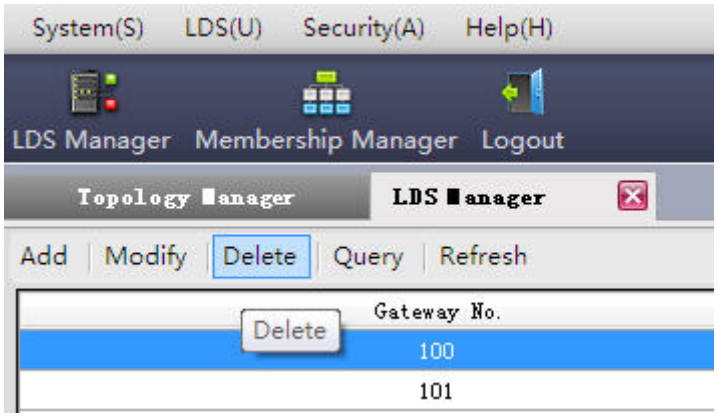
Step 1 Select an LDS in the “LDS Manager” interface and click “Modify”.



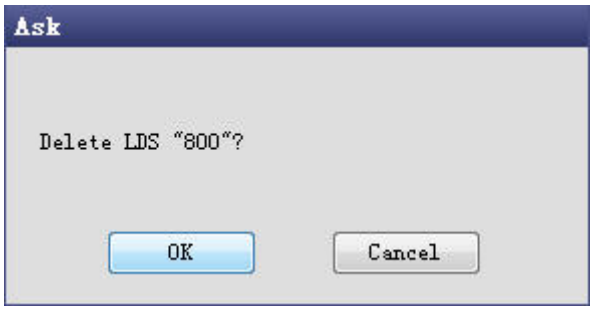
Step 2 Modify the parameters and click “Save” to finish.

9.3 Deleting an LDS

Step 1 Select an LDS in the “LDS Manager” interface and click “Delete”.

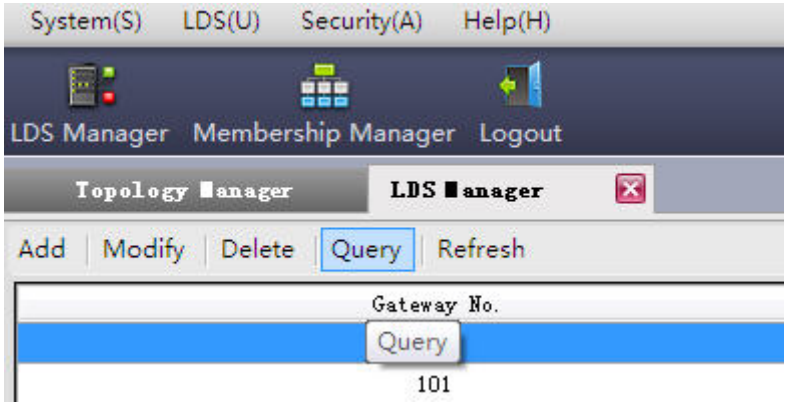


Step 2 Click “OK” in the pop-up dialog.

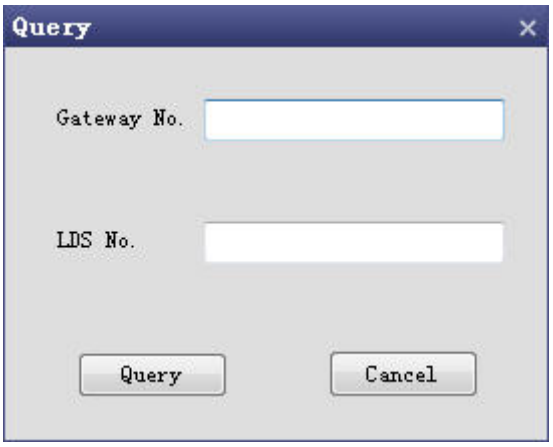


9.4 Querying an LDS

Step 1 Click “Query” in the “LDS Manager” interface.



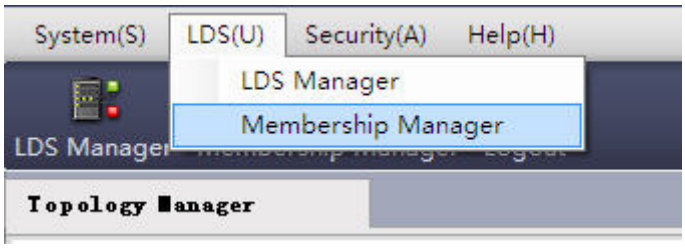
Step 2 Configure the parameters and click “Query”.



10. Membership Management

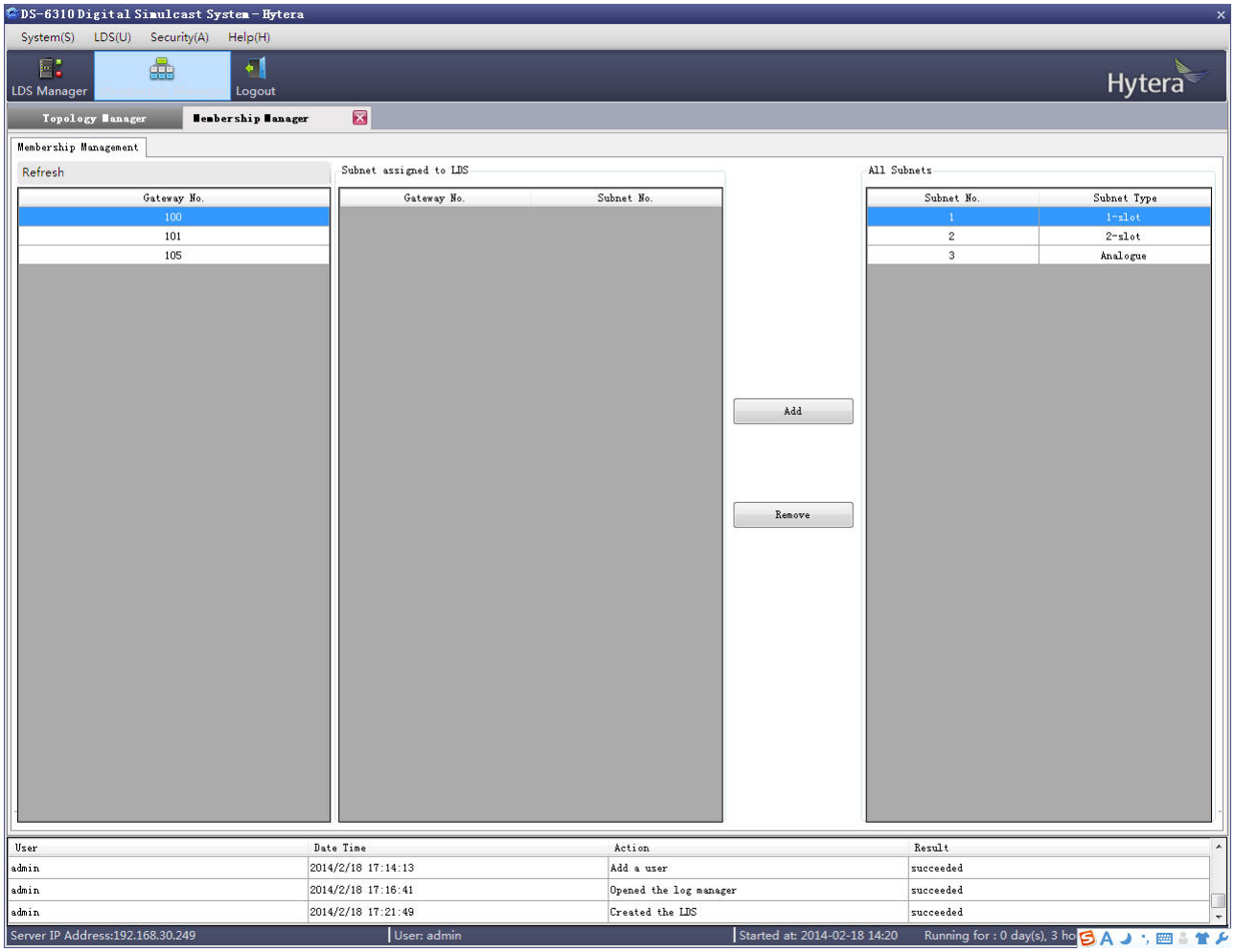
10.1 Adding the Subnet to the LDS

Step 1 Select “LDS -> Membership Manager” in the menu bar.



Step 2 Select the gateway number in the “Gateway No.” pane and subnet in the “All Subnets” pane, and click “Add”.

After the membership between the LDS and subnet is established, the LDS can dispatch MSs in this subnet. One LDS can dispatch MSs in multiple subnets, while multiple LDSs can dispatch MSs in one subnet.



10.2 Removing the Subnet from the LDS

Step 1 Select the gateway number in the “Gateway No.” pane and subnet in the “All Subnets” pane.

Step 2 Click “Remove” to finish.

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Address: HYT Tower, Hi-Tech Industrial Park North, Beihuan RD., Nanshan District, Shenzhen, China
Postcode: 518057
http://www.hytera.com