



VioStor CMS

Central Management System

User Manual (Version: 1.0.1)

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Thank you for choosing the QNAP products! This user manual will introduce you how to use the VioStor Central Management System (CMS) server and client applications. Please follow the instructions in this user manual and start to enjoy the powerful VioStor CMS system.

Note:

- This user manual contains the instructions for using the QNAP CMS server and software. Some features are only available on specific models. The model you purchased may not support these features.
- The CMS hardware/server is hereafter referred to as the CMS Server, and the central management software is referred to as the CMS Client.
- This user manual (version 1.0.1) is only applicable for the CMS Client version 1.0.1.
- In order to support the full functions of CMS Client version 1.0.1, please use the VioStor NVR firmware version 4.1.0 or later versions.

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Note:

- Back up the system periodically to avoid any potential data loss. QNAP disclaims any responsibility of all sorts of data loss or recovery.
- Should you return any components of the product package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.
- Please read the safety warnings and user manual carefully before using this product.
- This product can only be used with the power supply provided by the manufacturer.
- Please contact qualified technicians for any technical enquires. Do not repair this product by yourself to avoid any voltage danger and other risks caused by opening this product cover.
- To avoid fire or electric shock, do not use this product in rain or humid environment. Do not place any objects on this product.

Regulatory Notice



FCC Notice

The QNAP products comply with different FCC compliance classes. Please refer the Appendix for details. Once the class of the device is determined, refer to the following corresponding statement.

=====

FCC Class B Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

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may void the authority granted to the user by the FCC to operate this equipment.



Class B only.

Symbols in this document




 Warning	This icon indicates the instructions must be strictly followed. Failure to do so could result in injury to human body or death.
 Caution	This icon indicates the action may lead to disk clearance or loss OR failure to follow the instructions could result in data damage, disk damage, or product damage.
 Important	This icon indicates the information provided is important or related to legal regulations.

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Safety Warning

1. This product can operate normally in the temperature of 0°C–40°C and relative humidity of 0%–90%. Please make sure the environment is well-ventilated.
2. The power cord and devices connected to this product must provide correct supply voltage.
3. Do not place this product in direct sunlight or near chemicals. Make sure the temperature and humidity of the environment are in optimized level.
4. Unplug the power cord and all connected cables before cleaning. Wipe this product with a wet towel. Do not use chemical or aerosol to clean this product.
5. Do not place any objects on this product for the server's normal operation and to avoid overheat.
6. Use the flat head screws in the product package to lock the hard disks in this product when installing hard disks for proper operation.
7. Do not place this product near any liquid.
8. Do not place this product on any uneven surface to avoid falling off and damage.
9. Make sure the voltage is correct in your location when using this product. If you are not sure about the voltage, please contact the distributor or the local power supply company.
10. Do not place any object on the power cord.
11. Do not attempt to repair this product in any occasions. Improper disassembly of the product may expose you to electric shock or other risks. For any enquiries, please contact the distributor.
12. The chassis models should only be installed in the server room and maintained by the authorized server manager or IT administrator. The server room is locked by key or keycard access and only certified staff is allowed to enter the server room.



Warning:

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Do NOT touch the fan inside the system to avoid serious injuries.

Chapter 1 Introduction

1.1 Overview

The QNAP Central Management System (CMS) is a high performance turnkey solution for large-scale and multiple-site surveillance projects. The CMS Client is a software utility designed to manage the QNAP VioStor network video recorders (NVR) and perform live video monitoring, recording, and playback. The CMS Server supports up to a maximum of 128 multi-server monitoring. Users can monitor up to a maximum of 1024 IP cameras, up to a maximum of 64 channels per screen. Concurrent independent playbacks and display controls in four screens are also supported. The CMS Server has the highest compatibility with the QNAP VioStor NVR series and also supports a variety of brand name IP cameras. For detailed compatibility list, please refer to:

http://www.qnapsecurity.com/pro_compatibility_camera.asp

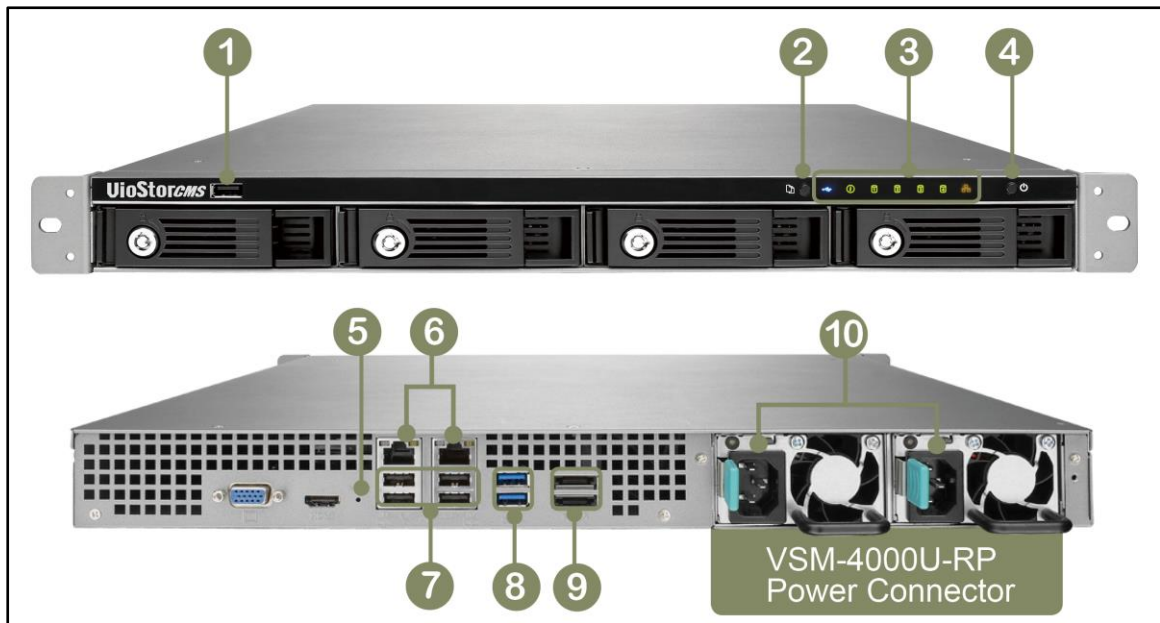
1.2 Hardware Illustration

CMS-2000:



1. One Touch Copy button
2. USB 2.0 (reserved)
3. LED indicators: HDD1, HDD2, LAN, eSATA
4. Power button
5. Power connector
6. Gigabit LAN x 2
7. USB 2.0 x 2 (reserved)
8. Password & network settings reset button
9. K-Lock security slot
10. eSATA(reserved)
11. USB 3.0 x 2 (reserved)

CMS-4000U-RP:



1. USB 2.0 (reserved)
2. One Touch Copy button
3. LED indicators: HDD1-4, LAN, eSATA
4. Power button
5. Password & network settings reset button
6. Gigabit LAN x 2
7. USB 2.0 x 4 (reserved)
8. USB 3.0 x 2 (reserved)
9. eSATA (reserved)
10. Power Connector

1.3 Hardware Specification

CMS-2000:

Model Name	CMS-2000
Number of License	Base: 64, Maximum:1,024
HDD	2 x 3.5" or 2.5" SATA (Hot-swappable and lockable tray)
CPU	Intel 2.13GHz dual-core processor
RAM	1GB
Operating System	Linux Embedded
Ethernet Port	Gigabit Rj-45 Ethernet port x 2
Dimensions	150 (H) x 102 (W) x 216 (D) mm 5.91 (H) x 4.02 (W) x 8.5 (D) inch
Net Weight	1.74 Kg (3.84 lb)
Gross weight	2.92 Kg (6.44 lb)
Temperature	0-40 °C
Relative Humidity	0-95 % R.H.
Power Supply	Input: 100-240V AC, 50/60 Hz Output: 90W

CMS-4000U-RP:

Model Name	CMS-4000U-RP
Number of License	Base: 64, Maximum:1,024
HDD	4 x 3.5" or 2.5" SATA (Hot-swappable and lockable tray)
CPU	Intel 2.13GHz dual-core processor
RAM	1GB
Operating System	Linux Embedded
Ethernet Port	Gigabit Rj-45 Ethernet port x 2
Dimensions	44 (H) x 439 (W) x 499 (D) mm 1.73 (H) x 17.28 (W) x 19.65 (D) inch
Net Weight	7.63 Kg (16.82 lb)
Gross weight	9.55 Kg (21.05 lb)
Temperature	0-40 °C
Relative Humidity	0-95 % R.H.
Power Supply	Input: 100-240V AC, 50/60 Hz Output: Redundant 250W

Chapter 2 Installing CMS Server

For details on product hardware installation, please refer to the “Quick Installation Guide” (QIG) in the product package.

2.1 Browsing CD-ROM

The CMS installation CD-ROM contains the Quick Start Guide, CMS Client, QNAP Finder, and the user manual.



Browse the CD-ROM and access the following contents:

- Finder: The setup program of the QNAP Finder (for Windows OS).
- CMS Client: The main program of the central management and monitoring system.
- Manual: The user manual of the QNAP VioStor CMS.

The above contents can also be downloaded at the QNAP Security website (<http://www.qnapsecurity.com>).

2.2 Hard Disk Drive Compatibility List

This product works with popular brands of 2.5-inch and 3.5-inch SATA hard disk drives.

For hard disk compatibility list, please visit the QNAP Security website:

http://www.qnapsecurity.com/pro_compatibility.asp

Note: QNAP disclaims any responsibility for product damage/malfunction or data loss/recovery due to misuse or improper installation of hard disks in any occasions for any reasons.

2.3 IP Camera Compatibility List

For information on supported IP Camera models, please visit the QNAP Security website:

http://www.qnapsecurity.com/pro_compatibility_camera.asp

2.4 Checking System Status

LED Display & System Status Overview

LED	Color	LED Status	Description
System Status	Red/ Green	Flashes green and red alternately every 0.5 sec	<ol style="list-style-type: none"> 1) A hard drive on the system is being formatted/initialized. 2) The system firmware is being updated. 3) RAID rebuilding is in process. 4) Online RAID Capacity Expansion is in process. 5) Online RAID Level Migration is in process.
		Red	<ol style="list-style-type: none"> 1) A hard drive is invalid. 2) The disk volume has reached its full capacity. 3) The disk volume is going to be full. 4) The system fan is out of function. 5) An error occurs when accessing (read/write) the disk data. 6) A bad sector is detected on the hard drive 7) The system is in degraded read-only mode (2 member drives fail in a RAID 5 or RAID 6 configuration, the disk data can still be read). 8) (Hardware self-test error).
		Flashes red every 0.5 sec	The system is in degraded mode (one member drive fails in RAID 1, RAID 5 or RAID 6 configuration).
		Flashes green every 0.5 sec	<ol style="list-style-type: none"> 1) The system is starting up. 2) The system is not configured. 3) A hard drive is not formatted.
		Green	The system is ready.
		Off	All the hard drives on the system are in standby mode.
LAN	Orange	Orange	The system is connected to the network.
		Flashes orange	The system is being accessed from the network.
HDD (Hard Drive)	Red/ Green	Flashes red	The hard drive data is being accessed and a read/write error occurs during the process.
		Red	A hard drive read/write error occurs.
		Flashes green	The hard drive data is being accessed.
		Green	The hard drive can be accessed.

USB	Blue	Flashes blue every 0.5 sec	<ol style="list-style-type: none"> 1) A USB device is detected. 2) A USB device is being removed from the system. 3) The USB device connected to the front USB port of the system is being accessed. 4) The system data is being copied to the external USB device.
		Blue	The USB device connected to the front USB port of the system is ready.
		Off	<ol style="list-style-type: none"> 1) No USB is detected. 2) The system has finished copying the data to the USB device connected to the front USB port of the system.
eSATA†	Orange	Flashes	The eSATA device is being accessed.

Beep Alarm (beep alarm can be disabled in "System Tools" > "Hardware Settings")

Beep sound	No. of Times	Description
Short beep (0.5 sec)	1	<ol style="list-style-type: none"> 1) The system is starting up. 2) The system is being shut down (software shutdown). 3) The reset button is pressed. 4) The system firmware has been updated.
Short beep (0.5 sec)	3	The system data cannot be copied to the external device by pressing the auto-backup button.
Short beep (0.5 sec), long beep (1.5 sec)	3, every 5 min	The system fan is out of function.
Long beep (1.5 sec)	2	<ol style="list-style-type: none"> 1) The disk volume is going to be full. 2) The disk volume has reached its full capacity. 3) The hard drives on the system are in degraded mode. 4) Hard disk rebuilding process starts.
	1	<ol style="list-style-type: none"> 1) The system is turned off by force shutdown (hardware shutdown). 2) The system has been turned on successfully and is ready.

2.5 System Configuration

Setting up the CMS Server

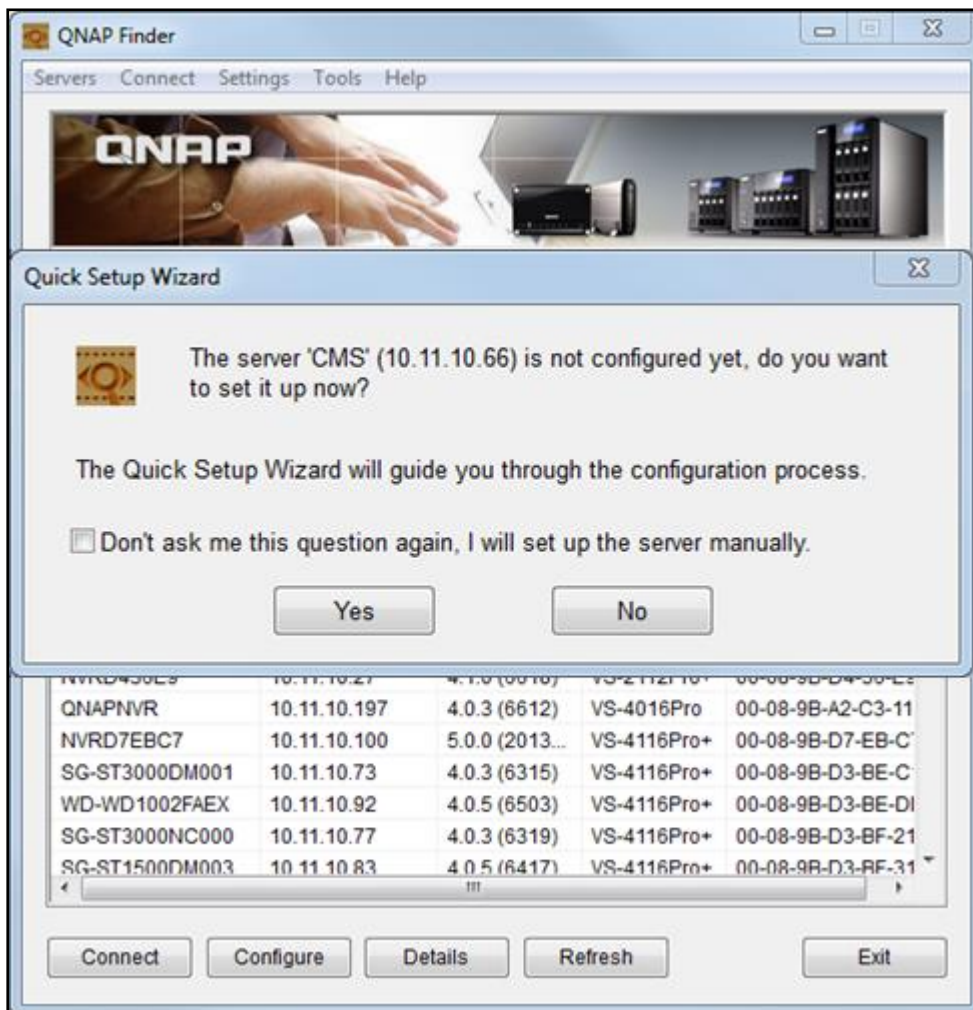
Follow the steps below to install the software of the CMS Server. The following example is based on the Windows OS.

1. Install the QNAP Finder from the product CD.

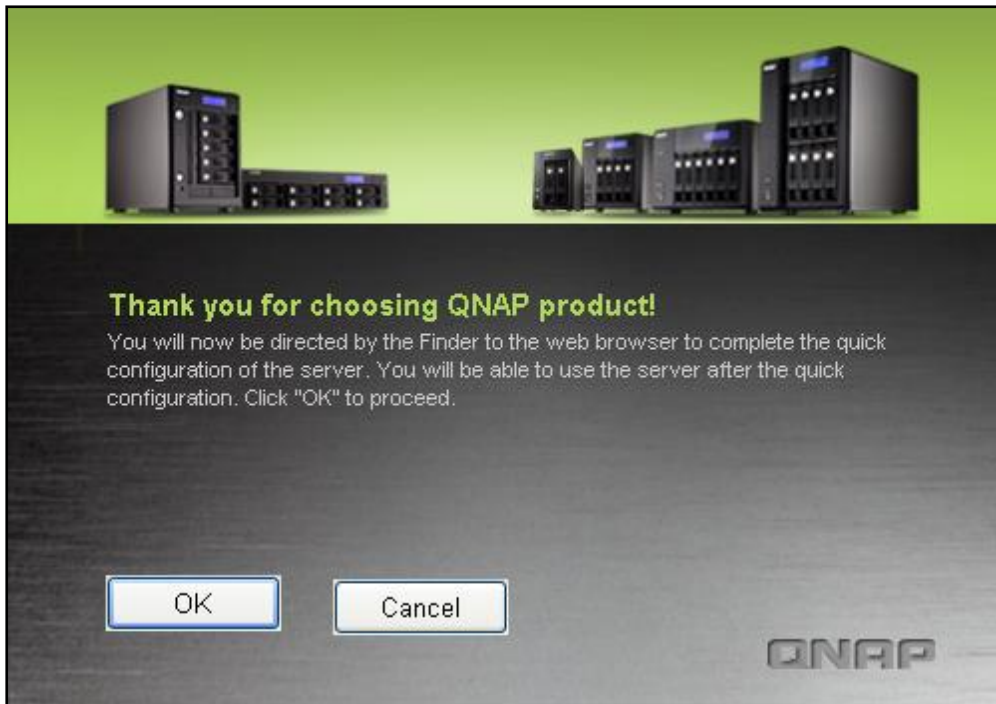


2. Run the QNAP Finder. If the QNAP Finder is blocked by the firewall or anti-virus software, unblock them.

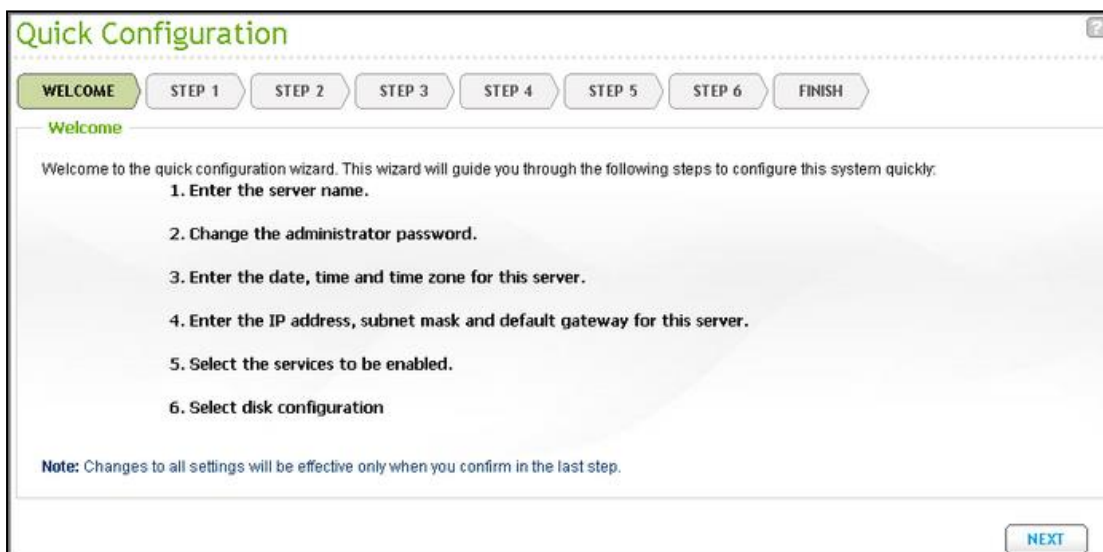
- The QNAP Finder will scan for CMS Server(s) that have not been configured on the local network. The CMS Server can be identified by the model number. Click "Yes" to start setting up the CMS Server.



4. Click "OK" to proceed.



5. The default web browser will be opened. Follow the onscreen instructions to configure the CMS Server.



6. Click "START INSTALLATION" in the last step.

Quick Configuration

WELCOME STEP 1 STEP 2 STEP 3 STEP 4 STEP 5 **FINISH**


Finish

The changes you have made to the server are as below. Click "Start installation" to begin the quick configuration; or click "Back" to return to the previous steps to modify the settings.

Server Name :	CMS-Demo
Password:	The password is unchanged.
Time Zone :	(GMT+08:00) Taipei
Time Setting:	Set the server time the same as your computer time.
Network :	Use the following settings
IP Address:	10.11.10.199
Subnet Mask:	255.255.254.0
Default Gateway:	10.11.10.1
Primary DNS Server	0.0.0.0
Secondary DNS Server	0.0.0.0
Network services:	Microsoft Networking,FTP Service,Web Server
Disk configuration:	Raid 1
Encrypt disk volume:	No
File System:	EXT4
Drive 1:	Maxtor 6L200M0 BANC 189.92 GB
Drive 2:	Seagate ST3160318AS CC44 149.05 GB

BACK START INSTALLATION

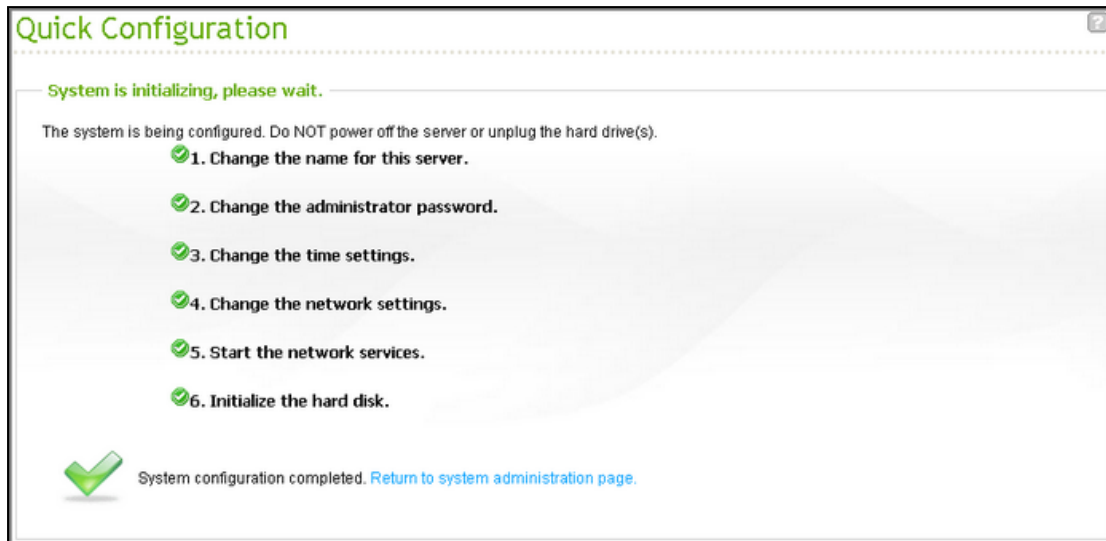
7. All the installed hard disk drives will be formatted, and all the data will be cleared.
Click "OK" to proceed.



The hard drives will be formatted and all data will be cleared. Are you sure?

OK CANCEL

- When finished, click "Return to system administration page" to complete the initialization process for the CMS Server.



Chapter 3 Installing CMS Client

After network settings of the CMS Server are configured, please connect the CMS Server to the network and set up the CMS Client.



Important: Before using the CMS Client, make sure the hard disk drives on the CMS Server have been properly installed and configured.

3.1 Suggested PC Specification for CMS Client

For optimal system performance, make sure the computer that the CMS Client runs on fulfills at least the following requirements:

CPU	Intel Sandy/Ivy bridge series (To display full HD videos or monitor multiple cameras, i5/i7 or above is recommended.)
Memory	4GB or above (To display HD videos or monitor multiple cameras, 6GB or above is recommended.)
Operating System	Windows 7 (64-bit is recommended)
Network Interface	Gigabit Ethernet
Screen Resolution	1920 x 1080
Graphics Card	NVIDIA GeForce GT430 or above ATI Radeon HD5700 or above (For multi-monitor mode, NVIDIA GeForce GT640 or above is recommended.)

Note: The CMS Client supports Windows 7 64-bit OS and can utilize up to 4GB of RAM.

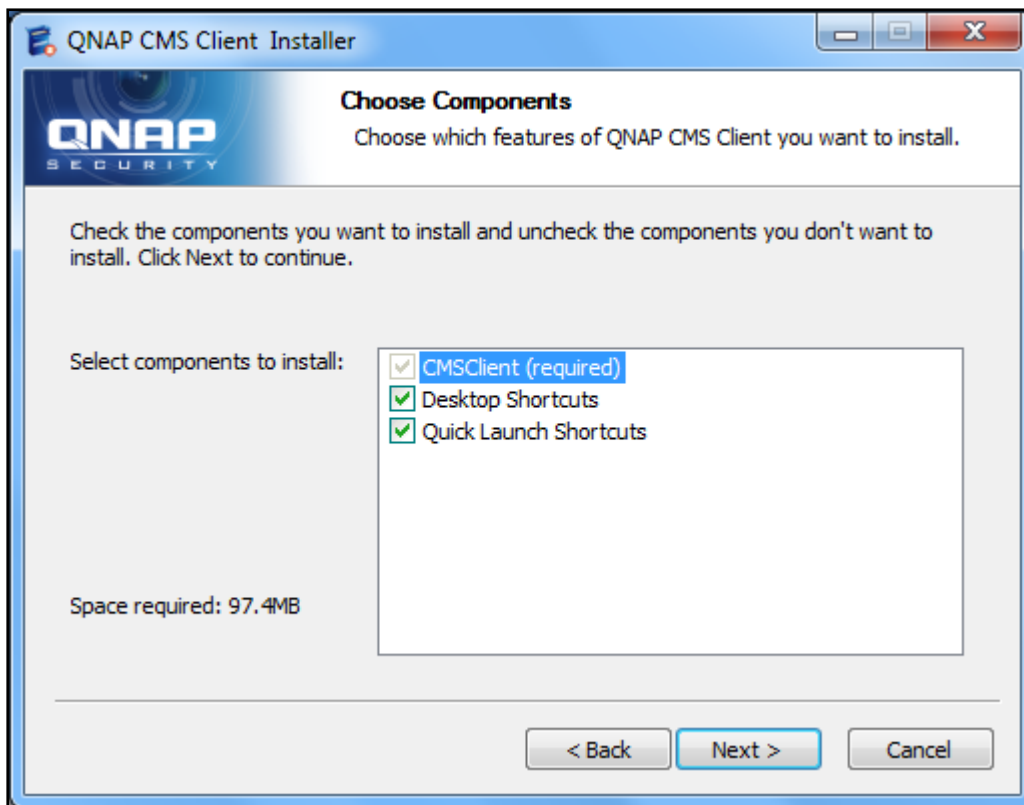
3.2 Installing CMS Client

Follow the steps below to install the CMS Client:

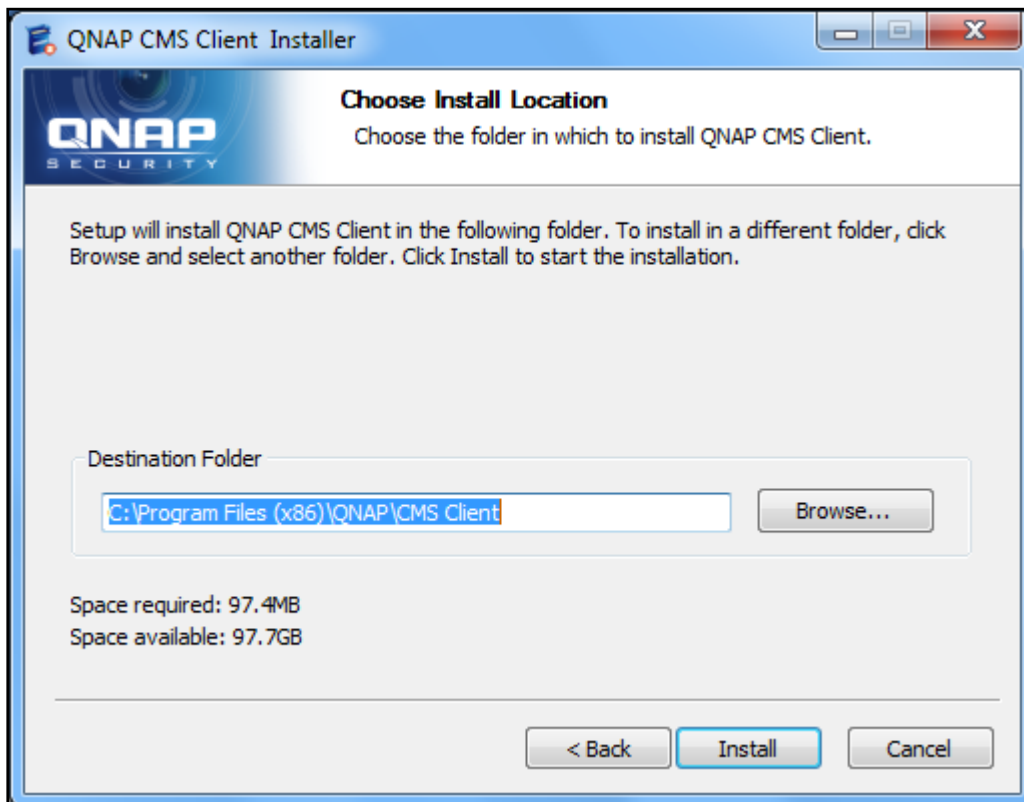
1. Run the CMS Client installer from the product CD and click "Next".



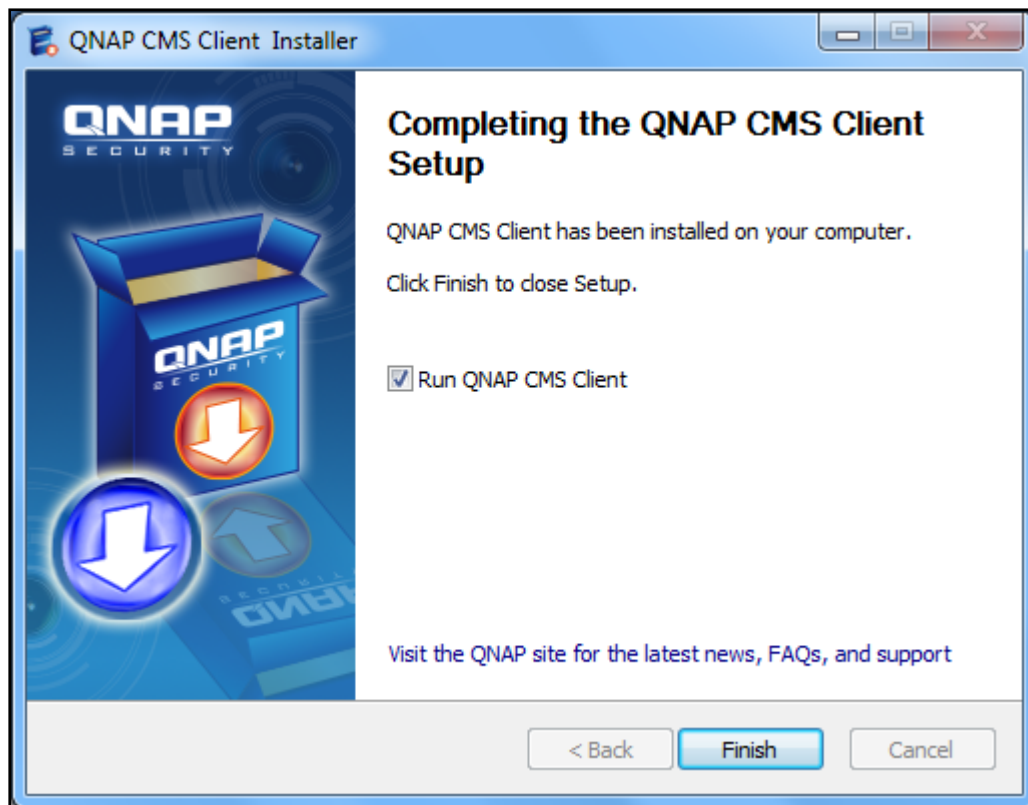
2. Choose the shortcuts to create and click "Next".



3. Select the installation directory and click "Install".



4. After finishing the installation process, click "Finish".



3.3 Connecting CMS Client to CMS Server

Follow the steps below to connect the CMS Client to the CMS Server:

1. Run the CMS Client. Enter the IP address of the CMS Server, the username, password and domain (please select the domain from the "Login to" field) and click "OK". Or, click "Auto Find" to search for CMS Servers on the local network. Double click a CMS Server from the list to connect to it or click "Connect" to connect the CMS Server.

The screenshot shows the 'Login' dialog box for the QNAP Central Management System. It features a blue header with the 'CMS' logo and 'QNAP' branding. The form includes fields for 'Server Address' (10.11.16.52), 'Username' (admin), 'Password' (masked with dots), and 'Login to' (Local). There are also checkboxes for 'Remember username and password' and 'Use enhanced security (SSL)', and a 'Language' dropdown set to 'English'. 'Auto Find' and 'OK' buttons are visible.

Select the CMS Server and click "Connect".

The screenshot shows the 'CMS Finder' dialog box with a table of discovered servers. The 'Connect' button at the bottom is highlighted with a red box. An arrow from the text box on the left points to the first row of the table.

Name	IP Address	Version :	Server Type	MAC Address
EMS-10-60	10.11.10.60	1.0.0(Build 20121203)	CMS-2000	00-08-9B-D4-1D-15
CMS-QNAP	10.11.10.74	1.0.0(Build 20121203)	CMS-2000	00-08-9B-D2-75-AC

2. Enter the administrator username and password to login and start using the CMS Client.

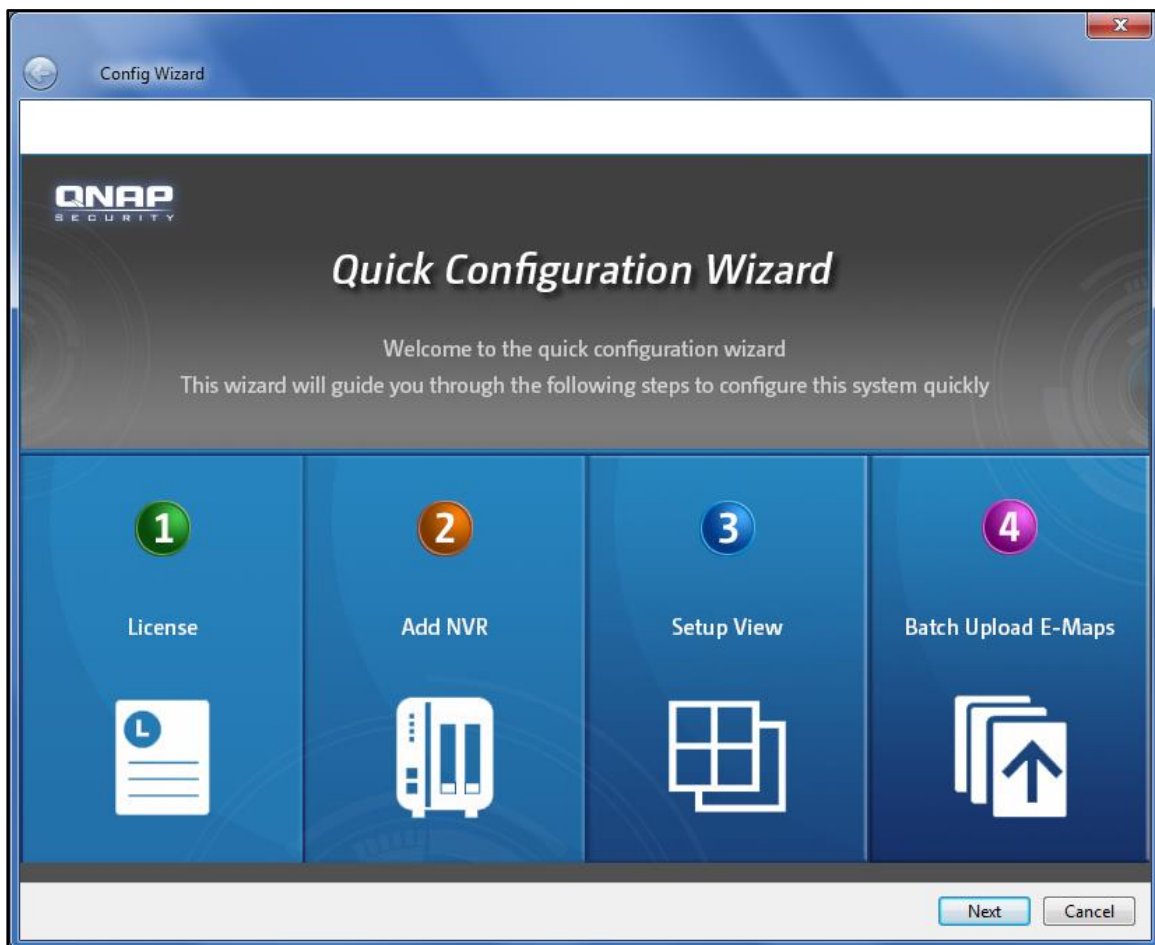
Default administrator credentials:

username: admin

Password: admin

3.4 Quick Configuration Wizard

If this is the first time the CMS Client is configured, the Quick Configuration Wizard will start automatically. Please follow the instructions to set up the CMS system.



License Activation

Activate your license on this page. License activation is required before cameras can be added. For details, please refer to Chapter 3.6.

The screenshot shows a web browser window titled "License". The window contains the following sections:

- License** (Section Header)
- Server Information**
 - Server Name: CMS-4000U-RP-2
 - UDI : E5812670DA589BQ134I000 (with a "Copy UDI" button)
 - Server Model: CMS-2000
 - Server Firmware Version: 1.0.5
- License Information** (Table)
- License Description**
 - This license allows you to use the base functionality of the system operating environment.
 - Buttons: Activate License Online, Activate License Offline, Deactivate License Online, Deactivate License Offline.
- Navigation buttons: Next, Cancel.

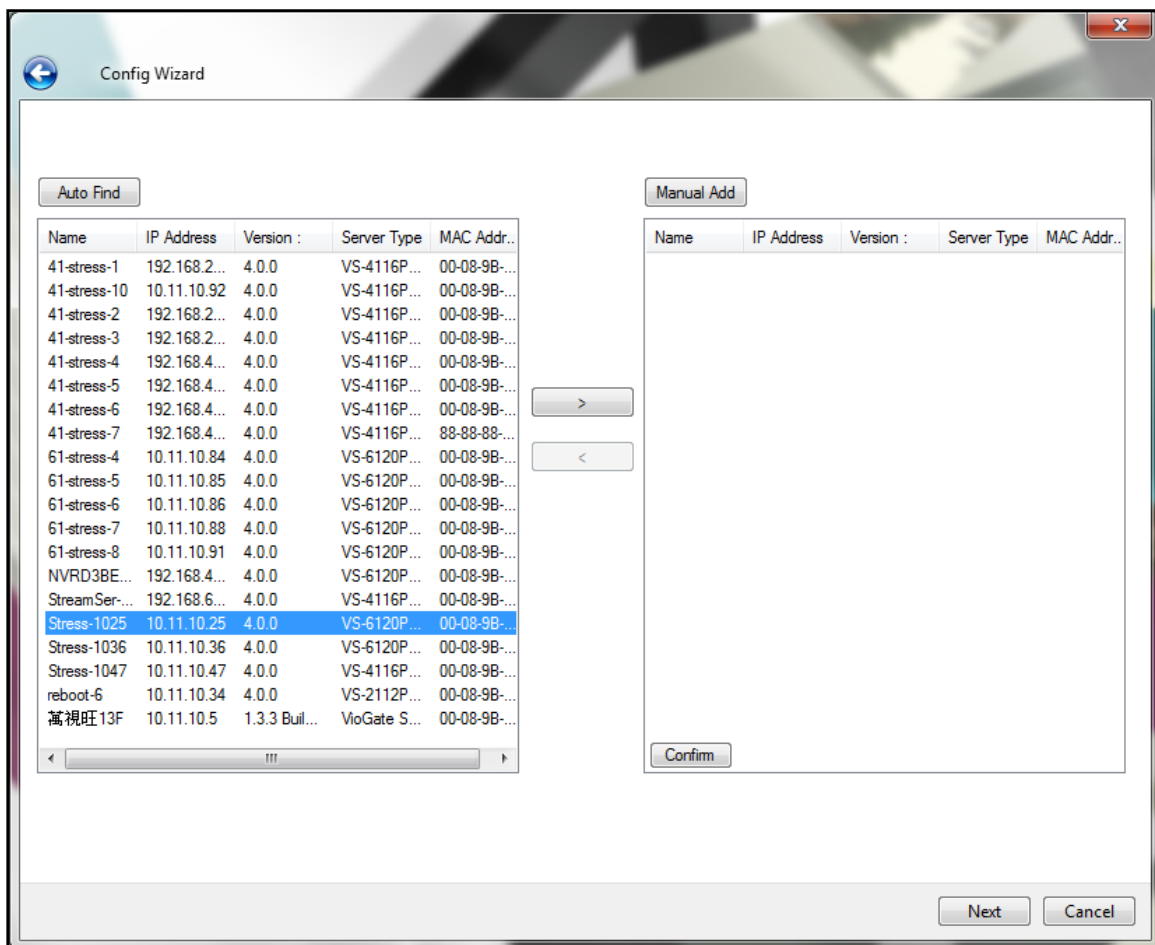
License Name	PAK	License ID	Expiration Date	Status	Action	Channel Number
VSM Default Camera ...		VSM-CAM-DEFA...	Unlimited		ACT	64

Adding NVR(s)

Click "Auto Detect" to search for the NVR(s) on the LAN automatically, or enter the NVR IP address manually. Click > to move the NVR to be added to the box on the right and click "Confirm" to add the NVR.

Tip: Use the "Shift" or "Ctrl" + up or down keys on the keyboard to select multiple NVR servers.

For more details, please refer to Chapter 3.8.1.



Set up Display Mode

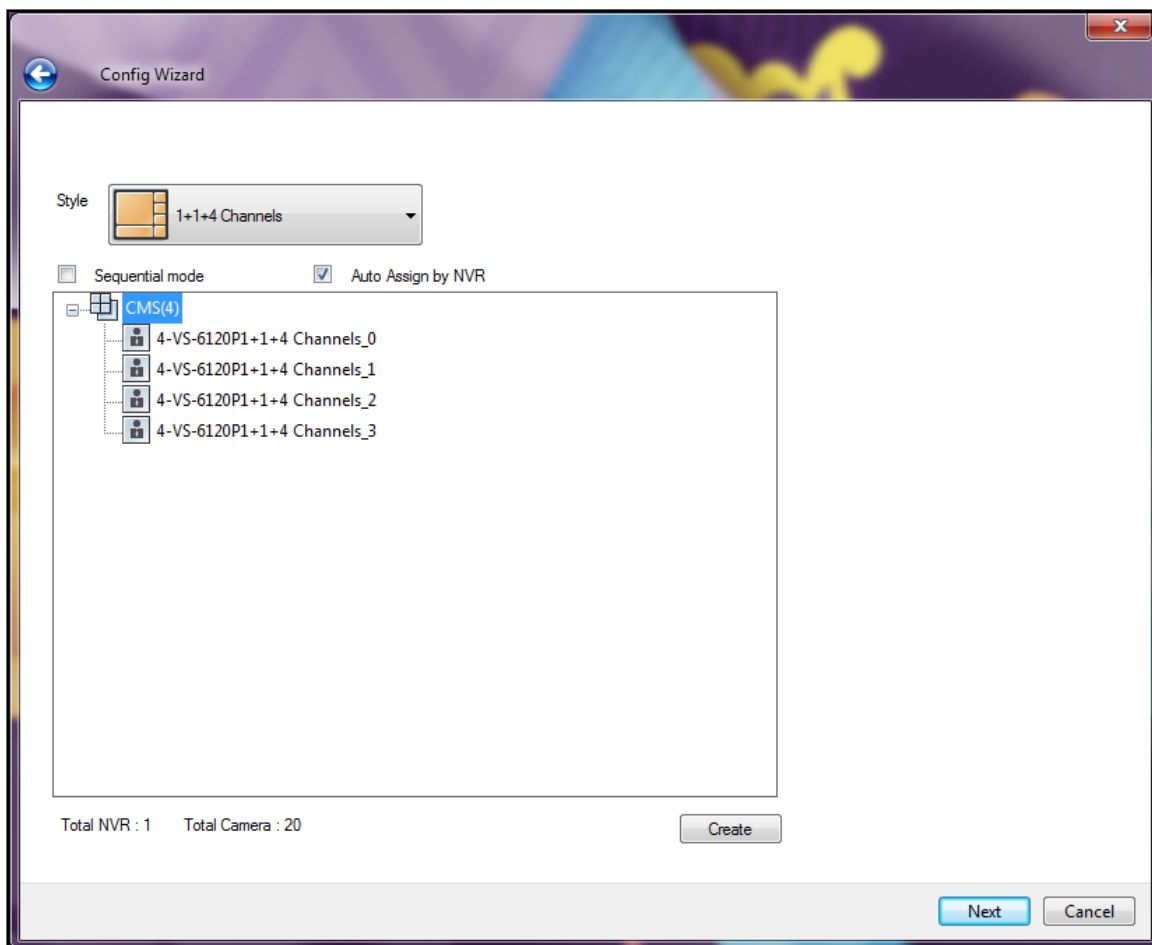
The administrator can select the display mode and assign the channels manually to use the sequential mode or have the all the channels assigned by the NVRs instead.

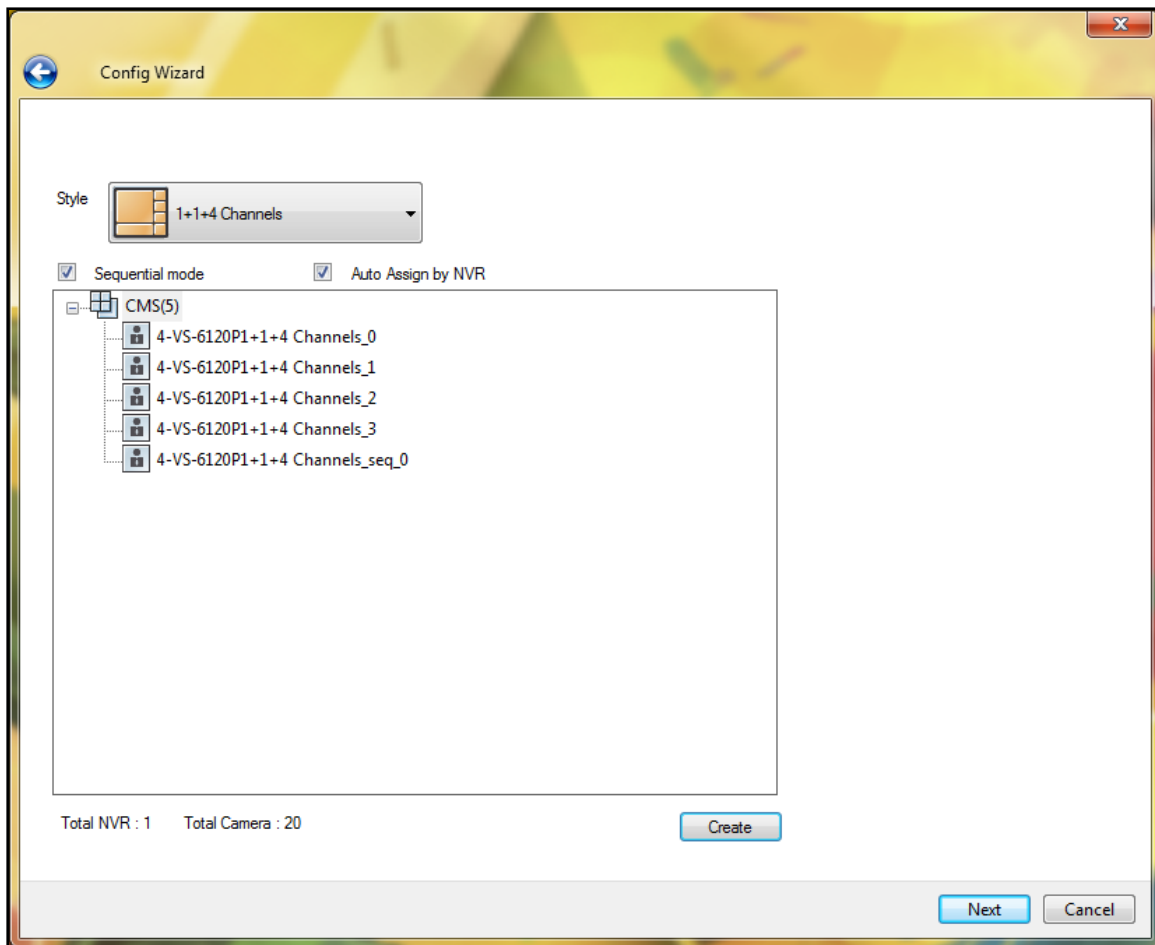
When "Sequential mode" is selected, cameras channels will be assigned sequentially to each channel window in the display mode. If the number of cameras used in the sequential mode is greater than the number of channels of the display mode, the extra channels will be assigned from Channel 1 again. For instance, if 64 channels are assigned to a 6-channel view, the seventh channel will be displayed on Channel 1 and the eighth channel will be displayed on Channel 2, and so on and so forth. Please note that since a maximum of 10 channels can be assigned to one channel, please always select a display mode with a maximum number of channels that is greater than the total number of selected channels (ex. for 64 channels, please select the 8-channel view.)

When "Auto Assign by NVR" is selected, camera channels will be assigned based on NVRs. For example, if 20 channels from NVR 1 and 32 channels from NVR 2 are selected for the 6-channel view, all 20 channels from NVR 1 will be first assigned from Channel 1 to Channel 6 sequentially (and the seventh channel from NVR 1 will be assigned to display on Channel 1 again and eighth on Channel 2.) All 32 channels from NVR 2 will then be assigned from Channel 1 to Channel 6 after all cameras from NVR 1 are assigned.

Please note that in "Sequential mode", channels assigned to a channel window will be displayed and switched sequentially and automatically, while in "Auto Assign by NVR", channels need to be switched manually.

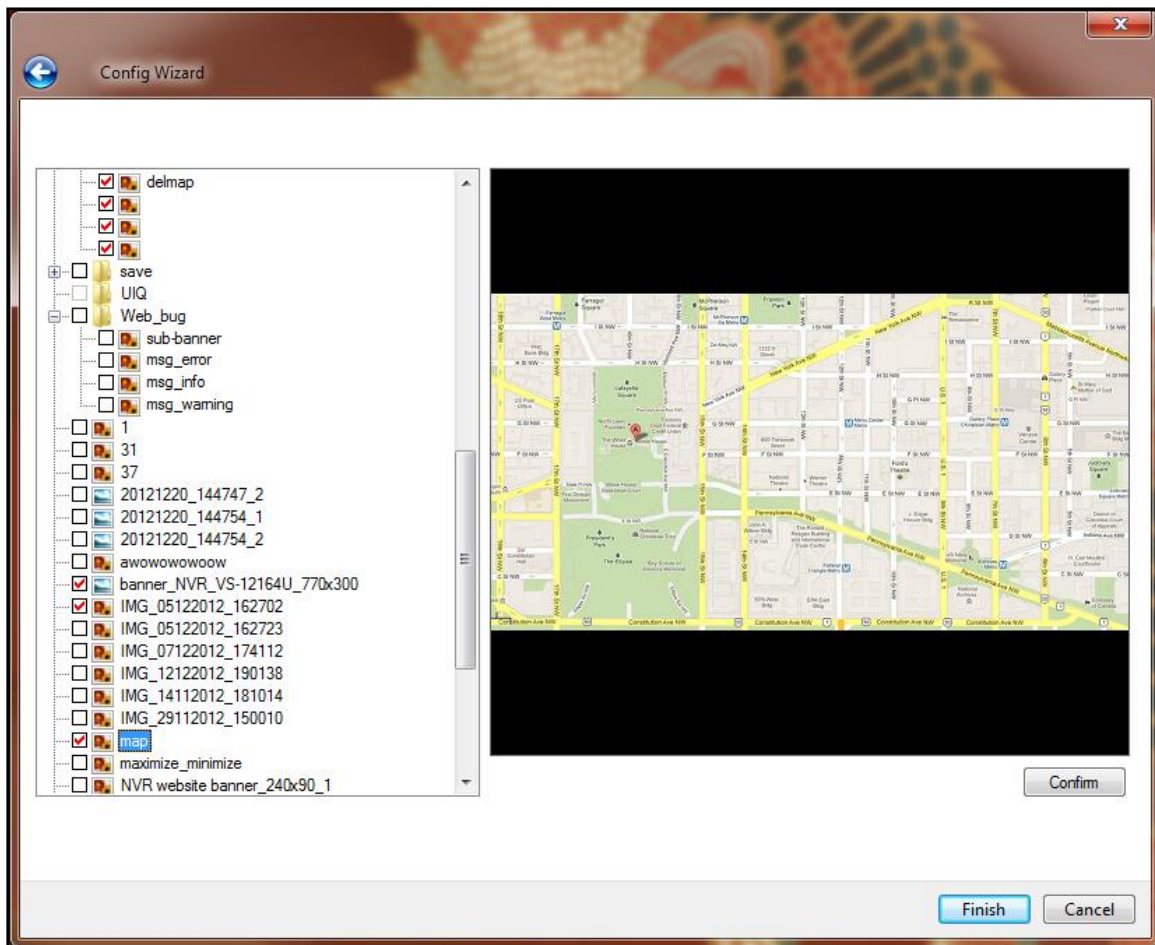
If both "Sequential mode" and "Auto Assign by NVR" are selected, all channels from the same NVR will be assigned to and displayed on the selected display mode sequentially and automatically. For instance, if 20 channels from NVR 1 and 32 channels from NVR 2 are selected for the 6-channel view, all channels from NVR 1 will be assigned to and displayed sequentially and automatically on the first page, and all 32 channels from NVR 2 will be assigned to and displayed sequentially and automatically on the second page. To view the channels from a different NVR, users are required to manually switch to the corresponding pages.






Uploading E-map(s)

Select the E-map files or directories on the right, click "Confirm" to upload the E-maps and then click "Finish" to finish the wizard.



3.5 Configuring CMS Client

To enter the system settings page on the CMS Client, login the live view page as an administrator and then click .



The system overview page will be opened. Select the overview period from the drop-down menu on the top right corner. The system can display system details for up to seven days. Click "Learn more" under each item to view the details.



The system overview page contains the following information:

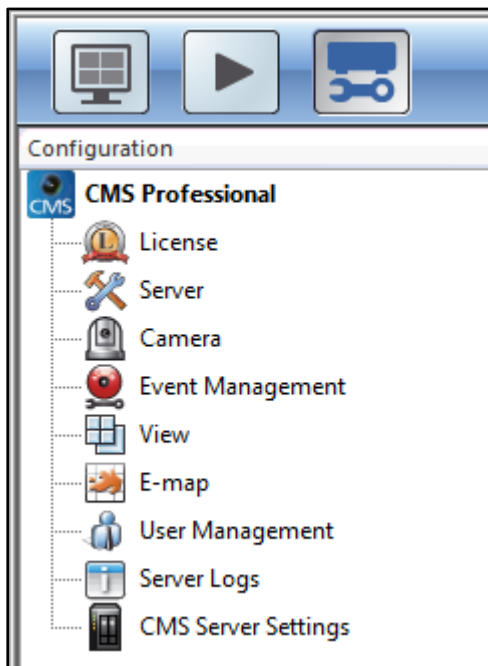
- Alarm: Alarm input, dynamic motion event information, and charts.
- User account: user account related information, such as login failed, never logged in, and the total number of user accounts.
- NVR connection status: Information about the number of NVRs that have never been disconnected and have been disconnected, and the total.
- IP camera connection status: Information about the number of cameras that have never been disconnected and have been disconnected, connection failure, and the total.
- NVR system status: Information about the number of hard disk failure, fan failure, and the total.
- Real-time status: Online users/total users, online NVRs/total NVRs, and online cameras/total cameras.

Note:

- Besides the real-time information, all other information provided is the records from the previous seven days.
- If a NVR is deleted, its records will also be permanently deleted and its logs will no longer be available.

The configuration settings are available on the left:

- License
- Server
- Camera
- Event management
- View
- E-map
- User management
- Server logs
- CMS Server Settings



3.6 License

Please activate your license on this page if you have not already done so using the Quick Configuration Wizard. License activation is required before cameras can be added. A 64-channel license is provided for each CMS Server and you can choose to activate or deactivate your license online or offline.

The screenshot displays the 'License' configuration page in the QNAP CMS Professional interface. The left sidebar shows the navigation menu with 'License' selected. The main content area is titled 'License' and contains the following sections:

- Server Information:** Server Name: CMS, UDI: E5812670DA589BQ1341D00 (with a 'Copy UDI' button), Server Model: CMS-2000, and Server Firmware Version: 1.0.5.
- License Information Table:**

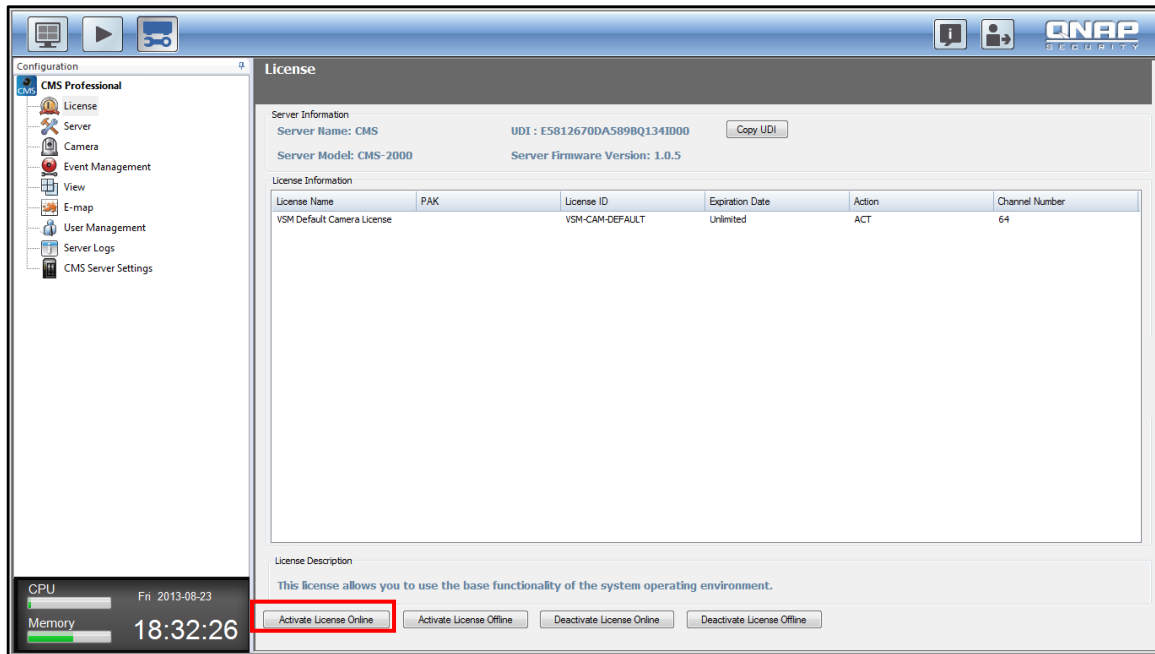
License Name	PAK	License ID	Expiration Date	Action	Channel Number
VSM Default Camera License		VSM-CAM-DEFAULT	Unlimited	ACT	64
VSM Camera Channel-40 license	ADS8A69FEEA13849E0878622	VSM-CAM-CH-0040	Unlimited	ACT	40

Below the table is a 'License Description' section with the text: 'This license allows you to use the base functionality of the system operating environment.' At the bottom, there are four buttons: 'Activate License Online', 'Activate License Offline', 'Deactivate License Online', and 'Deactivate License Offline'. The bottom status bar shows CPU and Memory usage, the date 'Fri, 2013-08-23', and the time '18:32:26'.

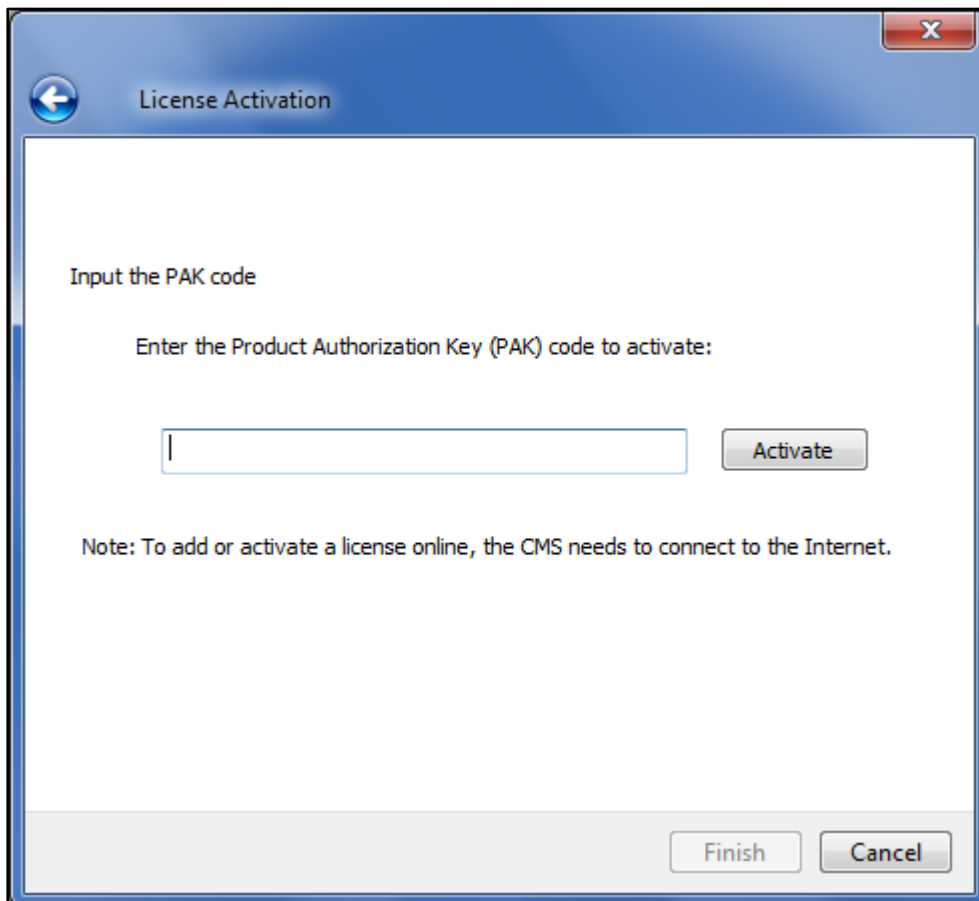
3.7 Activating License Online

Please follow the steps below to activate your license online:

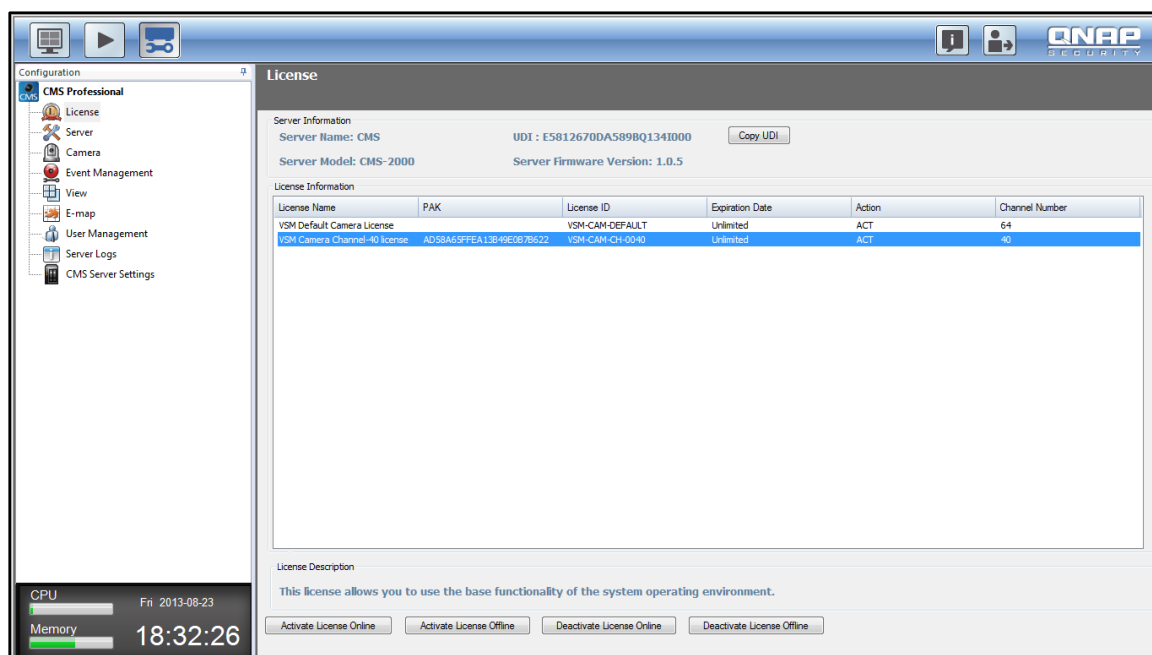
1. Click "Activate License Online"



2. Enter the product authorization key and click "Activate" and "Finish".

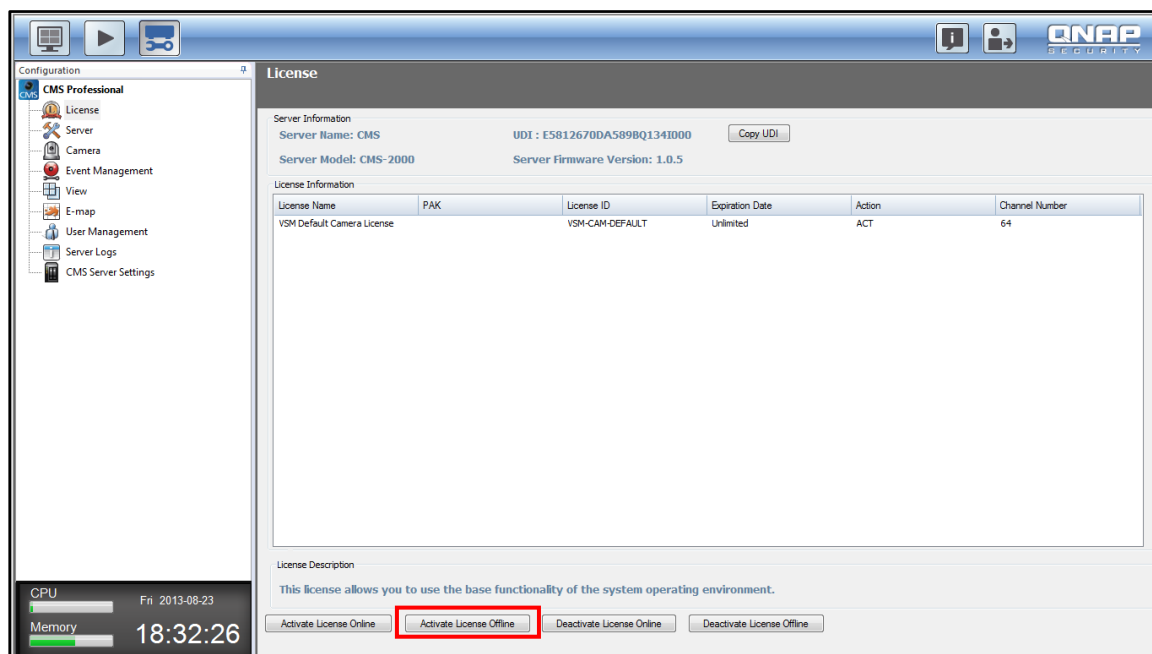


3. After the license is activated online, the license detail will appear.

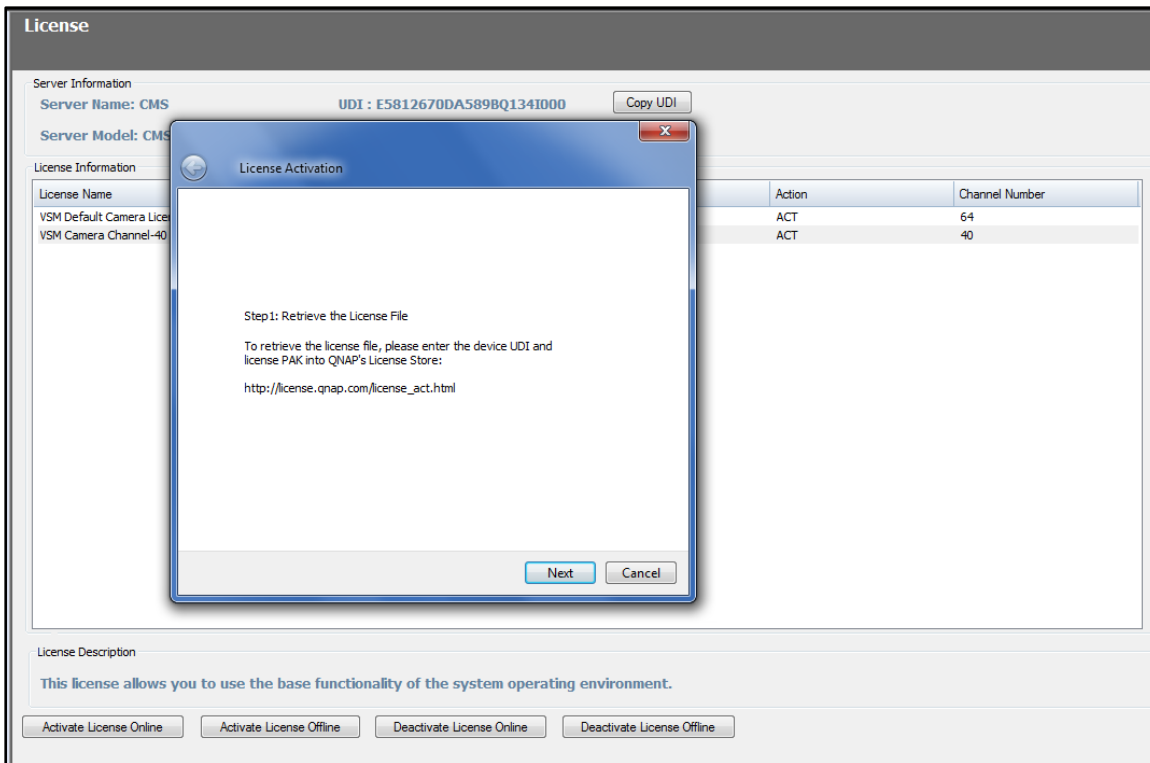


3.7.1 Activating License Offline

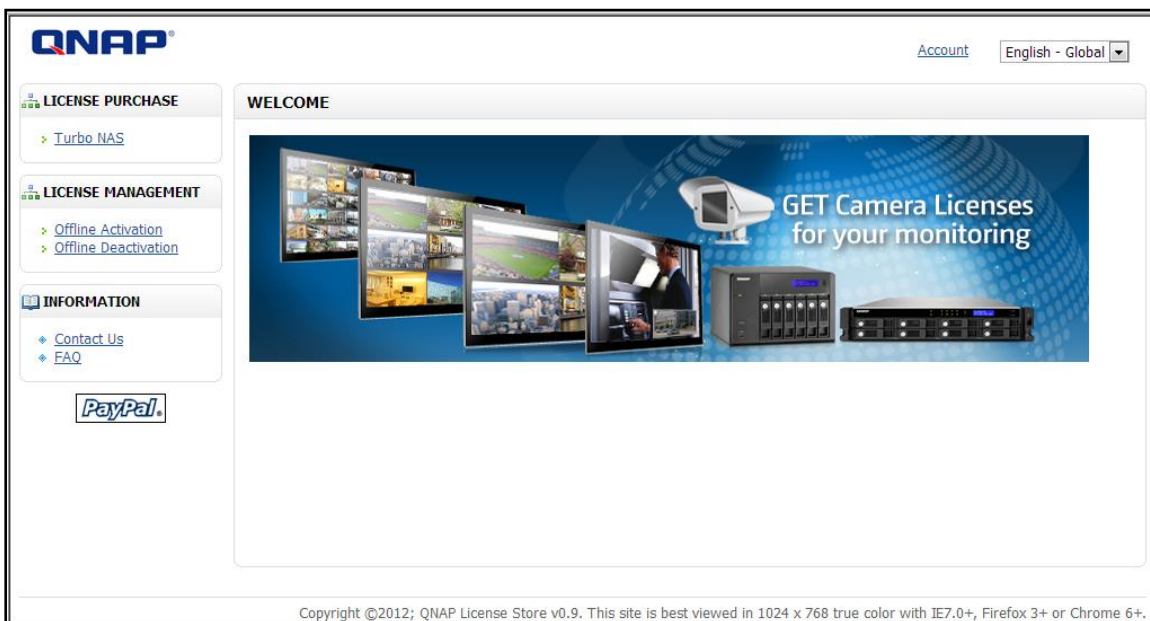
If the Internet is unavailable, please follow the steps below to activate your license offline.



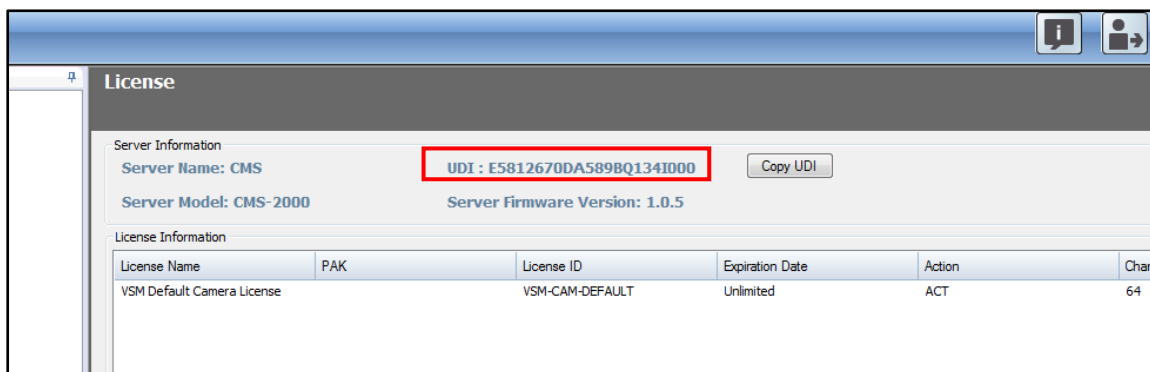
1. Click the "Activate License Offline" button. A prompt window will appear to remind you to use another PC that can go online to bind the PAK and UDI. So, a physical permission file can be generated to activate the CMS Client.



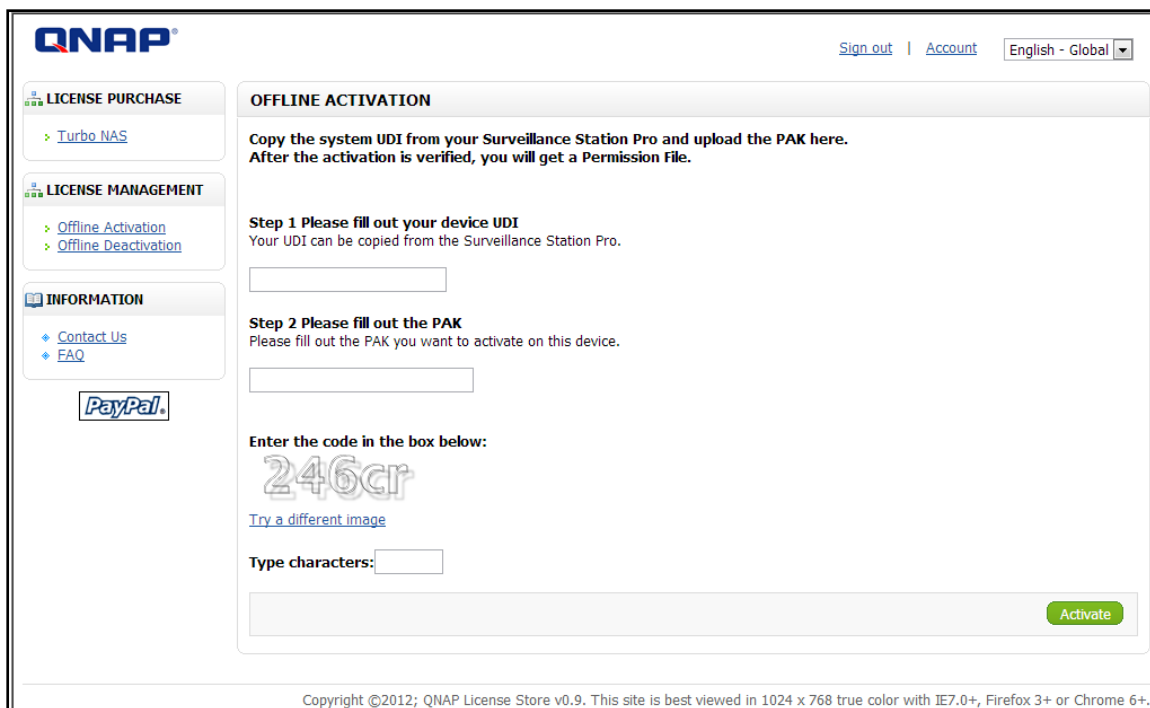
2. Click "Offline Activation" after entering the License Store (<http://license.qnap.com>).



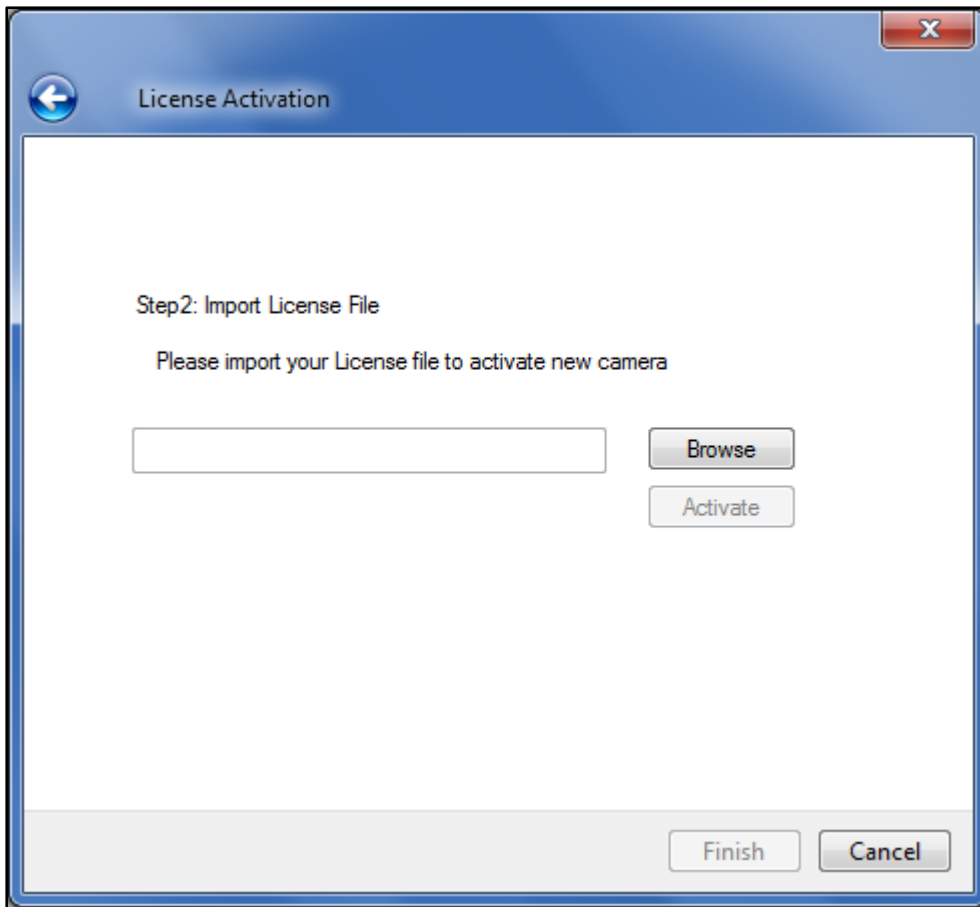
3. After membership registration, please fill out the PAK provided, the device UDI and verification code from the license activation page to download the physical permission file.



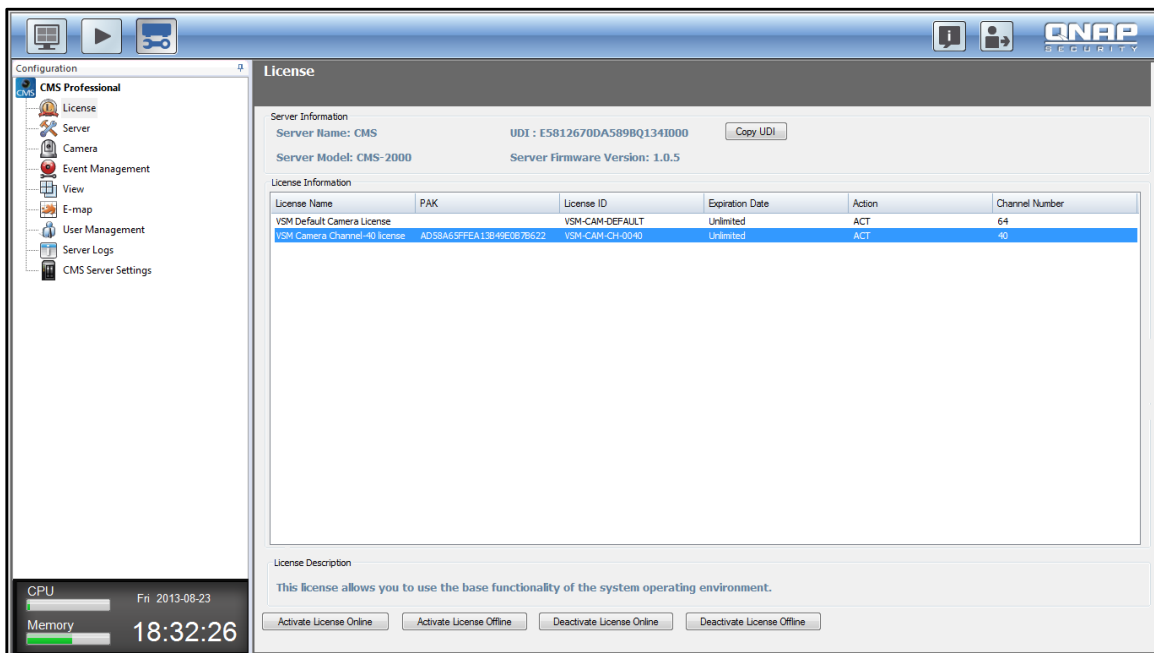
Tip: Use the "Copy UDI" function to copy UDI and paste in the field of QNAP license store.



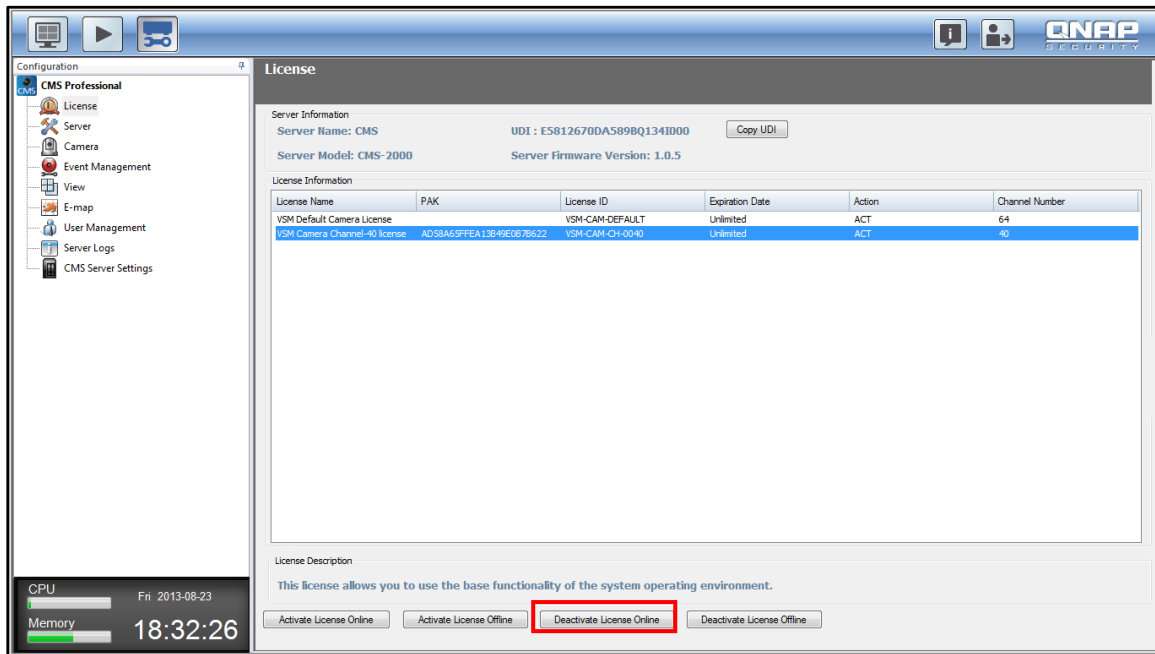
4. Upload the license file.



After the license is activated, its details will appear.

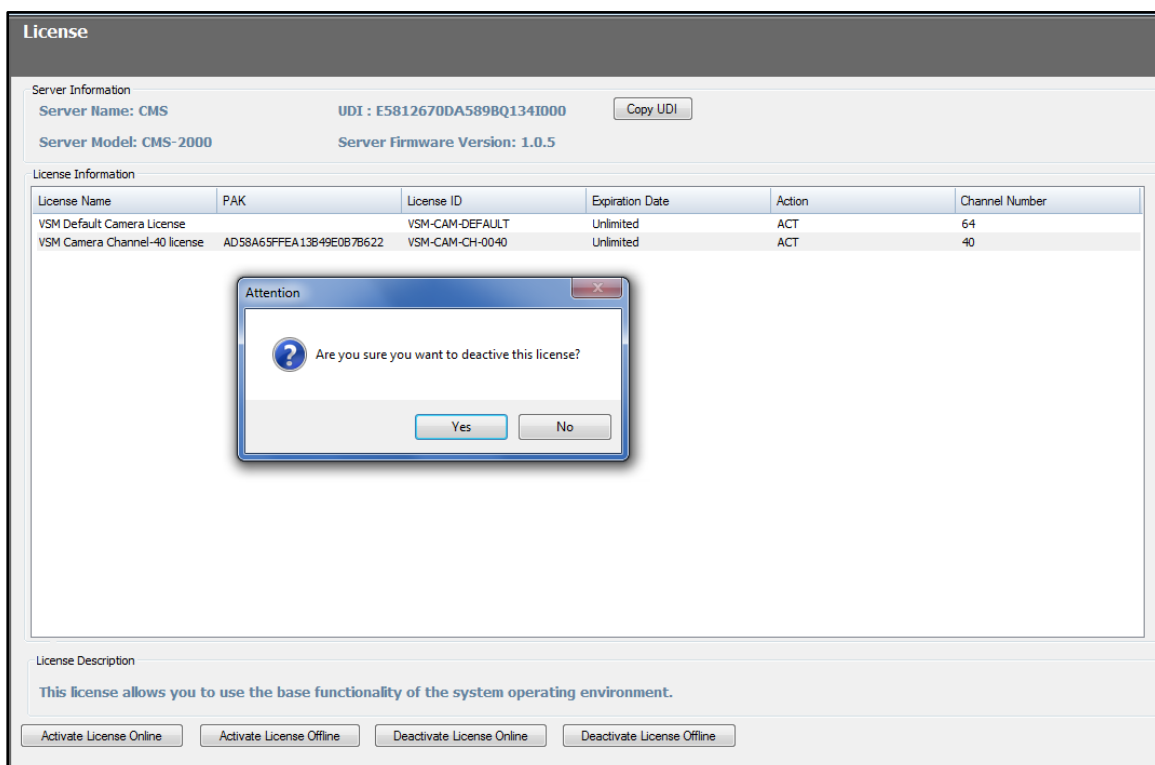


3.7.2 Transferring/Deleting Authorization



To transfer and delete your license, please deactivate it first either online or offline.

- Online License Deactivation: If Internet access is available for the CMS Server, please click the license to be deactivated and then "Deactivate License Online". The CMS Server will connect to the License Store to deactivate the selected license. The system will confirm with you about license deactivation. Please click "Yes".



The license will be deactivated and removed from the list.

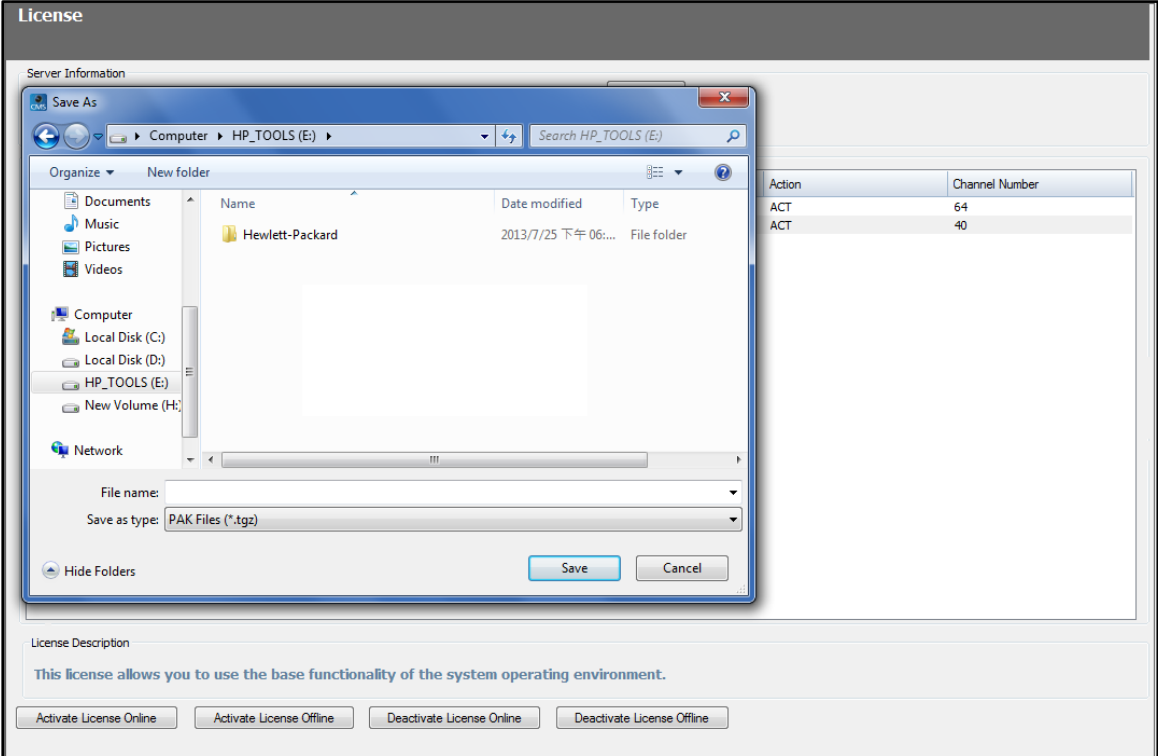
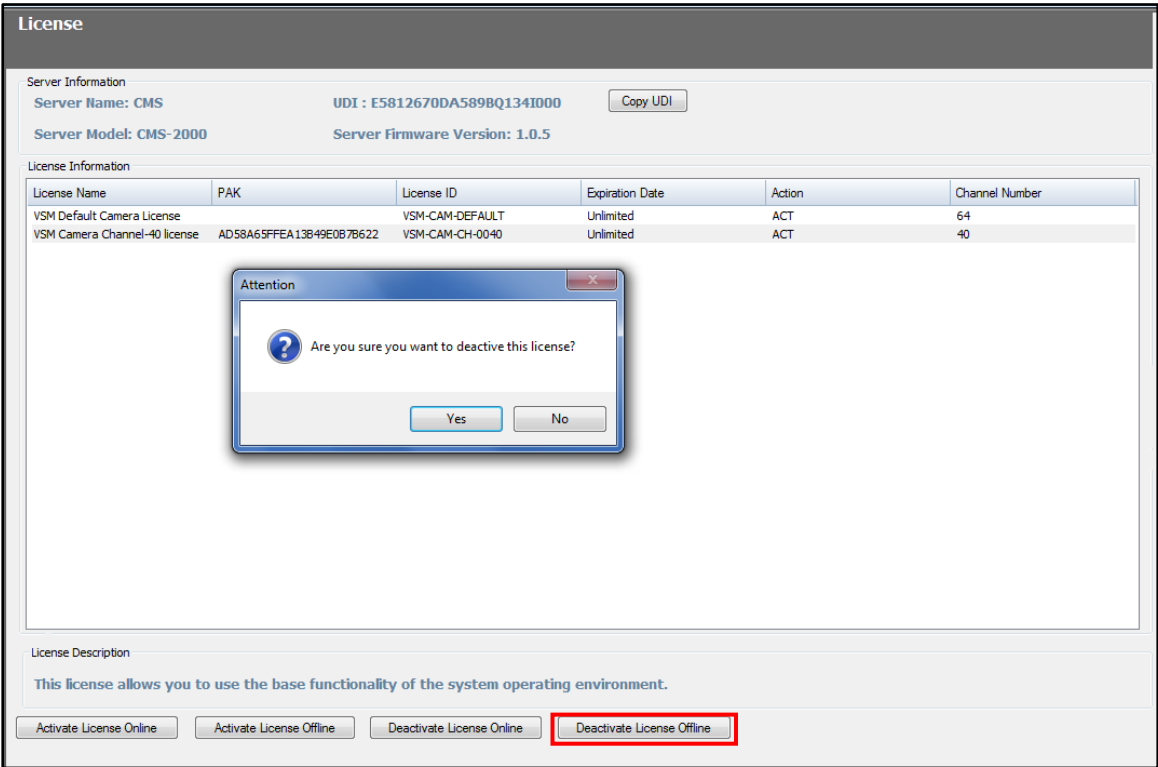
The screenshot shows a web interface titled "License". It is divided into several sections:

- Server Information:** Displays "Server Name: CMS", "UDI : E5812670DA5898Q134I000" (with a "Copy UDI" button), "Server Model: CMS-2000", and "Server Firmware Version: 1.0.5".
- License Information:** A table with the following data:

License Name	PAK	License ID	Expiration Date	Action	Channel Number
VSM Default Camera License		VSM-CAM-DEFAULT	Unlimited	ACT	64
- License Description:** A text box containing "This license allows you to use the base functionality of the system operating environment."
- Buttons:** Four buttons are located at the bottom: "Activate License Online", "Activate License Offline", "Deactivate License Online", and "Deactivate License Offline".

Offline License Deactivation: If Internet connection is unavailable for the CMS Server, please click "Deactivate License Offline". The CMS Client will generate a deactivation ticket (a physical file). Please upload this ticket to the License Store using another device that can connect to the Internet. To deactivate the license offline, please follow the steps below:

1. Select a license to be deactivated, click "Yes" and a ticket will be generated.



2. Go to the License Store using another computer that can connect to the Internet and click "Offline Deactivation".

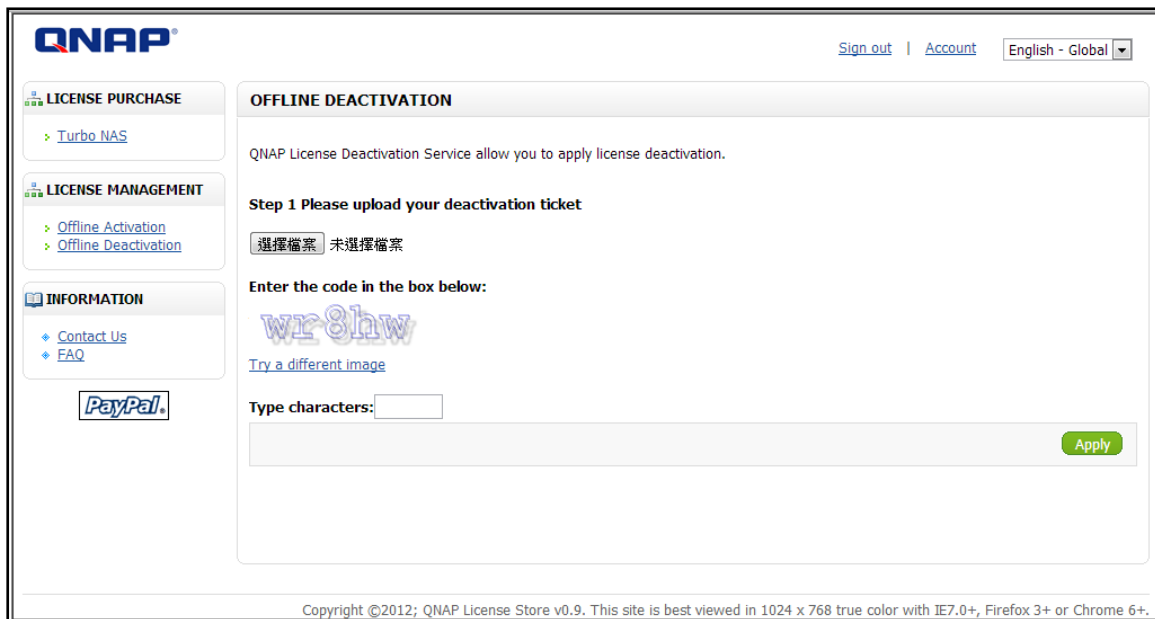
- LICENSE PURCHASE**
 - [Turbo NAS](#)
- LICENSE MANAGEMENT**
 - [Offline Activation](#)
 - [Offline Deactivation](#)
- INFORMATION**
 - [Contact Us](#)
 - [FAQ](#)



WELCOME



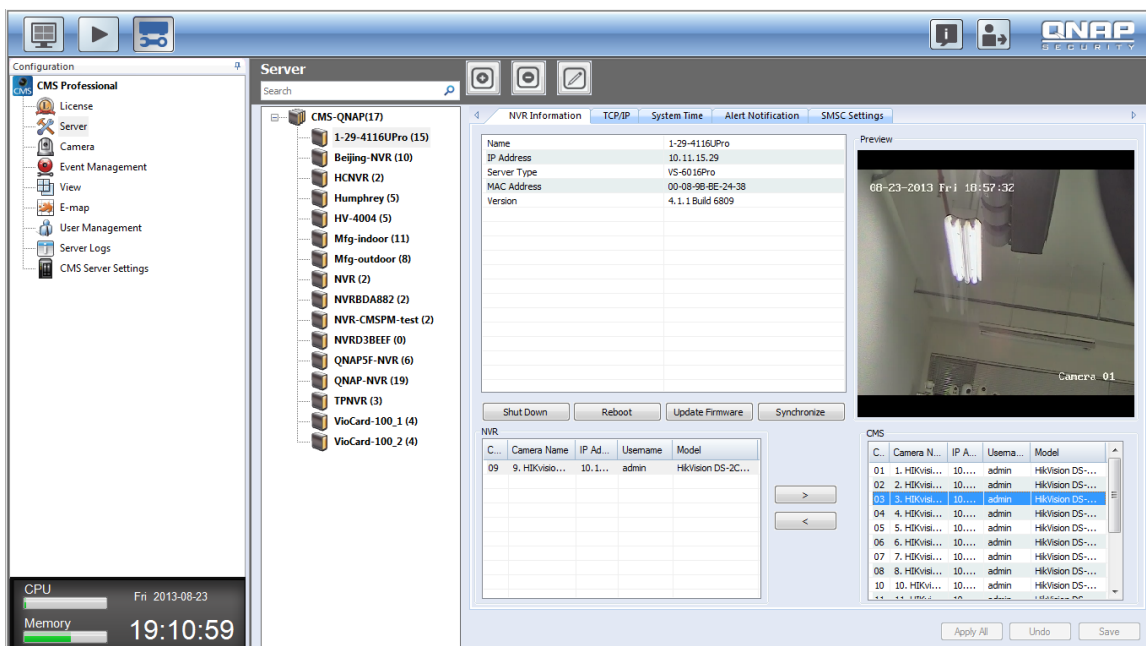
3. Upload the deactivation ticket generated in Step 1, fill in the verification code and click "Apply".

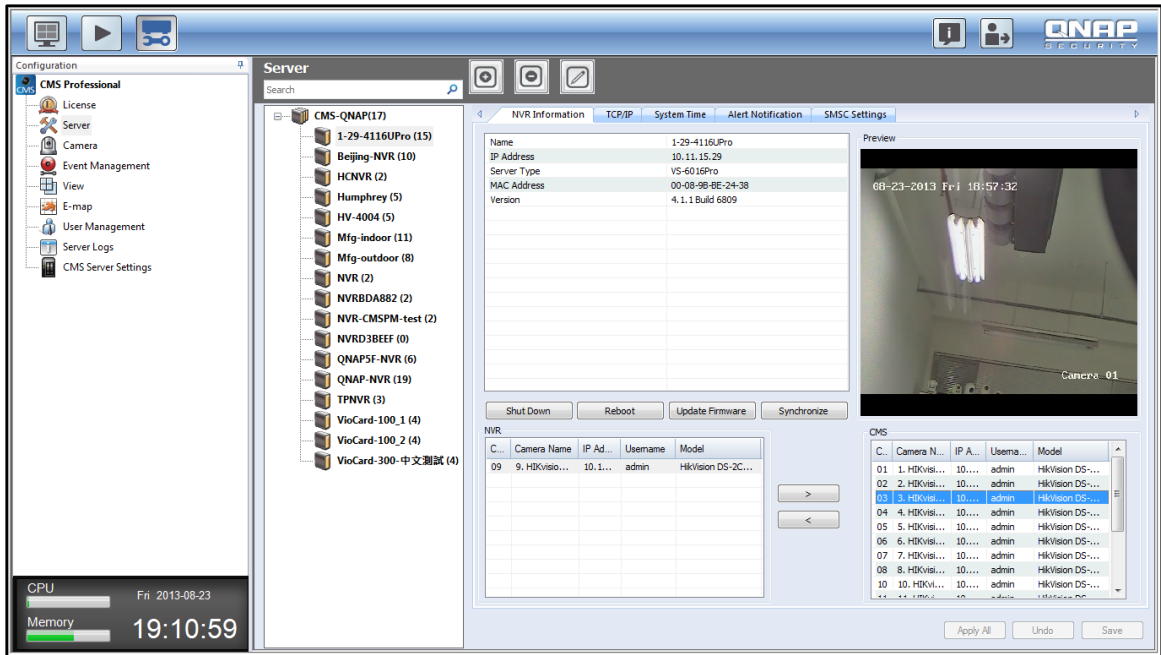


3.8 Server

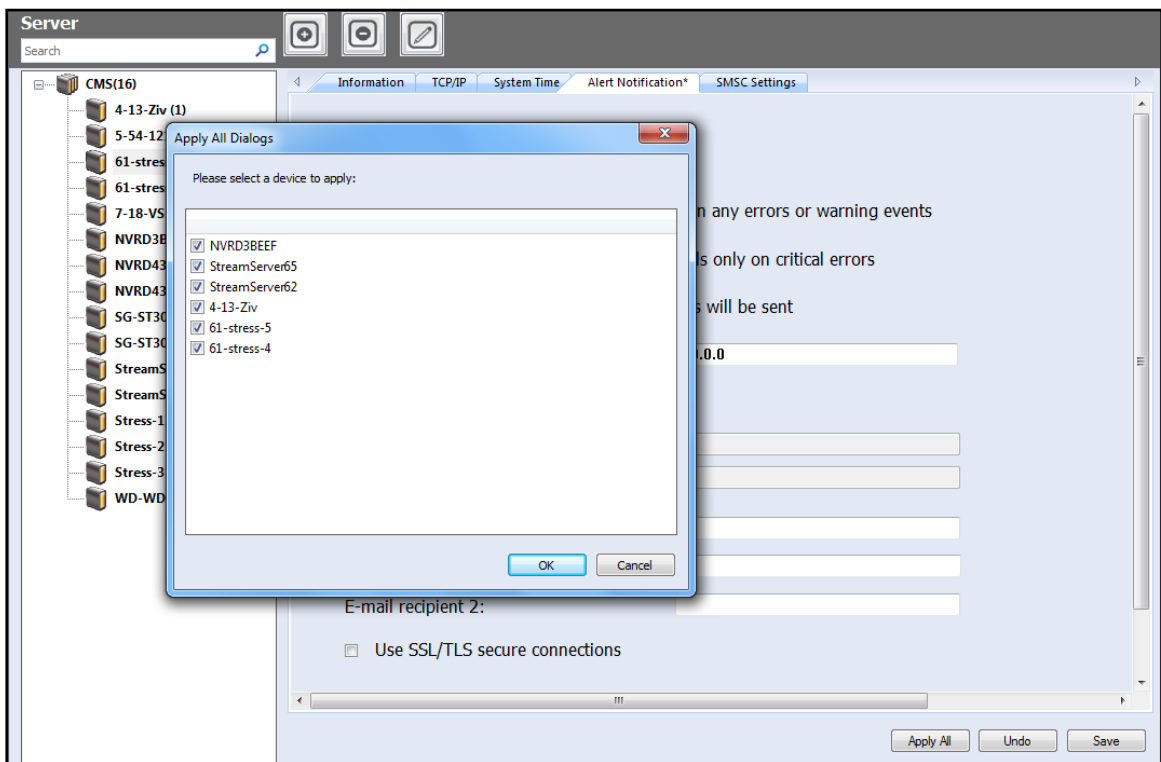
After license management (activation and deactivation), the next step is to add NVR servers and cameras.

Add, delete, and edit any server types supported by the CMS on the "Server" page. You can manage the cameras connected to the server.



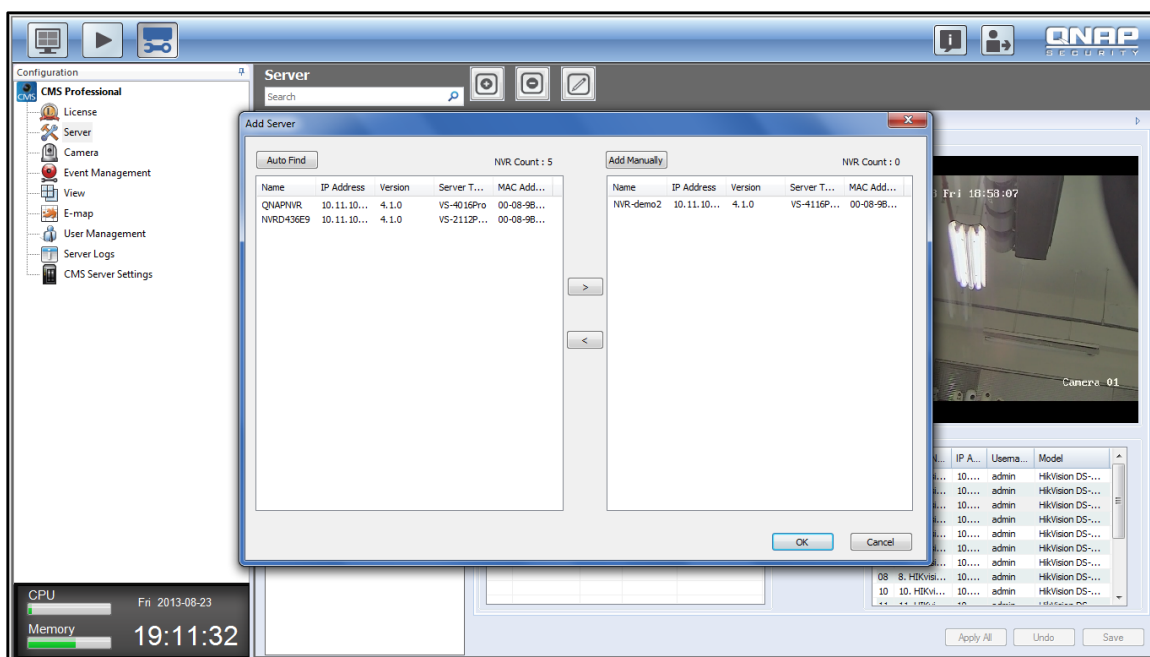


The CMS client can apply the same system time, alert notification and SMSC settings to a number of NVRs (only limited to the same models) to save the system setup time.

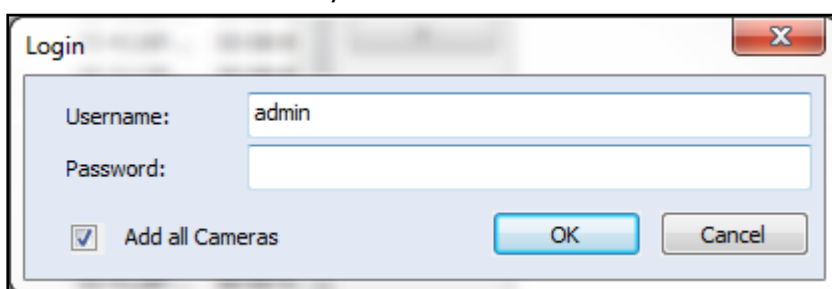


3.8.1 Adding NVR

To add one or more NVR servers, click .



You can use the auto-find function to search for the NVR server(s) on the LAN, or enter the NVR IP address manually.



When adding more than one server, you can enter a pair of username and password and apply to all of them. When the "Add all the cameras" option is checked, all the cameras configured on the NVR will be added.

Note: When any pair of username and password for the multiple NVRs to be added is incorrect, the server(s) will not be added and no warning message will appear.

If the subnet of an NVR is different from that of the CMS Client, use "Manual Add" and enter the IP and port number of that NVR. Click "OK" to connect.

Manual Add X

IP Address:

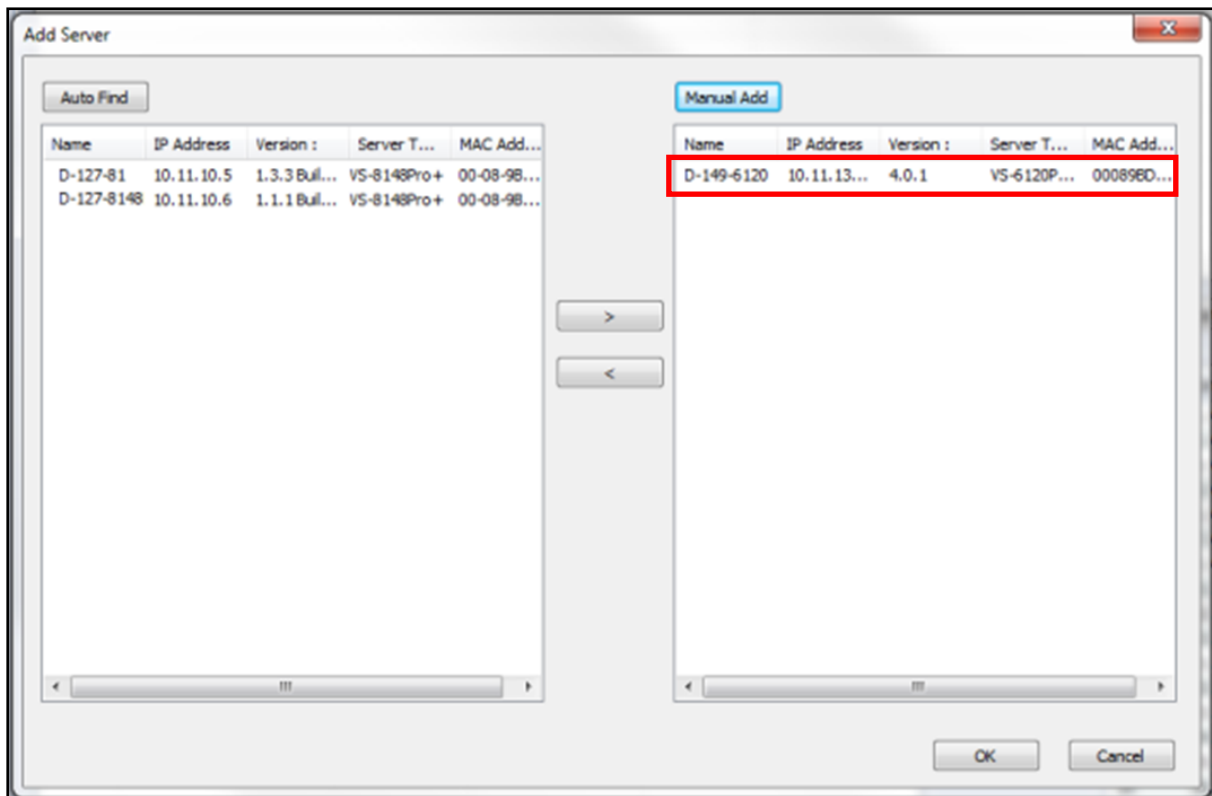
Port Number:

Username:

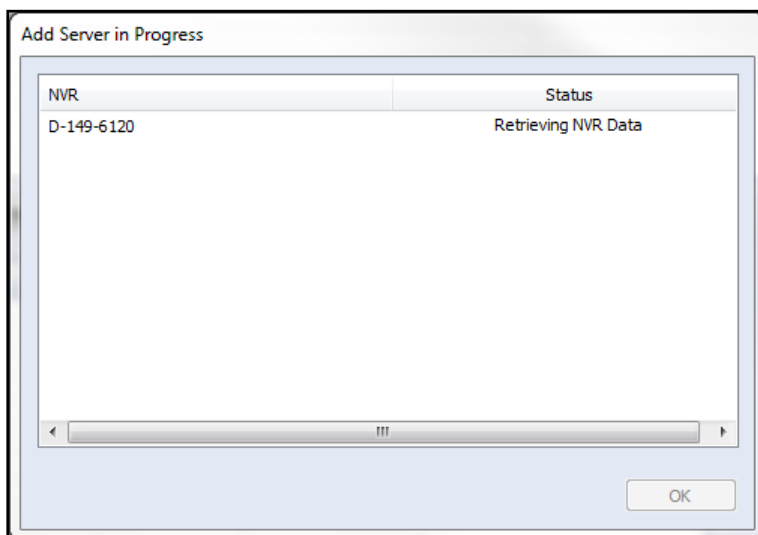
Password:

Add all Cameras

The NVR in another subnet will be added.





After adding all required NVR(s), click "OK" and the "Add Server in Progress" message box will appear and the status will be shown in the box.

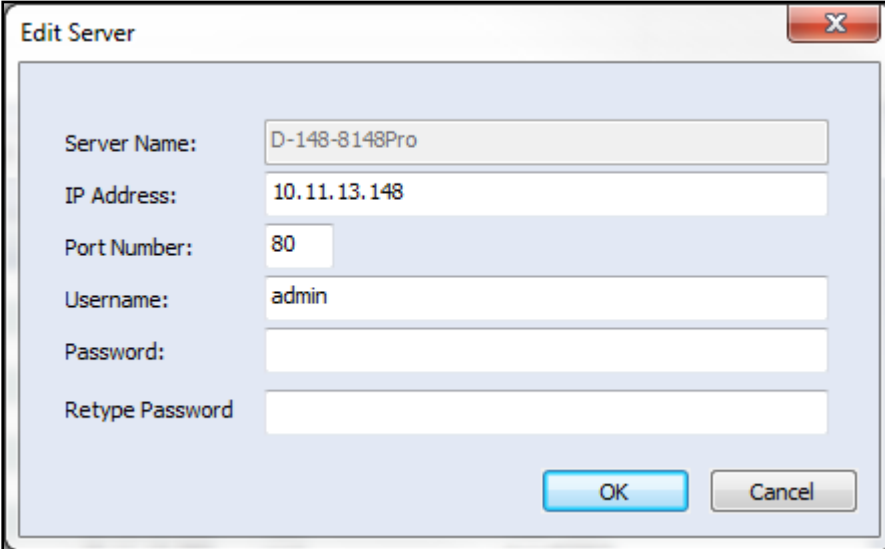


Click "Confirmation". The system will add the servers one by one. There are four kinds of status: Retrieving NVR Data, Add Channel (channel number) to CMS, Done and Connection Error.

Note: For the "Connection Error" error message, please check your user ID/password, firewall and network settings.

3.8.2 Deleting/Editing NVR

To delete an NVR, select the NVR on the list and click . To edit the NVR details (server name, IP address, port, user name, or password), select the NVR and click . Click "OK" after all fields are completed.



The screenshot shows a dialog box titled "Edit Server" with a close button (X) in the top right corner. The dialog contains the following fields and values:

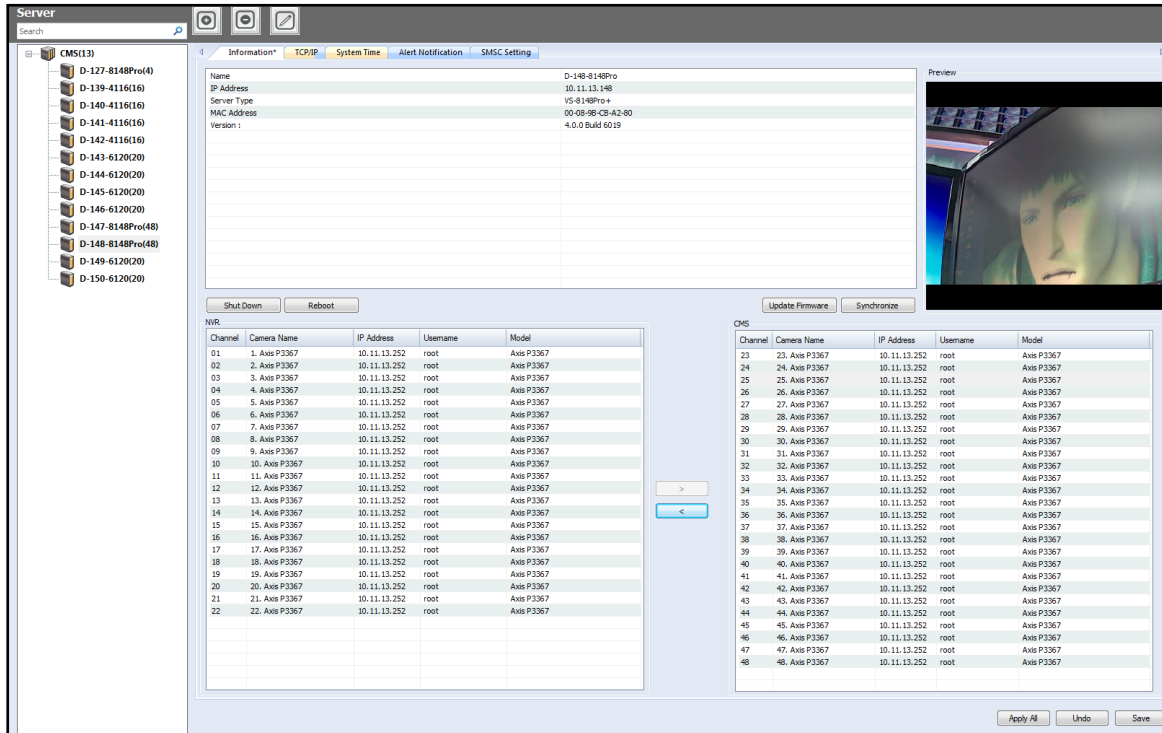
Field	Value
Server Name:	D-148-8148Pro
IP Address:	10.11.13.148
Port Number:	80
Username:	admin
Password:	
Retype Password:	

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Note: A NVR can only be edited and deleted by administrators of that NVR. Please be sure to type in the administrator username and password in the Edit Server dialog window, or details of cameras and their live view may not be displayed correctly.

3.8.3 Adding/Removing Camera

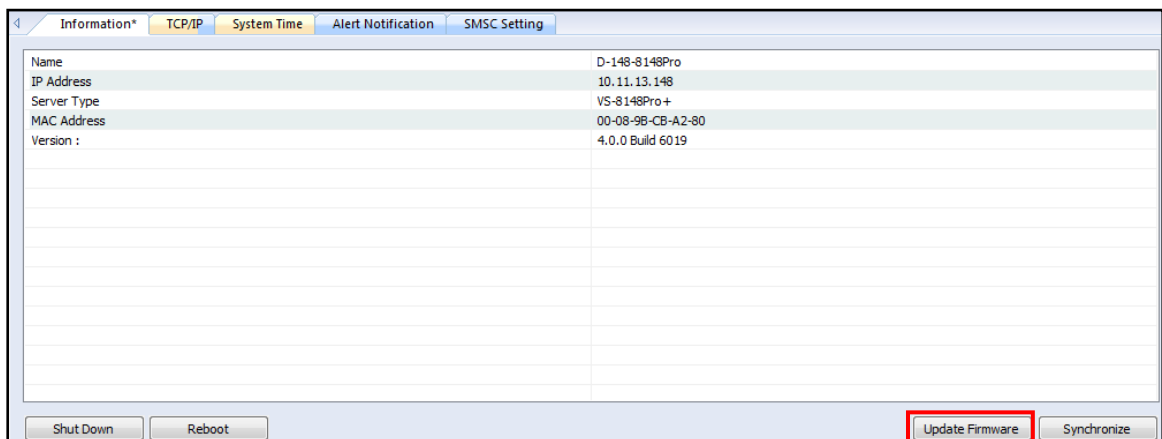
Select an NVR from the list and a list of available cameras will be shown below. Use the left and right arrows to add or remove the cameras to be controlled and monitored by the CMS Client. After applying the settings, the number of cameras connected to the NVR will appear next to the NVR name on the left list.



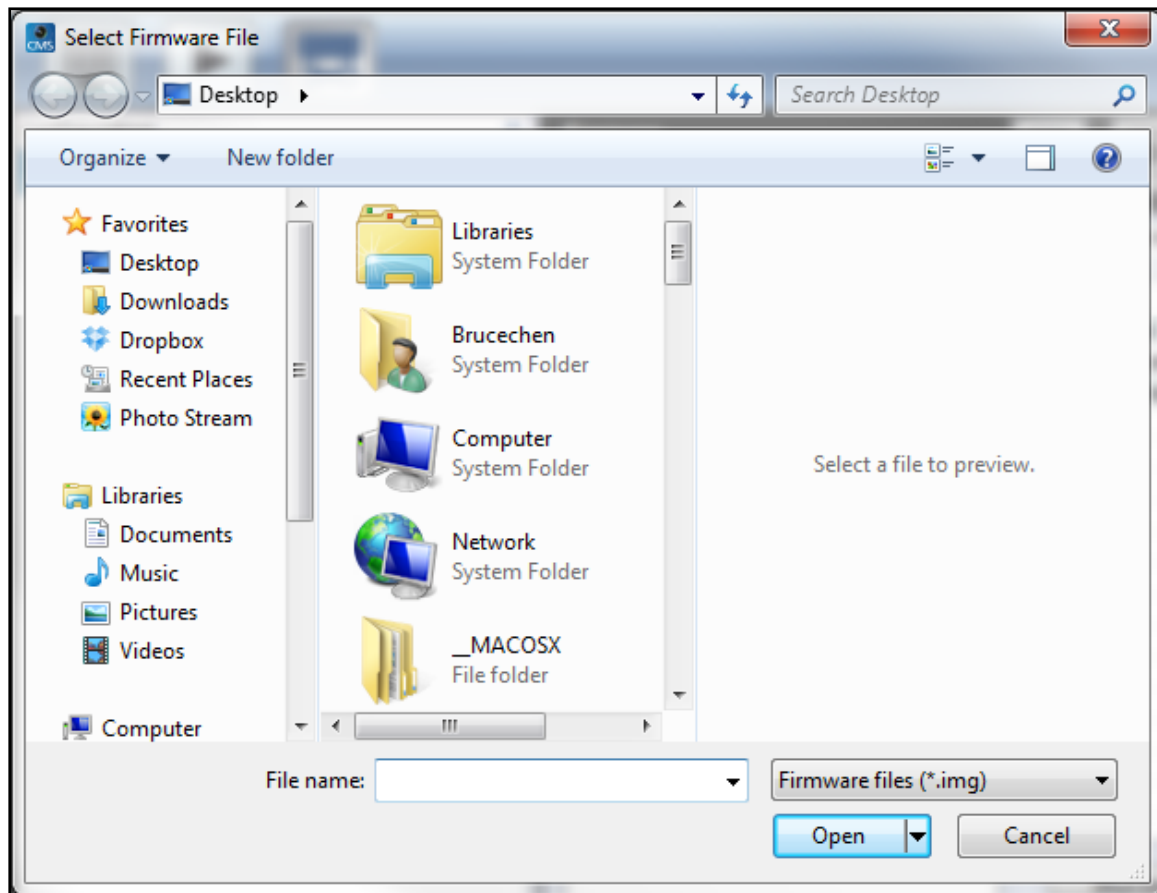
3.8.4 Firmware Update

Follow the steps below to update firmware:

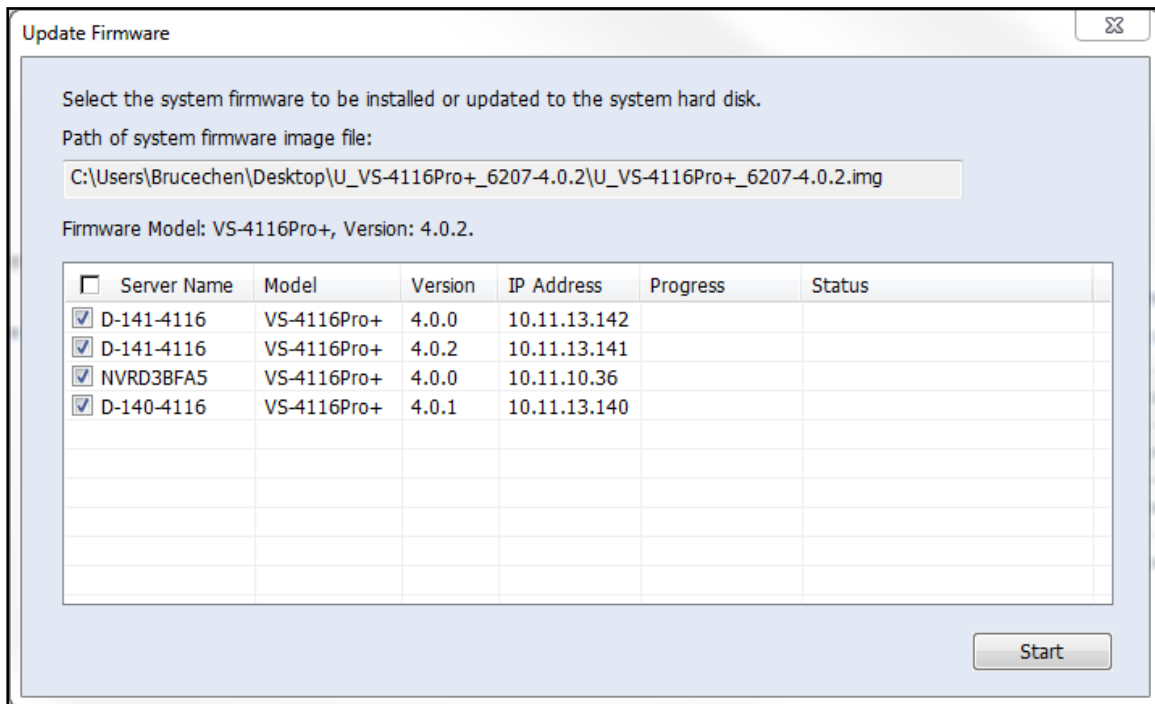
1. Select the NVR for which to update the firmware and click "Update Firmware".



2. Browse and select the firmware image file (*.img) from the local computer.



Tip: You can select to update the firmware of multiple NVR servers at the same time if they are the same model.

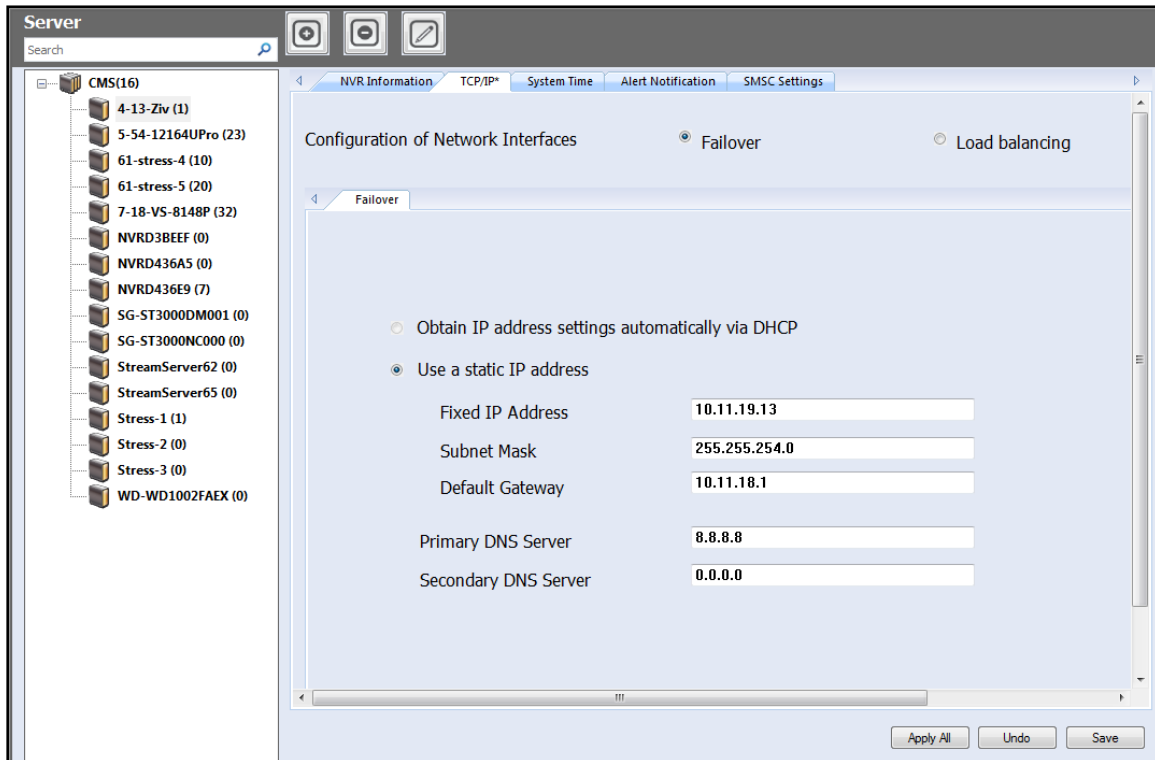


3.8.5 TCP/IP Configuration

The CMS Server supports static IP assignment for all NVRs, and for each NVR, the number of LAN ports can be different. Please note that DHCP is not supported.

Configuring NVR with a Single LAN Port

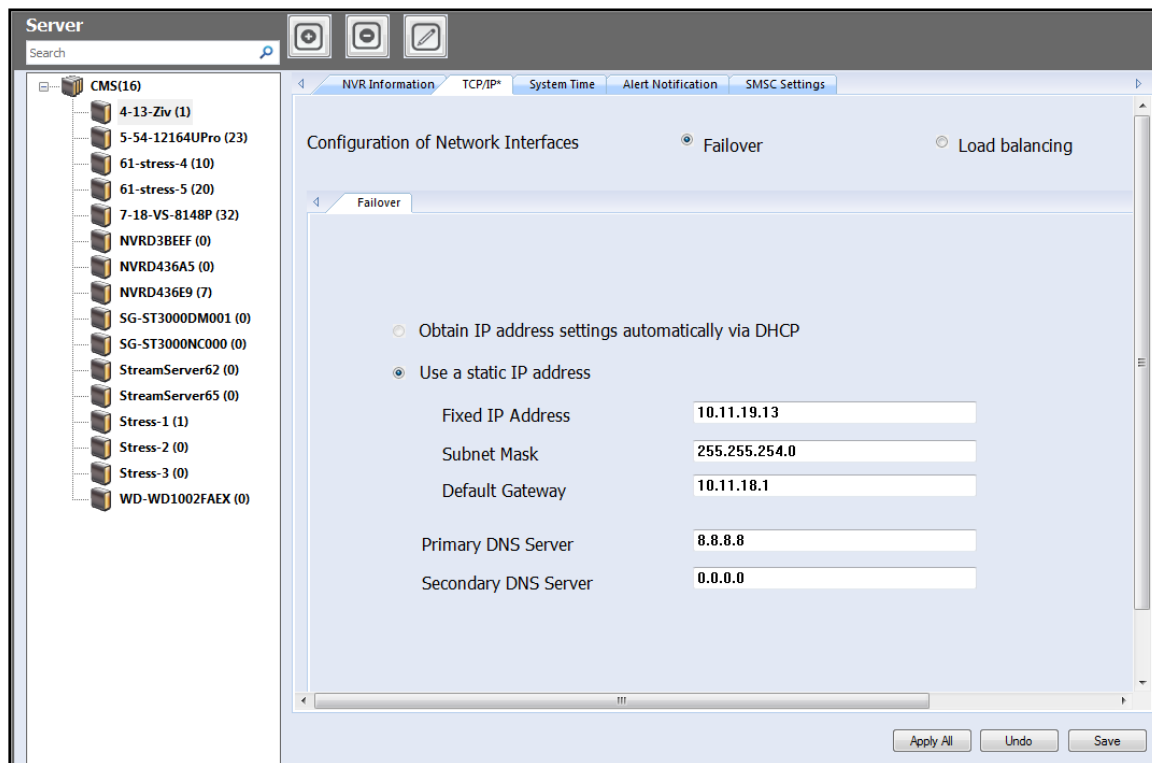
If the NVR supports a single LAN port, select one of the following options to configure the TCP/IP settings of the NVR.



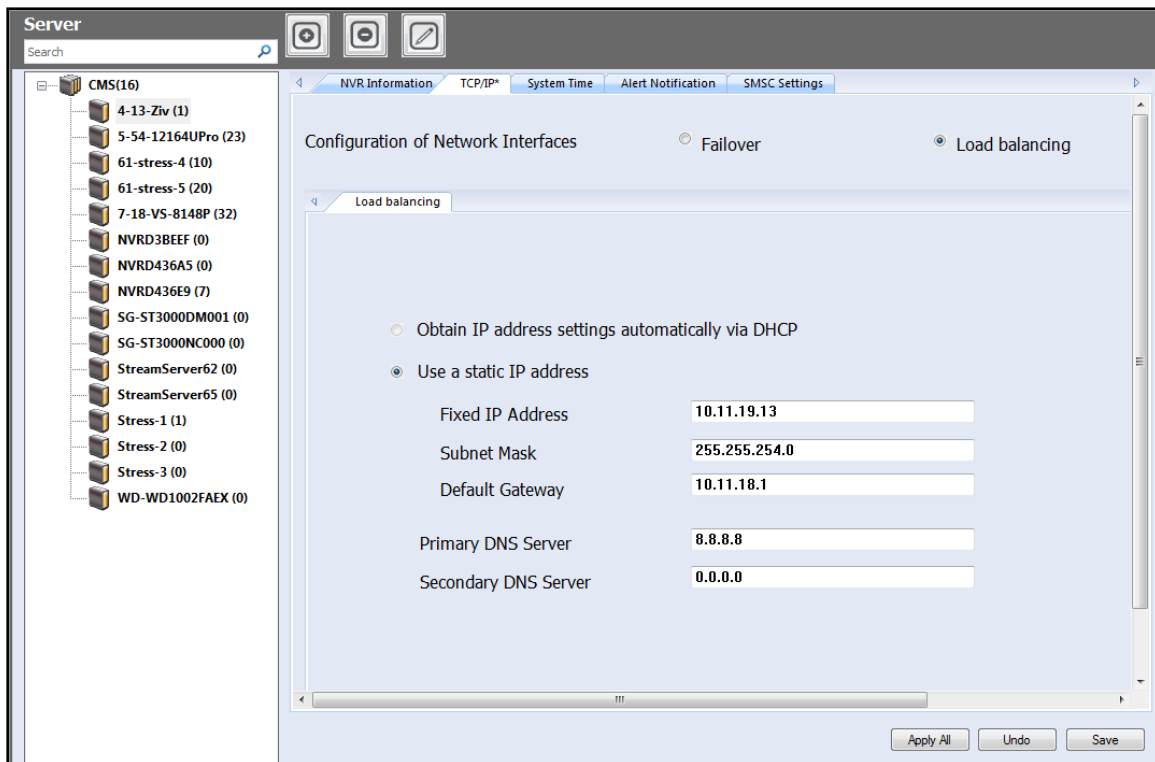
- Use static IP address: To assign a fixed IP to the NVR, enter the IP address, the subnet mask, and the default gateway.
- Primary DNS Server: Enter the IP address of the primary DNS server that provides the DNS service for the NVR on the external network.
- Secondary DNS Server: Enter the IP address of the secondary DNS server that provides the DNS service for the NVR on the external network.

Configuring NVR with Dual LAN Ports

If the NVR supports two LAN ports, select to use failover, load balancing, or standalone setting. To use these features, make sure both LAN ports are connected to the network.

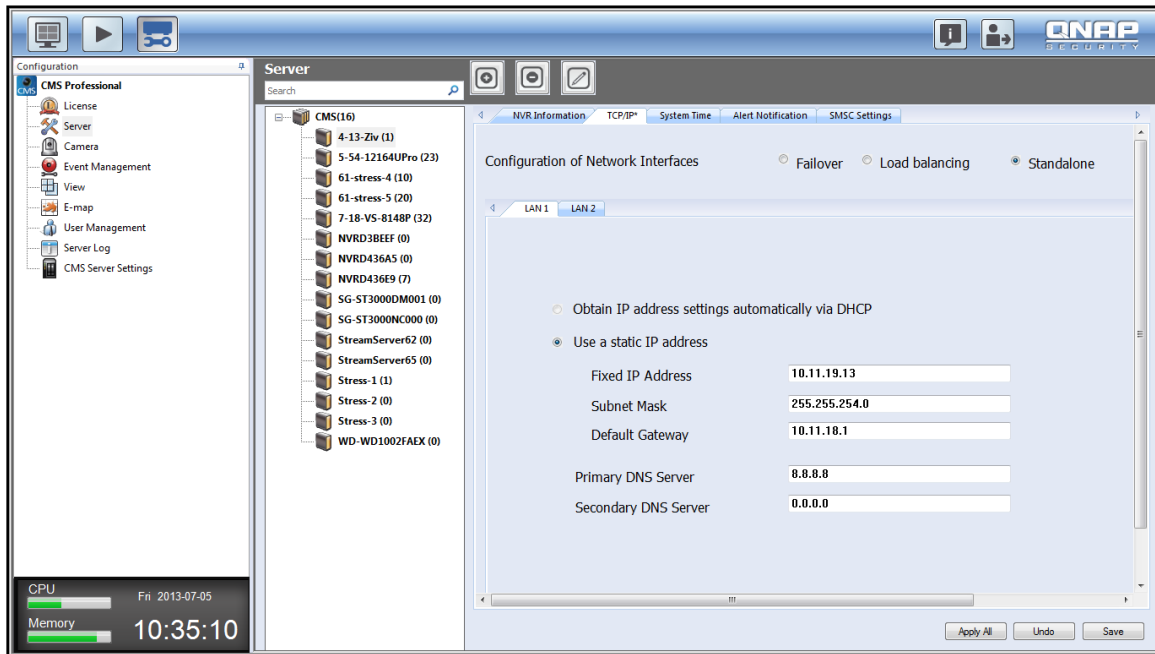


- Failover (Default settings for dual LAN NVR models): Failover refers to the capability of switching over the network transfer port to the redundant port automatically when the primary one fails to avoid network disconnection. When the connection is resumed on the primary network port, the network transfer will be switched over to that port automatically.
- Load balancing: Load balancing refers to the ability to spread network traffic between two or more network interfaces to optimize the network transfer and enhance the system performance.



Note: To optimize the network transfer speed of the NVR in the load balancing mode, use an Ethernet switch and enable 802.3ad (or link aggregation) on the switch ports that the NVR's Gigabit LAN ports are connected to.

- Standalone: Assign different IP settings for each network port. The NVR can be accessed by different workgroups on two subnets. When load balancing is enabled, failover will not work. The DHCP server can only be enabled for the primary network port (LAN 1).

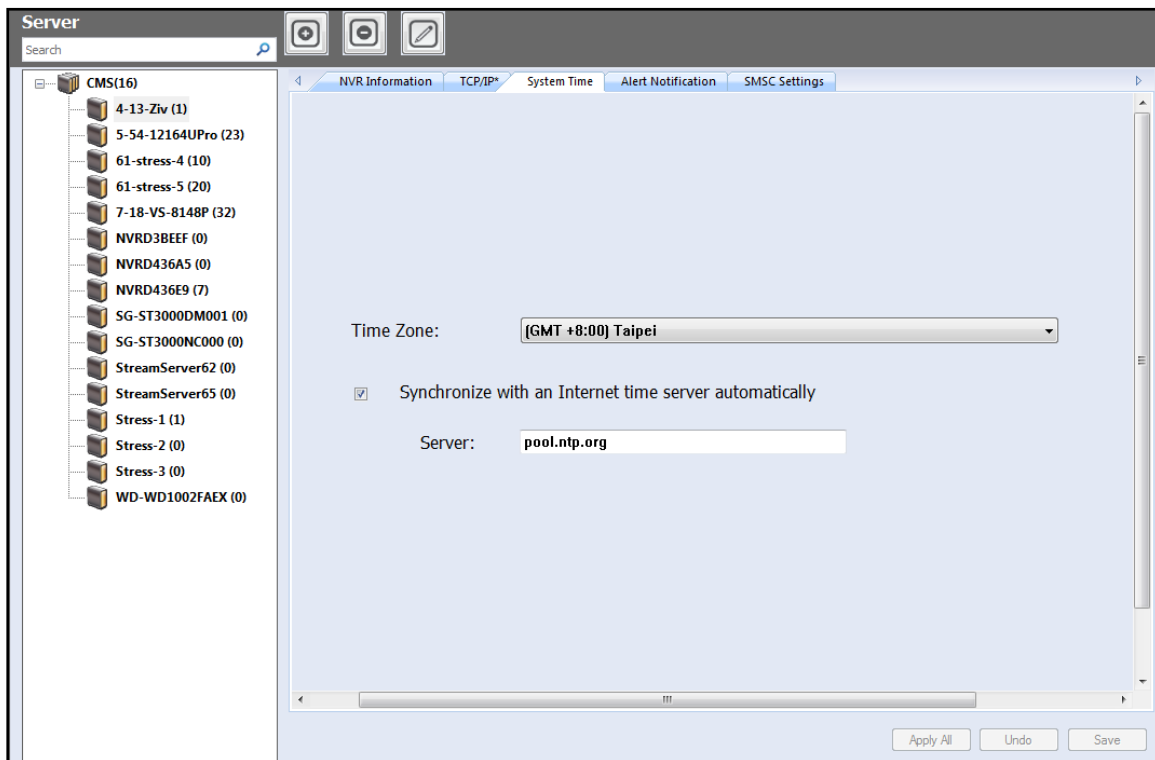


- Use static IP address: To assign a fixed IP to the NVR, enter the IP address, the subnet mask, and the default gateway.
- Primary DNS Server: Enter the IP address of the primary DNS server that provides the DNS service for the NVR on the external network.
- Secondary DNS Server: Enter the IP address of the secondary DNS server that provides the DNS service for the NVR on the external network.

3.8.6 System Time

Set the date, time, and time zone. If the settings are incorrect, the following problems may occur:

- Incorrect time stamps on the video files.
- Incorrect time stamps on the event logs.



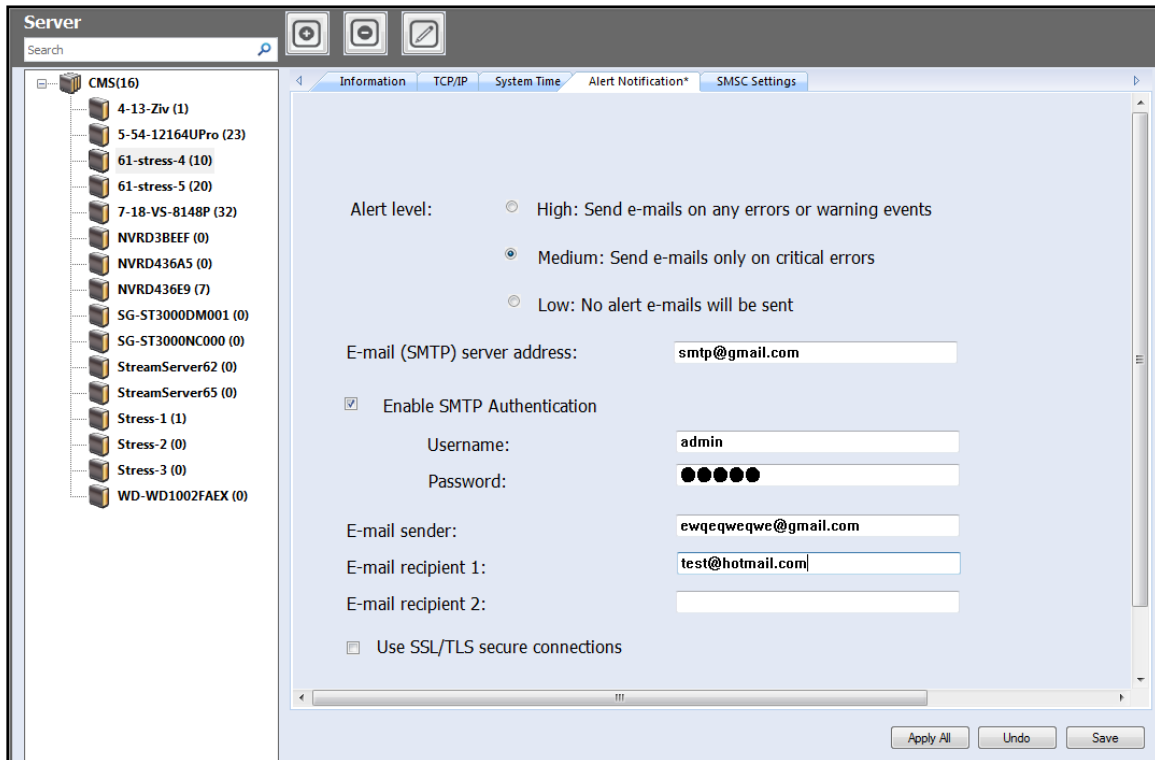
Synchronize with an Internet time server automatically

Enable this option to update the date and time of the NVR automatically with an NTP (Network Time Protocol) server. Enter the IP address or the domain name of the NTP server (for example, time.nist.gov or time.windows.com.)

3.8.7 Alert Notification

When a problem occurs (e.g. power outage or a hard disk drive is unplugged,) an alert email will be sent to the specified recipients automatically.

To configure this feature, please set the alert level and specify SMTP server address, SMTP authorization credentials and email addresses of the recipients. To view the details of all the errors and warnings, go to "Logs & Statistics" > "System Event Logs".

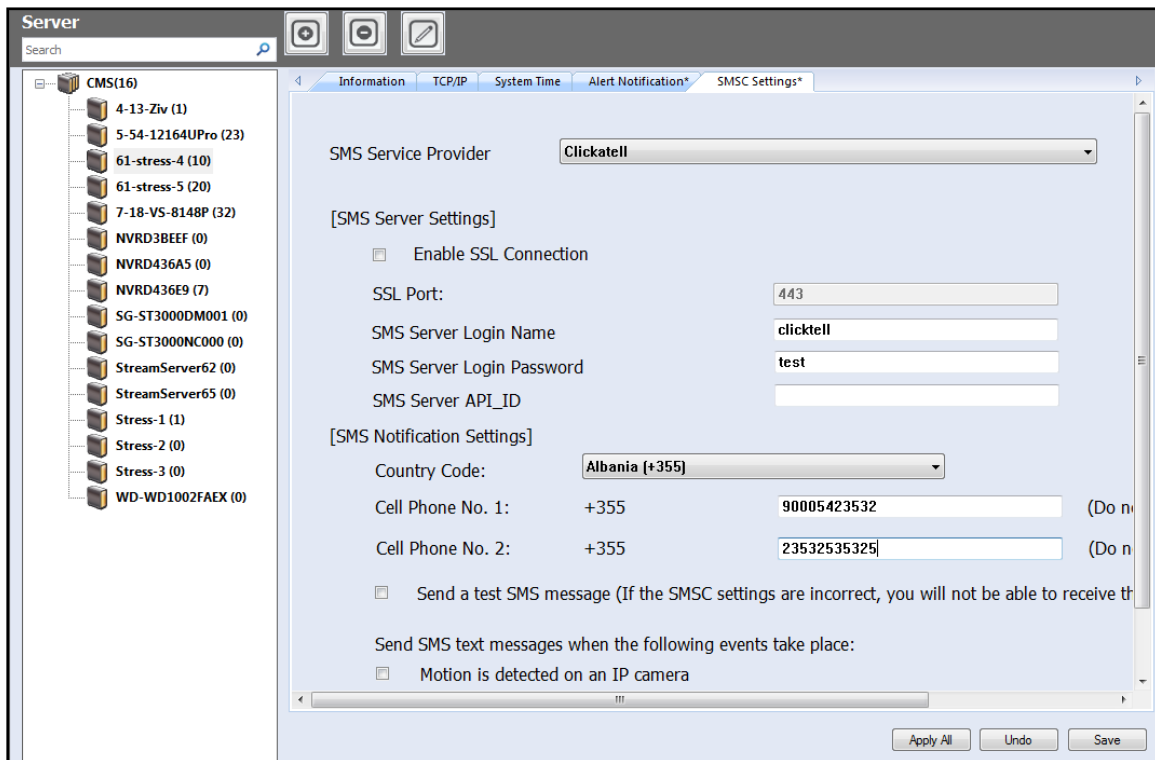


Note: It is recommended to send a test email to make sure the mail server settings are configured correctly.

3.8.8 SMSC Settings

Configure the SMSC (Short message service centre) settings to send the SMS text messages to the particular mobile phone numbers when an event is detected by the NVR. The default SMS service provider is Clickatell. Add an SMS service provider by selecting "Add SMS Provider" from the drop-down menu.

After "Add SMS service provider" is selected, enter the name of the SMS provider and the URL template text.

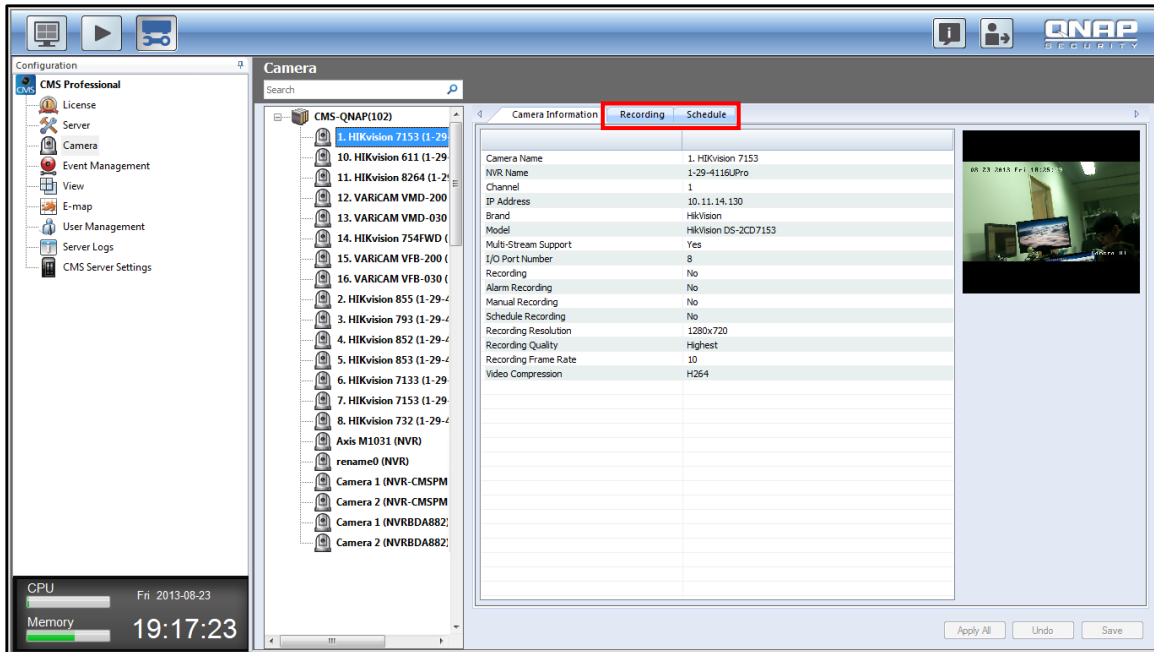


Note:

- Please always follow the standard published by the SMS service provider to configure the SMS settings.
- Please send a test SMS to verify that the settings are correct.
- Go to "Camera Settings" > "Alarm Settings" > "Advanced Mode" to edit the SMS settings, or select to use the "Traditional Mode" and configure the SMS settings on this page.
- It is recommended to send a test email to make sure the mail server settings are configured correctly.

3.9 Camera

Information of the cameras being controlled by the CMS is shown on this page. The information shown on this page includes the camera name, the NVR that the camera belongs to, IP address, model, and the live video. Recording settings and schedules of the cameras can also be managed on this page.

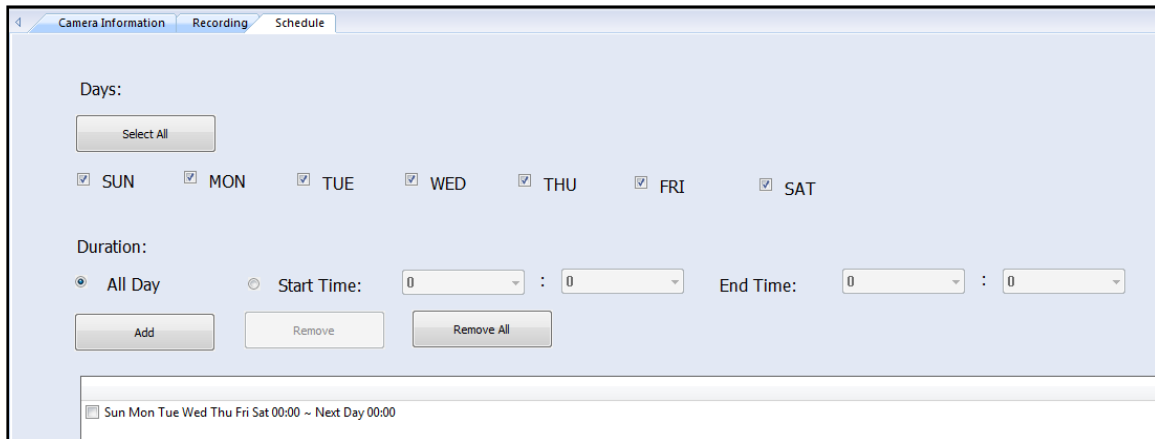


Under the "Recording" tab, you can configure the video compression format, screen resolution, frame rate, and video quality, and select to enable or disable audio recording and manual recording for the configured channel.

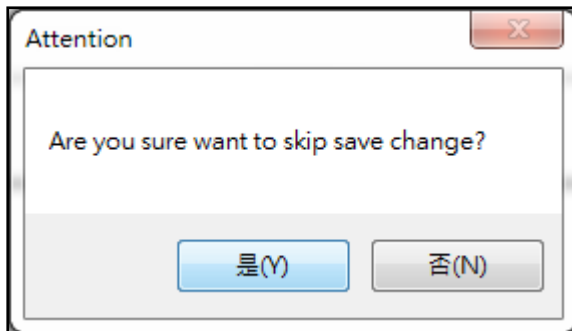
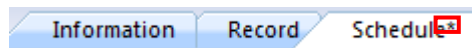


- Video compression: Select the compression format of the recording files.
- Resolution: Select the recording resolution of the camera. The higher the resolution, the clearer the video will be, but the larger the hard disk space will be used.
- Frame rate: Select the number of recording images per second. Please note that the actual frame rate may vary according to traffic conditions.
- Video quality: Select the video recording quality used by the camera. The higher the resolution, the more clear the video will be, but the larger the hard disk space will be used
- Enable audio recording (optional): Check this option to enable audio recording.
- Enable manual recording: After this option is checked, you can choose to start or stop the recording manually on the live view page.

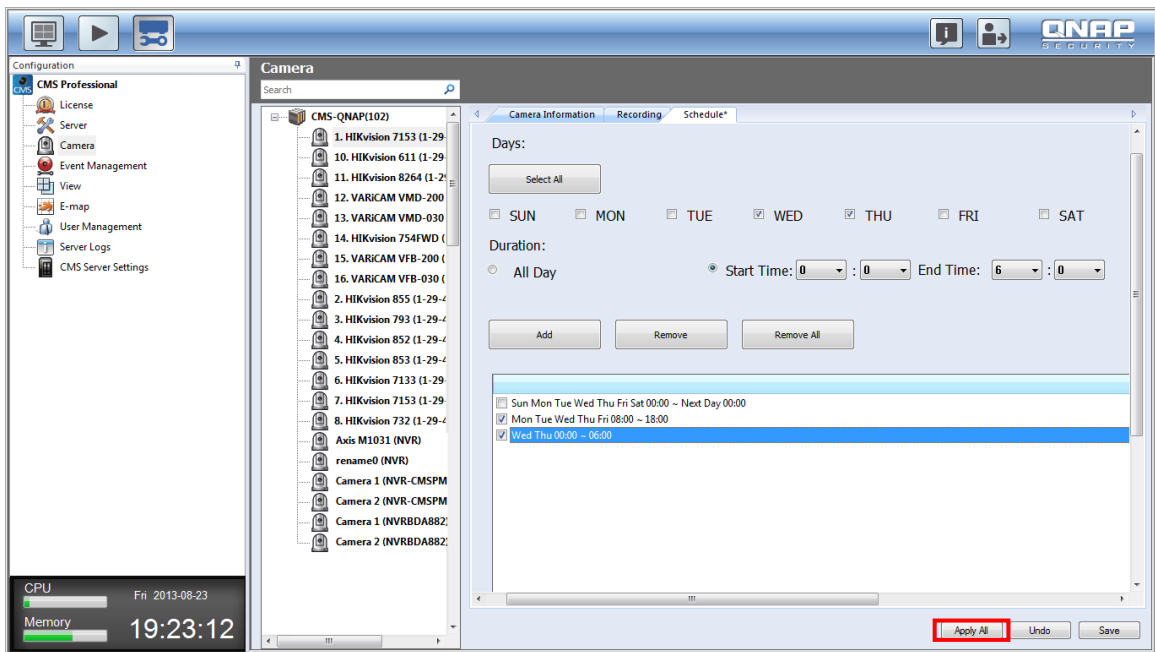
To create a recording schedule under the "Schedule" tab, specify the days and duration for recording and click "Add".



Note: When any changes have been made, an asterisk will appear on the tab. You will be prompted to save the changes when switching to a different tab.

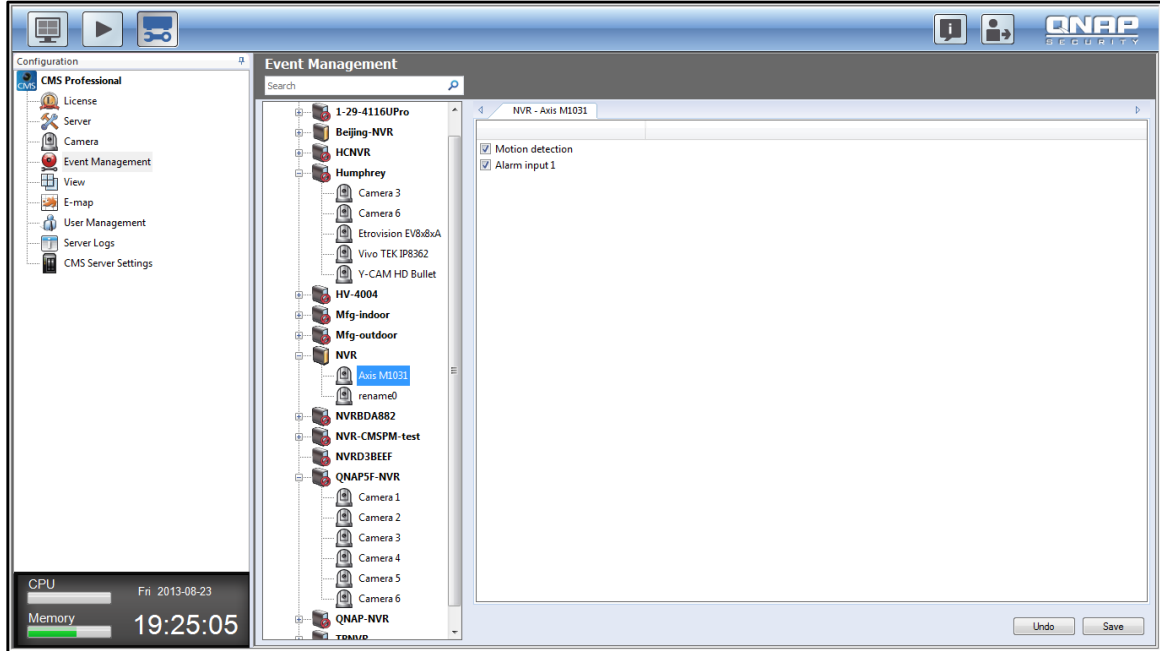


Note: By clicking "Apply to all", the changes made will be applied to all cameras. For cameras that do not support the selected functions, the changes made will not apply to them even if "Apply to all" is clicked.



3.10 Event Management

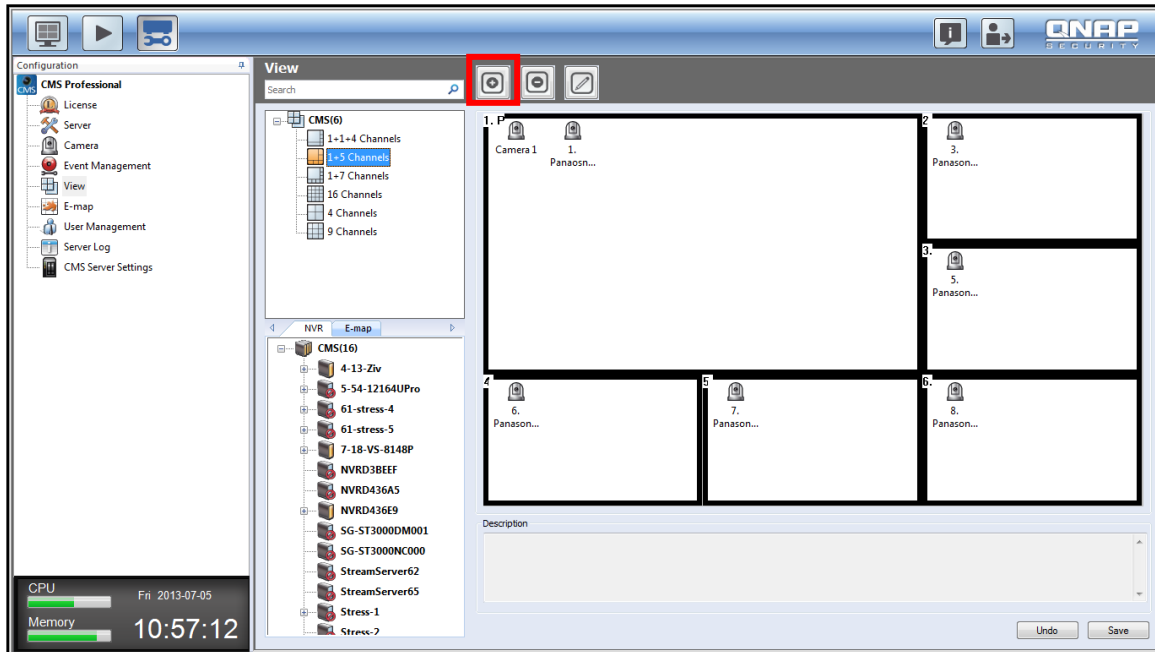
The CMS Server can be set to receive NVR alerts (such as motion detection events or events triggered by alarm inputs). After checking these options, click “Save” to save the settings or “Undo” to go back to the previous step.



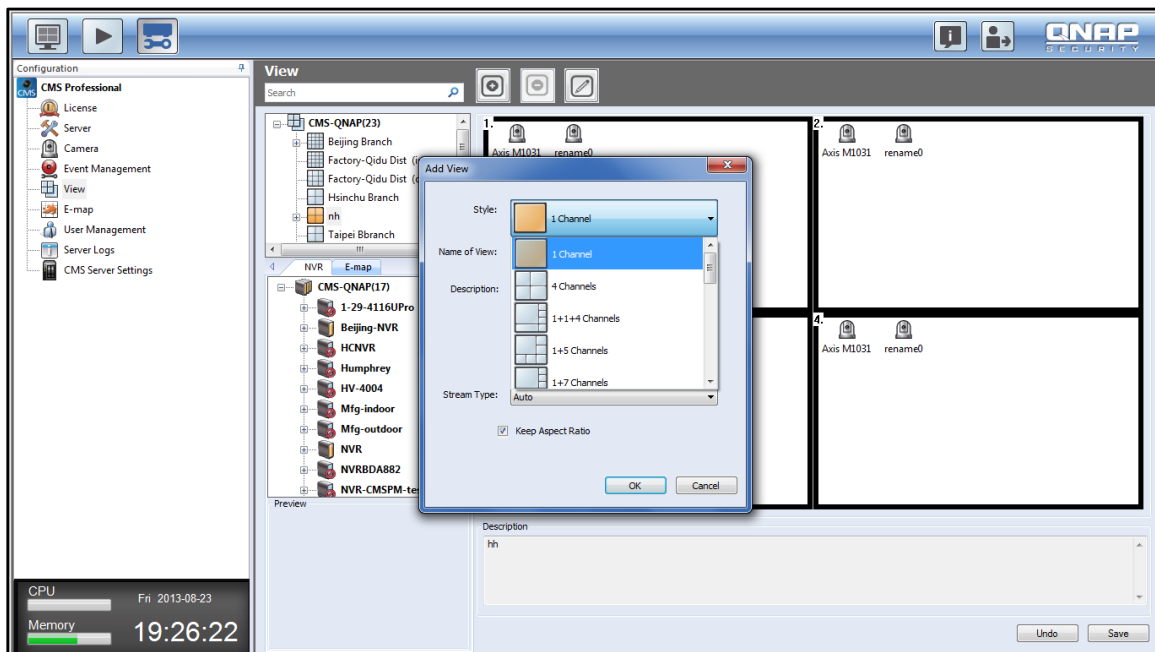
Note: The alarm settings must be configured on the NVR first. Then, go to Event Management of the CMS system to enable the alarm input of the camera. So, the CMS system can receive the alarms from the NVR. Please refer to [Chapter 7-10 \(FAQ\)](#) for details.

3.11 View


The administrator can define the view layout in view configuration.



After choosing a view layout, enter the name and description of the view. Click "OK" to confirm.



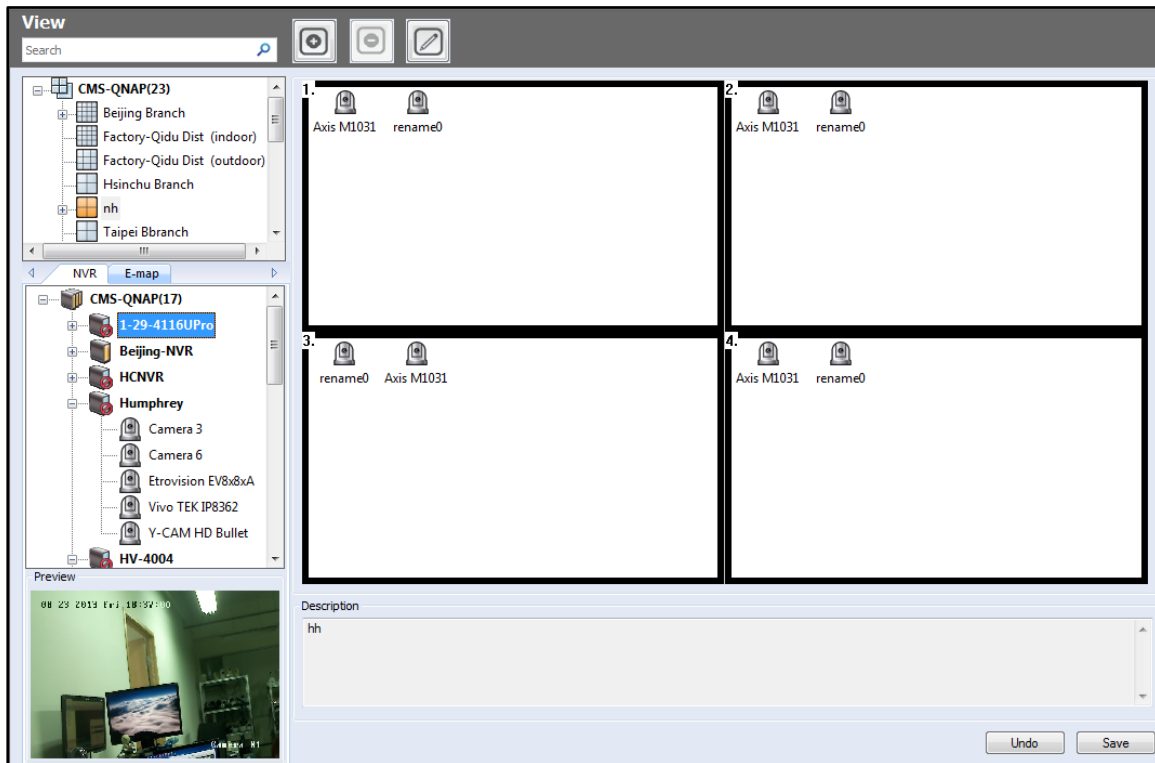
Add View X

Style:  4 Channels

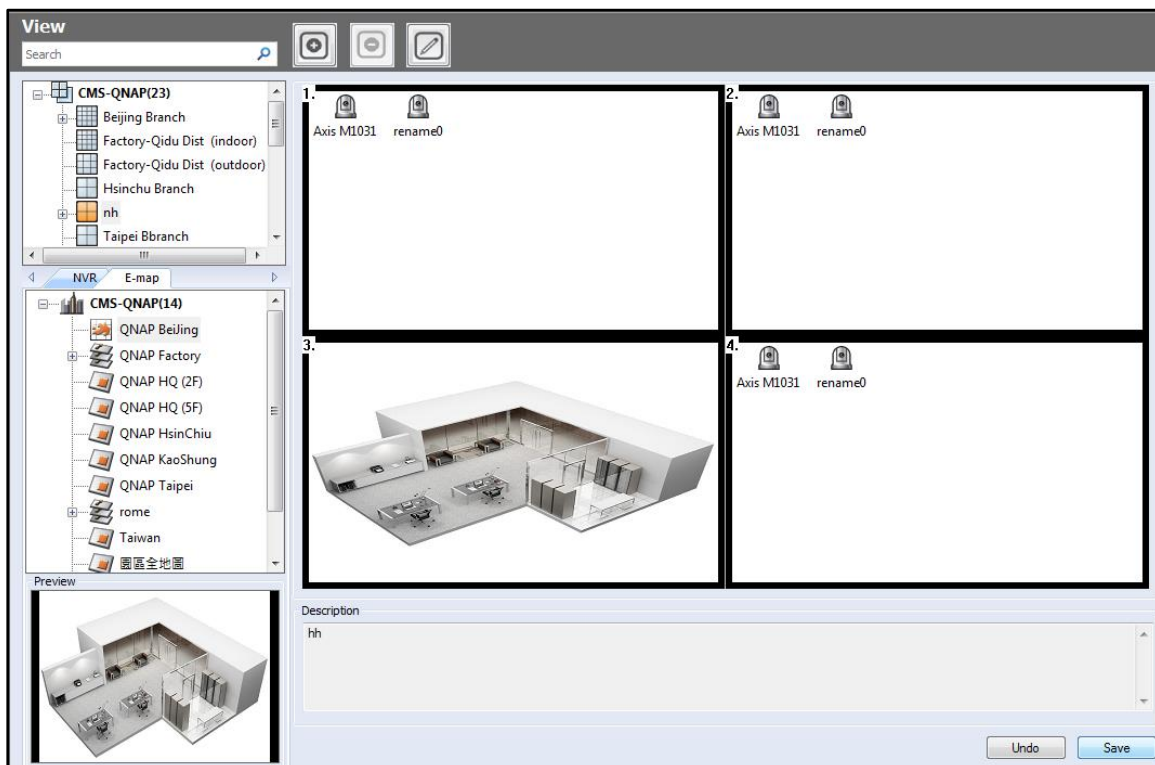
View Name: Gate

Description: Gate with IP Cam

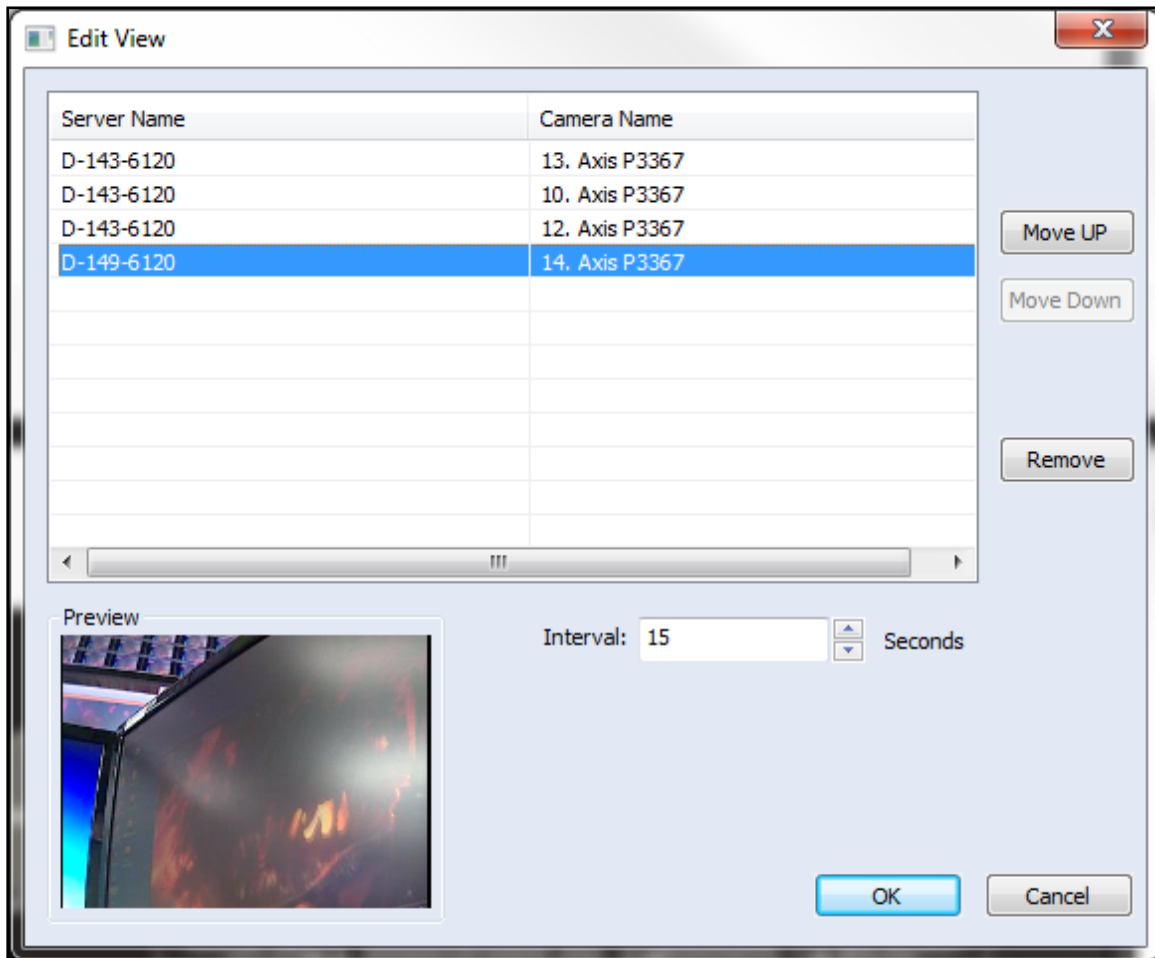
Then, drag the cameras in the NVR list on the left to the channel window on the right.



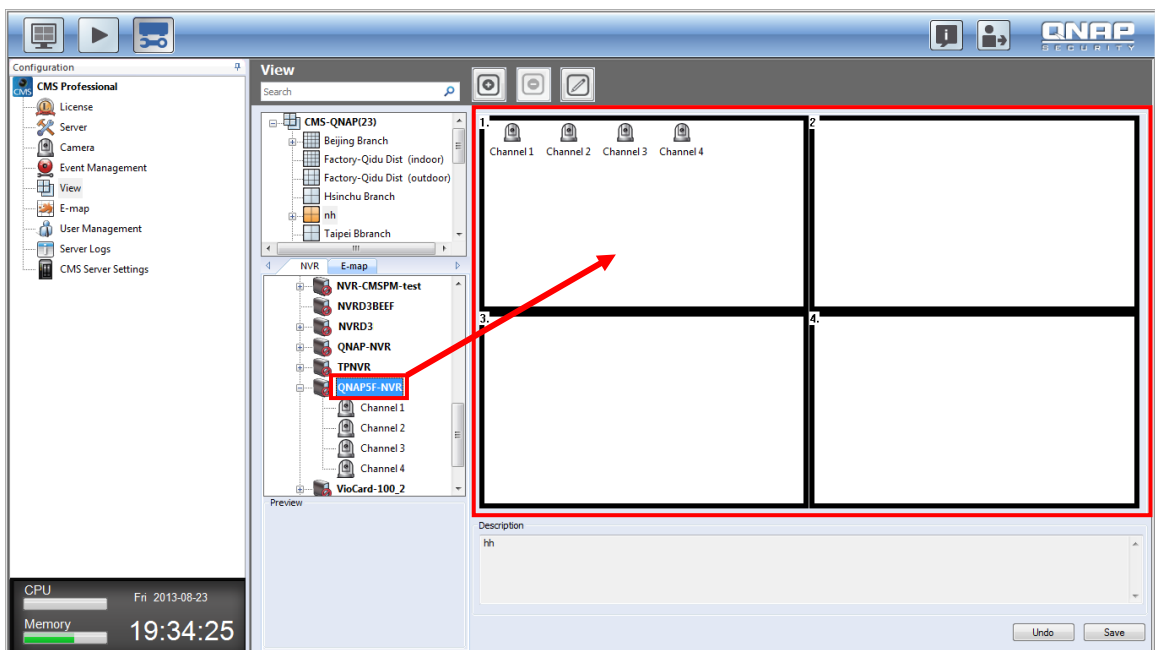
The E-map(s) can also be inserted.



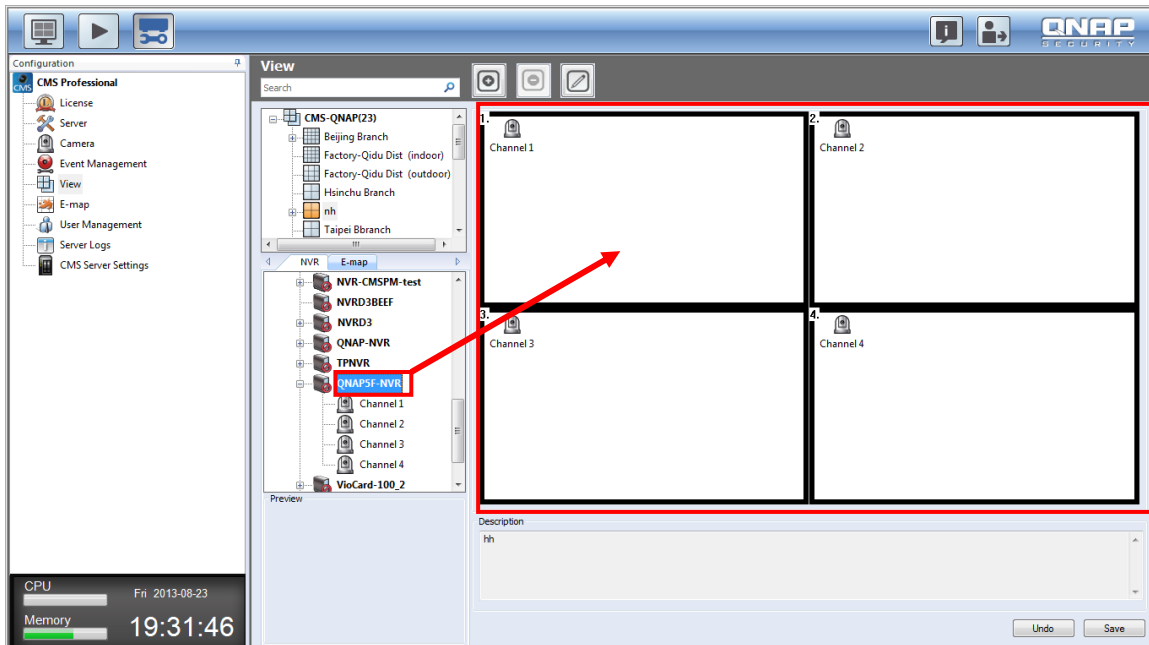
Double click the window to adjust the carousel order and interval, and edit the camera to be viewed. The live view supports the carousel function. In the description field of each layout, Server name and the order of each placed camera will be listed. Adjust the carousel order and interval, and preview the live video.



Note: Drag an NVR to the blank channel window, and all the cameras of the chosen NVR will be played in the sequential mode in that channel window.



Tip: Press and hold the "Shift" key and drag an NVR to a channel window, and its cameras will be inserted to each channel window one by one. If the number of the remaining channel window is less than the total number of cameras from the NVR, those additional cameras will not be added.



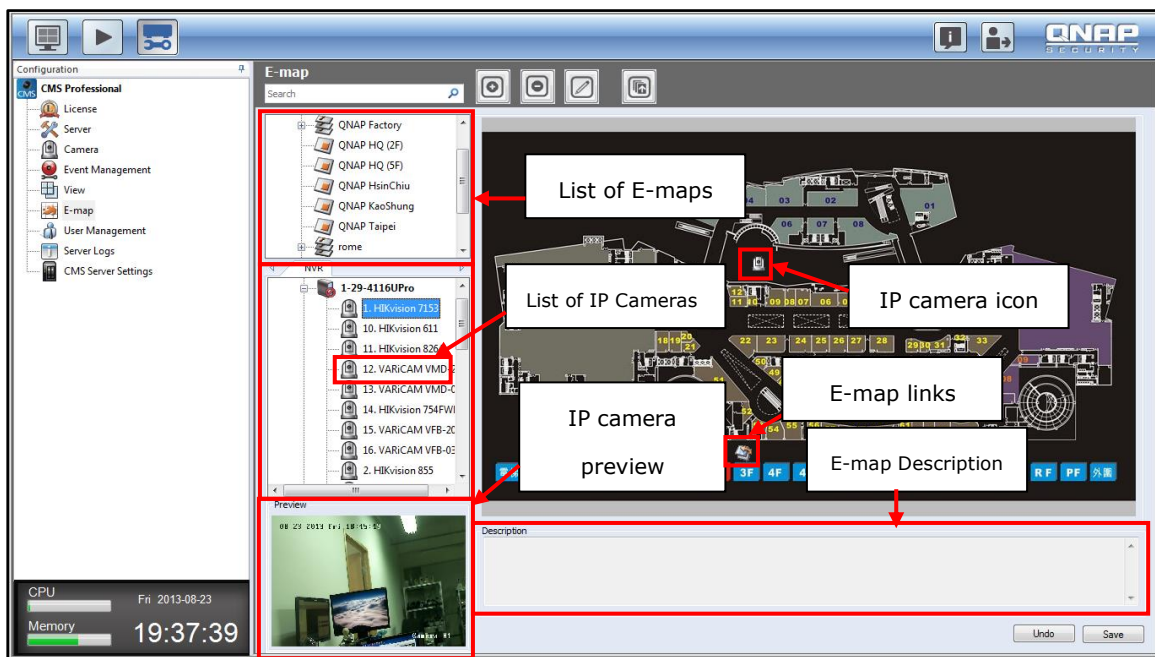
3.12 E-map

The E-map feature of the NVR is provided for users to upload electronic maps to the system to indicate the locations of the IP cameras. Users can drag and drop the camera icons* to the E-map and enable event alert to receive instant notification when an event occurs to the IP camera.













* To set up an IP camera on the E-map, please complete the IP camera settings on the Alarm Settings page on the NVR first.

An E-map example is shown below. The NVR provides a default E-map. Add or remove the E-maps whenever necessary.

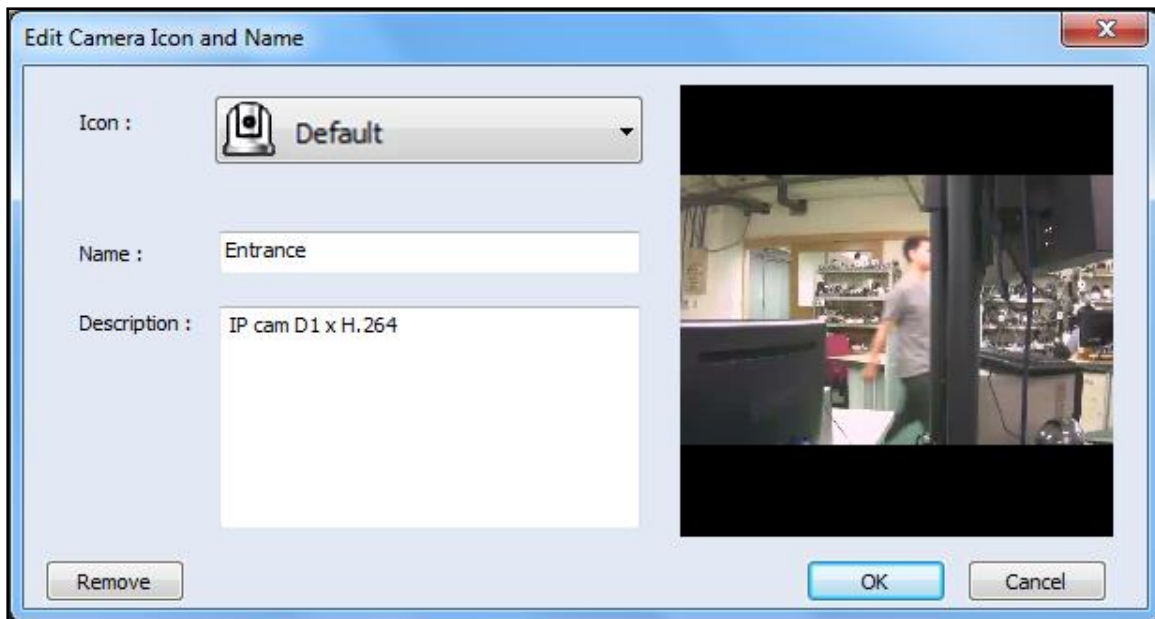
Note: Please login the CMS Client as an administrator to edit and view the E-maps.




Icons and Description

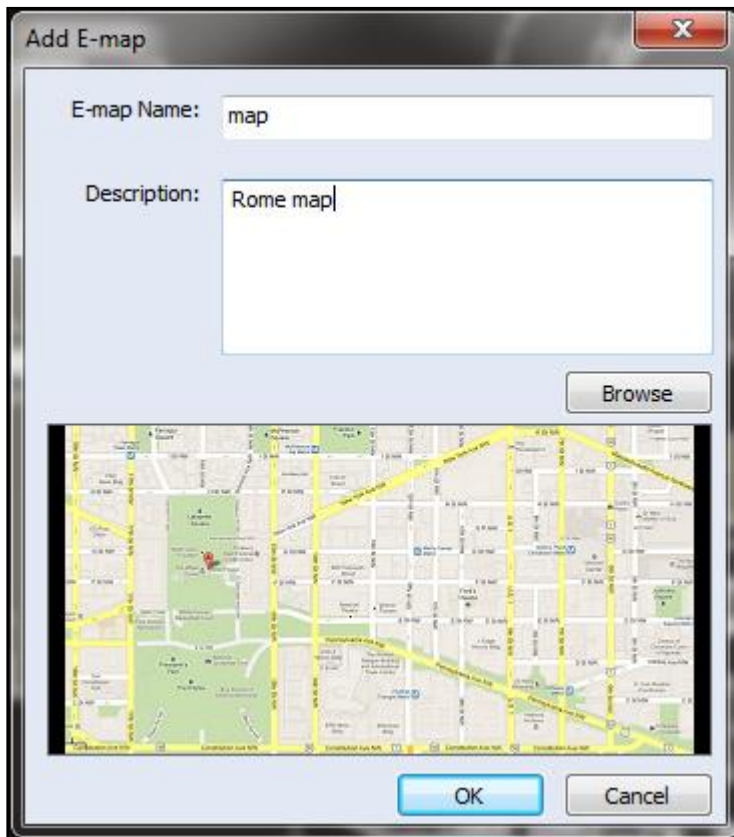
Icon	Description
	Add an E-map.
	Remove an E-map.
	Edit the name of an E-map.
	Batch-upload E-maps.
	Icon for a set of E-maps.
	Single-layer E-map: Click  to select a single-layer E-map. When an E-map is selected, the icon will become  .
	An E-map symbol on the E-map. This symbol on the E-map serves as a link to another E-map. This is particularly convenient for users to switch between E-maps.
	An NVR icon used to indicate the location of an NVR. The NVR icon is only provided for users to pinpoint a NVR location on the map.
	Icon for a PTZ IP camera.
	Icon for a fixed body or fixed dome IP camera. After dragging the icon to an E-map, right click the camera icon to change the icon direction or delete the icon from the E-map.



Tip: Double click a camera icon on the E-map to change its icon, name, or description. For the NVR, double click a NVR icon on the E-map to change its name or description, but not its icon.

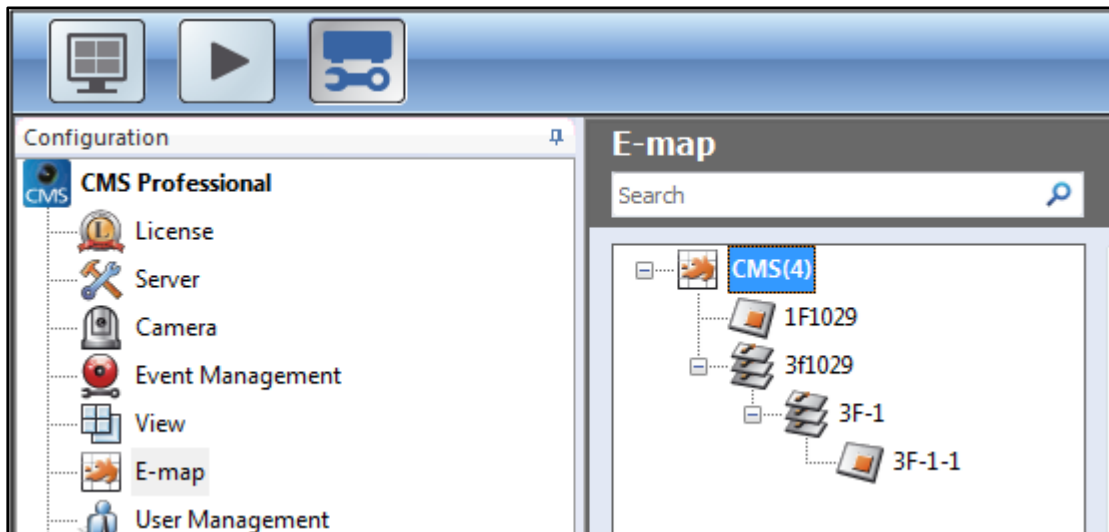


3.12.1 Adding E-map

To add an E-map to indicate the location of an IP camera, click  to enable the Edit mode and enter the map name and description. Browse and select the image file for the map and click "OK".




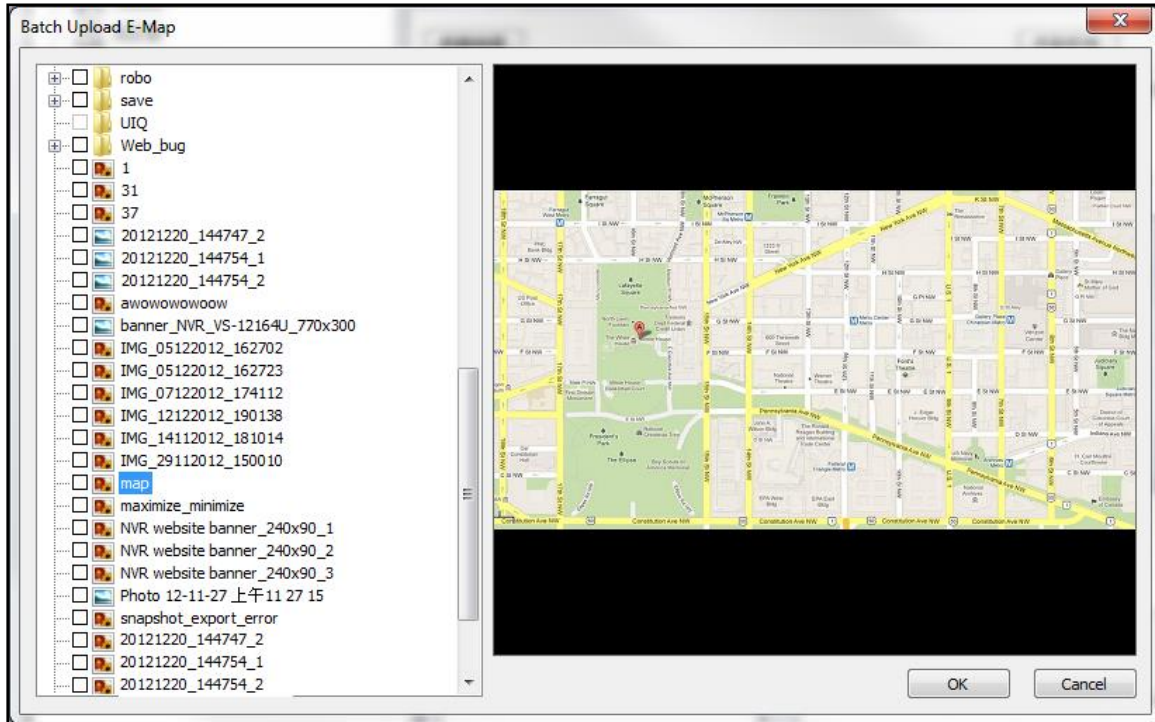
To add an E-map under another E-map, e.g. 1F-1, click the E-map icon at the upper layer, e.g. 1F1029, and click . After adding a lower layer E-map, the E-map icon at the upper layer will change to .




Note: After a lower layer E-map is added, you will be automatically directed back to the upper layer E-map icon to add multiple E-maps for the same upper layer.

Batch-uploading E-maps





Click  to batch-upload multiple E-maps to the CMS Server. Select the image files or directory on the left and click "OK" to upload the E-maps.



3.12.2 Editing an E-map Name

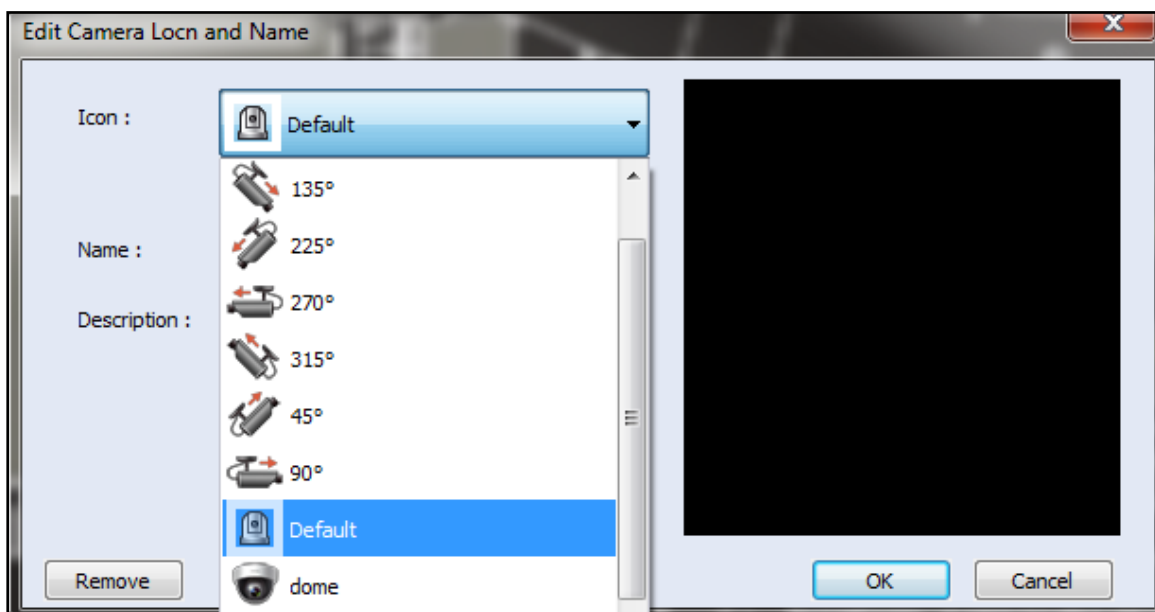
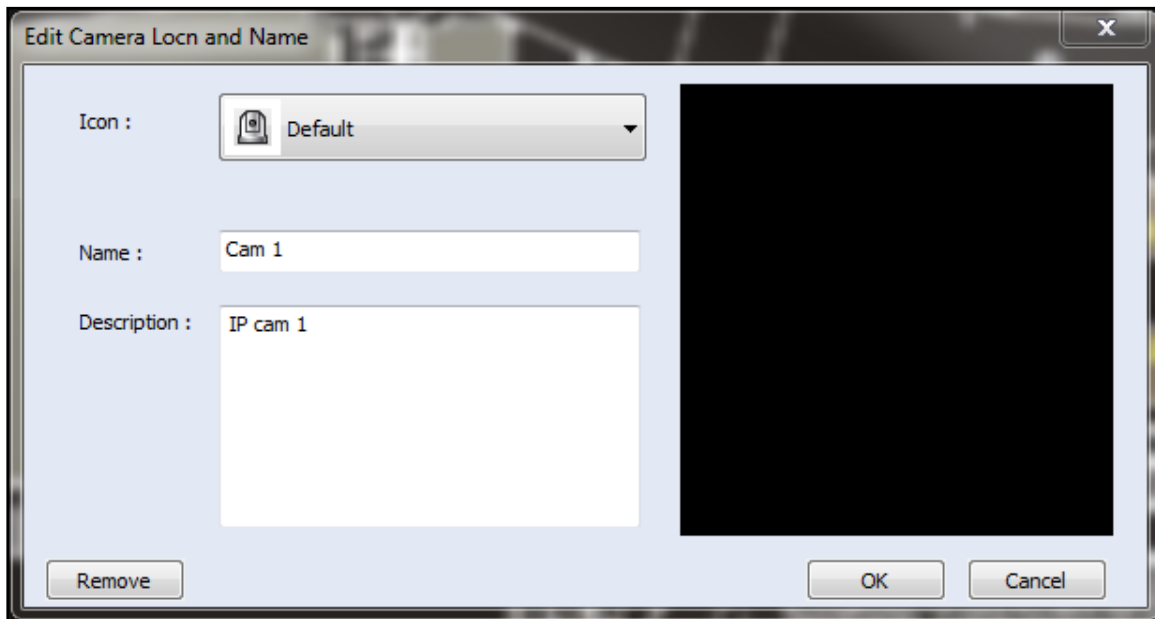
To edit an E-map name, select the E-map and click . Enter the new name and description, and click "OK". To change the picture of the E-map, re-upload the picture and then click "OK".

3.12.3 Deleting E-map

To delete an E-map, select the map icon , and click . To delete a set of E-maps under the same level, select the map set icon , and click .


3.12.4 Editing IP Camera on E-map

After uploading the E-map and adding the cameras to the map, double click the IP camera icon to configure the cameras.



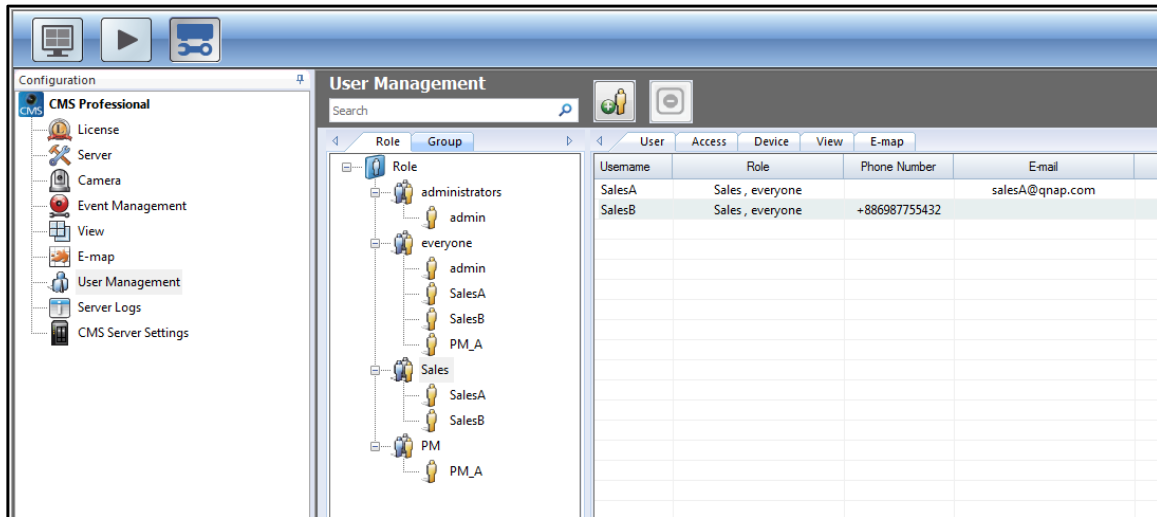
The icon style and name, font color, background color, description, etc. can be set. Please use the "Remove" button at the lower left corner to remove cameras.

The following is the icon and description of the camera alert icon displayed on the E-map:

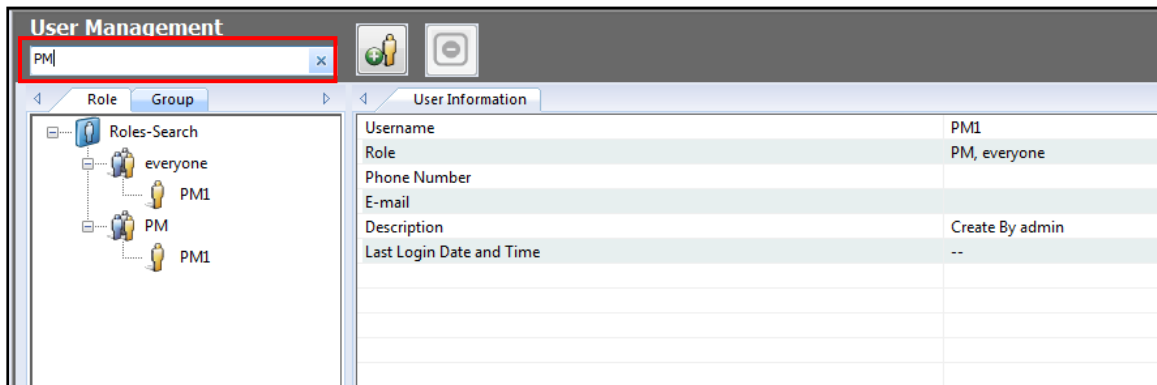
Icon	Description
	Camera alert.

3.13 User Management

The CMS system provides secure user permission management. Two user categories are supported for this feature: role and group. For the role, appropriate permissions can be assigned for monitoring, playback, and system management functions, based on its positions and responsibilities. For the group, all the users are simply categorized for better classification and identification.



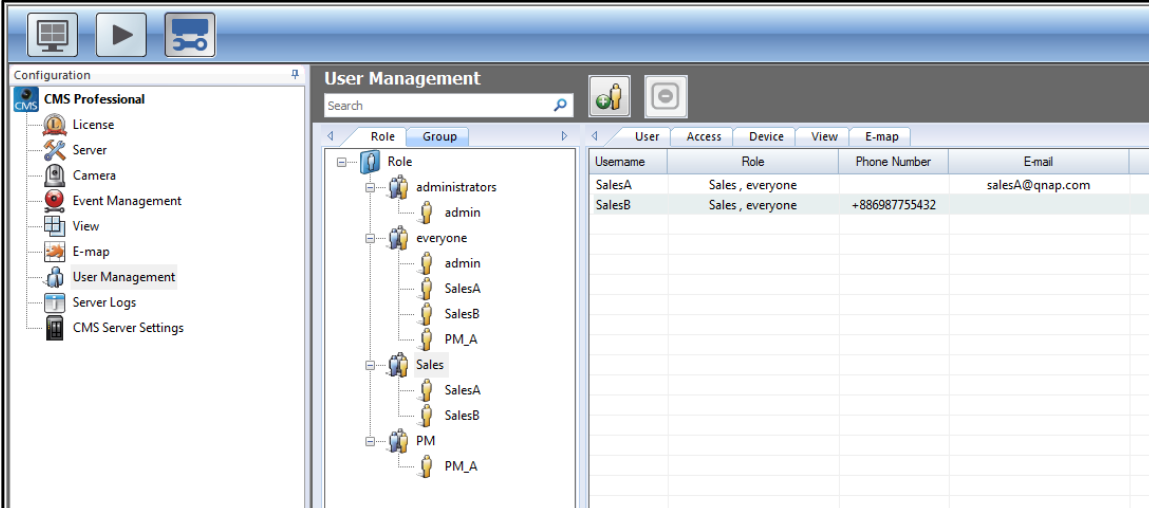
Note: The keywords entered in the search box on top left side of the page are case-sensitive.



Note: To delete a user under Role/Group, please do so in the user list under each role/group and not on the user information page.

3.13.1 Role Management

Assign users to their role based on their responsibility and specify permissions for their role on this page.




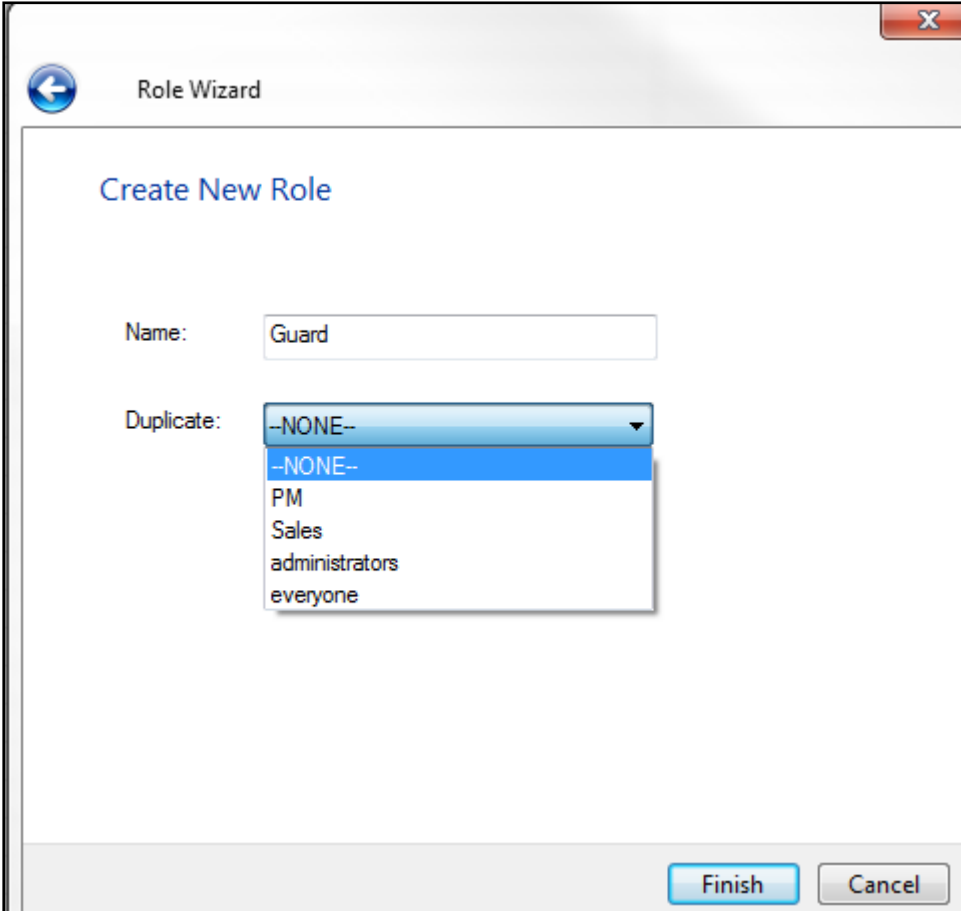
The screenshot displays the 'User Management' interface in CMS Professional. The interface is divided into several sections:

- Configuration Panel (Left):** Lists various system settings including License, Server, Camera, Event Management, View, E-map, User Management (selected), Server Logs, and CMS Server Settings.
- User Management Header:** Includes a search bar and navigation tabs for Role, Group, User, Access, Device, View, and E-map.
- Role Hierarchy (Middle):** A tree view showing the structure of roles and groups. The 'Role' folder contains 'administrators' (with 'admin' child), 'everyone' (with 'admin', 'SalesA', 'SalesB', 'PM_A' children), 'Sales' (with 'SalesA', 'SalesB' children), and 'PM' (with 'PM_A' child).
- User List (Right):** A table displaying user details. The visible data is as follows:

Username	Role	Phone Number	Email
SalesA	Sales , everyone		salesA@qnap.com
SalesB	Sales , everyone	+886987755432	

Creating a new role

To create a new role, click .



Role Wizard

Create New Role

Name:


Duplicate:

- NONE-
- PM
- Sales
- administrators
- everyone

Finish Cancel

Enter a name for the role and copy the permission attributes, such as accessing/editing the NVR, camera, display mode and E-map permissions, of the existing roles. Click "Finish" to save the changes.

Deleting a role

To delete a role, select the role on the list to the left and click .

Note: A role cannot be deleted unless all users under that role are deleted. Please be sure to delete all users under a role before deleting that role.

Creating new user(s) under the role

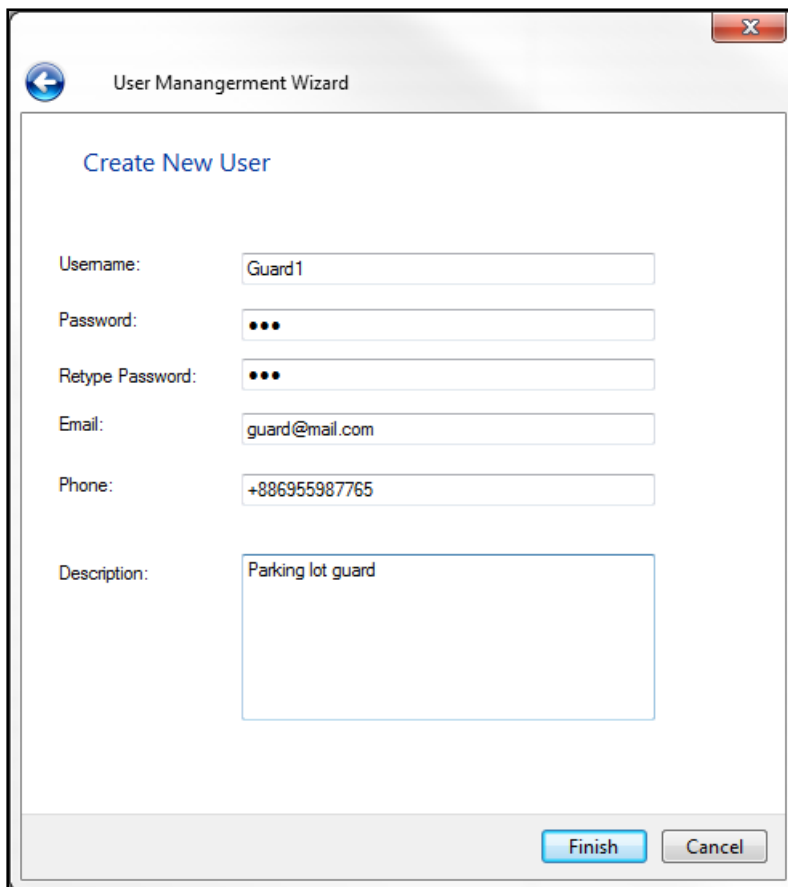
Select a role and click "Add User".

The screenshot displays the QNAP User Management interface. On the left, a navigation tree shows the 'User Management' section selected. The main area is divided into two panes. The left pane shows a role hierarchy: 'administrators' (admin), 'everyone' (admin, SalesA, PM_A), 'Sales' (SalesA, SalesB), and 'PM' (SalesA, SalesB, PM, PM_A). The right pane shows a table of existing users.

Username	Role	Phone Number	Email	Description
SalesA	Sales, everyone		salesA@qnap.com	Create By admin
SalesB	Sales, everyone	+886987755432		Create By admin

At the bottom of the interface, there are several buttons: 'Create New User' (highlighted with a red box), 'Add User to Role', 'Edit User', 'Delete User', and 'Remove User from Role'. The status bar at the bottom left shows CPU and Memory usage, the date 'Fri 2013-08-23', and the time '19:56:18'.

Enter all the fields in the User Management Wizard and the new user will appear under its perspective role.

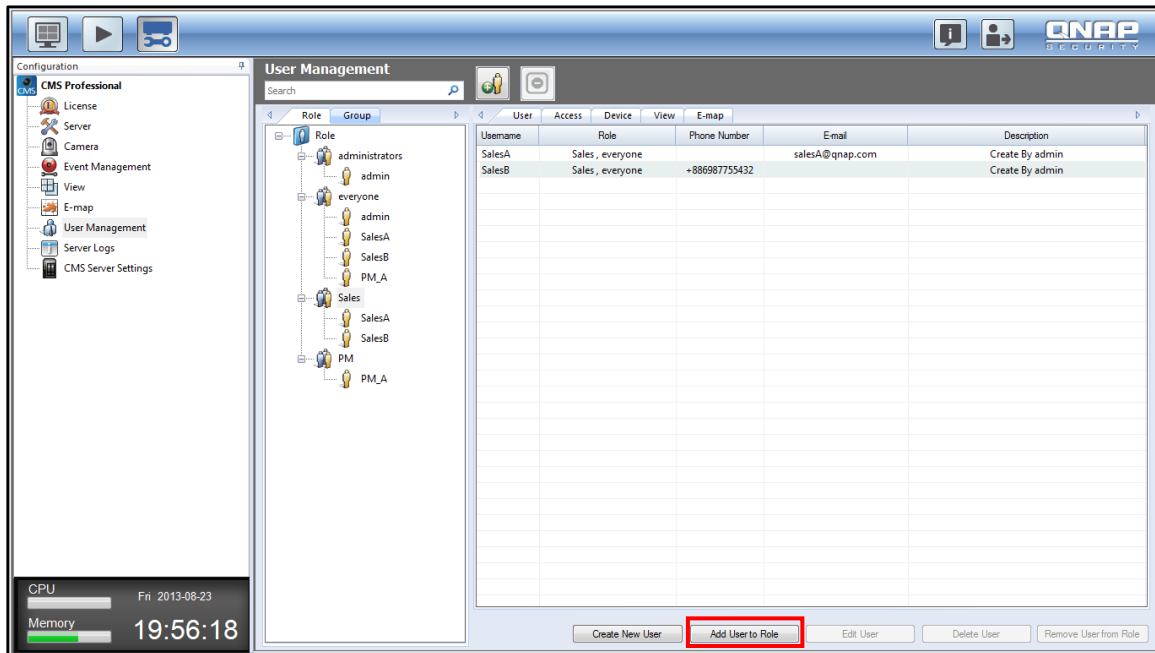


The screenshot shows a 'User Management Wizard' dialog box with the title 'Create New User'. It contains several input fields: 'Username' with the value 'Guard1', 'Password' and 'Retype Password' both masked with three dots, 'Email' with 'guard@mail.com', 'Phone' with '+886955987765', and a 'Description' text area containing 'Parking lot guard'. At the bottom right, there are 'Finish' and 'Cancel' buttons.

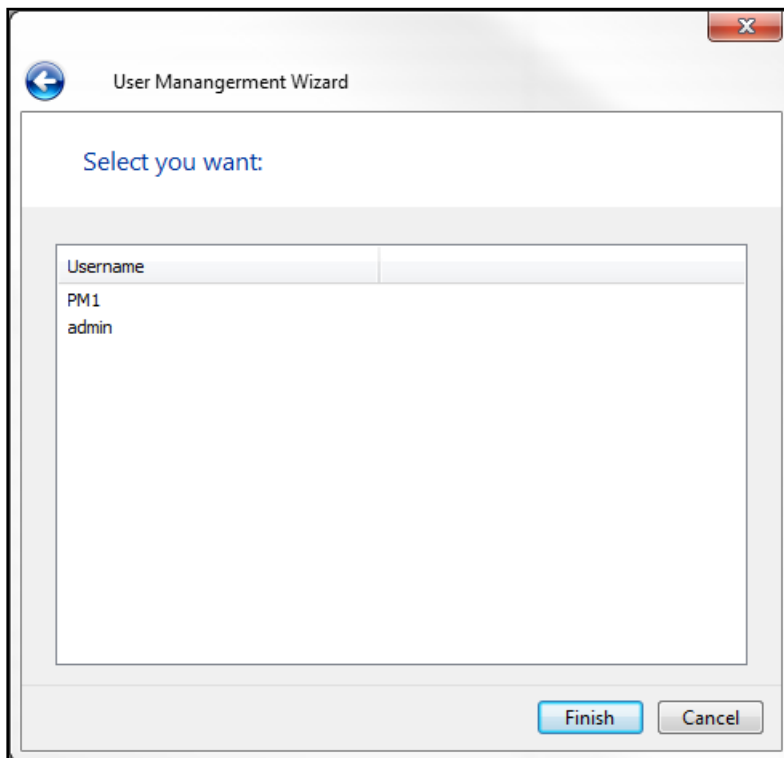
- Username: The user name must be 1 to 32 characters in length. It supports alphabets (A-Z), numbers (0-9), and underscores (_). It is case-insensitive and supports double-byte characters, such as Chinese, Japanese, and Korean but cannot be a pure number or contain the following characters:
"/ \ [] : ; | = , + * ? < > ` ' "
- Password: The password is case-sensitive and the maximum length is 16 characters. It is recommended to use a password of at least 6 characters.
- Other fields: Please finish the remaining fields, such as email, phone number and description.

Adding an existing user to the role

To quickly add existing users to a different role, simply choose a role, click "Add User to Role" and click "OK".



Newly added users will be listed in the User Management Wizard. Click "Finish" to save the changes.



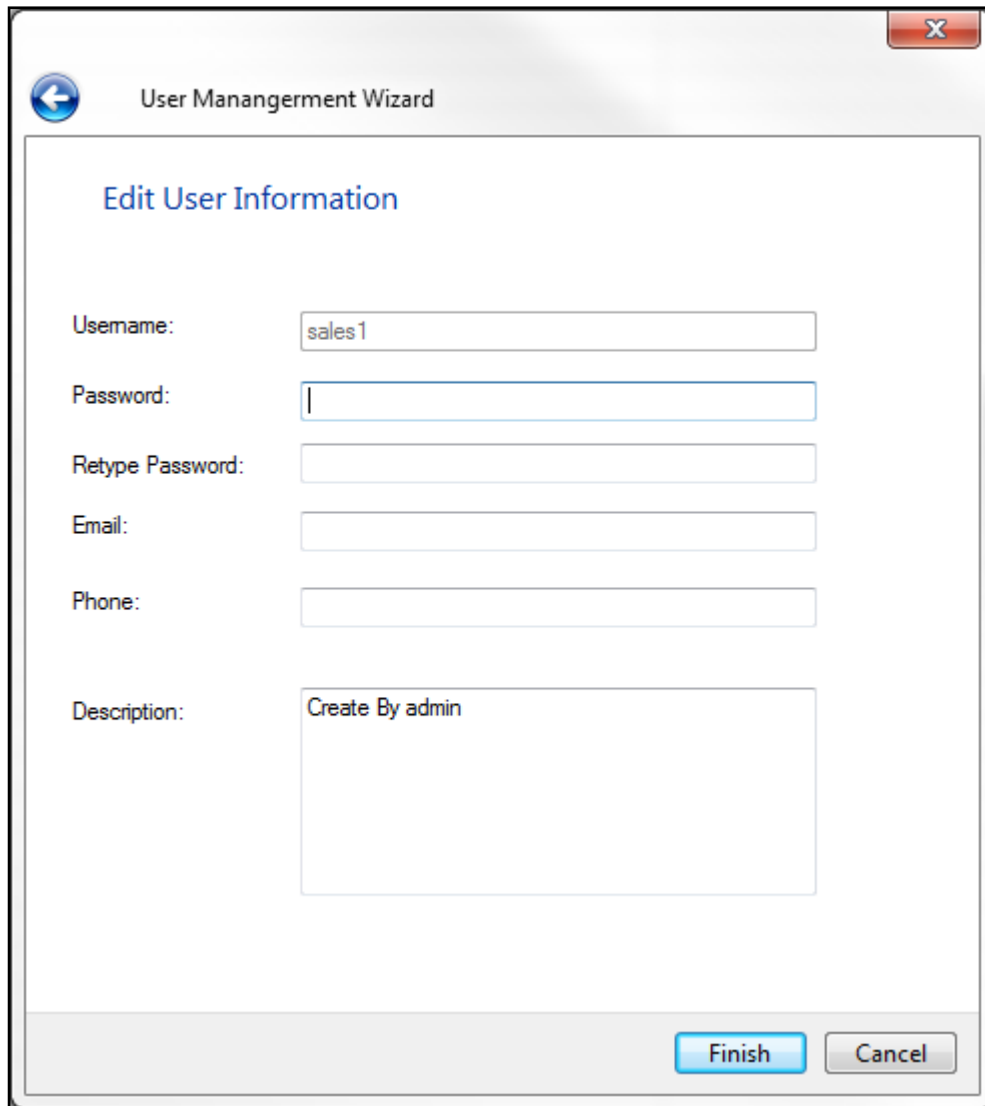
Editing an user

Select a user and click "Edit User".

The screenshot displays the QNAP CMS Professional User Management interface. On the left, a navigation pane shows the 'User Management' section selected. The main area is divided into two panes: 'Role' and 'User'. The 'Role' pane shows a tree structure with roles like 'administrators', 'everyone', 'Sales', and 'PM'. The 'User' pane shows a table of users with columns for Username, Role, Phone Number, Email, and Description. The 'SalesB' user is selected. At the bottom, a navigation bar contains buttons for 'Create New User', 'Add User to Role', 'Edit User', 'Delete User', and 'Remove User from Role'. The 'Edit User' button is highlighted with a red box.

Username	Role	Phone Number	Email	Description
SalesA	Sales, everyone		salesA@qnap.com	Create By admin
SalesB	Sales, everyone	+886987755432		Create By admin

Edit user information and click "Finish".

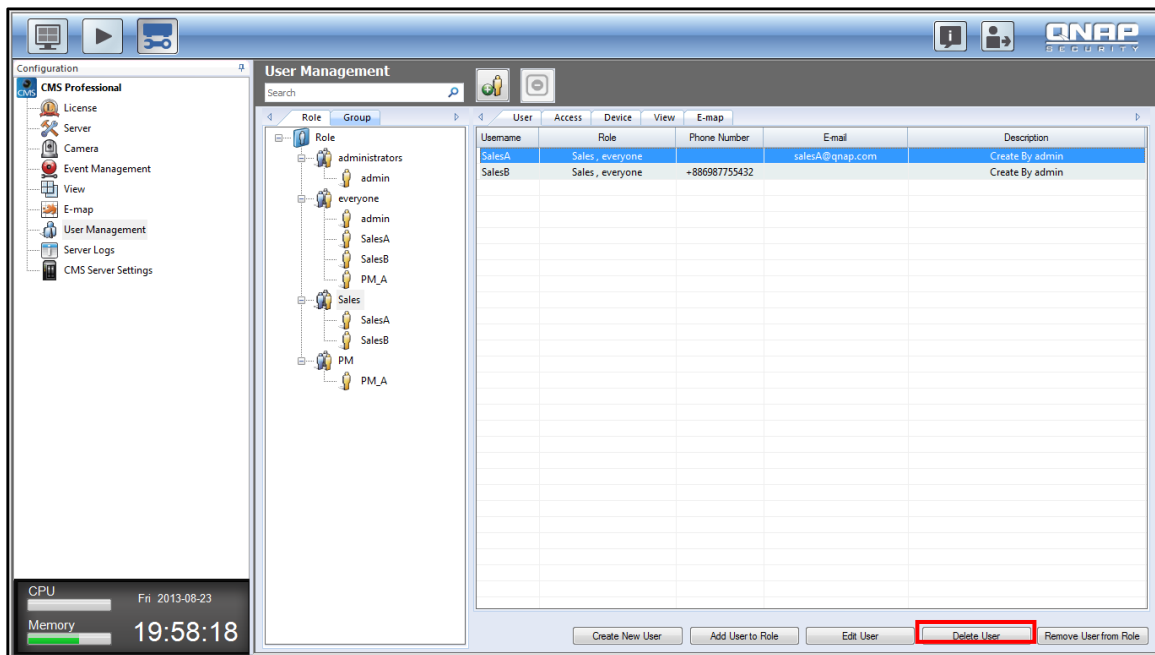


The image shows a software dialog box titled "User Manangerment Wizard" (note the typo) with a sub-header "Edit User Information". The dialog contains several input fields: "Username" with the value "sales1", "Password" (empty), "Retype Password" (empty), "Email" (empty), "Phone" (empty), and "Description" with the text "Create By admin". At the bottom right, there are two buttons: "Finish" and "Cancel".

Note: Due to security and safety concerns, the Password and Retype Password fields will be cleared each time the user password is edited.

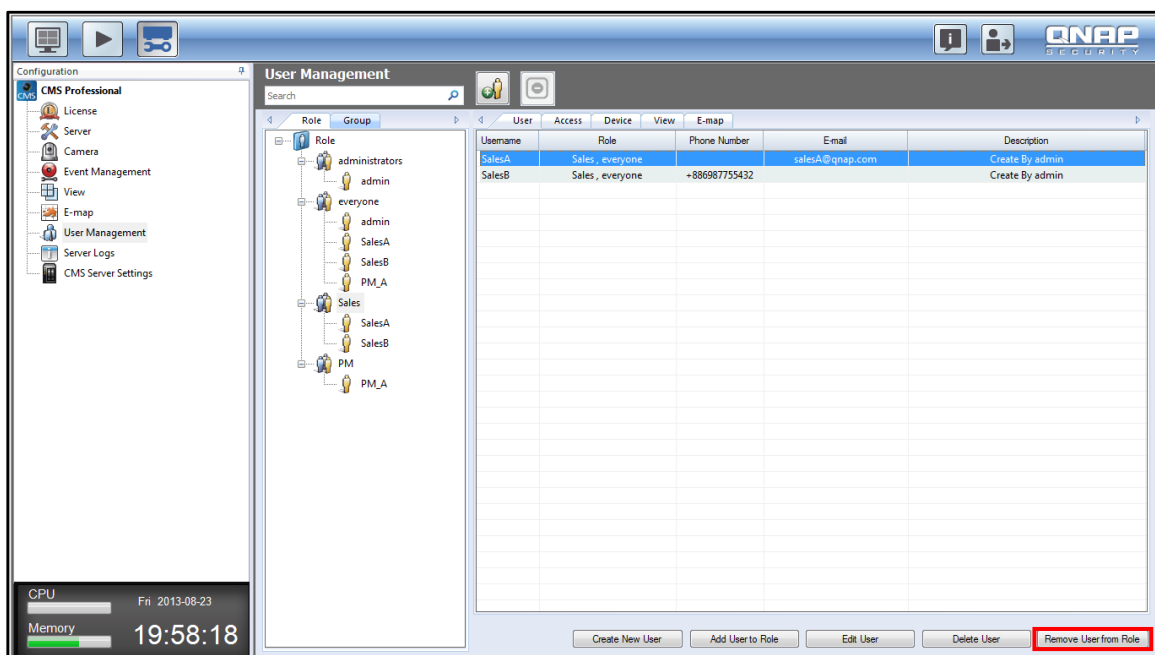
Deleting an user/remove an user from a role

To delete a user, please select the role first. Select the user from the list to the right and click "Delete User".



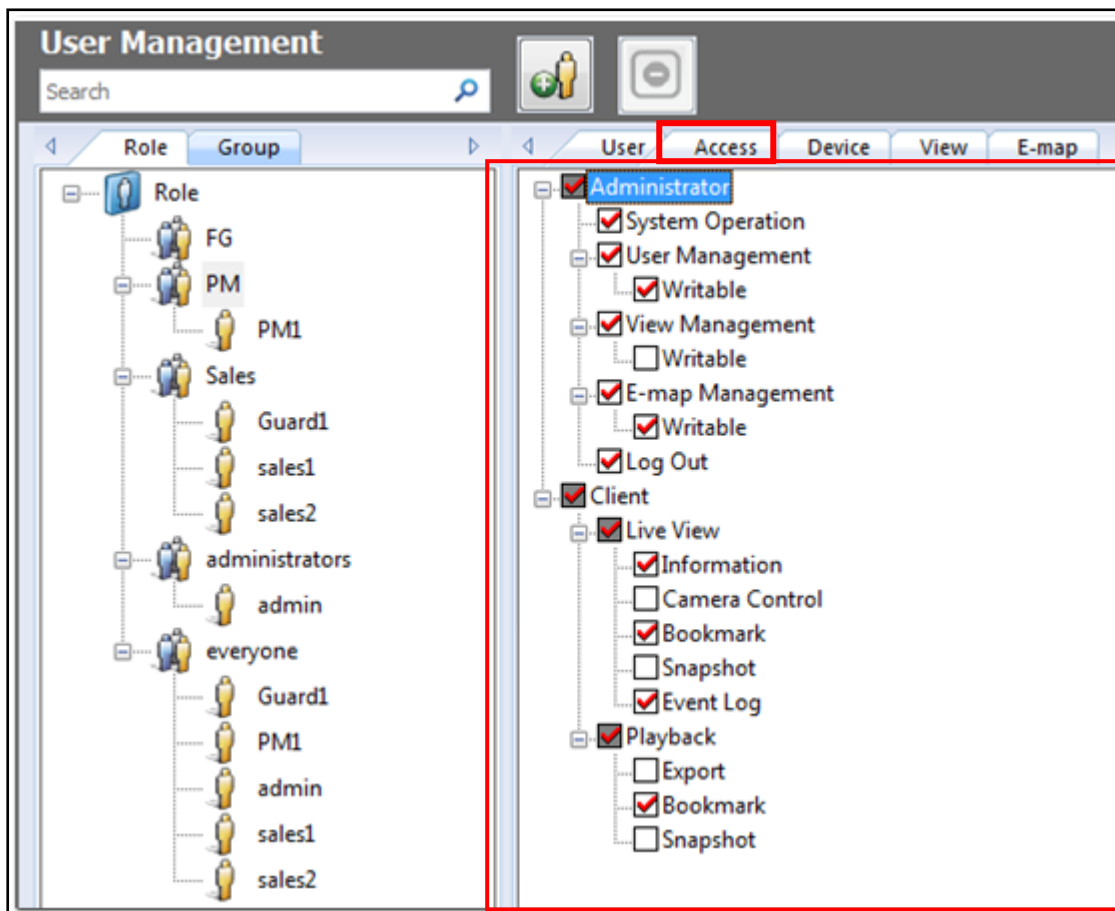
The chosen user account under the role will be deleted permanently from the system.

Please note that the "Remove User from Role" button is used to only remove the user account from the role, and the account will still exist in the system after the account is removed.



Configuring role permissions

Select "Role" and the information of all users under that role will be shown. You can set the access rights of the role under the "Access" tab.

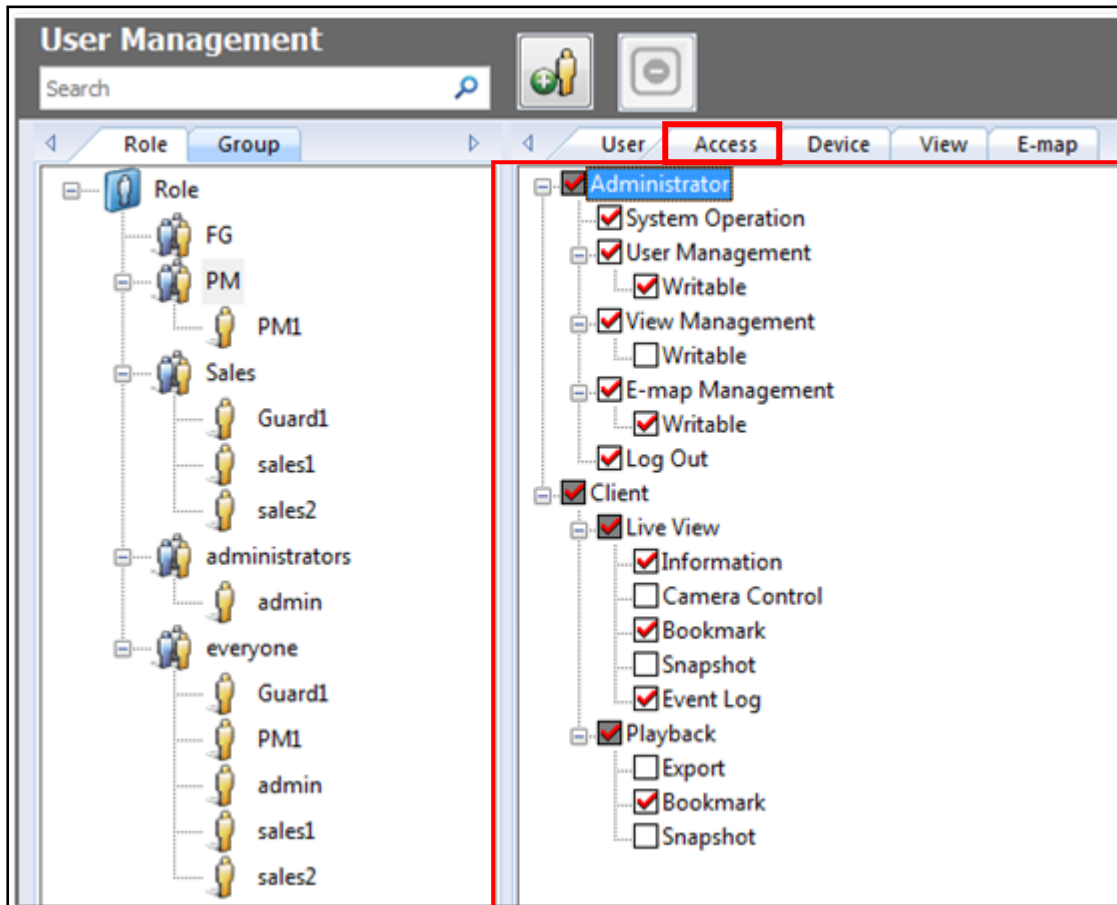


Access right (Administrator)	Description
System Operation	Ability to configure License, Server, Camera, Event Management.
User Management (Writable)	Ability to configure or only read User configuration.
View Management (Writable)	Ability to configure or only read View configuration.
E-map Management (Writable)	Ability to configure or only read E-map configuration.
Log Out	Ability to log out.

Access right (Client)	Description
Live View/Information	Ability to see the camera live view and Input Device list.
Live View/Camera Control	Ability to control camera panels.
Live View/Bookmark	Ability to use quick/detail bookmarks on the live view page.
Live View/Event Log	Ability to watch view and control event logs on live view page.
Playback/Export	Ability to export video or playback.
Playback/Bookmark	Ability to use quick/detail bookmark during playback.
Playback/Snapshot	Ability to take a snapshot during camera playback.

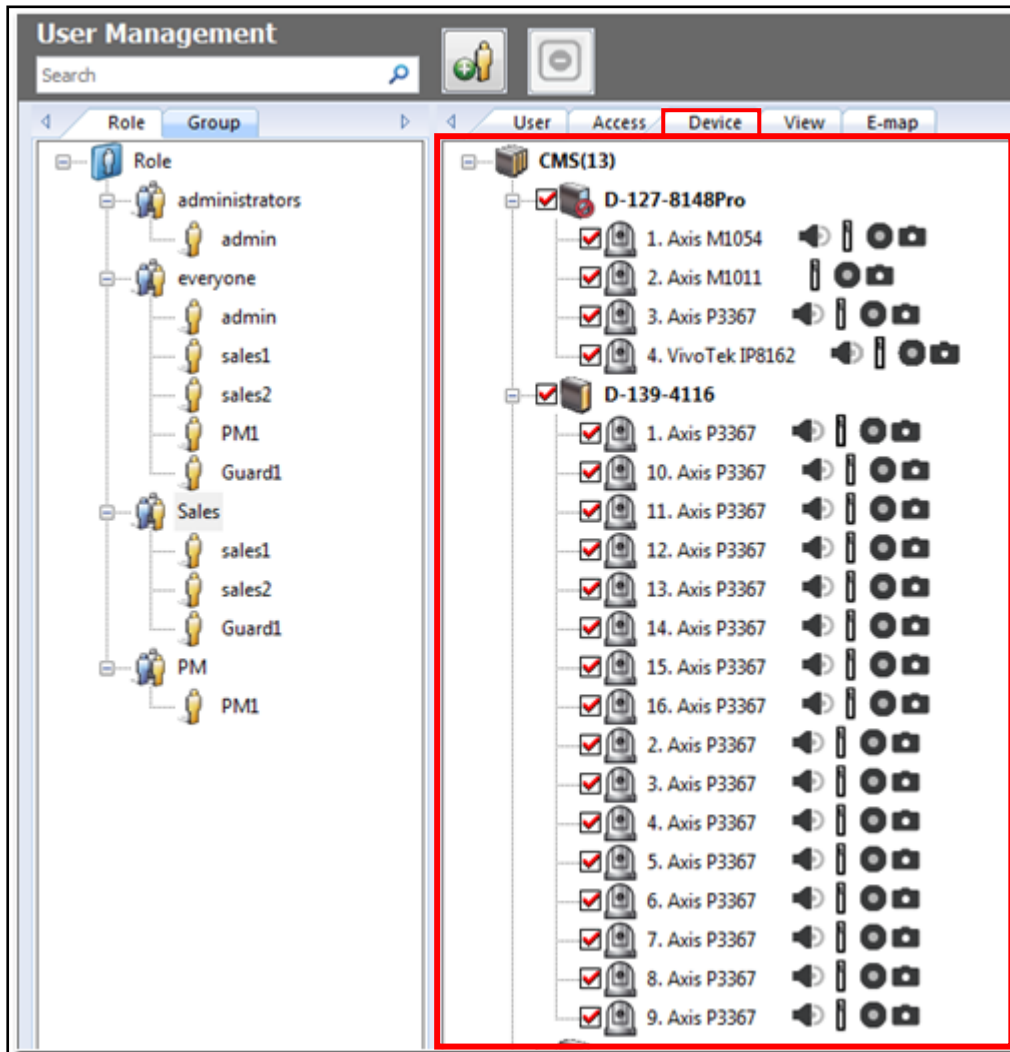
Access

This page includes two categories: administrator and client access. Each category is organized and presented in a treeview (click the "+" sign or "-" sign before an item to collapse or expand for more items.) Also, the access right for each application can be configured for the role.. Click "Save" after confirmation, or "Undo" to go back to the last step.



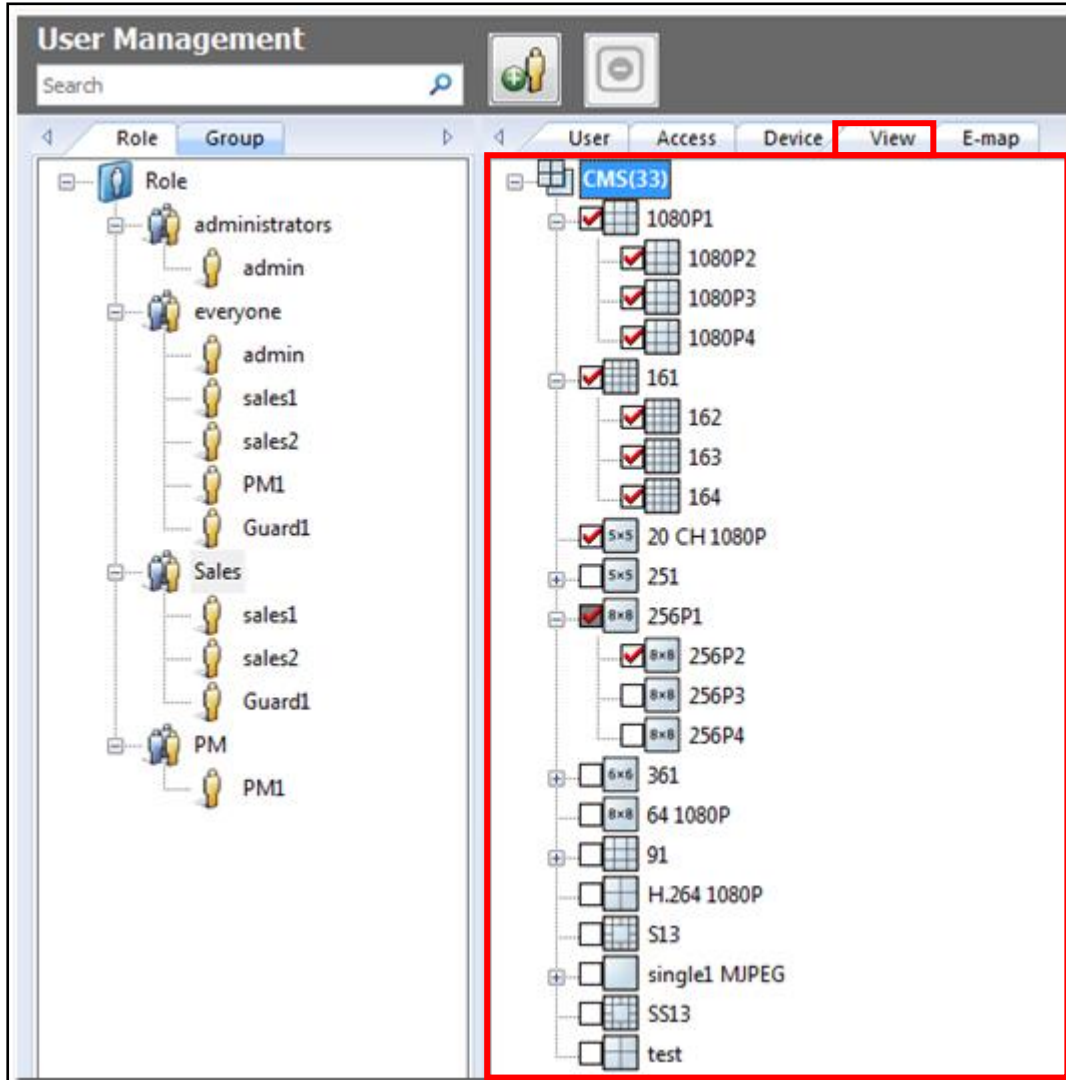
Device

Configure the access rights of the NVRs or the cameras for each role on this page. The available options include sound output/input, recording, PTZ control, manual recording and snapshot. Click "Save" to apply the changes or select "Undo" to return to the previous step.



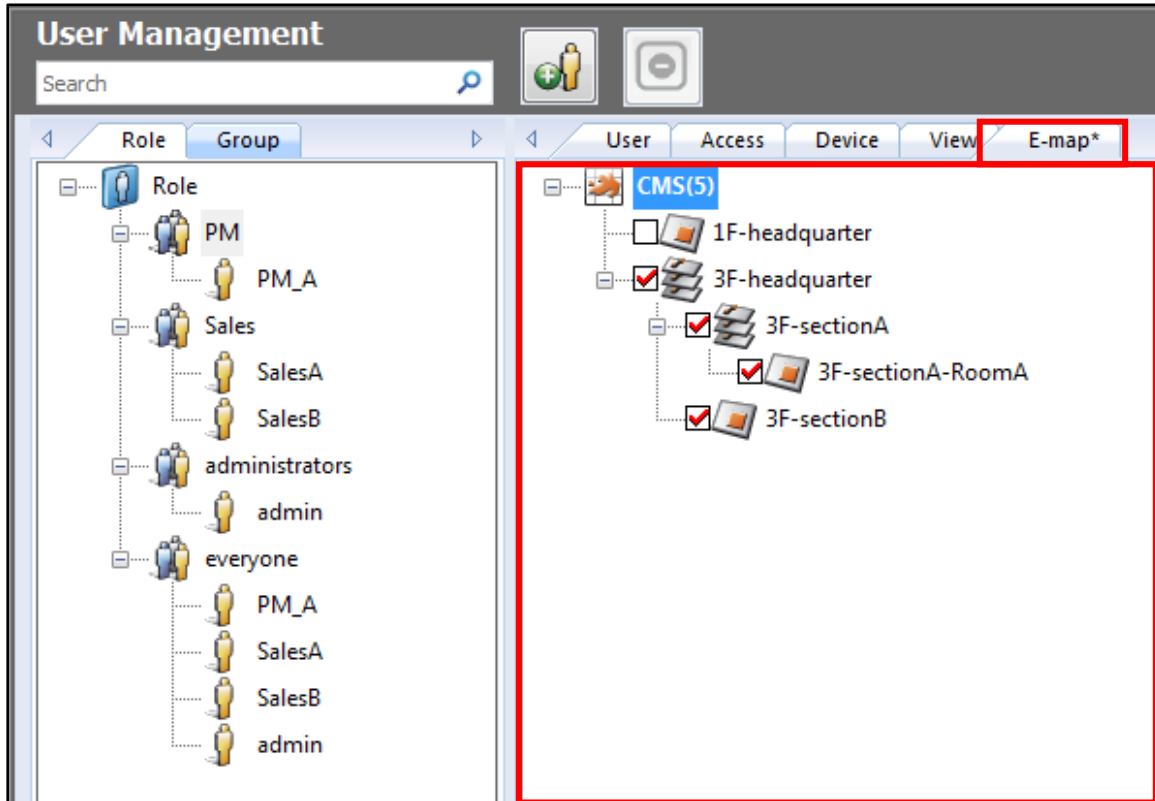
View

Configure the view layouts for each role on this page (this feature is for administrators only.)
Click "Save" to apply the changes made on this page or select "Undo" to return to the previous step.



E-map

Assign the rights of each right to edit and use E-maps on this page (this feature is for administrators only). Click "Save" to save the changes made on this page or select "Undo" to return to the previous step.




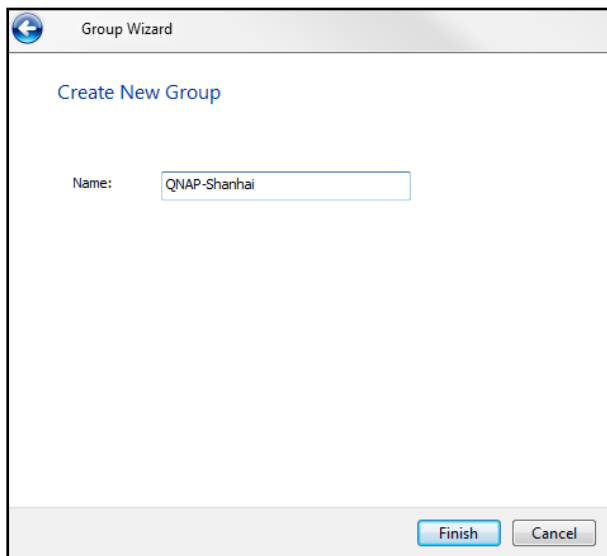
3.13.2 Group Management

This feature is used to classify the users for efficient user management.

Note: The same CMS users can be assigned both to a Role and Group. Therefore, one user can have both role and group properties.

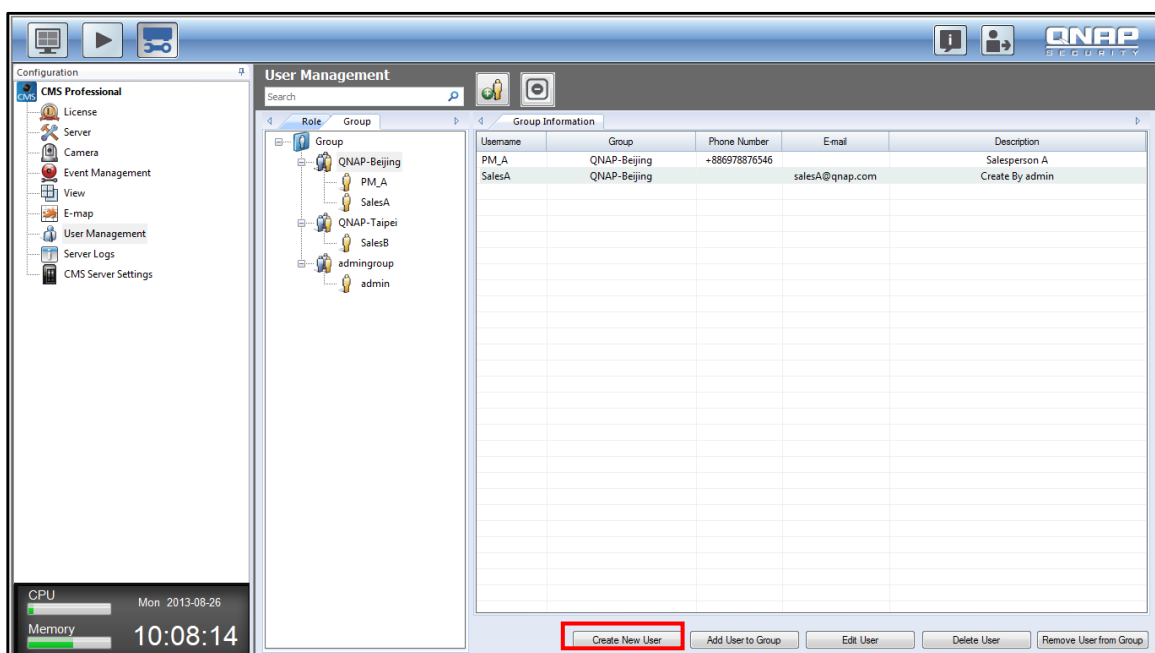
Adding a group

To create a new group, click . Enter the name of the group and click "Finish".

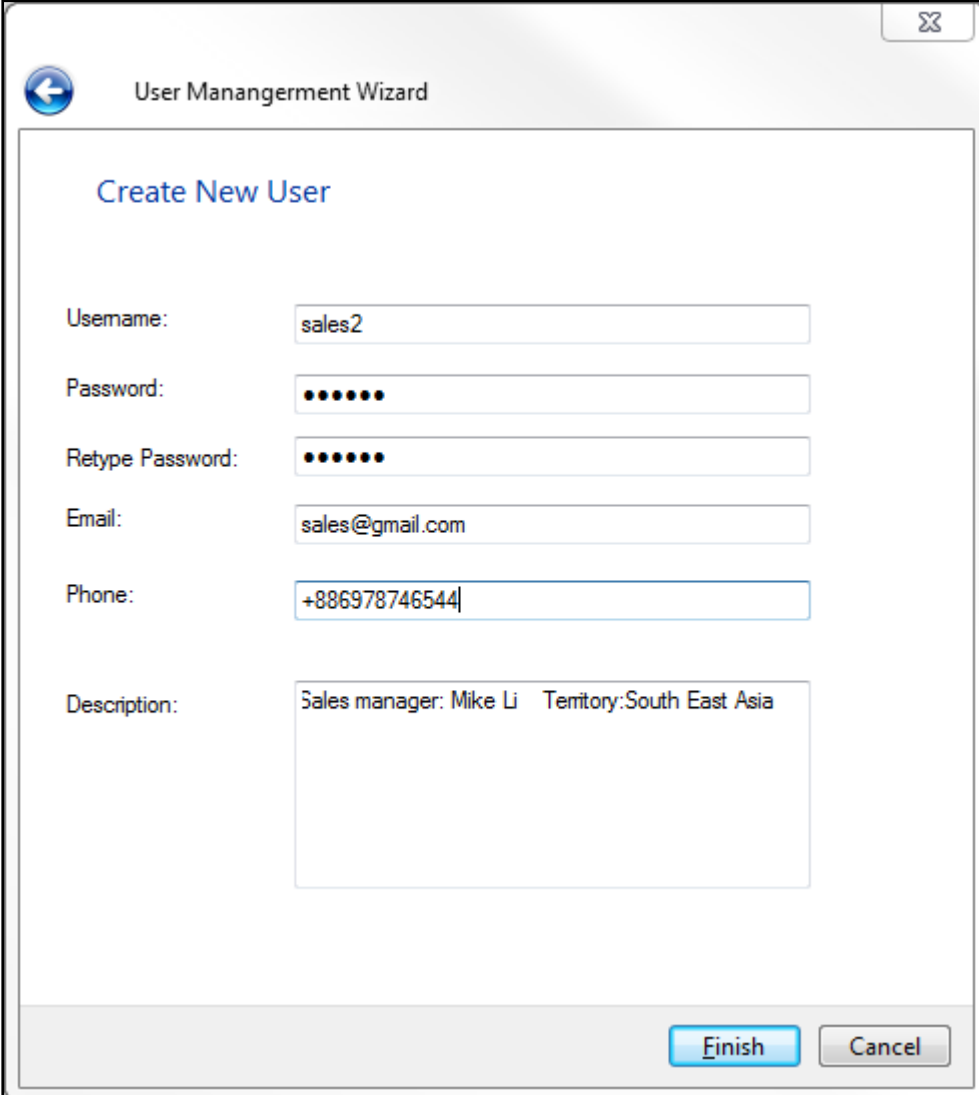


Adding an user to a group

Select a group and click "Create New User".




After all the fields in the User Management Wizard are complete, the newly created user will be listed under its perspective group under the "Group" tab.



The screenshot shows a window titled "User Management Wizard" with a "Create New User" section. It contains several input fields: "Username" with the value "sales2", "Password" and "Retype Password" both masked with dots, "Email" with "sales@gmail.com", "Phone" with "+886978746544", and a "Description" field containing "Sales manager: Mike Li Territory:South East Asia". At the bottom right, there are "Finish" and "Cancel" buttons.

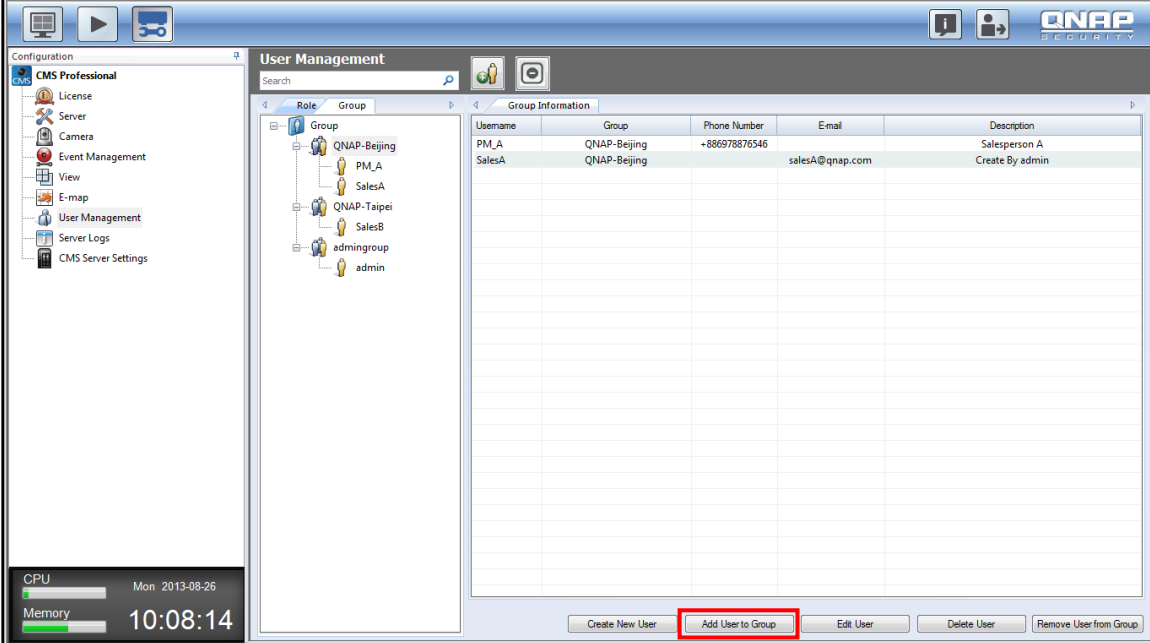
- Username: The user name must be 1 to 32 characters in length. It supports alphabets (A-Z), numbers (0-9), and underscores (_). It is case-insensitive and supports double-byte characters, such as Chinese, Japanese, and Korean but cannot be a pure number or contain the following characters:
"/ \ [] : ; | = , + * ? < > ` `
- Password: The password is case-sensitive and the maximum length is 16. It is recommended to use a password of at least 6 characters.
- Other fields: fields such E-mail, phone number and description can be left blank.

Deleting a group

To delete a group, select the group on the left, and click .

Adding the existing user(s) to a group

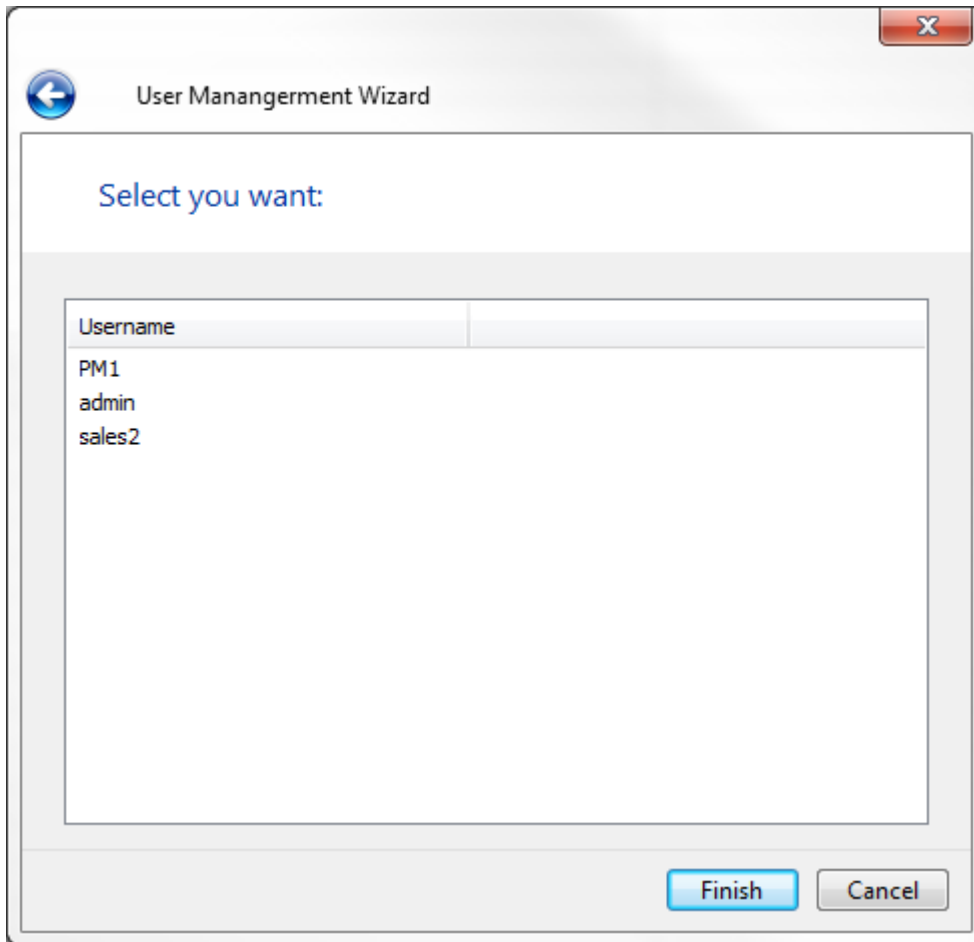
To quickly add the existing users to the different groups, click "Add User to group".



The screenshot displays the QNAP User Management interface. On the left, a navigation tree shows 'QNAP-Beijing' selected under the 'Group' tab. The main area shows a table of users for the selected group. The 'Add User to Group' button at the bottom is highlighted with a red box.

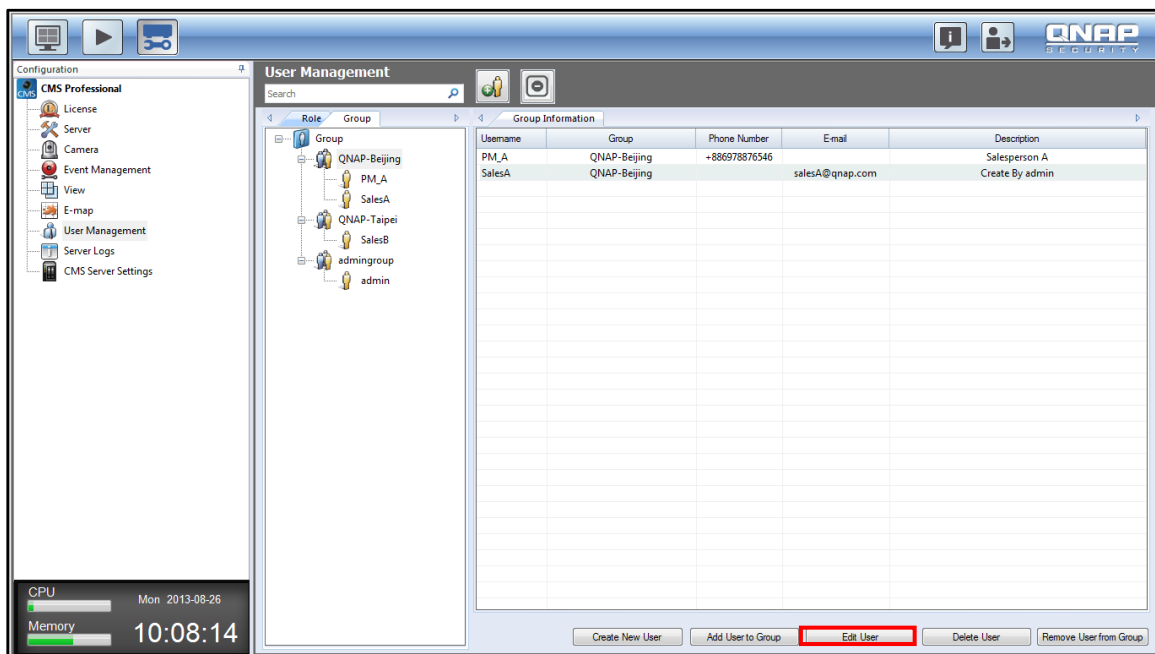
Username	Group	Phone Number	E-mail	Description
PM_A	QNAP-Beijing	+886978876546		Salesperson A
SalesA	QNAP-Beijing		salesA@qnap.com	Create By admin

Users already created for the group will be listed. Click "Finish" after making your selection.

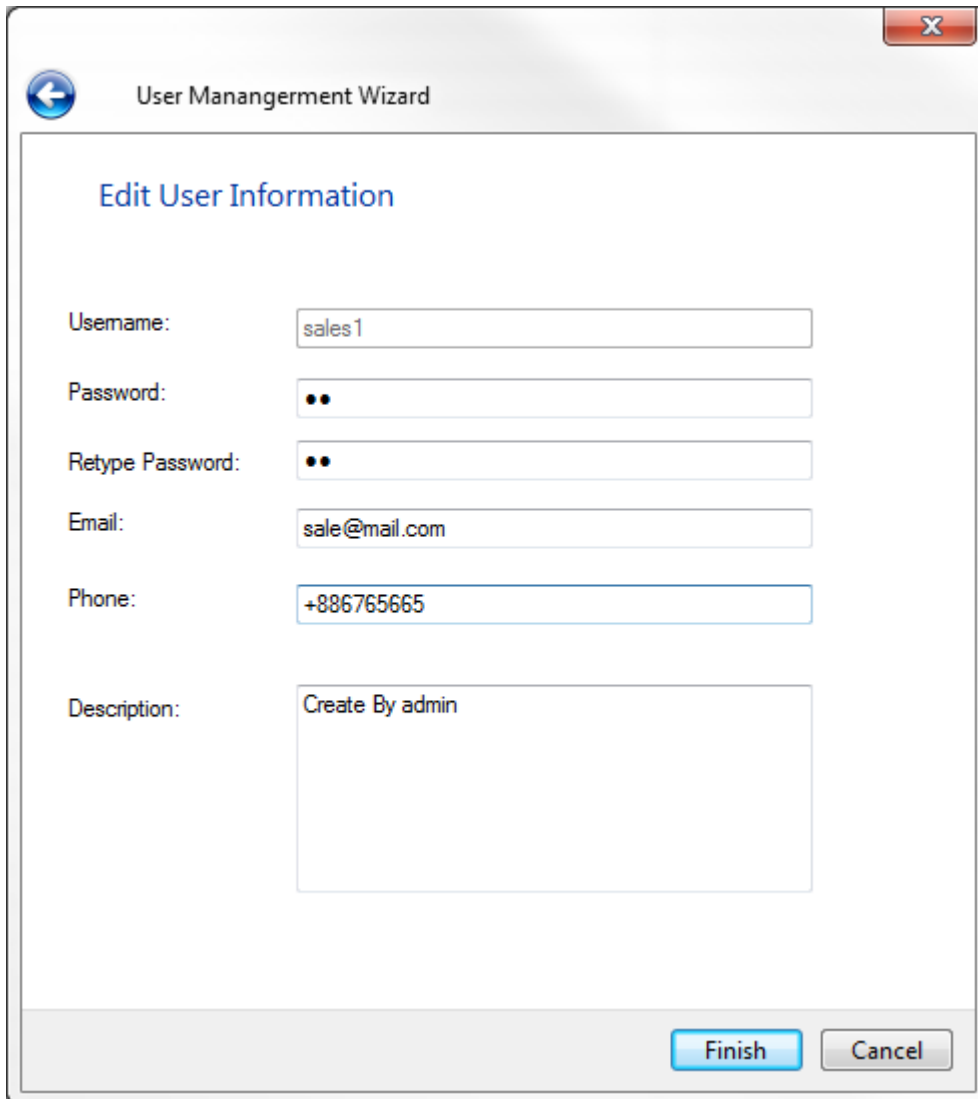


Editing an user

Select a user and click "Edit User".



Modify user information and click "Finish".

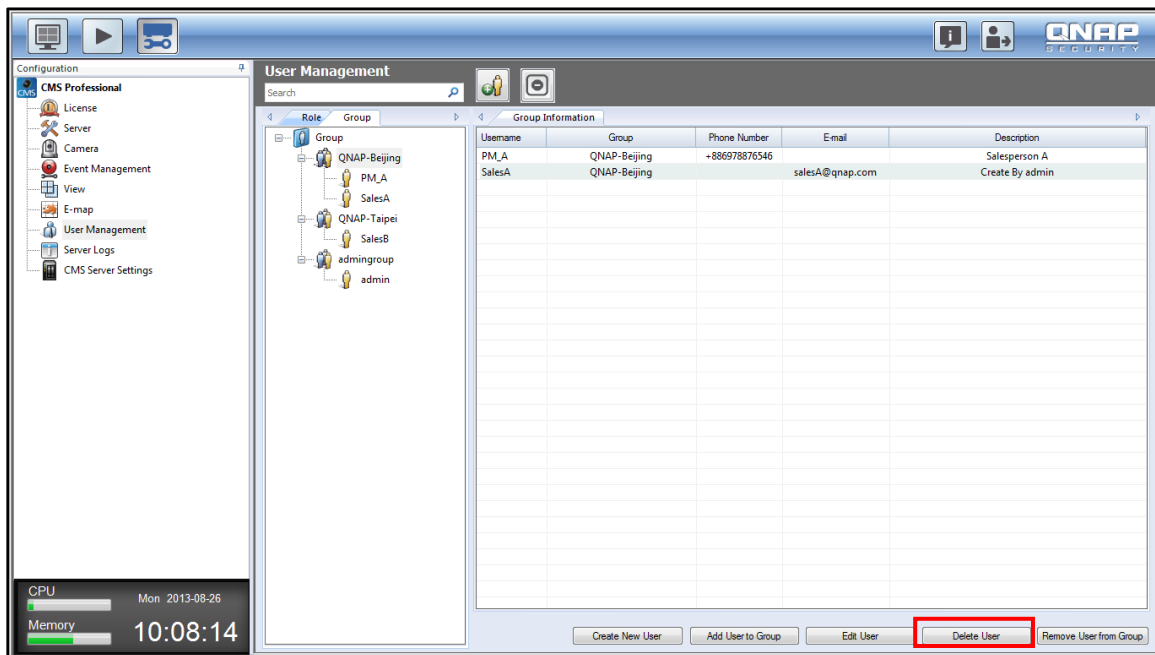


The image shows a software dialog box titled "User Management Wizard" with a sub-header "Edit User Information". The dialog contains several input fields: "Username" with the value "sales1", "Password" and "Retype Password" fields which are currently empty and masked with two black dots each, "Email" with the value "sale@mail.com", "Phone" with the value "+886765665", and a "Description" text area containing the text "Create By admin". At the bottom right of the dialog are two buttons: "Finish" and "Cancel".

Note: Due to security and safety concerns, the Password and Retype Password fields will be cleared each time the user password is edited.

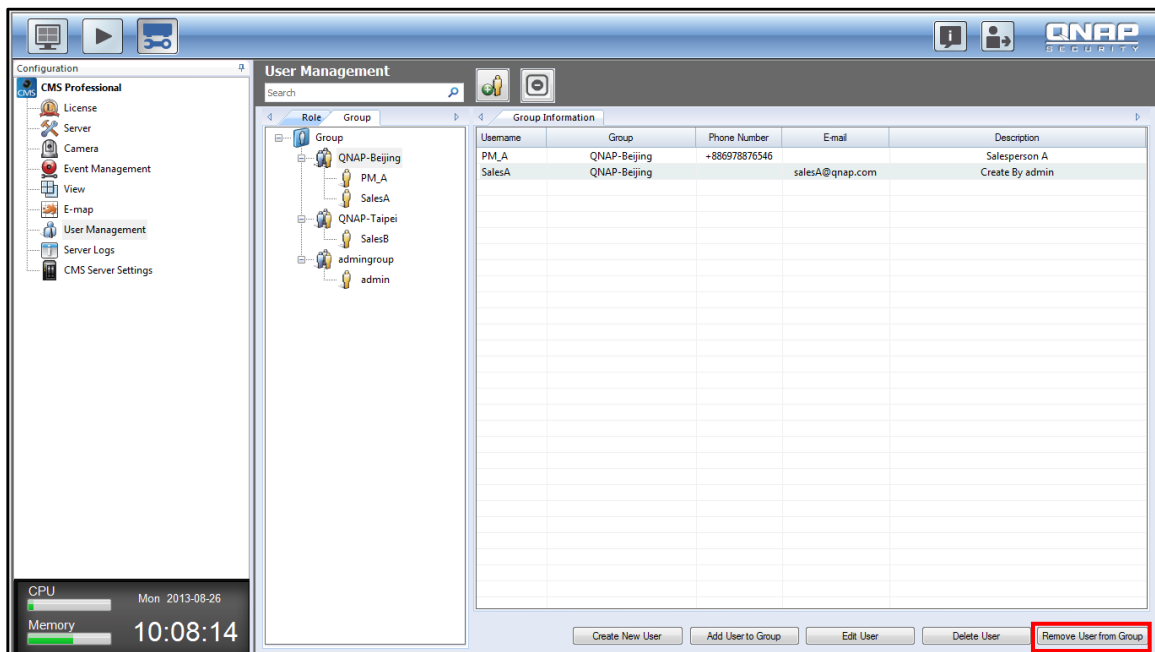
Deleting an user

To delete a user, select the role and the user, then click "Delete User". The account will be permanently deleted from the system after the user is deleted.



Removing an user from a group

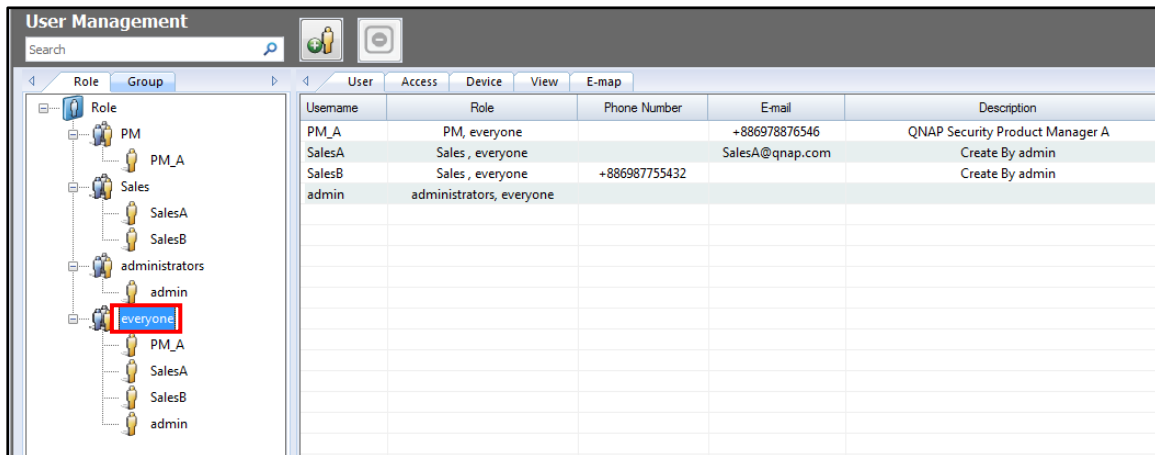
To remove a user from a group, select the user and click "Remove User from Group".



Note: The "Removing User from Group" button will only remove users from a role, but the user account will still remain in the system.

3.13.3 User List

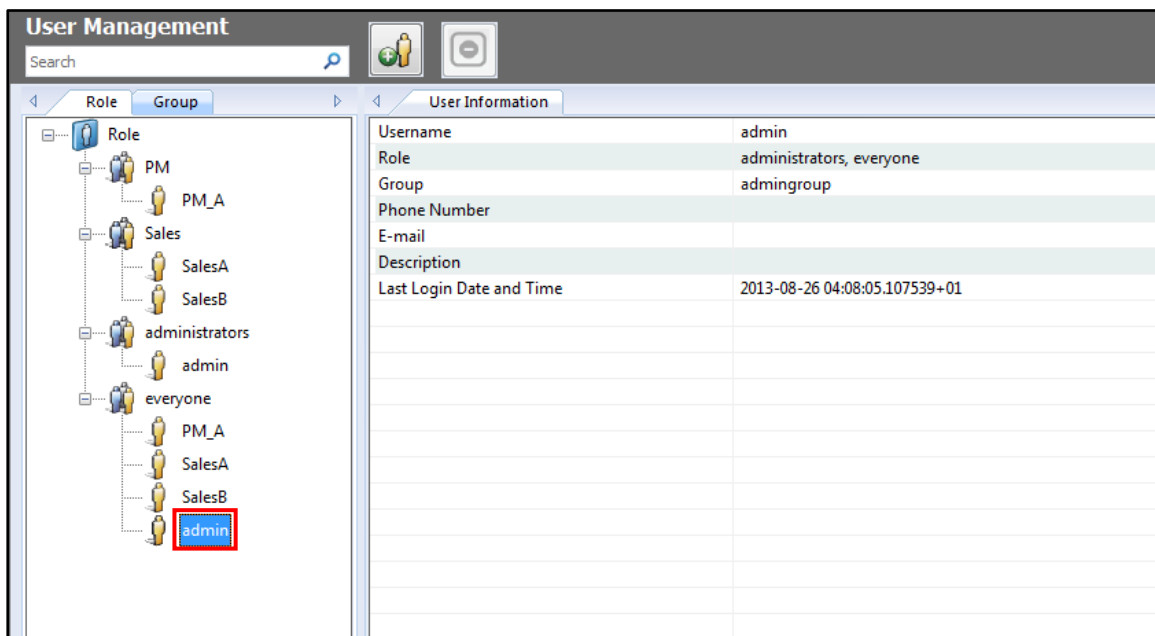
To check the users within a group or role, please click the role or group under the "Role" or "Group" tab and all user accounts and their details, including the name, role/group that it belongs to, phone number, email, and description, will be listed on the right side of the page.



The screenshot shows the 'User Management' interface. On the left, a tree view shows a hierarchy of roles and groups. The 'everyone' group is selected and highlighted with a red box. On the right, a table lists the users associated with this group.

Username	Role	Phone Number	E-mail	Description
PM_A	PM, everyone		+886978876546	QNAP Security Product Manager A
SalesA	Sales, everyone		SalesA@qnap.com	Create By admin
SalesB	Sales, everyone	+886987755432		Create By admin
admin	administrators, everyone			

To further check on the details of a particular user account, please click on the user account on the left box and all its account details, including the Last Login Date and Time will be shown on the right side of the page.



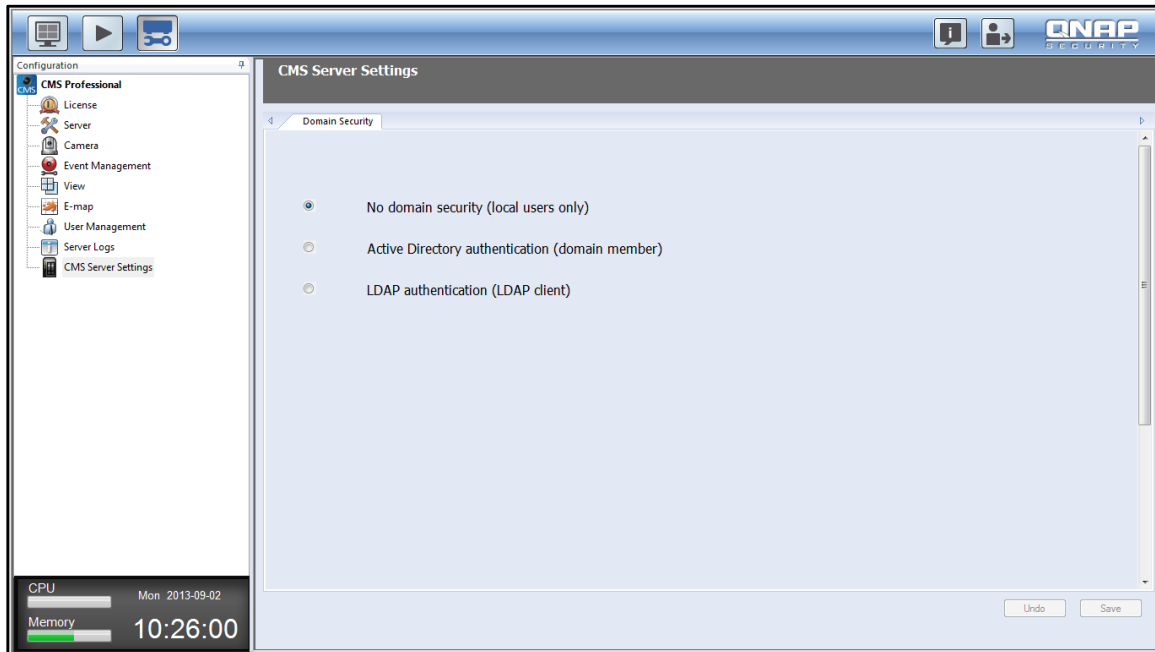
The screenshot shows the 'User Management' interface with the 'User Information' tab selected. The 'admin' user is selected in the left tree view and highlighted with a red box. The right pane displays the user's details.

User Information	
Username	admin
Role	administrators, everyone
Group	admingroup
Phone Number	
E-mail	
Description	
Last Login Date and Time	2013-08-26 04:08:05.107539+01

3.14 CMS Server Settings

3.14.1 Domain Security

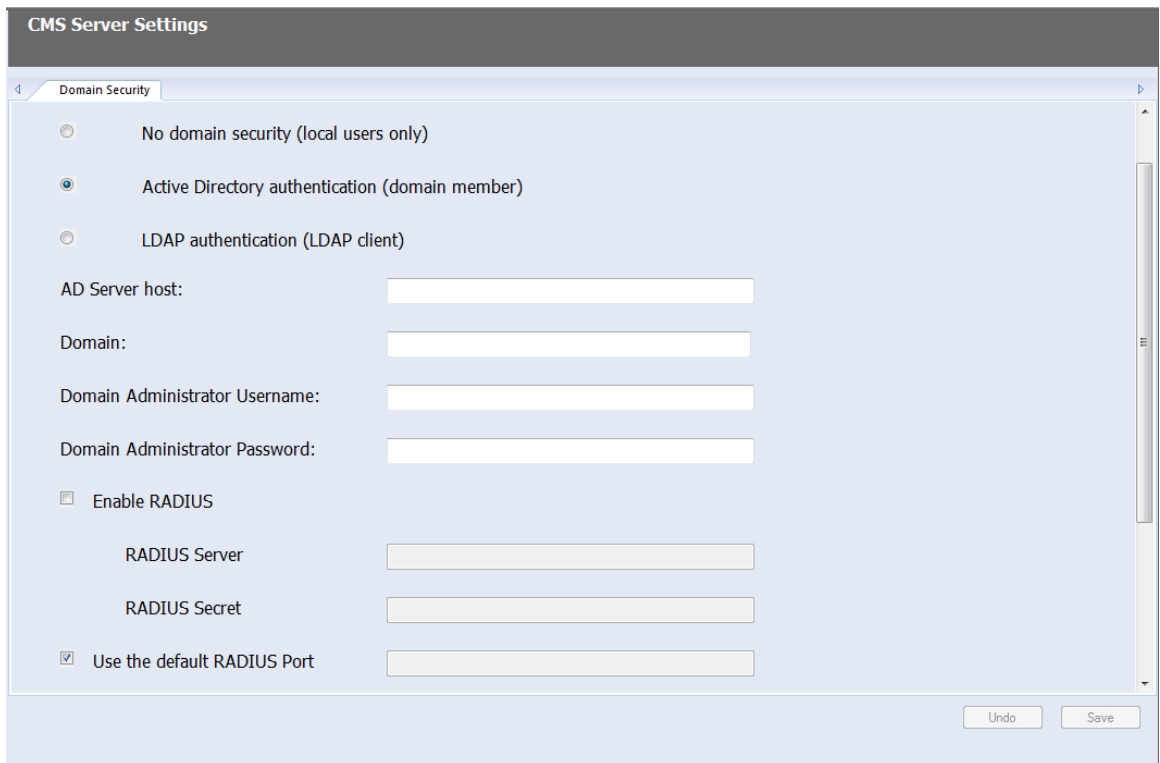
The domain security feature is designed for the CMS Server to join the Active Directory (AD) and Lightweight Directory Access Protocol (LDAP) directory and for AD and LDAP users to access the CMS Server. Go to the "CMS Server Settings" page to set up the domain security. There are three options available:



- No domain security (local users only): Select this option, and only local users can access the CMS Server.



- **Active Directory authentication (domain member):** Select this option to join the CMS Server to an AD domain. Enter all fields and choose to enable the RADIUS service. After joining the CMS Server to an AD domain, the AD users can log into the CMS Server.



CMS Server Settings

Domain Security*

Use the default LDAP Port

LDAP Security: **None**

LDAP BASE DN

LDAP Bind DN

LDAP Bind Password

Users Base DN

Enable RADIUS

RADIUS Server: myRADIUS.qnap.com

RADIUS Secret: xxxxxxxx

Use the default RADIUS Port

Undo Save

CMS Server Settings

Domain Security*

Use the default LDAP Port

LDAP Security: **None**

LDAP BASE DN

LDAP Bind DN

LDAP Bind Password

Users Base DN

Enable RADIUS

RADIUS Server: myRADIUS.qnap.com

RADIUS Secret: xxxxxxxx

Use the default RADIUS Port

Undo Save

- LDAP authentication (LDAP client): Select this option to connect the CMS Server to an LDAP directory. Enter all fields (refer to the following table for explanations on each field) and choose to enable the RADIUS service. After the CMS Server is connected to the LDAP directory, either the local users or the LDAP users can be authenticated to access the CMS Server. After the LDAP directory settings are

applied, users will be prompted to choose between “Local” and “LDAP Domain Name” in the “login to” field on the of login screen.

CMS Server Settings

Domain Security

No domain security (local users only)
 Active Directory authentication (domain member)
 LDAP authentication (LDAP client)

Select the type of LDAP server:

LDAP Server Host

Use the default LDAP Port

LDAP Security

LDAP BASE DN

LDAP Bind DN

LDAP Bind Password

Users Base DN

Undo Save

CMS Server Settings

Domain Security

Use the default LDAP Port

LDAP Security

LDAP BASE DN

LDAP Bind DN

LDAP Bind Password

Users Base DN

Enable RADIUS

RADIUS Server

RADIUS Secret

Use the default RADIUS Port

Undo Save

Field	Description
Select the type of	Choose the LDAP server domain you want to access.

LDAP Server	
LDAP Server Host	The LDAP server host or IP.
LDAP Security	Specify how the NAS will communicate with the LDAP server: - ldap:// = Use a standard LDAP connection (default port: 389). - ldap:// (ldap + SSL) = Use an encrypted connection with SSL (default port: 686). - ldap:// (ldap + TLS) = Use an encrypted connection with TLS (default port: 389).
BASE DN	The LDAP domain. For example, dc=mydomain,dc=local
Root DN	The LDAP root user. For example, cn=admin, dc=mydomain,dc=local
Password	The root user password.
Users Base DN	The organization unit (OU) in which users are stored. For example, ou=people,dc=mydomain,dc=local

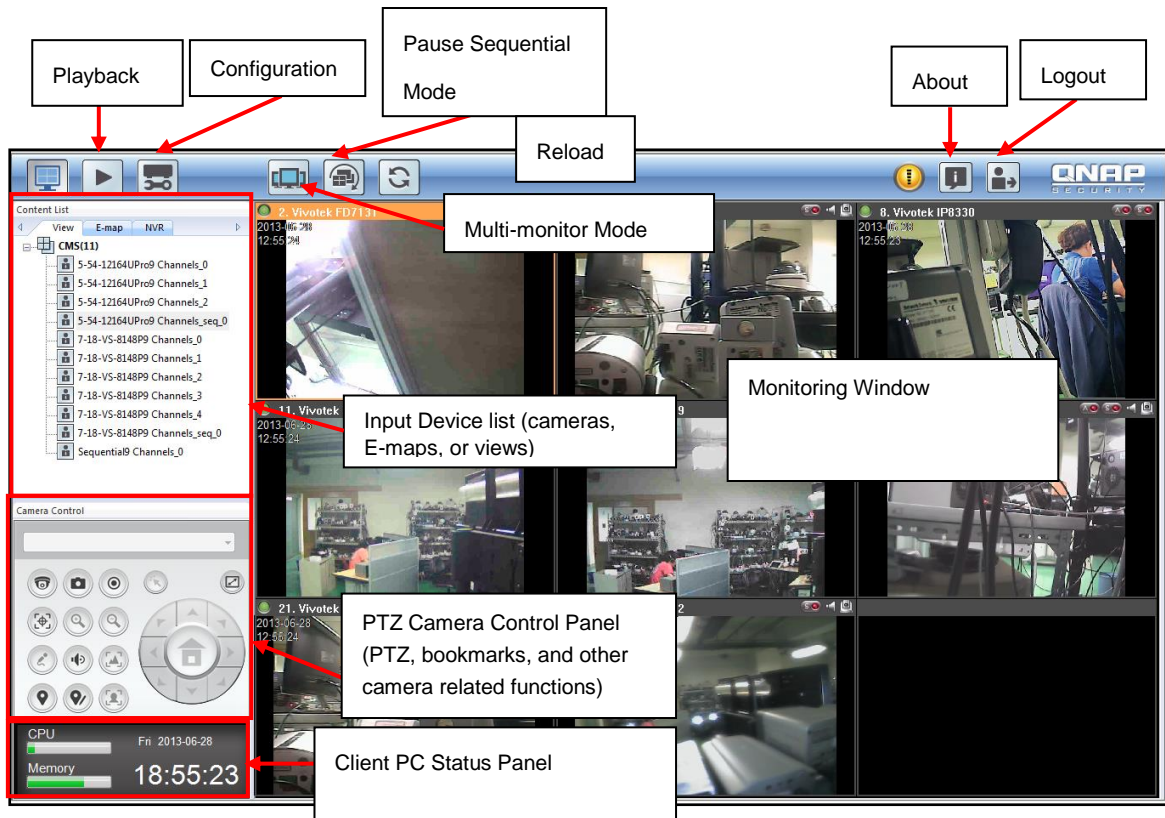
Note:

- To avoid account conflicts, please do not create CMS user accounts that already exist in the AD and LDAP directory.
- After the domain security feature is configured, please be sure to select the correct domain to log in on the login screen.


3.15 Live View

Upon successful login to the CMS Server, the live view console will appear. System administrators can view all the configured IP cameras and E-maps, switch between the display modes, enable or disable manual recording, or take a snapshot, etc. The borders and sizes of the left toolbar, the main screen in the middle, and the system logs window below are all adjustable. To set up the monitoring page, please first add NVR servers to the CMS Server, add camera channels, and then go to live view page (please refer to Chapter [5.4](#) and [5.7](#) for details.) The camera channels will be available on the page.

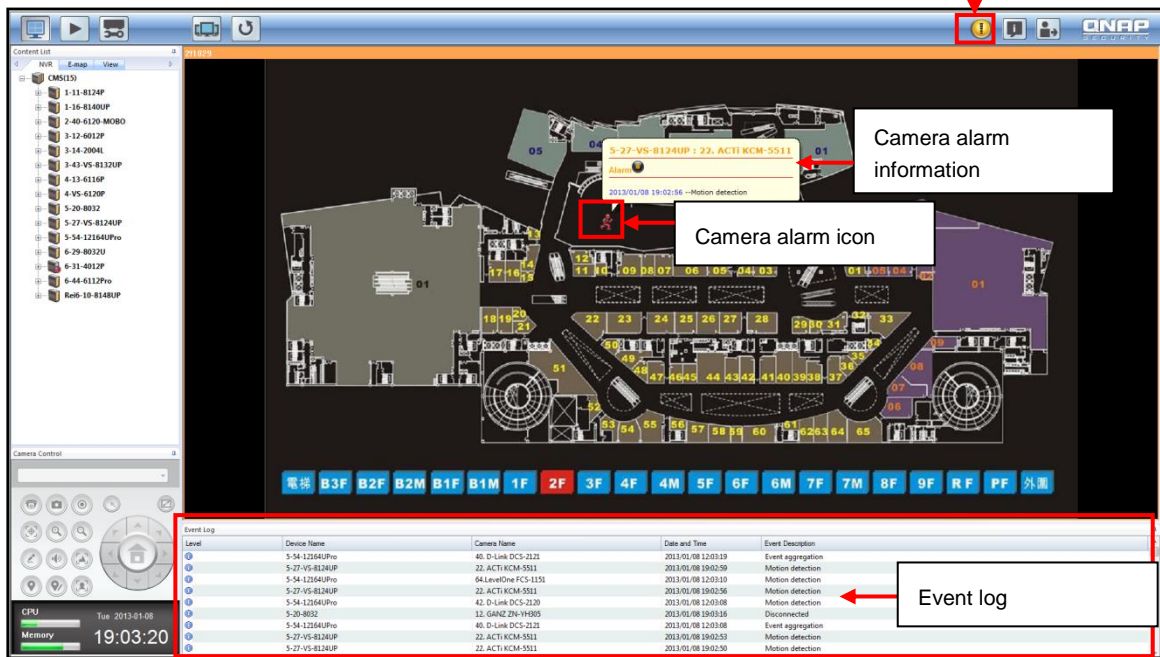
The live view page and all its features are described in the following figure:



Note: The Client PC Status Panel at the bottom left shows the date and time, and the memory and CPU usage of the client PC.

When an alarm is triggered by a camera and the CMS will enter the alert mode. There are two kinds of alert presentations in the alert mode: 1) if the live view is displayed on the Monitoring Window, the alarm button on the top right corner of the screen will start to flash. When this happens, users can click this alarm button to view the system logs; and 2) if the E-map is displayed on the Monitoring Window, the camera icon will change to . Users can choose to handle the alarm by moving the mouse cursor to the event logs at bottom of the screen (please refer to Chapter 3.3.6 for details.)










Switch to the alert mode
(alarm events triggered)









Note: Users can press F11 to turn the full screen mode on or off.



Icons and description of the main toolbar:

Icon	Description
	Open the live view page.
	Open the video playback page.
	Open the system configuration page (administrator username and password are required).
	The multi-monitor mode is supported. The icon will appear if the client PC has multiple monitors.
	Pause all cameras running in the sequential mode at any time in order not to miss any event.
	Reload the page.
	Shows the CMS Client version and website address of QNAP Security.
	Logout the CMS Client.
	When an alarm is triggered, this icon will flash, and users can click this button to enter the alarm mode.

Icons and description of the Input Device List:

Icon	Description
	NVRs that have been added to the system.
	IP cameras that have been added to the system.
	This icon shows that there are several layers in the E-map. Click the icon to enter the next layer in the E-map group.
	Click  to select a single-layer E-map. When an E-map is selected, the icon will become  .

Note:

- Enabling or disabling manual recording will not affect scheduled or alarm recording. They are independent processes.
- By default, the snapshots are saved in "My Documents" or "Documents"> "Snapshots" (in Windows.)
- If the snapshot time is inconsistent with the actual time that the snapshot is taken, it is caused by the network environment and not a system error.
- The event alarm settings can only be configured on the NVR. Users can only enable or disable the CMS to receive alarms.
- When the digital zoom function is enabled on multiple IP cameras, the zooming performance will be affected if the computer performance decreases.

When right clicking a camera channel on the live view page, the following functions may not be available depending on the IP camera model:

- Connect to camera homepage.
- Camera Settings: Open the configuration page of the IP camera (Please refer to the camera settings in the NVR user manual for details.)
- Preset Positions: Select the preset positions of a PTZ camera.
- Auto Cruising: Configure the PTZ cameras to cruise according to the preset positions and the staying time set for each preset position.
- PTZ Control: Pan, tilt, or zoom camera control.
- Digital Zoom: Enable or disable digital zoom.
- Keep Aspect Ratio.
- Adjust Live Stream: Auto/Quality priority/Performance priority/Recording stream.
- Carousel: Manually switch to the next or last camera in the sequential mode.

3.15.1 Live View Page

After correctly setting the channel layout, the live videos of the IP camera will be shown on the live view page. Click the monitoring page to use the features supported. Please note that the PTZ camera control panel at bottom left side of the screen can only be used after a channel is selected from the monitoring page (The frame of the channel will turn into the orange color, and the channel selected will become an active channel.)



Camera Status

The camera status is indicated by the icons shown below:















Icon	Camera Status
	Indicates that the camera is in the scheduled or continuous recording mode.
	Indicates that manual recording mode is enabled for the camera.
	Indicates that the camera is currently being triggered to record by the advanced NVR Event Management ("Camera Settings" > "Alarm Settings" > "Advanced Mode").
	Indicates that this IP camera supports the audio function.
	Indicates that this IP camera supports PTZ control.
	Indicates that digital zoom is enabled.

The frequently viewed channels can be dragged to the main toolbar as shortcuts. To delete a shortcut, right click the shortcut and select "Delete Shortcut".



Note: A maximum of five shortcuts are supported on the main toolbar (including camera live view and E-maps.)



Icons and description of main toolbar:

ICON	Description
	Single-channel view
	4-channel view (2x2)
	6-channel view (1+1+4)
	6 channel view (1+5)
	8-channel view (1+7)
	9-channel view (3x3)
	10-channel view (2+8)
	12 channel view
	13-channel view (1+12)
	16-channel view (4x4)
	25-channels view (5x5)
	36-channels view (6x6)
	49-channels view (7x7)
	64-channels view (8x8)



3.15.2 Bookmark

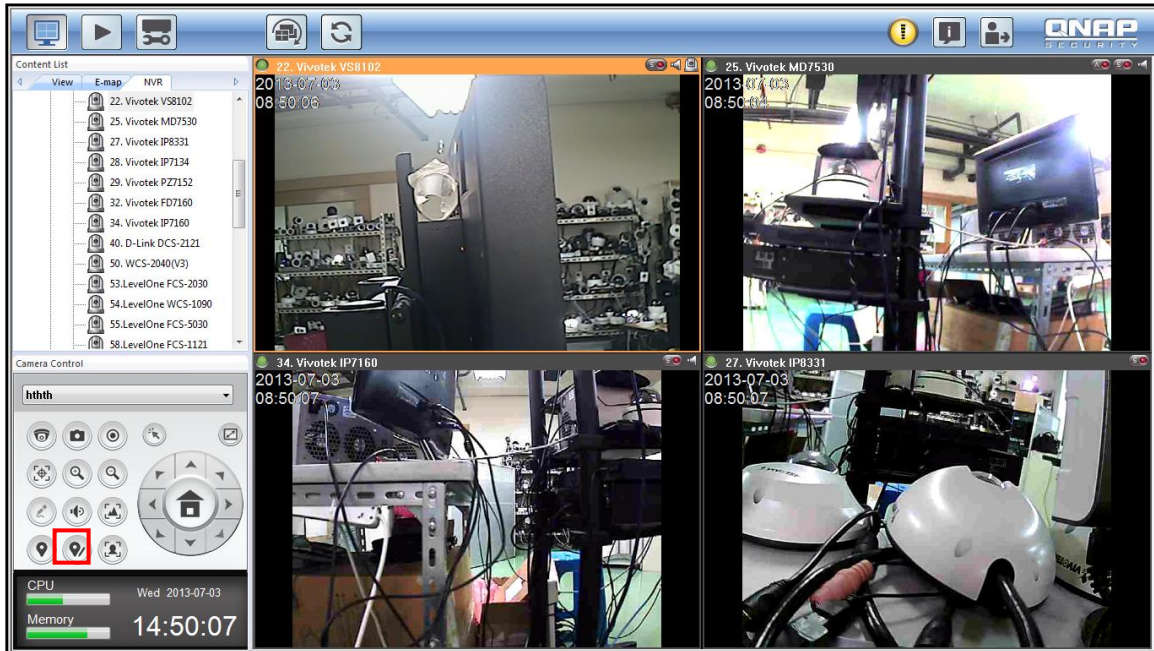
The CMS Client provides quick and detailed bookmarks to review the snapshot of a channel on the live video page.




- Quick bookmark  : Select a live view channel and click .

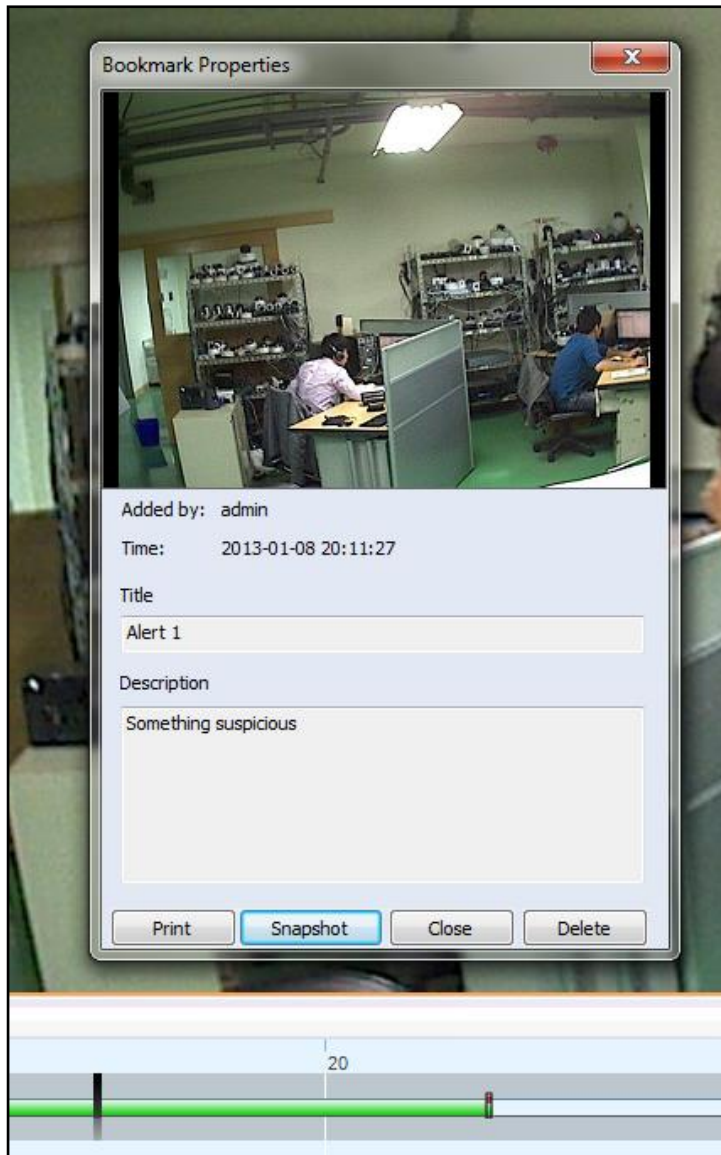


- Detailed bookmark : To edit the content of a bookmark, select a live view channel and click . Enter the title and description.



To review bookmarks, follow the steps below:

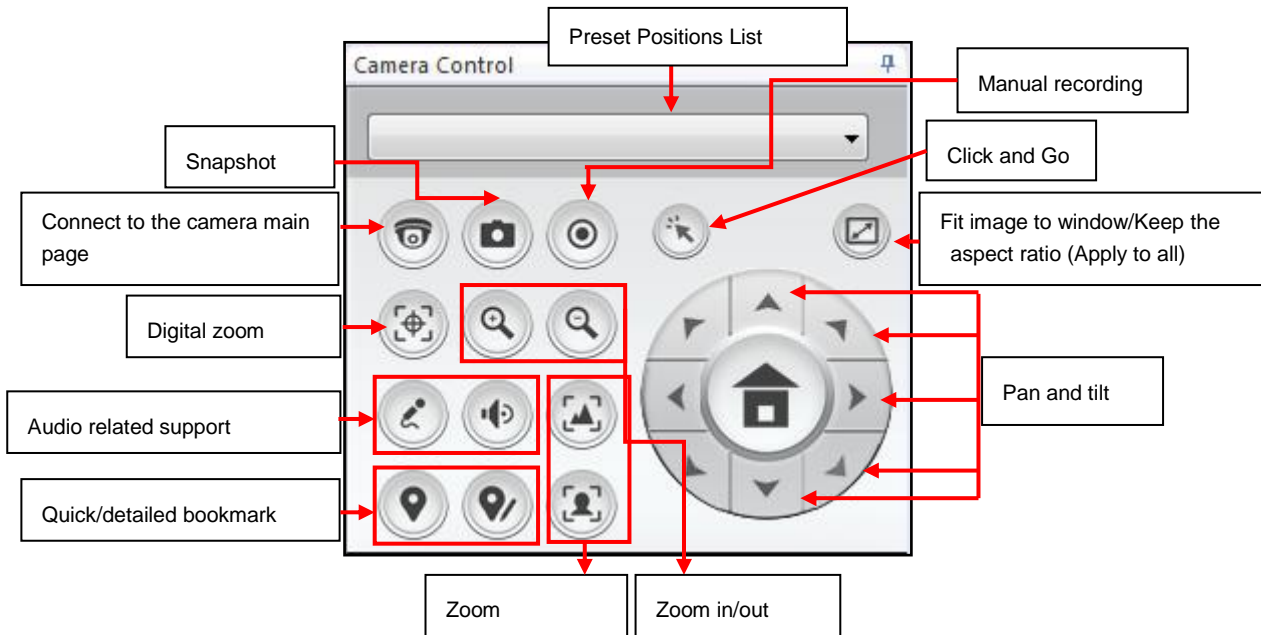
1. Click the playback button  on the monitoring or management page.
2. Click the bookmark to view the content. You can also save the snapshot, print or delete the bookmark.



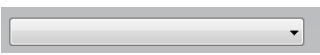




Note: When several bookmarks are set in less than two minutes, they will be grouped and sorted by time for easy search.










3.15.3 PTZ Camera Control

The term "PTZ" stands for "Pan/Tilt/Zoom". Use the PTZ Camera Control Panel in the CMS to adjust the viewing angle of an IP camera that supports PTZ controls. Support for PTZ controls vary depending on the camera models. Please refer to the user manual of your IP cameras for more information. Please note that the digital zoom function will be disabled when the PTZ function is in use.



Icons and descriptions of the PTZ Camera Control Panel:

Icon	Description
	Preset Positions List: Connect to the web page of the IP camera to customize the preset positions and conveniently and quickly point the camera to the present point.
	Login the main page of the specified IP camera: Select an IP camera and click this button to connect to the web page of that IP camera.
	Snapshot: Take a snapshot of the currently selected camera channel. After the snapshot appears, you can right click the snapshot to save it to the local computer.
	Manual Recording: Start or cancel the recording (for system administrators only.)
	Enable "Click and Go": Click the camera channel at any point to align it to the center of the screen.

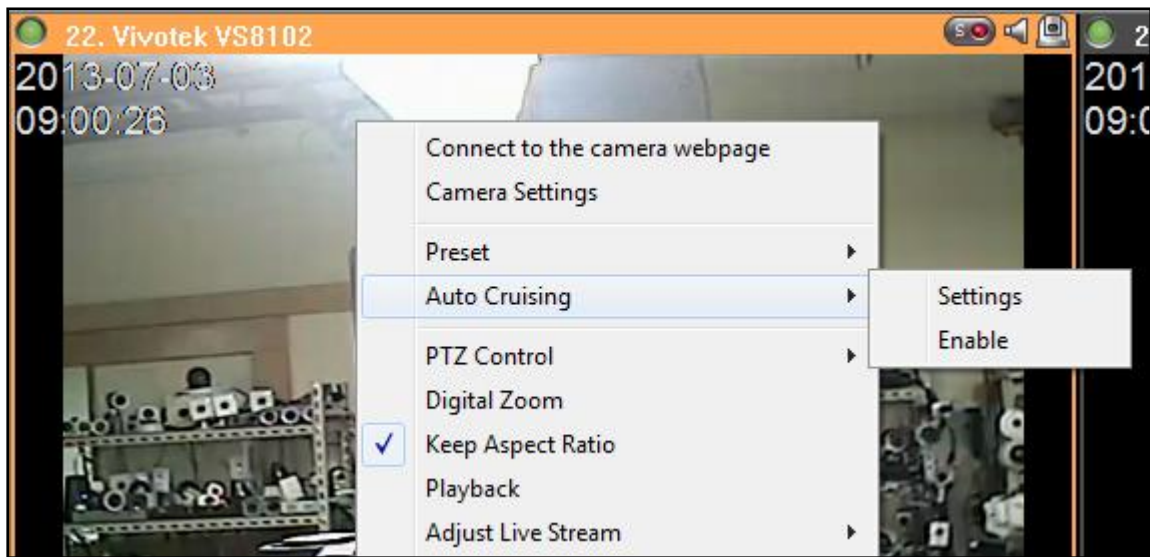
	<p>Fit image to window/Keep the aspect ratio (Apply to all): Fit the live view channel to its window or keep the aspect ratio for all channels on the Live View Screen.</p>
	<p>Digital Zoom: Select an IP camera and click this button to enable digital zoom. This function can also be enabled by right clicking the Monitoring Window.</p>
	<p>Zoom in/out: Click these buttons to zoom in/zoom out a PTZ camera if that camera supports digital zoom. With digital zoom enabled, the buttons can be used to zoom in/zoom out the camera digitally.</p>
	<p>Audio in: Enable/disable the camera's audio input.</p>
	<p>Audio Support (optional): Turn on or off the audio support for the live view page.</p>
	<p>Focus Control: Adjust the focus of the camera (if this feature is supported by that camera.)</p>
	<p>Quick Bookmark: Bookmark an instant video image for live view.</p>
	<p>Detailed Bookmark: Enter the details of a bookmarked image.</p>
	<p>Pan and Tilt: Click these buttons to pan or tilt the camera (If the pan and tilt control is supported by the camera.)</p>

3.15.4 Auto Cruising

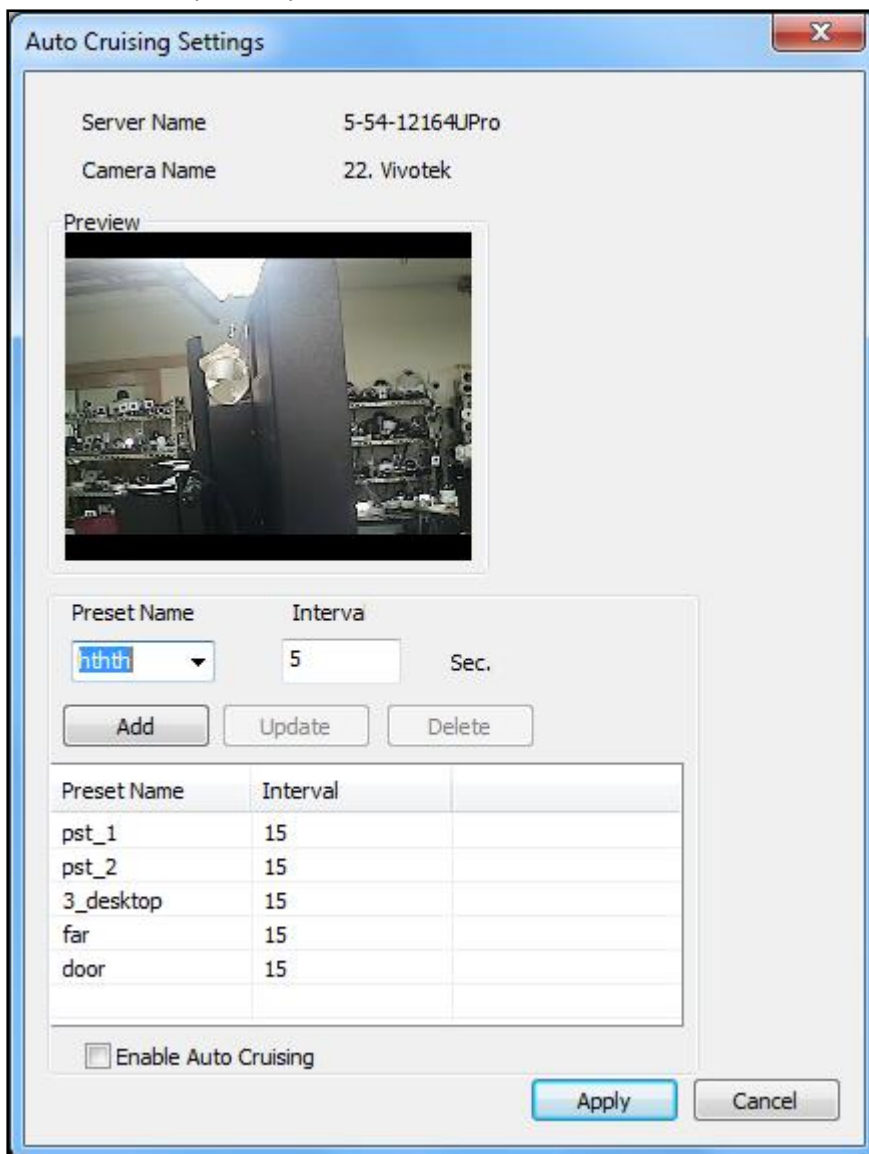
The auto cruising feature is used to configure the PTZ cameras to cruise according to the preset positions and the staying time set for each position.

To use the auto cruising feature, follow the steps below:

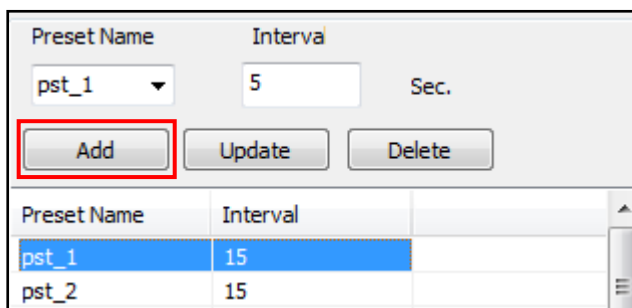
1. Right click the PTZ camera channel on the live view page. Select "Auto Cruising" > "Settings".



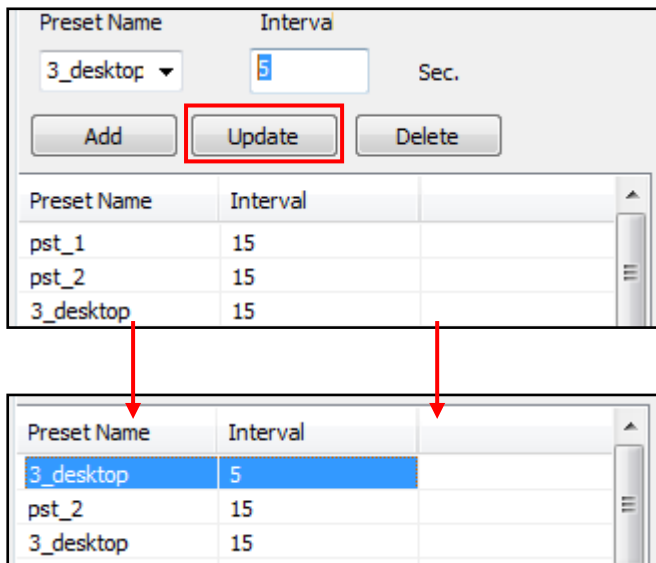
2. View the preset position of a camera:



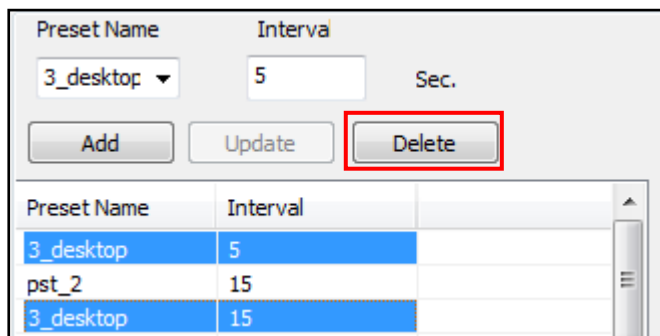
3. Add a preset point: To add a preset position for auto cruising, select a "Preset Name" from the drop-down menu and enter the staying time (interval, in seconds). Click "Add".



4. Update a preset position: To change a setting on the list, highlight the selection. Select another preset position from the drop-down menu and change the staying time (interval). Click "Update".



5. Delete: To delete a setting, highlight a selection on the list and click "Delete". To delete more than one settings, press and hold the Ctrl key on your keyboard and select the settings. Click "Delete".



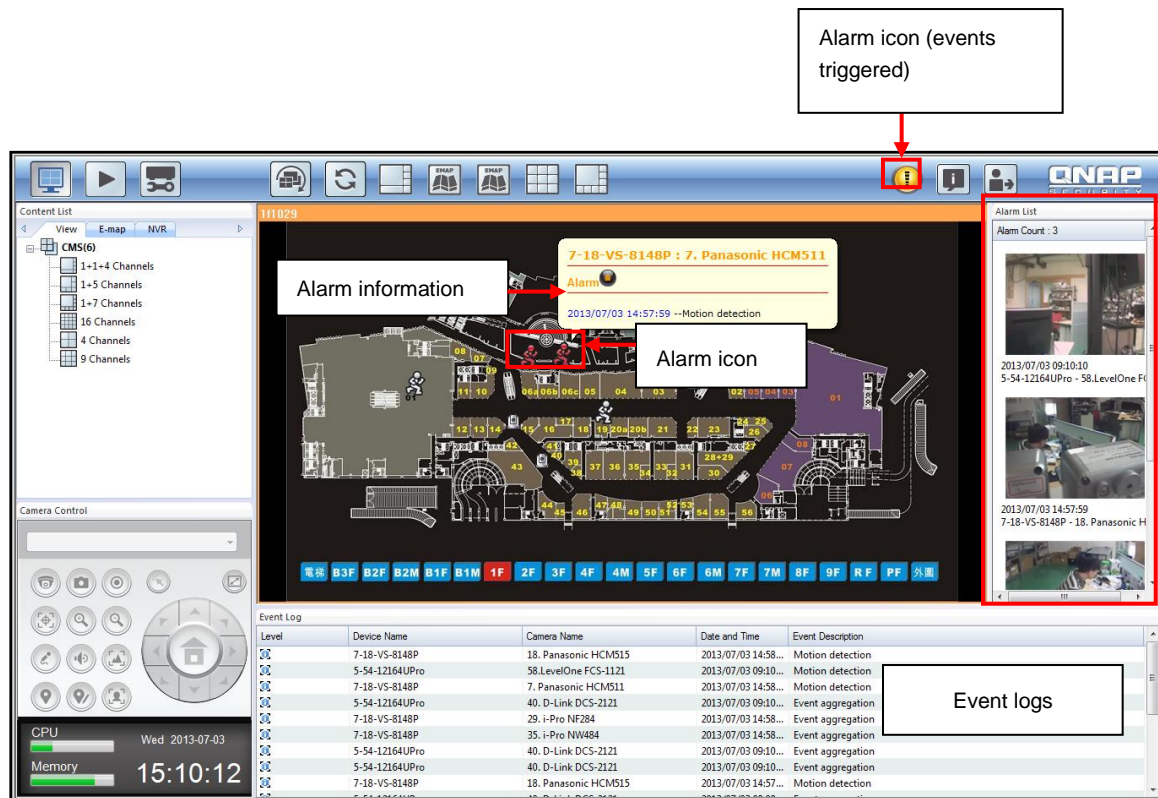
6. After configuring the auto cruising settings, select "Enable auto cruising" and click "OK". The PTZ camera will start auto cruising according to the settings.

Note:

- The default staying time (interval) of the preset position is 5 seconds. Enter 5-9999 seconds for this setting.
- The system supports up to 10 preset positions (the first 10) configured on the PTZ cameras. Up to 20 auto cruising settings can be configured. In other words, a maximum of 10 selections on the drop-down menu and 20 settings on the auto cruising list are supported.
- The name of a preset position can only be specified in languages other than English if it is supported by the camera.

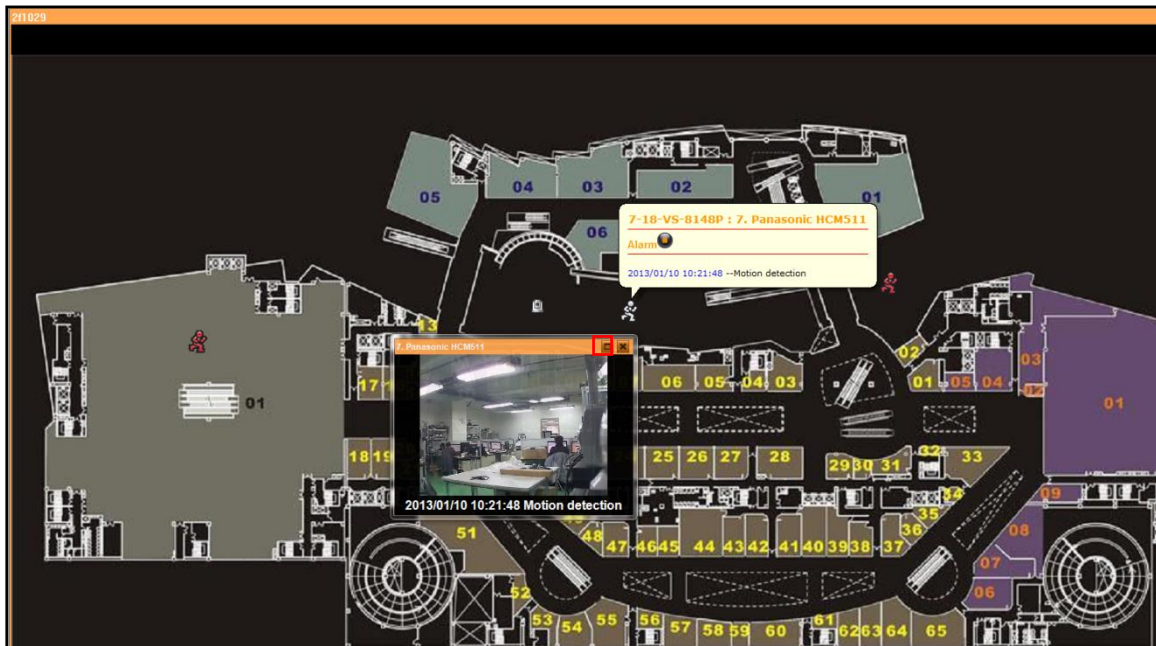
3.15.5 Alarm Mode (Alarm List & Event Logs)

When an alarm is shown, click the icon to view the alarm information. The event logs will be shown at the bottom of the screen. If the E-map of the alarm camera is loaded, the Instant Popup Viewing window and the event logs can be displayed. Please refer to Chapter 3.3.7 for details.



Note: The alarm settings must be configured on the NVR first. Then, go to Event Management settings in the CMS to enable the alarm input of the camera, so that the CMS can receive the alarms from the NVR. Please refer to [Chapter 7-10 \(FAQ\)](#) for details.

When an alarm is triggered, move the mouse cursor to the icon and the alarm information will be displayed. Double click the camera symbol to open the Instant Camera Viewing Popup Window and click the stop symbol to clear the alarm record. Double click the camera icon and a live window for the camera will pop up. If you further click the maximize button on the top right of the window, the video will occupy the single channel view for you to immediately monitor the camera where the alarm occurred. Click the close or restore down button to return to the E-map.



When moving the mouse cursor to the alarm snapshot in the alarm list to the right, the camera information and alarm content will both be shown.






Note: Only the first 150 records can be saved in the event logs.

The screenshot displays a grid of 15 camera channels. Channels 9-15 are in the top row, and channels 19-24 are in the bottom row. Below the grid is an 'Event Log' table with the following data:

Level	Device Name	Camera Name	Date and Time	Event Description
①	7-18-VS-8148P	7-18-VS-8148P - 5, Panasonic HCM311	2013/01/10 11:04:23	Motion detection
①	7-18-VS-8148P	5, Panasonic HCM311	2013/01/10 11:04:21	Motion detection
①	7-18-VS-8148P	3, Panasonic HCM481	2013/01/10 11:04:23	Motion detection
①	7-18-VS-8148P	5, Panasonic HCM311	2013/01/10 11:04:19	Motion detection
①	7-18-VS-8148P	2, Panasonic HCM481	2013/01/10 11:04:18	Motion detection
①	7-18-VS-8148P	5, Panasonic HCM311	2013/01/10 11:04:17	Motion detection
①	7-18-VS-8148P	3, Panasonic HCM481	2013/01/10 11:04:16	Motion detection
①	7-18-VS-8148P	5, Panasonic HCM311	2013/01/10 11:04:15	Motion detection
①	7-18-VS-8148P	1, Panasonic HCM481	2013/01/10 11:04:14	Motion detection

The content of an event log includes the alarm event level, device (NVR) name, camera name, date and time an event occurs, and alarm details.

Note: The alarm list can be turned off, and so, to review an event, it is advised to check its recording files for more details...

Icon	Description
	Open the E-map of the alarm-triggered camera.
	Open the live view of the alarm-triggered camera.
	Show the pop-up window of the live view for the alarm-triggered camera.
	Immediately play back the video 15 seconds before or after the alarm is triggered.
	Turn off the camera alarm on the list. Please note that if a new alarm is triggered by a camera, the corresponding alarm will show up again.

3.15.6 E-map

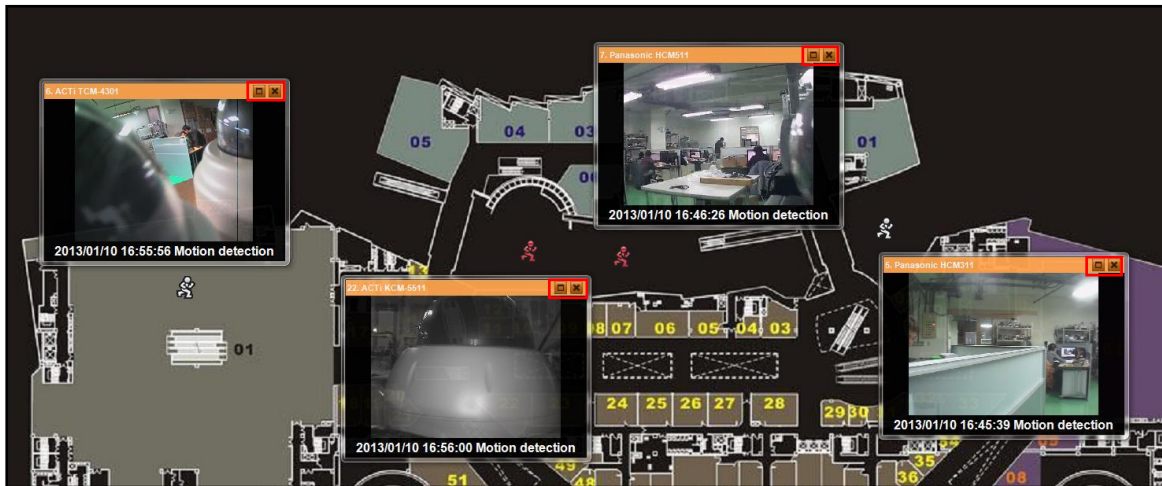
Select the E-map tab on the left, double click or drag the E-map to the main screen to monitor.



Note: For more information on uploading E-maps, E-map related settings, and the camera icon settings on the E-map, please refer to Chapter 5.8.

An E-map provides the tooltip on camera information. Double click the camera icon to open the live view popup window, drag and move the window, or adjust the screen size.

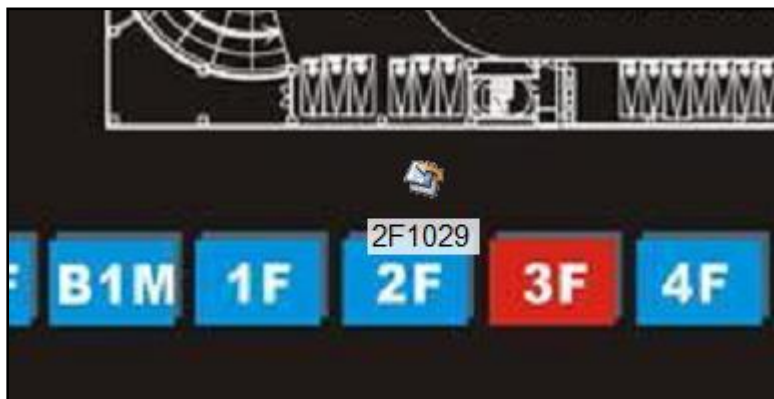
Note: A maximum of 5 live view popup windows can be opened on the E-map at the same time.



Click the maximize button on top right side of the live view popup window to expand it. Click the close or restore down button to return to the original E-map.



In addition to the live view popup window feature, multiple E-maps can be linked and grouped together. Double click an E-map icon on the E-map to open another E-map. Please note that the E-map icon serves as a link. So, users can inter-link different E-maps to quickly switch between them.









The E-map provides a variety of features and relevant E-map settings are covered in Chapter [5.8](#).




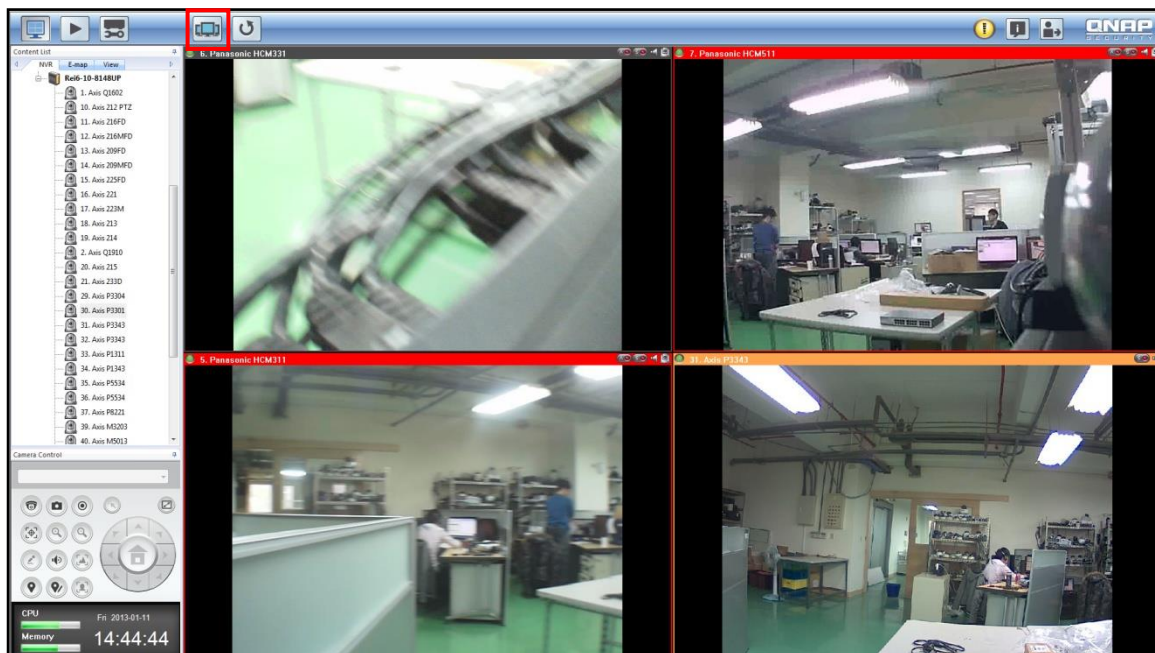
After a camera alarm is triggered on the NVR, the alarm information will be shown.

E-map icons and description:

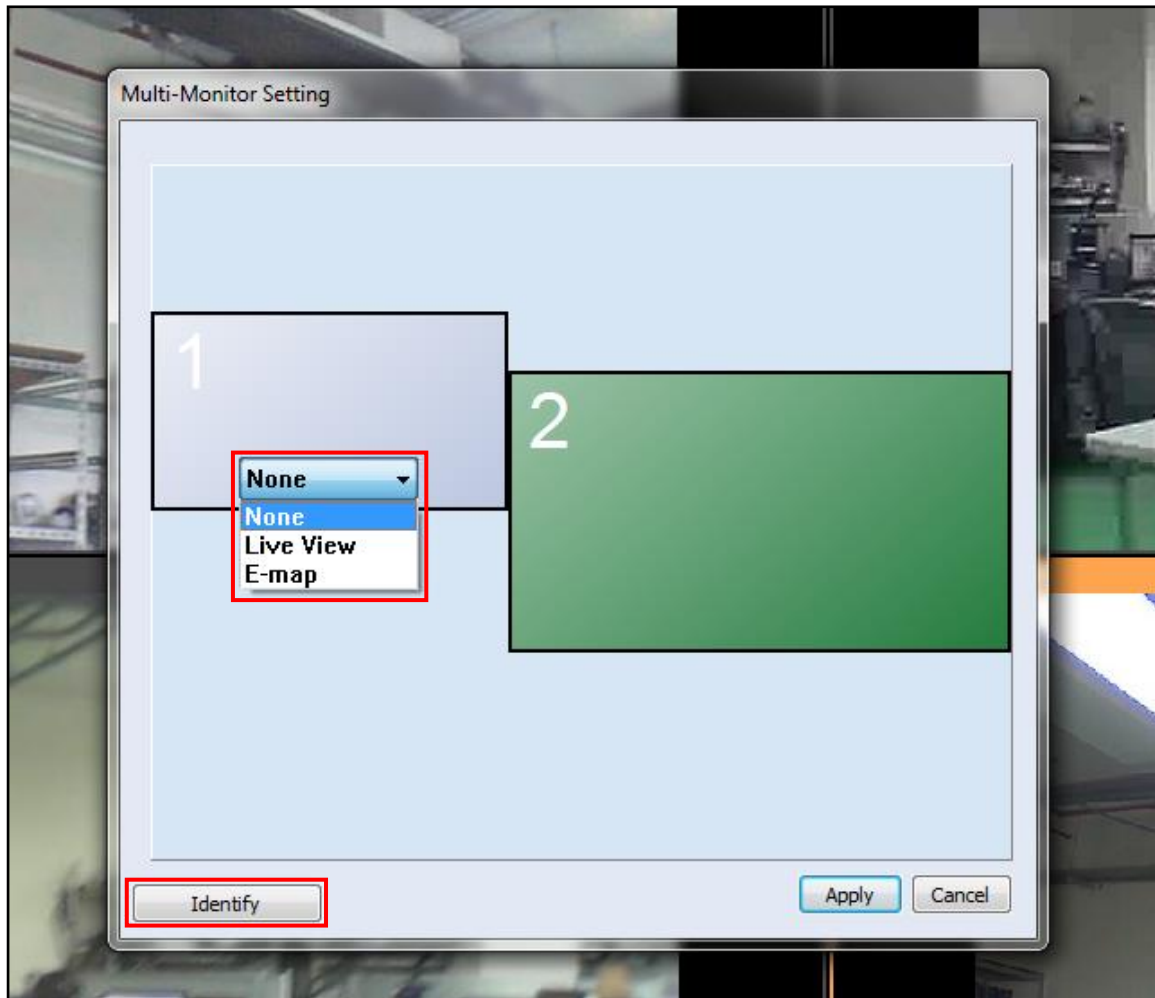
Icon	Description
	Multi-layer E-map: This icon shows that there are several layers in the E-map. Click the icon to enter the next layer in the E-map group.
	Single-layer E-map: Click  to select a single-layer E-map. When an E-map is selected, the icon will become  .
	E-map link: Double click this icon to link other E-maps.
	NVR: The NVR icon is only provided for users to pinpoint a NVR location on the map.

3.15.7 Multi-monitor Mode

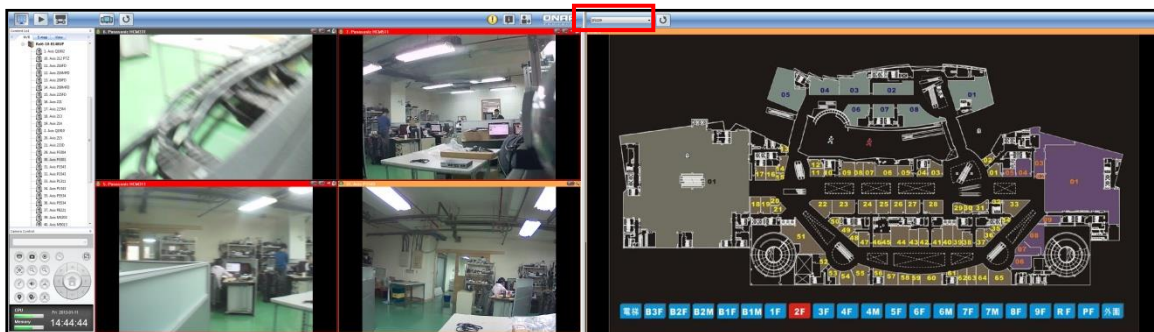
Click the icon  in the Live View screen to configure the multi-monitor settings if multiple monitors (two to four) are connected to the client PC



The system will automatically retrieve the screen settings of the operating system. To identify the screen, click "Identify". Next, specify the screen function from the drop-down menu and the options include: None (do not display), Live view, and E-map.






The following shows an example of the Multi-monitor mode (Live View screen on the first monitor and E-map on the second monitor.)

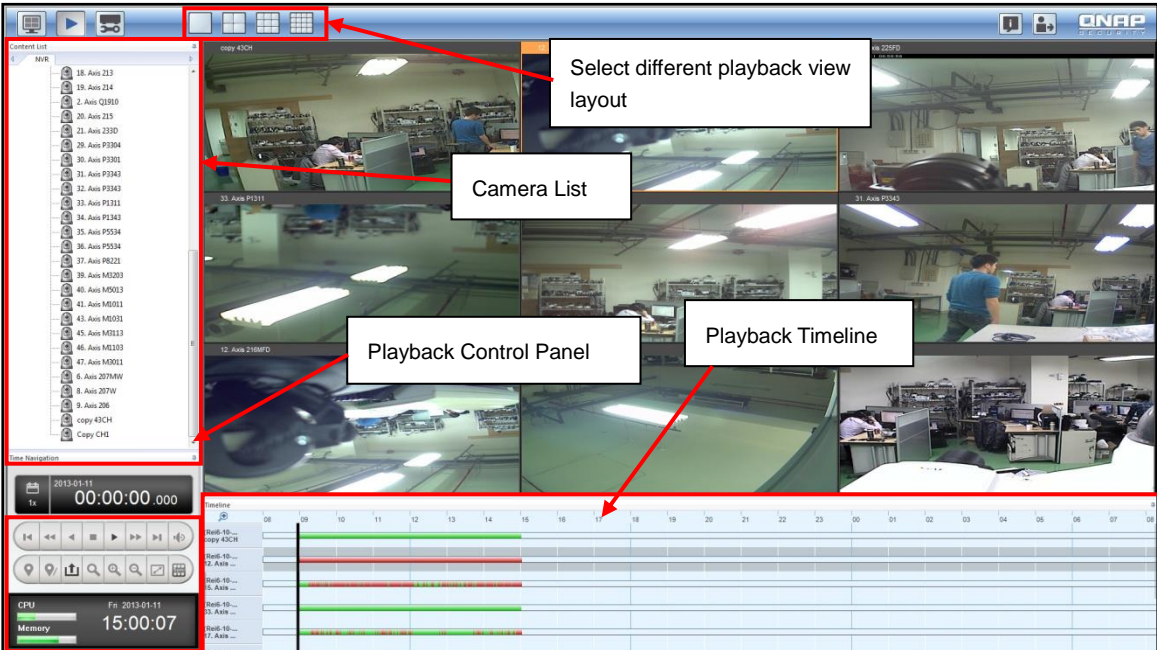


3.16 Playback

Using the CMS Client, you can playback recording files of a NVR on the playback page.

3.16.1 Video Playback Page

To switch to the Video Playback page, click the playback button  on the monitoring or management page. You can search and play the recording files on multiple NVR servers. To return to the live view page, click . To enter the system management page, click .



Select different playback view layout













Camera List







Playback Control Panel

Playback Timeline

Note: The playback access right is required to play video files. For access right configuration, please refer to Chapter 5.9.1.

The icons and description of the video playback page are shown as below:

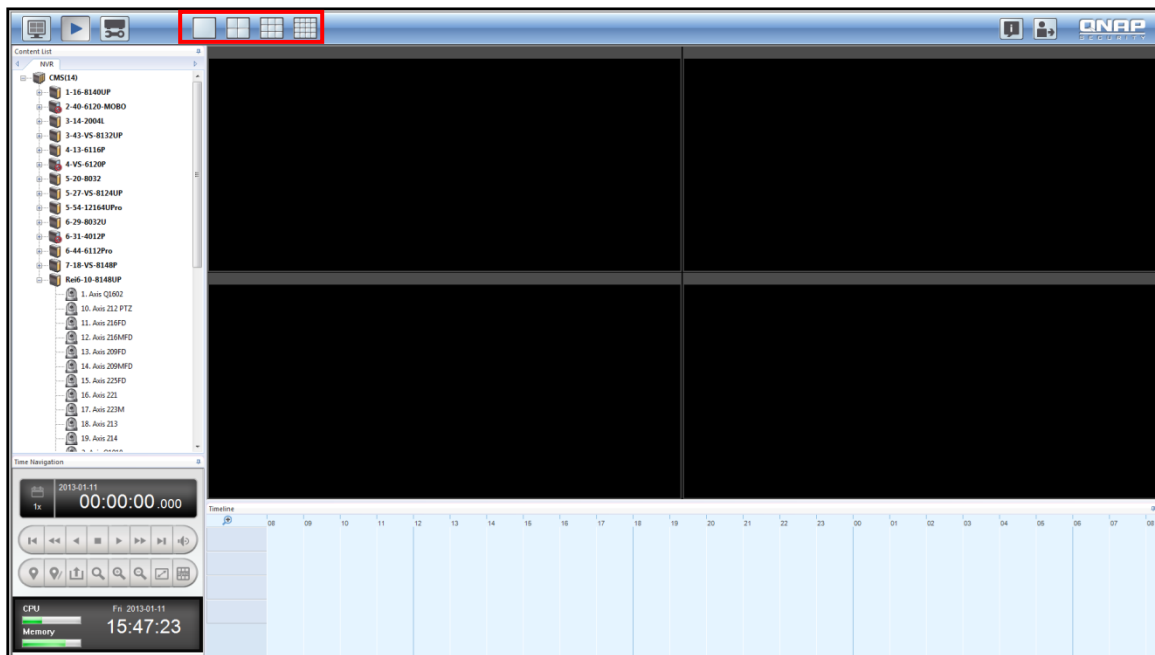
Icon	Description
	Single channel playback view.
	4-channel playback view.
	9-channel playback view.
	16-channel playback view.
	Export video: Export a video clip by entering the time interval of the playback.
	Audio (optional): Enable or disable the audio function.
	Digital zoom: Enable or disable the digital zoom function.
	Zoom in/out: Click these buttons to zoom in/zoom out a PTZ camera if that camera supports digital zoom. With digital zoom enabled, the buttons can be used to zoom in/zoom out the camera digitally.
	Set the playback interval: Set the time interval between the start and end points of a clip for playback. This interval cannot exceed 24 hours.
	Fit image to window/Keep aspect ratio: Adjust the proportions of all or only the current video depending on synchronous or asynchronous playback mode.
	Asynchronous/synchronous playback mode in the multi-view layout: Set the playback mode to be with the same playing time or with independent playing time for each channel, but all in the same interval.
	Quick bookmark: Bookmark an instant image of the camera.

	<p>Detailed bookmark: Enter the bookmark details of an instant image of the camera.</p>
	<p>Play/pause a video.</p>
	<p>Stop.</p>
	<p>Reverse playback.</p>
	<p>Decelerate/Accelerate.</p>
	<p>Previous frame/Next frame.</p>

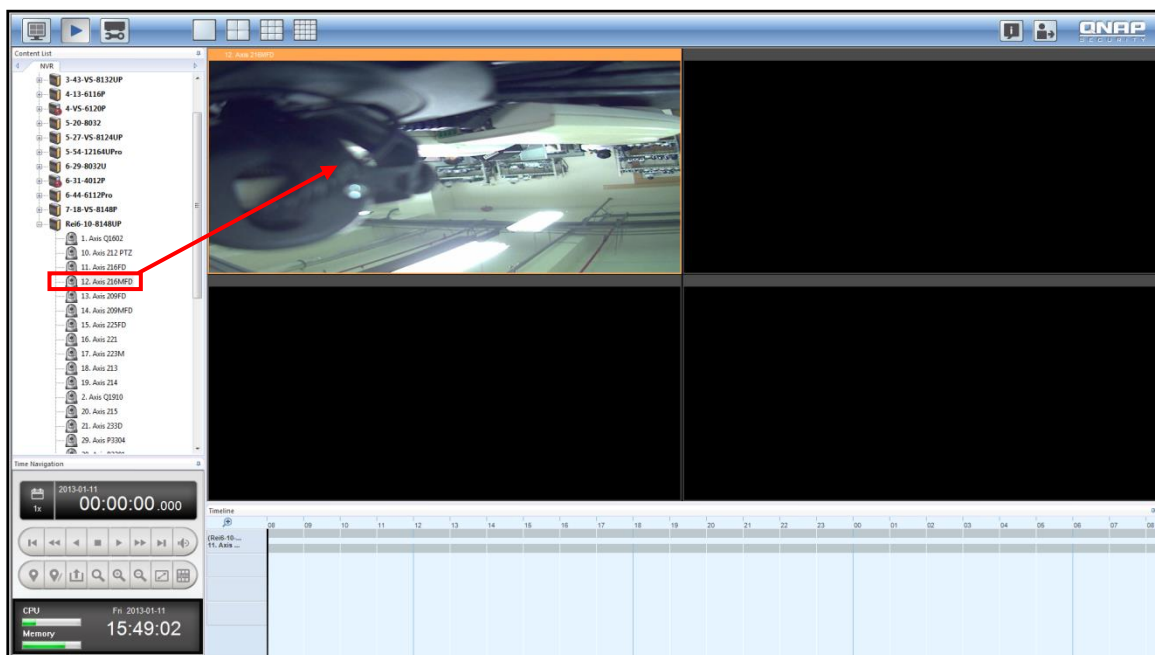
Playing recording files:

Follow the steps below to play the recording files on a remote NVR server:

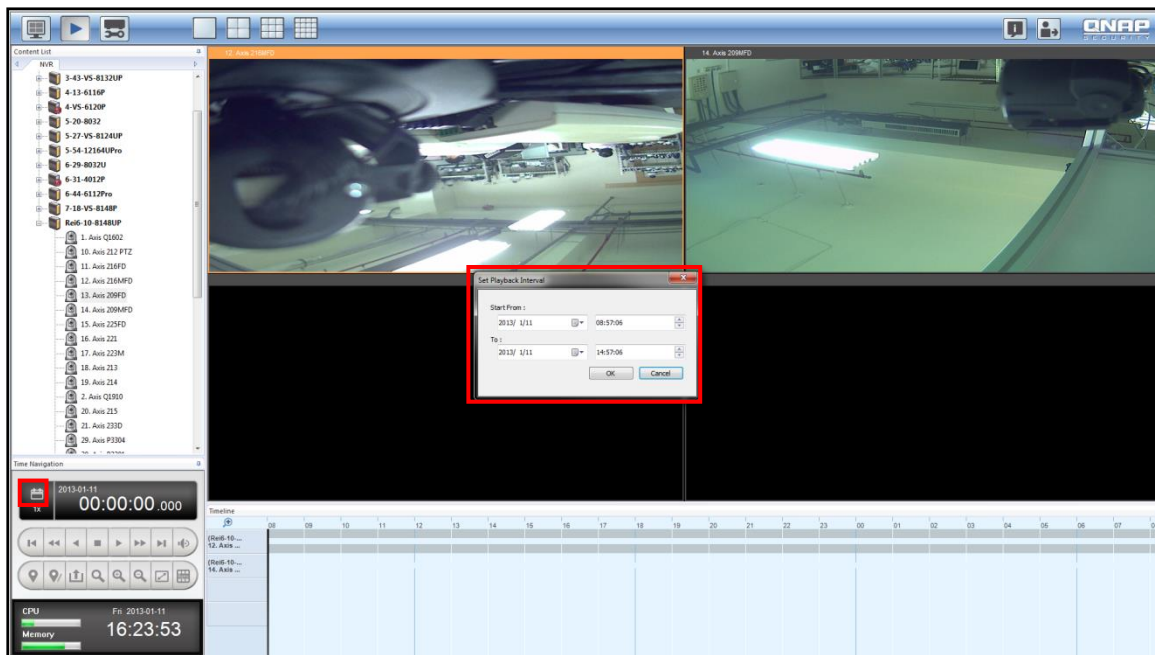
1. Select single-view or multi-view playback from the top.



2. Drag and drop a camera to the playback window.




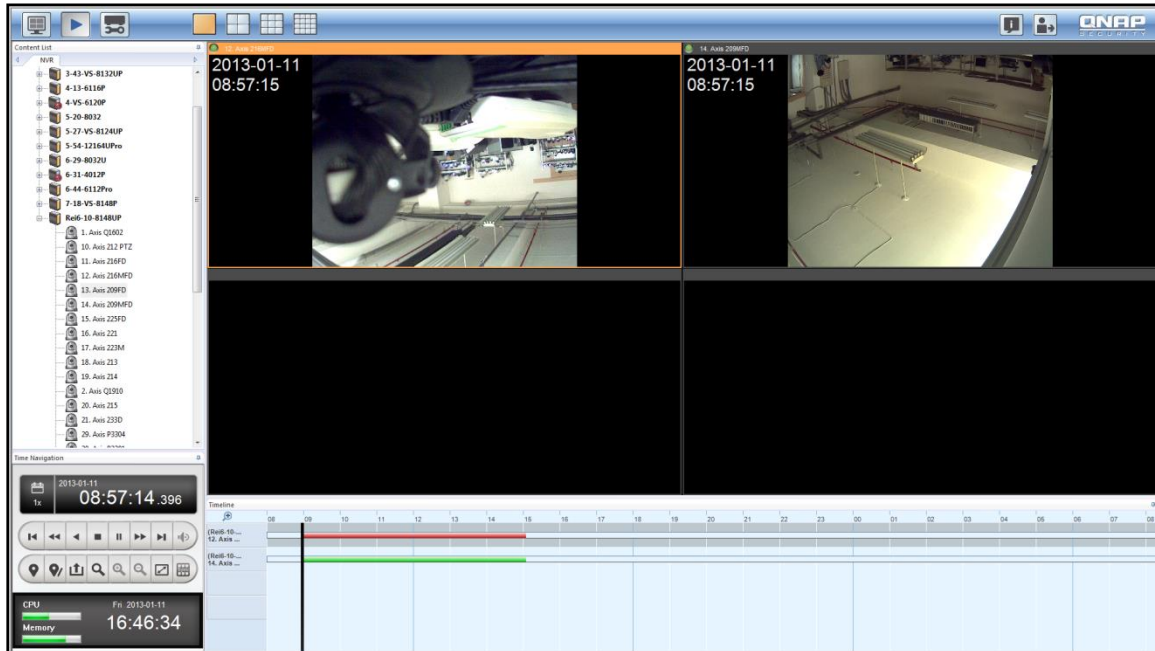
3. Set the playback interval. The interval cannot exceed 24 hours.




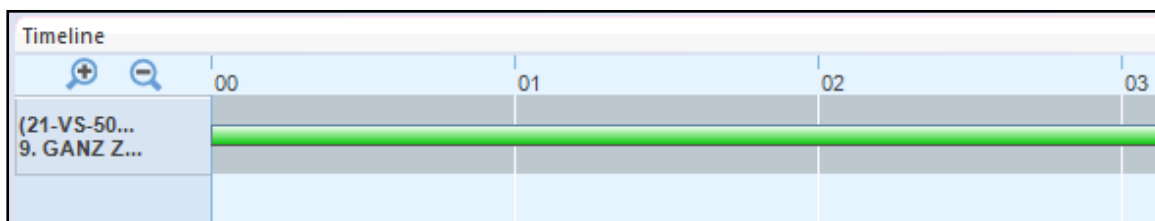
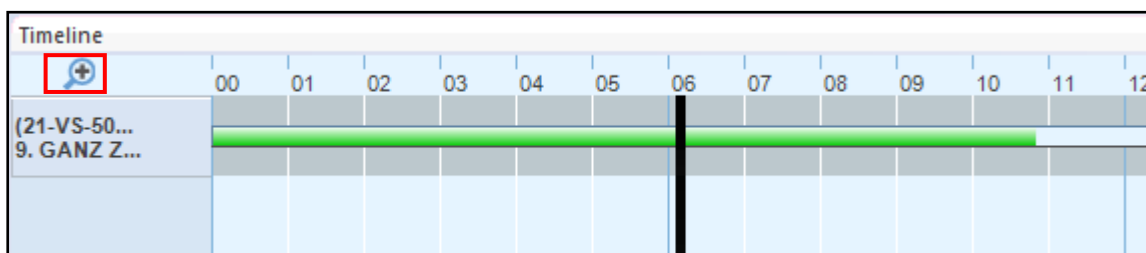
4. After setting the start and end time, the green bar(s), representing normal recording files, and the red bar(s), representing alarm recording files, will be shown on the timeline.

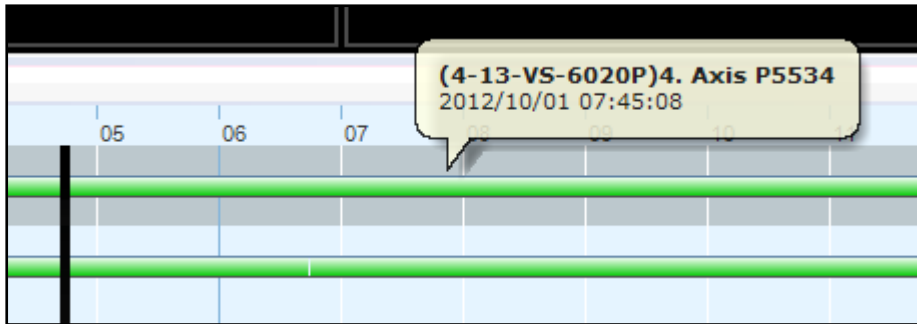


5. Click  or directly click on the timeline to playback the video. The NVR time for each channel is displayed on its respective screen. By default, the aspect ratio is kept for each camera.



6. Click the green parts of a timeline to view the camera image at the corresponding time point. Use the magnifying glass  to zoom in or out on the timeline. A tooltip with the time information will appear when moving the mouse cursor to a corresponding time point on the timeline.





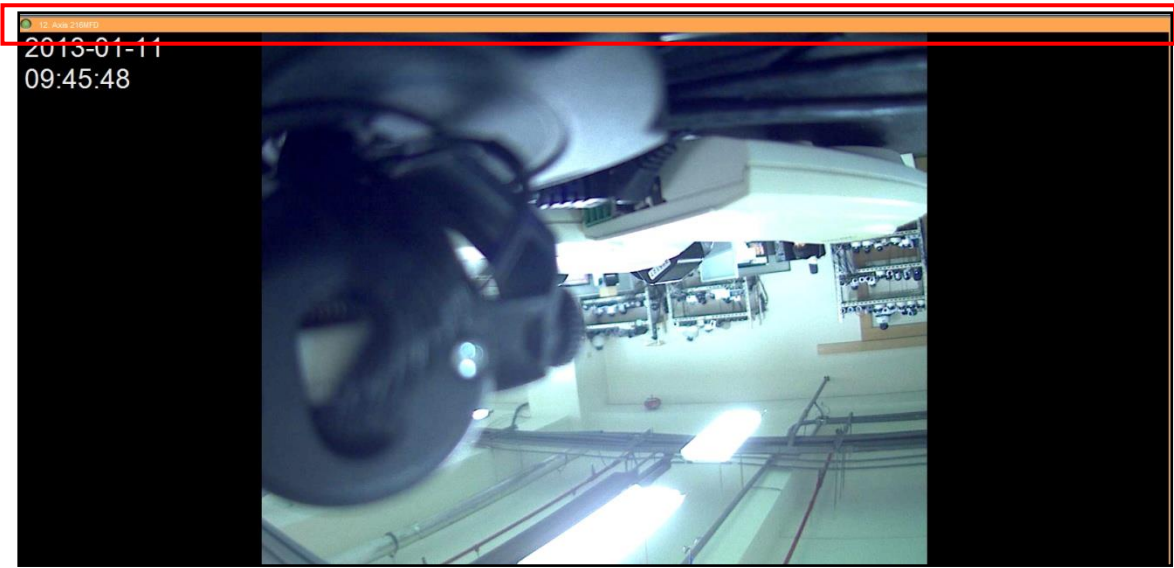
Note:

- The green parts on the timeline represent the intervals for round-the-clock recording files.
- After a camera is dragged to the screen and its recording files are being played, that channel window is reserved only for that camera until the current playback process is stopped and the camera status light turns red.
- The red parts on the green bars of the timeline represent the intervals for alarm recordings files. To use this feature, please configure the settings in "Camera settings" > "Alarm settings" on the NVR.

Double click the title of a camera to view its recording files in the single channel mode. Double click the title again to return to the original viewing mode.

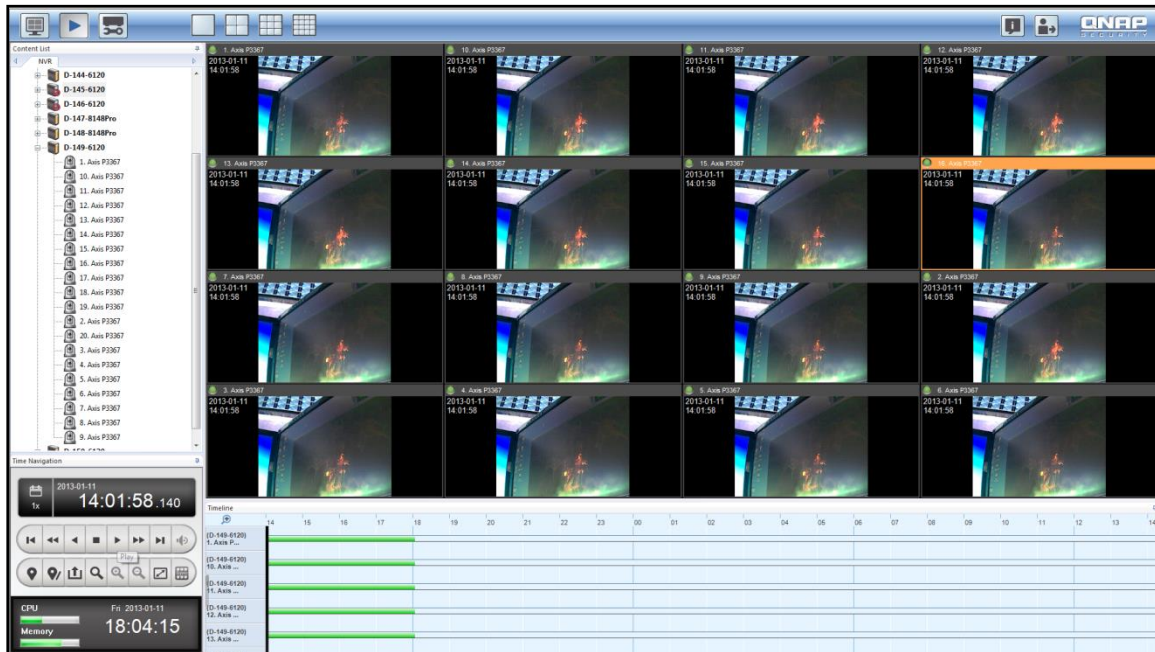
- In the 1 or 4-channel layout, you can right click each camera playback window to enable support for Intel hardware decoding (disabled by default).



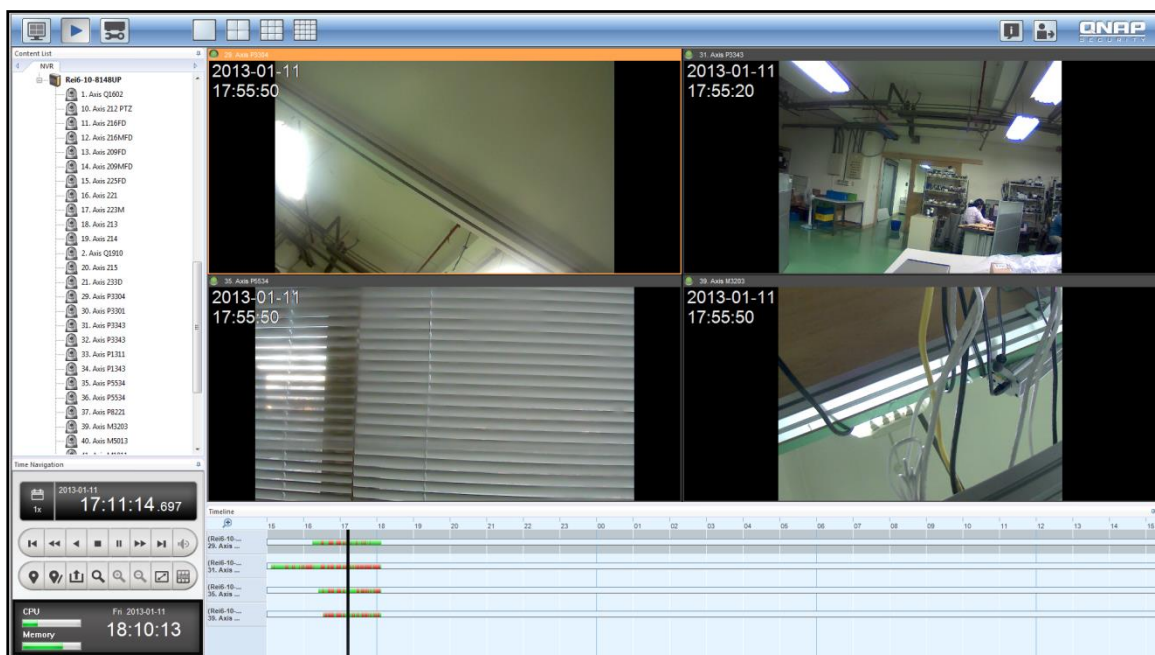


3.16.2 Multi-view Playback


Playback recording files of a maximum of 16 IP cameras concurrently.

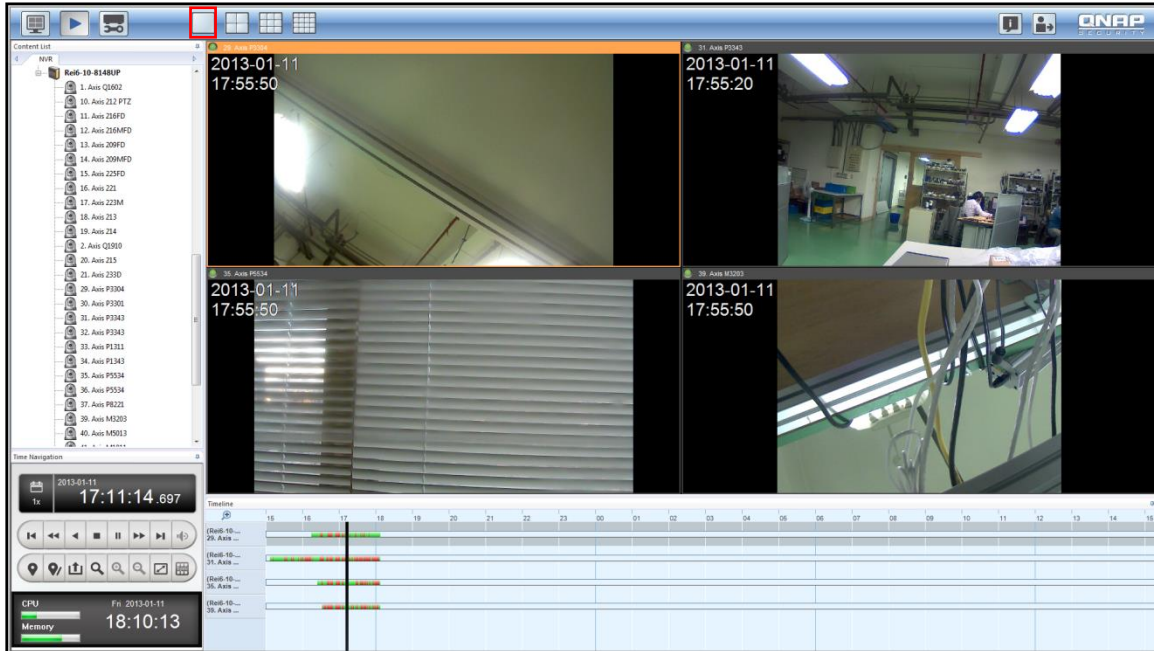


By default, the multi-view playback time is synchronized.



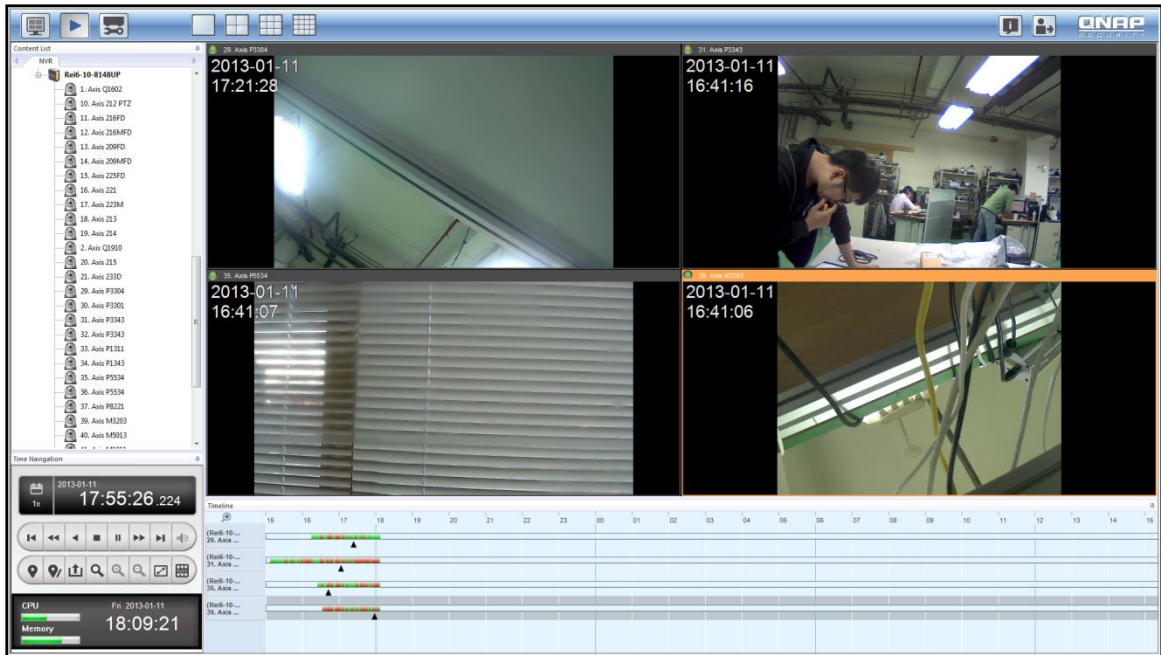
To playback each channel independently using the multi-view mode, click the synchronize




button  to cancel synchronization first.

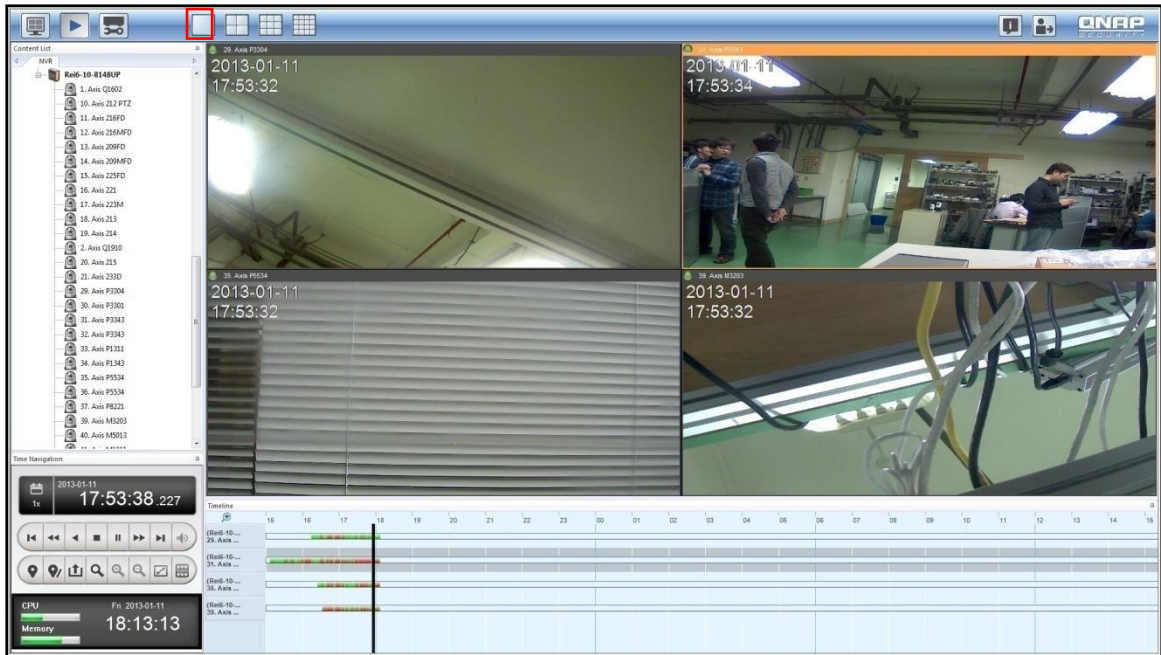


In asynchronous playback, the timeline can be adjusted to playback at different time for each channel respectively.

Note: While switching to the asynchronous mode, you can independently playback each channel, but only within the same time interval.




 **Note:** Click  to align the time stamps of all channels according to that of the active channel (the channel that is being selected). For instance, the time stamps of all channels played back are different in the figure above. After  is clicked, the time stamps of all channels in the figure below will be aligned and played based on the channel four (the active channel.)




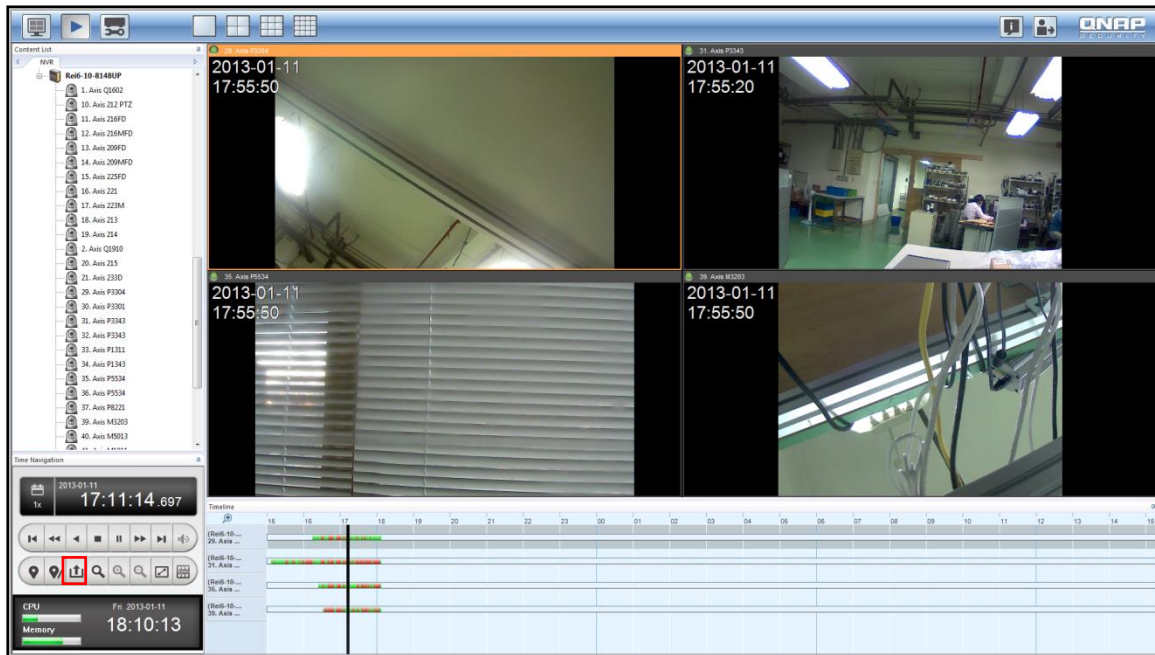
3.16.3 Exporting Video File

Follow the instructions below to convert the NVR recording files to the AVI format and save them to the local computer.

Note: The playback access rights of the IP camera need to be set before this feature can be used.

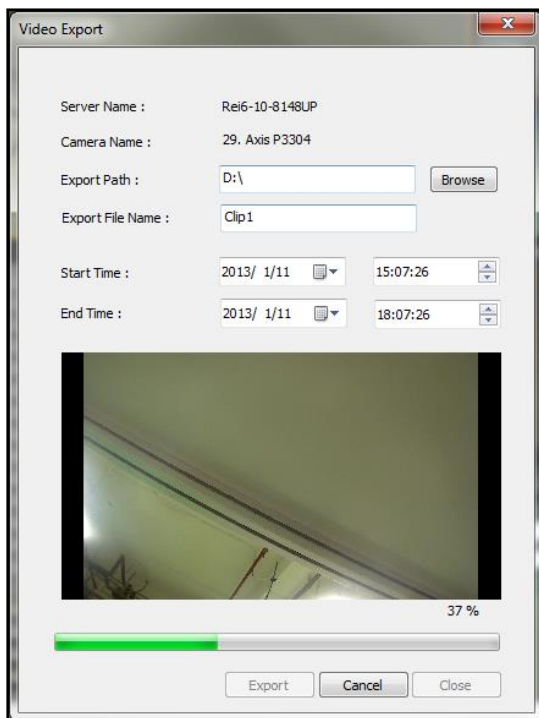
1. Select a NVR from the content list on the left, and drag and drop a channel (a camera icon) to be played to the playback window on the right.
2. Click  (Set Playback Interval) to select the interval.

3. Select the channel that you would like to export video files for and click  (Export video file) on the panel.



Note: Only green and red parts on the timeline can be selected to export video files.

4. Enter the storage path and file name of the video file and click "Export". You can watch the video in the preview window. The time it takes to export the files varies depending on computer performance.



Chapter 4 Server Log

The CMS logs are divided into event logs, service logs, and system logs. Among them, the event logs are shown on the main monitoring page, and the remaining two types of logs are in the server logs/ configuration. Besides the logs on the main monitoring page, you can switch to the previous or next page and refresh the page to check other available logs.

Note: Currently, only English event logs are supported by the CMS system.

4.1 Event Log

After the alarm mode is enabled, the following camera event logs will be recorded and listed at bottom of the page: IP camera connection, motion detection, or IP camera permission authentication failure.

Event Log				
Level	Device Name	Camera Name	Date and Time	Event Description
③	7-18-VS-8148P	7. Panasonic HCM511	2013/01/11 19:30:45	Motion detection
③	7-18-VS-8148P	1. Panasonic HCM481	2013/01/11 19:30:42	Motion detection
③	5-27-VS-8124UP	22. ACT1 KCM-5511	2013/01/11 19:40:24	Motion detection

For each record, its priority level, device name, camera name, data and time and event description are displayed from left to right, and older logs (the first and oldest 150 records) will be overwritten automatically.

4.2 Service Log

Click "Server Log" on the configuration page and then the "System Event" tab to list all service logs. Each record listed is recorded from the last login to the current login. The log content is the communications, including messages, warnings, and errors, between the CMS system applications and the PC, CMS Server, or other NVR devices

The screenshot shows the QNAP CMS Professional interface. On the left is a navigation menu with options like License, Server, Camera, Event Management, View, E-map, User Management, Server Logs (selected), and CMS Server Settings. The main area is titled 'Server Logs' and has tabs for Server, System Event, NVR Event, and On-Line Users. The 'System Event' tab is active, displaying a table of log entries. The table has the following columns: Date and Time, Level, Username, IP Address, Device Name, Content, and Status. The data rows are as follows:

Date and Time	Level	Username	IP Address	Device Name	Content	Status
2013-08-23 02:44:50	2	admin	10.11.10.56		license auto activate	license auto activate fail
2013-08-23 02:44:06	2	admin	10.11.10.56		license auto activate	license auto activate fail
2013-08-22 01:16:26	2	admin	10.11.16.37		license auto activate	license auto activate fail
2013-08-22 00:38:26	2	admin	10.11.16.37		license auto activate	license auto activate fail
2013-08-22 00:37:45	2	admin	10.11.16.37		license auto activate	license auto activate fail
2013-08-15 05:45:27	2	admin	10.11.10.93		license auto activate	license auto activate fail

At the bottom left, there is a status bar showing CPU and Memory usage, the date 'Mon 2013-08-26', and the time '10:28:31'. At the bottom right, there are buttons for 'Refresh', 'Previous Page', and 'Next Page'.

For each record, its date and time, event level, username, IP address, device name, the log content and status are displayed from left the right.

4.4 NVR Event Log

As the name implies, NVR event logs are event logs associated with an NVR or IP cameras. Click "Server Log" on the configuration page and then the "NVR Event" tab to list all NVR event logs. Each record listed is recorded from the last login to the current login.

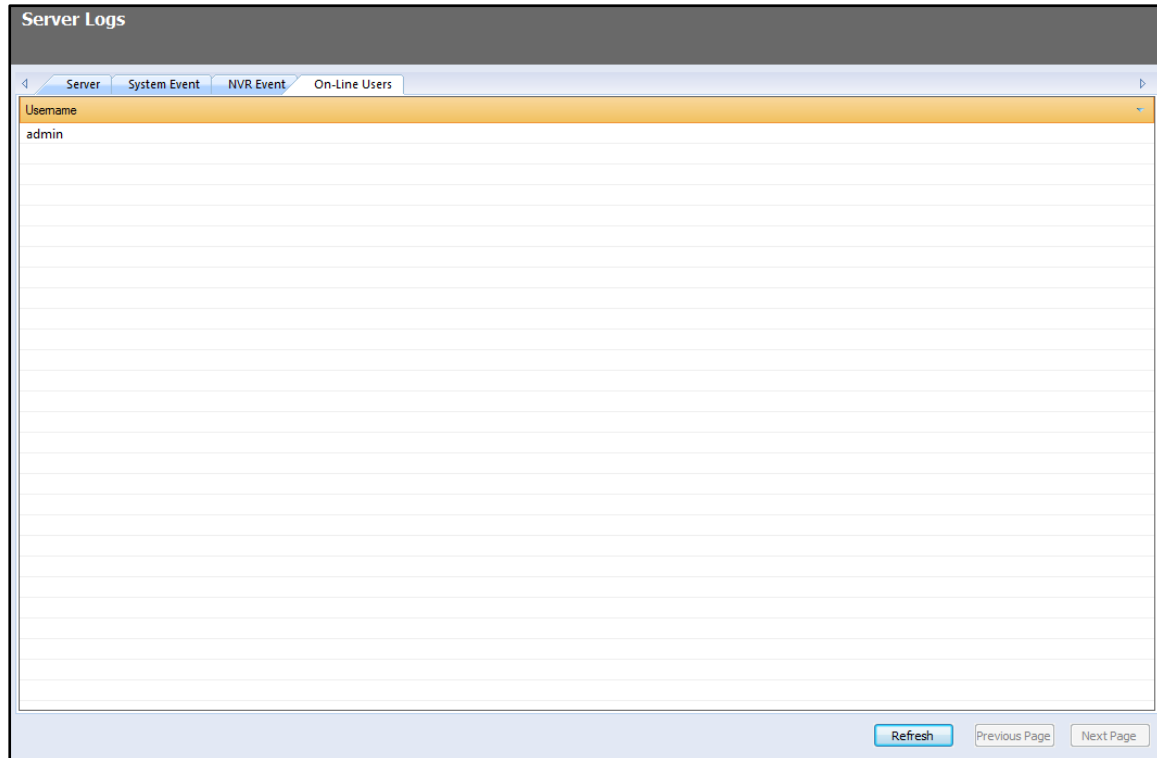
The screenshot shows the 'Server Log' window in QNAP CMS Professional. The 'NVR Event' tab is selected, displaying a table of event logs. The table has columns for Date and Time, Level, Username, IP Address, Device Name, Content, and Status. The events listed include various motion detection and alarm input events from different devices like Vivotek and Panasonic cameras.

Date and Time	Level	Username	IP Address	Device Name	Content	Status
2013-01-11 19:49:43	1	system	10.11.18.54	6. Vivotek PZ7135	Motion Detection Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:42	1	system	10.11.18.18	3. Panasonic HCM481	Motion Detection Start	detected at 2013-01-11 19:34:37
2013-01-11 19:49:41	1	system	10.11.18.54	14. Vivotek PZ7139	Alarm Input 1 Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:41	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Start	detected at 2013-01-11 19:42:17
2013-01-11 19:49:41	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:55
2013-01-11 19:49:39	1	system	10.11.18.54	29. Vivotek PZ7152	Alarm Input 1 Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:39	1	system	10.11.18.10	5. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:13
2013-01-11 19:49:38	1	system	10.11.18.54	1. Vivotek PZ6129	Alarm Input 1 Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:38	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:11
2013-01-11 19:49:38	1	system	10.11.18.54	25. Vivotek MD7530	Motion Detection Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:37	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Stop	detected at 2013-01-11 19:42:13
2013-01-11 19:49:37	1	system	10.11.18.54	36. Vivotek FDB336	Alarm Input 1 Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:36	1	system	10.11.15.27	22. ACTI KCM-5511	Motion Detection Start	detected at 2013-01-11 19:49:56
2013-01-11 19:49:36	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:07
2013-01-11 19:49:35	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:09
2013-01-11 19:49:34	1	system	10.11.18.54	12. Vivotek PZ7132	Alarm Input 1 Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:34	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Stop	detected at 2013-01-11 19:42:09
2013-01-11 19:49:34	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:07
2013-01-11 19:49:33	1	system	10.11.19.10	15. Axis 225FD	Motion Detection Start	detected at 2013-01-11 19:42:10
2013-01-11 19:49:33	1	system	10.11.18.54	38. D-Link DCS-6620	Motion Detection Start	detected at 2013-01-11 19:49:57
2013-01-11 19:49:32	1	system	10.11.15.27	22. ACTI KCM-5511	Motion Detection Start	detected at 2013-01-11 19:49:52
2013-01-11 19:49:32	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:06
2013-01-11 19:49:31	1	system	10.11.18.54	21. Vivotek V57100	Alarm Input 1 Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:30	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Start	detected at 2013-01-11 19:42:06
2013-01-11 19:49:30	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:05
2013-01-11 19:49:30	1	system	10.11.18.18	7-18-VS-8148P	Motion Detection Stop	detected at 2013-01-11 19:34:02
2013-01-11 19:49:29	1	system	10.11.18.54	10. Vivotek PZ7151	Motion Detection Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:29	1	system	10.11.18.54	14. Vivotek PZ7139	Alarm Input 1 Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:28	1	system	10.11.15.27	22. ACTI KCM-5511	Motion Detection Start	detected at 2013-01-11 19:49:47
2013-01-11 19:49:28	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Stop	detected at 2013-01-11 19:42:04
2013-01-11 19:49:27	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:34:01
2013-01-11 19:49:27	1	system	10.11.18.54	28. Vivotek PZ7152	Alarm Input 1 Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:26	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:33:59
2013-01-11 19:49:26	1	system	10.11.18.54	25. Vivotek MD7530	Motion Detection Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:25	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Start	detected at 2013-01-11 19:42:01
2013-01-11 19:49:25	1	system	10.11.15.27	22. ACTI KCM-5511	Motion Detection Start	detected at 2013-01-11 19:49:43
2013-01-11 19:49:25	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Stop	detected at 2013-01-11 19:42:00
2013-01-11 19:49:24	1	system	10.11.18.54	38. D-Link DCS-6620	Motion Detection Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:24	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:33:57
2013-01-11 19:49:23	1	system	10.11.18.10	15. Axis 225FD	Motion Detection Start	detected at 2013-01-11 19:41:56
2013-01-11 19:49:23	1	system	10.11.18.18	7. Panasonic HCM511	Motion Detection Start	detected at 2013-01-11 19:33:56
2013-01-11 19:49:22	1	system	10.11.18.54	3. Vivotek PZ7381	Motion Detection Stop	detected at 1970-01-01 01:00:00
2013-01-11 19:49:22	1	system	10.11.15.27	22. ACTI KCM-5511	Motion Detection Start	detected at 2013-01-11 19:49:40
2013-01-11 19:49:21	1	system	10.11.18.18	21. Panasonic HCM381	Motion Detection Start	detected at 2013-01-11 19:33:54

For each record, its date and time, event level, username, IP address, device name (for now, the name will only be NVR or camera), the content of the event and status are displayed from left to the right.

4.5 Online User

To check on current online users, click "Server Log" on the configuration page and then the "ON-Line Users" tab. Click the "Previous", "Next" and "Refresh" buttons at bottom right side of the screen to list other online users.

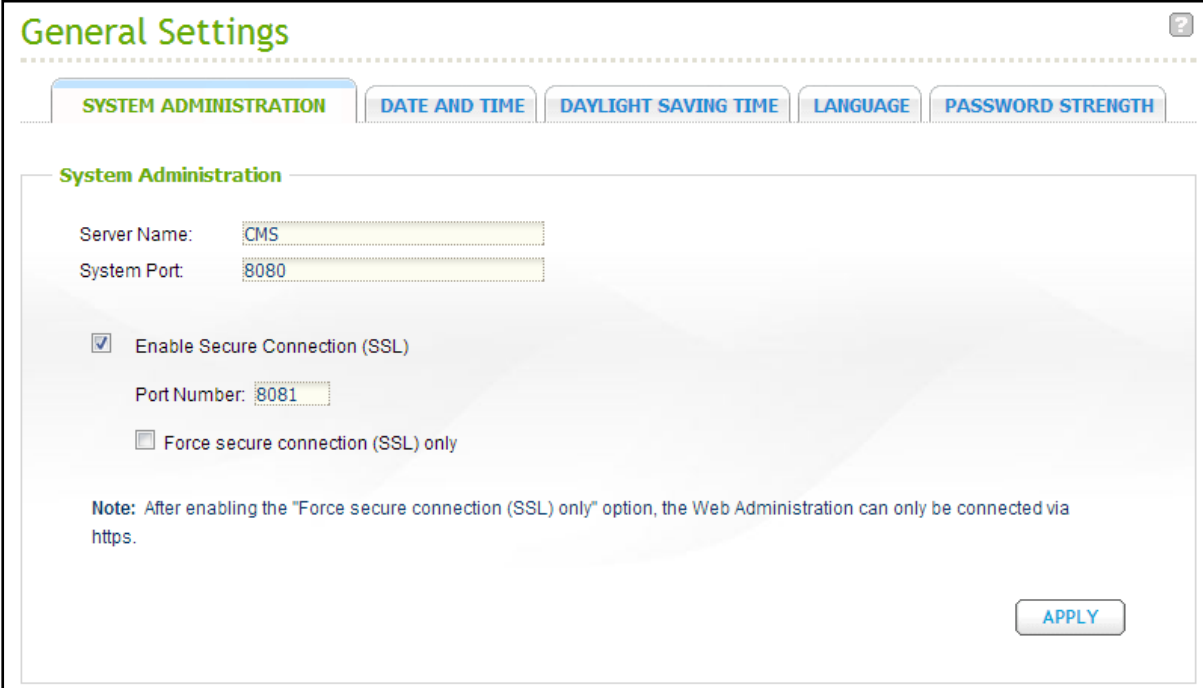


Chapter 5 CMS Server Management

5.1 General Setting

5.1.1 System Administration

Enter the name of the CMS server. The system name supports a maximum of 14 characters and can be a combination of alphabets (a-z, A-Z), numbers (0-9), and dash (-). Space (), period (.), or pure number are not allowed.



The screenshot shows the 'General Settings' interface with the 'SYSTEM ADMINISTRATION' tab selected. The 'System Administration' section contains the following fields and options:

- Server Name: CMS
- System Port: 8080
- Enable Secure Connection (SSL)
- Port Number: 8081
- Force secure connection (SSL) only

A note states: "Note: After enabling the "Force secure connection (SSL) only" option, the Web Administration can only be connected via https." An 'APPLY' button is located at the bottom right of the form.

Specify the port number used for system connection and the default value is 8080.

Enable Secure Connection (SSL)

To allow the users to connect the CMS Server, turn on secure connection (SSL) and enter the port number. If the "Force secure connection (SSL) only" option is enabled, the users can only connect to the CMS Server by HTTPS connection.

5.1.2 Date and Time

Adjust the date, time, and time zone according to your current location.

If the settings are incorrect, the timestamps (the event occurring time) on the recording files will be inaccurate.

General Settings ?

[SYSTEM ADMINISTRATION](#)
[DATE AND TIME](#)
[DAYLIGHT SAVING TIME](#)
[LANGUAGE](#)
[PASSWORD STRENGTH](#)

Current date and time

2013/3/7 14:36:17 Thursday

Date and Time

Time Zone: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London ▼

Date Format: yyyy/MM/DD ▼

Time Setting: 24HR ▼

Manual Setting
 Date/Time: 2013/3/7 ▼ / 14 ▼ : 33 ▼ : 52 ▼

Synchronize with an internet time server automatically
 Server: pool.ntp.org
 Time Interval: 1 day(s) ▼

Set the server time the same as your computer time [UPDATE NOW](#)

[APPLY](#)

Synchronize with the time of your computer

To synchronize the time of the CMS Server with the time of your computer, click “Update Now”.

Synchronize with an Internet time server automatically

Turn on this option to synchronize the date and time of the NAS automatically with an NTP (Network Time Protocol) server. Enter the IP address or domain name of the NTP server, for example, time.nist.gov, time.windows.com. Then enter the time interval for synchronization.

Note: The first time synchronization may take several minutes to complete.

5.1.3 Daylight Saving Time

If your region adopts daylight saving time (DST), turn on the option "Adjust system clock automatically for daylight saving time" and click "Apply". The latest DST schedule of the time zone specified in the "Date and Time" section will be shown. The system time will be adjusted automatically according to the DST.

If your region does not adopt DST, the options on this page will not be available.

The screenshot shows the 'General Settings' page with the 'DAYLIGHT SAVING TIME' tab selected. The 'Daylight Saving Time' section displays the following information:

- Time Zone: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
- Recent daylight saving time: Start time: 2013/03/31 , 01:00; End time: 2013/10/27 , 02:00
- Offset: +60 minutes
- Adjust system clock automatically for daylight saving time.
- Enable customized daylight saving time table.

An 'APPLY' button is located at the bottom right of the section.

To enter the daylight saving time table manually, select the option "Enable customized daylight saving time table". Click "Add Daylight Saving Time Data" and enter the daylight saving time schedule. Then, click "Apply" to save the settings.

This close-up screenshot shows the 'Daylight Saving Time' settings with the following elements highlighted in red:

- Enable customized daylight saving time table.
- Add Daylight Saving Time Data

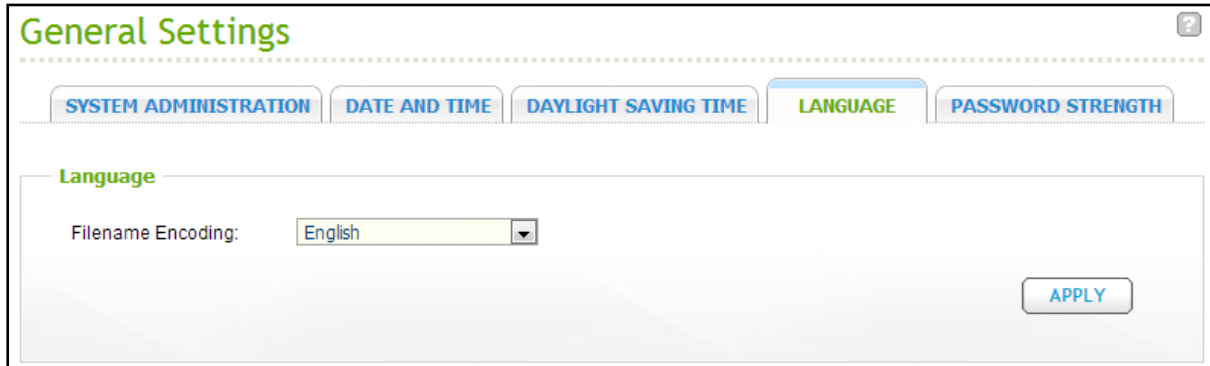
The 'APPLY' button is also visible. Below the settings is a section titled 'Customized Daylight Saving Time Tables' containing a table with the following columns: Start Time, End Time, Offset, and Action. A 'Delete' button is located below the table.

Start Time	End Time	Offset	Action
------------	----------	--------	--------

5.1.4 Language

Select the language the CMS uses to display the files and directories.

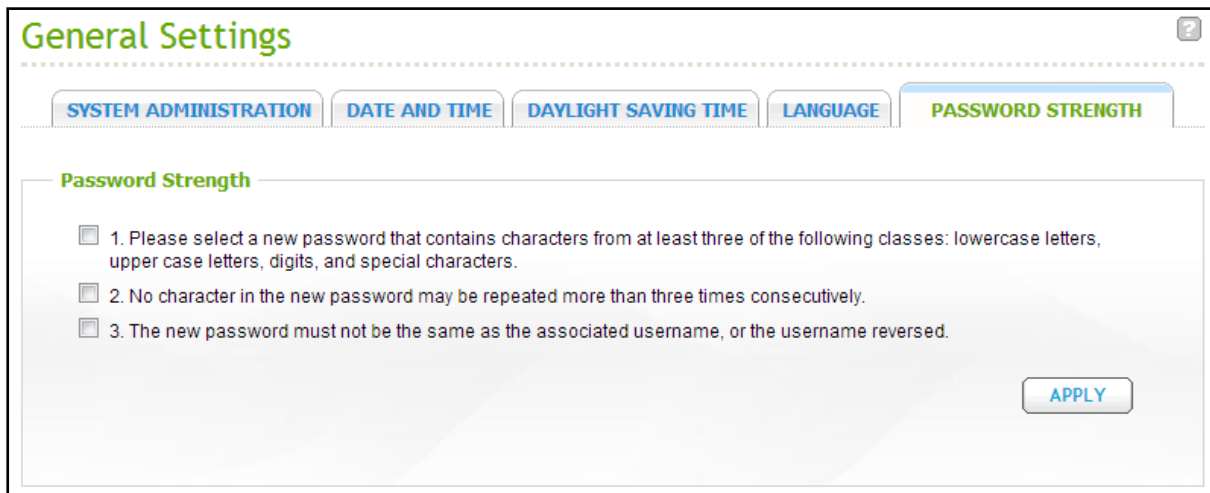
Note: All the files and directories on the CMS will be created using Unicode encoding. If your PC does not support Unicode, select the language which is the same as the OS language of your PC in order to view the files and directories on the system properly.



The screenshot shows the 'General Settings' interface with the 'LANGUAGE' tab selected. Under the 'Language' section, there is a 'Filename Encoding' dropdown menu currently set to 'English'. An 'APPLY' button is located at the bottom right of the settings area.

5.1.5 Password Strength

Specify the password rules. After applying the settings, the system will automatically check the validity of the new password.



The screenshot shows the 'General Settings' interface with the 'PASSWORD STRENGTH' tab selected. Under the 'Password Strength' section, there are three checkboxes, all of which are currently unchecked:


- 1. Please select a new password that contains characters from at least three of the following classes: lowercase letters, upper case letters, digits, and special characters.
- 2. No character in the new password may be repeated more than three times consecutively.
- 3. The new password must not be the same as the associated username, or the username reversed.

An 'APPLY' button is located at the bottom right of the settings area.

5.2 Network Setting

5.2.1 TCP/IP





(i) IP Address

Configure the TCP/IP settings of the CMS Server on this page. Click the Edit button () to edit the network settings (TCP/IP Property, as described in the following paragraphs). For the CMS Server with two LAN ports, users can connect both network interfaces to two different switches and configure the TCP/IP settings. The CMS Server will acquire two IP addresses which allow access from two different subnets. This is known as multi-IP settings. When using the QNAP Finder to detect the CMS IP, the IP of the Ethernet 1 will be shown in LAN 1 only and the IP of the Ethernet 2 will be shown in LAN 2 only.

Network

TCP / IP DDNS IPV6

IP Address

Interface	DHCP	IP Address	Subnet Mask	Gateway	MAC Address	Speed	MTU	Link	Edit
Ethernet 1	Yes	10.11.16.110	255.255.254.0	10.11.16.1	00:08:9B:D2:E0:76	100Mbps	1500		
Ethernet 2	Yes	0.0.0.0	0.0.0.0	0.0.0.0	00:08:9B:D2:E0:77	--	0		

DNS Server

Obtain DNS server address automatically : [DNS information](#)

Use the following DNS server address:

Primary DNS Server:


Secondary DNS Server:

Jumbo Frame Setting (MTU)

Jumbo Frame will only work in Gigabit network environment. Please make sure your clients are configured to use the same frame size. This function works only when Jumbo Frame is enabled and the same MTU value is set on all the connected network appliances.

(Ethernet 1) Select Jumbo Frame setting:

(Ethernet 2) Select Jumbo Frame setting:

Click the Edit button () , as described above to open the "TCP/IP Property" page and configure the following settings:

TCP/IP - Property

Network Speed: Auto-negotiation

Obtain IP address settings automatically via DHCP

Use static IP address

Fixed IP Address: 169 . 254 . 100 . 100

Subnet Mask: 255 . 255 . 0 . 0

Default Gateway: 169 . 254 . 100 . 100

Enable DHCP Server

Start IP Address: 10 . 11 . 1 . 100

End IP Address: 10 . 11 . 1 . 200

Lease Time: 1 Day 0 Hour

Step 1 of 1

APPLY CANCEL

Network Speed

Select the network transfer rate according to the network environment to which the CMS Server is connected. Select auto negotiation and the system will adjust the transfer rate automatically.

Obtain the IP address settings automatically via DHCP

If the network supports DHCP, select this option and the CMS Server will obtain the IP address and network settings automatically.

Use static IP address

To use a static IP address for network connection, enter the IP address, subnet mask, and default gateway.

Enable DHCP Server

A DHCP (Dynamic Host Configuration Protocol) server assigns IP addresses to the clients on a network. Select "Enable DHCP Server" to set the CMS Server a DHCP server if there is none on the local network where the CMS Server locates.

Note:

- Do not enable DHCP server if there is already one on the local network to avoid IP address conflicts or network access errors.
- The DHCP server option is available to Ethernet 1 only when both LAN ports of a dual LAN CMS Server are connected to the network and configured as standalone IP settings.

Start IP, End IP, and Lease Time: Set the range of IP addresses allocated by the CMS Server to the DHCP clients and the lease time. The lease time refers to the time that an IP address is leased to the clients. During that time, the IP will be reserved to the assigned client. When the lease time expires, the IP can be assigned to another client.

(ii) Default Gateway

Select the gateway settings. Please be reminded to select the first LAN port for the default gateway if both LAN ports are connected to the network.

(iii) DNS Server

Primary DNS Server: Enter the IP address of the primary DNS server. This server will provide the DNS service to dissolve domain names of the external network for the CMS Server.

Secondary DNS Server: Enter the IP address of the secondary DNS server. This server will be the second server to provide the DNS service for the CMS Server.

Note:

- Please contact the ISP or network administrator for the IP address of the primary and the secondary DNS servers. When the CMS Client needs the domain name to connect to the CMS Server, the client needs at least one DNS server IP for proper URL connection. Otherwise, the function may not work properly.
- If you select to obtain the IP address by DHCP, there is no need to configure the primary and the secondary DNS servers. In this case, enter "0.0.0.0".

5.2.2 DDNS

To allow remote access to the CMS Server using a domain name instead of a dynamic IP address, enable the DDNS service.

Network ?

TCP / IP **DDNS** IPV6

DDNS Service

After enabling DDNS Service, you can connect to this server by domain name.

Enable Dynamic DNS Service

Select DDNS server:

Enter the account information you registered with the DDNS provider

User Name:

Password:

Host Name:

Check the External IP Address Automatically

Current WAN IP: 118.166.234.178

Recent DDNS Update Result

Connection IP Last Checked:

Next Check for Connection IP:

Last DDNS Update Time:

Update Server Response:

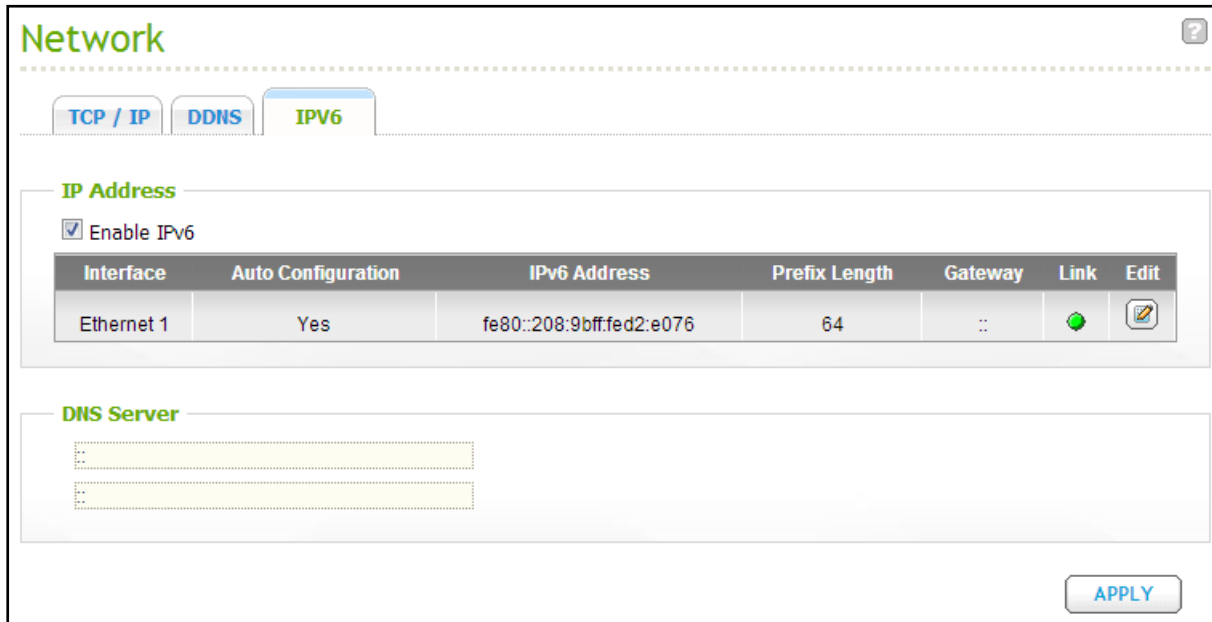
APPLY

The CMS supports the following DDNS providers:

<http://www.dyndns.com>, <http://update.ods.org>, <http://www.dhs.org>, <http://www.dyns.com>, <http://www.3322.org>, <http://www.no-ip.com> °

5.2.3 IPv6


The CMS supports IPv6 connectivity with "stateless" address configurations and RADVD (Router Advertisement Daemon) for IPv6, RFC 2461 to allow the hosts on the same subnet to acquire IPv6 addresses from the CMS automatically.

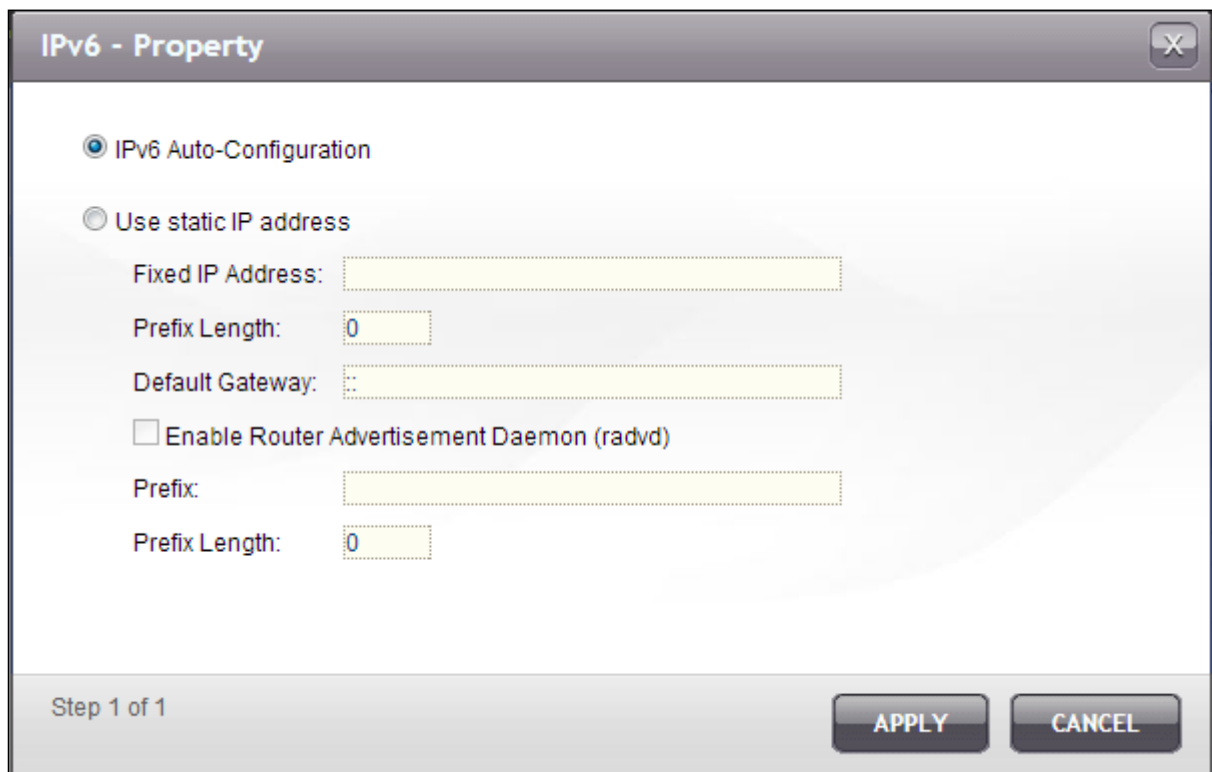


The screenshot shows the 'Network' configuration page with the 'IPV6' tab selected. Under the 'IP Address' section, the 'Enable IPv6' checkbox is checked. Below this is a table with the following data:

Interface	Auto Configuration	IPv6 Address	Prefix Length	Gateway	Link	Edit
Ethernet 1	Yes	fe80::208:9bff:fed2:e076	64	::		

Below the table is the 'DNS Server' section with two empty text input fields. An 'APPLY' button is located at the bottom right of the page.

To use this function, select the option "Enable IPv6" and click "Apply". The CMS will restart. After the system restarts, login the IPv6 page again. The settings of the IPv6 interface will be shown. Click the Edit button  to edit the settings.



The screenshot shows the 'IPv6 - Property' dialog box. It has two radio button options: 'IPv6 Auto-Configuration' (selected) and 'Use static IP address'. Under 'Use static IP address', there are input fields for 'Fixed IP Address', 'Prefix Length' (set to 0), and 'Default Gateway'. There is also an unchecked checkbox for 'Enable Router Advertisement Daemon (radvd)'. Below this, there are input fields for 'Prefix' and 'Prefix Length' (set to 0). At the bottom, it says 'Step 1 of 1' and has 'APPLY' and 'CANCEL' buttons.

IPv6 Auto Configuration

If an IPv6 enabled router is available on the network, select this option to allow the CMS Server to acquire the IPv6 address and the configurations automatically.

Use static IP address

To use a static IP address, enter the IP address (e.g. 2001:bc95:1234:5678), prefix length (e.g. 64), and the gateway address for the CMS. You may contact your ISP for the information of the prefix and the prefix length.

- Enable Router Advertisement Daemon (radvd)

To configure the CMS Server as an IPv6 host and distribute IPv6 addresses to the local clients which support IPv6, enable this option and enter the prefix and prefix length.

IPv6 DNS server

Enter the preferred DNS server in the upper field and the alternate DNS server in the lower field. Contact the ISP or network administrator for the information. If IPv6 auto configuration is selected, leave the fields as "::".

5.3 Power Management

You can restart or shut down the CMS Server and specify the behavior of the CMS Server after a power recovery.

Power Management ?

Restart/ Shutdown

Execute system restart/ shutdown immediately.

RESTART SHUTDOWN

EuP Mode Configuration

Enable

Disable

Configure Wake on LAN

Enable

Disable

When the AC power resumes

Resume the server to the previous power-on or power-off status.

The server should remain off.

APPLY

Restart/Shutdown

Restart or shut down the CMS Server immediately.

If you try to restart or turn off the CMS Server from the web-based interface or the LCD panel (if available) when a remote replication job is in process, the CMS Server will prompt you to ignore the running replication job or not.

EuP Mode Configuration

EuP (also Energy-using Products) is a European Union (EU) directive designed to improve the energy efficiency of electrical devices, reduce use of hazardous substances, increase ease of product recycling, and improve environment-friendliness of the product.

When EuP is enabled, the following settings will be affected so that the CMS Server maintains low power consumption (less than 1W) when the CMS Server is powered off:

- Wake on LAN: Disabled.
- AC power resumption: The CMS will remain off after the power restores from an outage.

When EuP is disabled, the power consumption of the CMS Server is slightly higher than 1W when the CMS Server is powered off. EuP is disabled by default so that you can use the functions Wake on LAN, AC power resumption settings properly.

This feature is only supported by certain CMS Server models, please visit http://www.qnapsecurity.com/pro_detail_featurecms.asp?p_id=273 for details

Configure Wake on LAN

Turn on this option to allow the users to power on the CMS Server remotely by Wake on LAN. Note that if the power connection is physically removed (in other words, the power cable is unplugged) when the CMS Server is turned off, Wake on LAN will not function whether or not the power supply is reconnected afterwards.

When the AC Power resumes

Configure the CMS Server to resume to the previous power-on or power-off status, turn on, or remain off when the AC power resumes after a power outage.

5.4 Backup/Restore Settings

Backup/Restore Settings

Backup System Settings

To backup all settings, including user accounts, server name and network configuration etc., click **[BACKUP]** and select to open or save the setting file.

BACKUP

Restore System Settings

To restore all settings, click **[Browse...]** to select a previously saved setting file and click **[RESTORE]** to confirm.

Browse...

RESTORE

Backup System Settings

To back up all the settings, including the user accounts, server name, network configuration, and so on, click "BACKUP". If the system asks whether to open or save the backup image file, select "Save".

Restore System Settings

To restore all the settings, click "Browse" to select a previously saved setting file and click

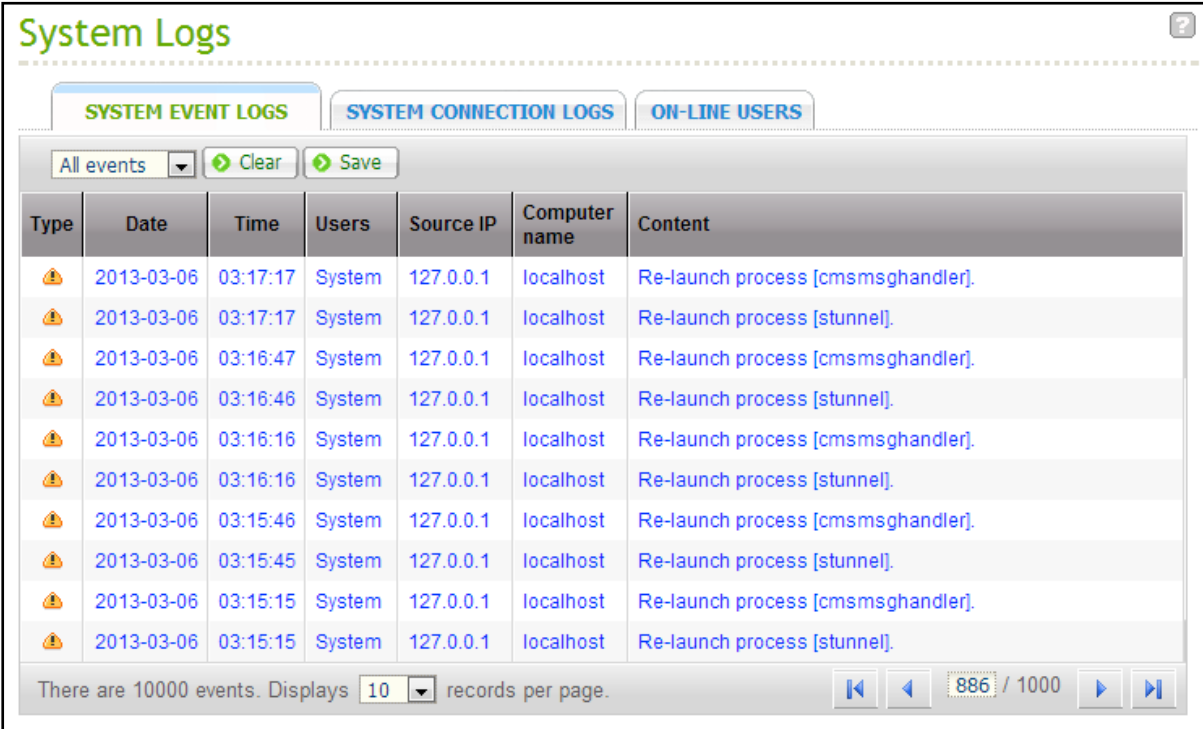
“Restore”.

5.5 System Log

5.5.1 System Event Log

The CMS Server can store 32,768 recent event logs, including warnings, errors, and information messages. If the CMS Server does not function correctly, refer to the event logs for troubleshooting.

Tip: Right click a log to delete the record. To clear all the logs, click “Clear”.



The screenshot shows the 'System Logs' interface with three tabs: 'SYSTEM EVENT LOGS' (selected), 'SYSTEM CONNECTION LOGS', and 'ON-LINE USERS'. Below the tabs are controls for 'All events' (dropdown), 'Clear' (button), and 'Save' (button). The main area contains a table with the following columns: Type, Date, Time, Users, Source IP, Computer name, and Content. The table lists 10 entries of 'Re-launch process' events from 2013-03-06. At the bottom, it indicates 'There are 10000 events. Displays 10 records per page.' and includes pagination controls showing '886 / 1000'.

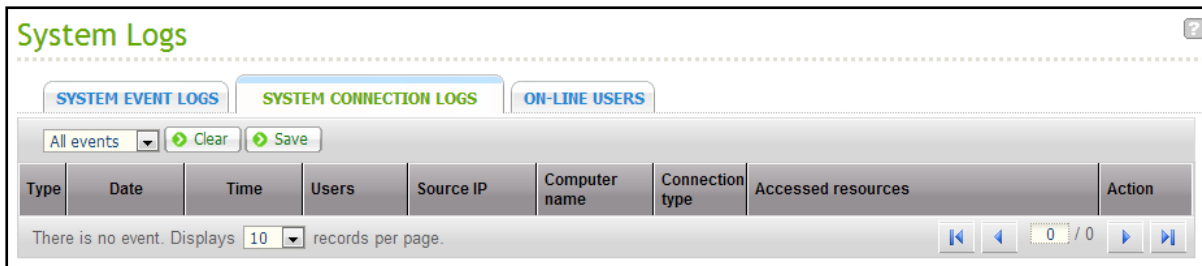
Type	Date	Time	Users	Source IP	Computer name	Content
⚠	2013-03-06	03:17:17	System	127.0.0.1	localhost	Re-launch process [cmsmsgshandler].
⚠	2013-03-06	03:17:17	System	127.0.0.1	localhost	Re-launch process [stunnel].
⚠	2013-03-06	03:16:47	System	127.0.0.1	localhost	Re-launch process [cmsmsgshandler].
⚠	2013-03-06	03:16:46	System	127.0.0.1	localhost	Re-launch process [stunnel].
⚠	2013-03-06	03:16:16	System	127.0.0.1	localhost	Re-launch process [cmsmsgshandler].
⚠	2013-03-06	03:16:16	System	127.0.0.1	localhost	Re-launch process [stunnel].
⚠	2013-03-06	03:15:46	System	127.0.0.1	localhost	Re-launch process [cmsmsgshandler].
⚠	2013-03-06	03:15:45	System	127.0.0.1	localhost	Re-launch process [stunnel].
⚠	2013-03-06	03:15:15	System	127.0.0.1	localhost	Re-launch process [cmsmsgshandler].
⚠	2013-03-06	03:15:15	System	127.0.0.1	localhost	Re-launch process [stunnel].

5.5.2 System Connection Log

The CMS Server can store 32,768 recent event logs, including warnings, errors, and information messages. If the CMS cannot be logged in normally, refer to the system connection logs for troubleshooting.

Click “Save” to save the log data as a CSV file and “Clear” to clear all the logs.

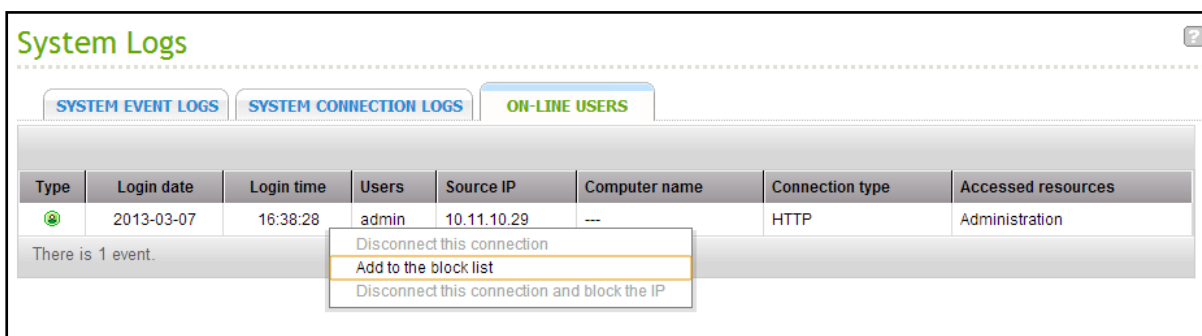
Note: Only English event logs are supported in this system.



5.5.3 On-line User

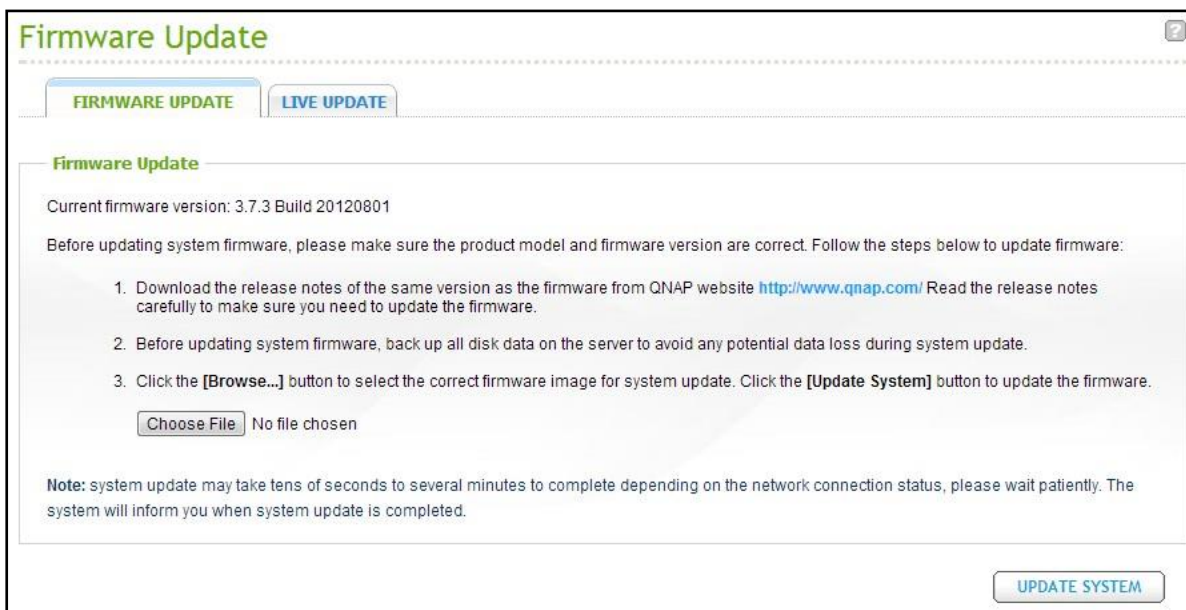
The information of the on-line users connecting to the CMS Server by networking services is shown on this page.

Tip: Right click a log to disconnect the IP connection and block the IP.



5.6 Firmware Update

5.6.1 Update Firmware by Web Administration Page



Note: If the system is running properly, there is no need to update the firmware.

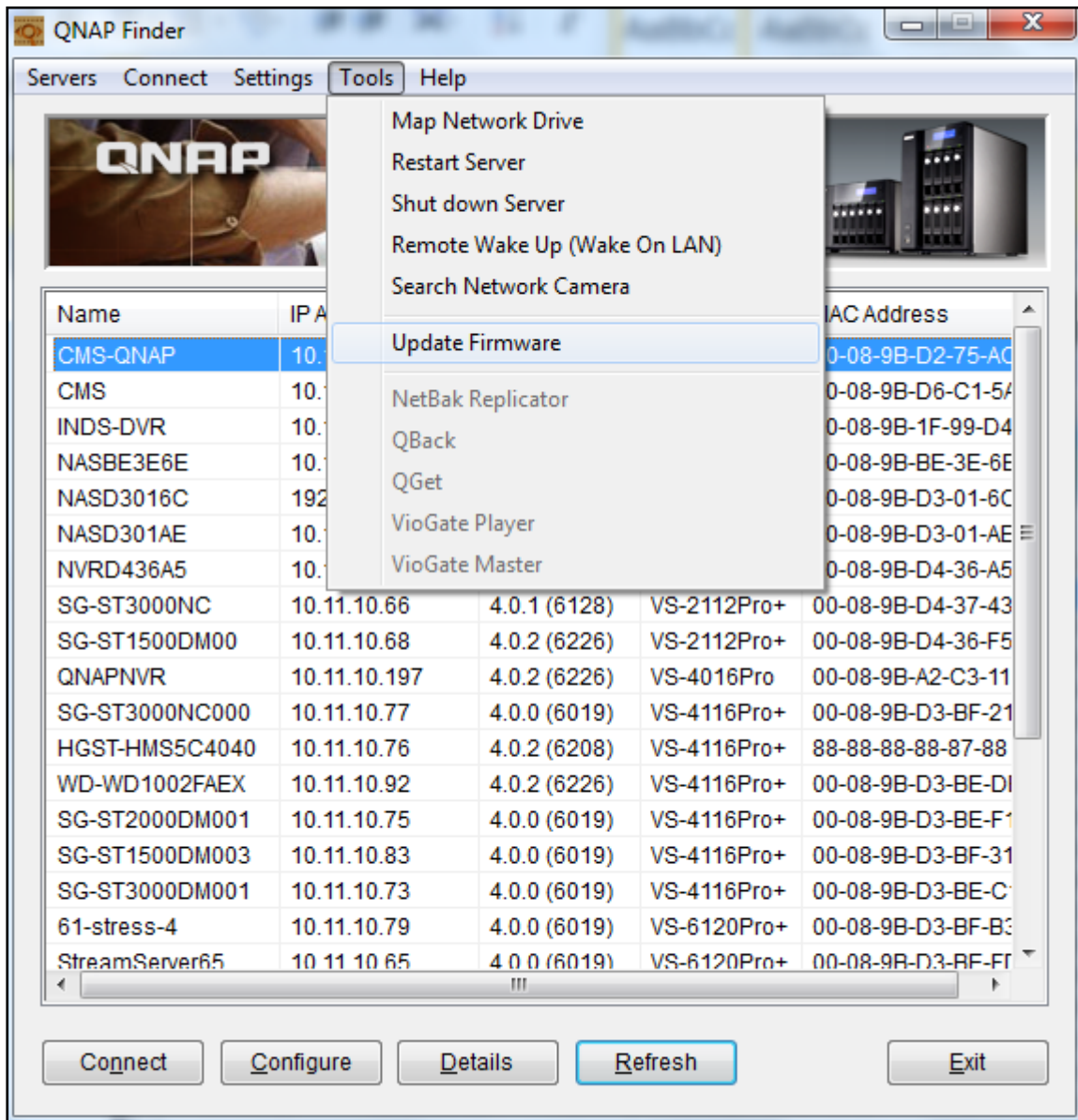
Before updating the system firmware, make sure the product model and firmware version are correct. Follow the steps below to update firmware:

1. Download the release notes of the firmware from the QNAP Security website <http://www.qnapsecurity.com>. Read the release notes carefully to make sure it is required to update the firmware.
2. Download the CMS Server firmware and unzip the IMG file to the computer.
3. Before updating the system firmware, back up all the disk data on the CMS Server to avoid any potential data loss during the system update.
4. Click "Choose File" to select the correct firmware image for the system update. Click "UPDATE SYSTEM" to update the firmware.

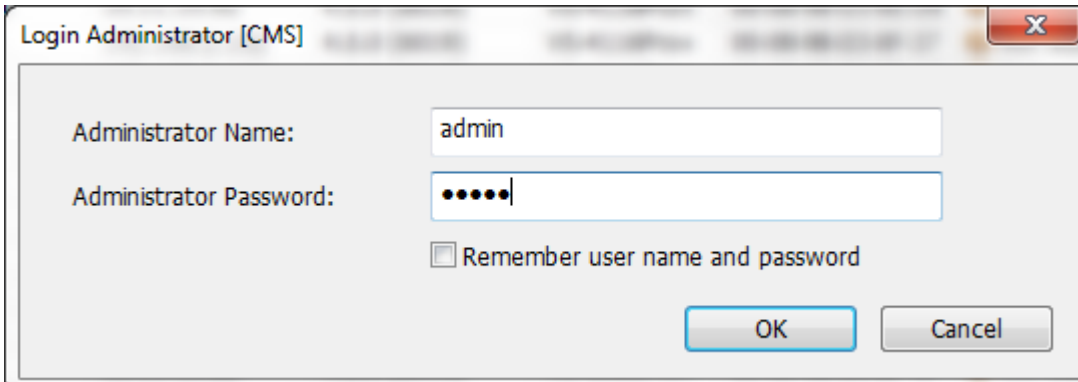
The system update may take up to several minutes to complete depending on the network connection status. Please wait patiently. The CMS Server will inform you when the system update has completed.

5.6.2 Update Firmware by QNAP Finder

The CMS Server firmware can be updated by the QNAP Finder. Select a CMS Server model and choose "Update Firmware" from the "Tools" menu.

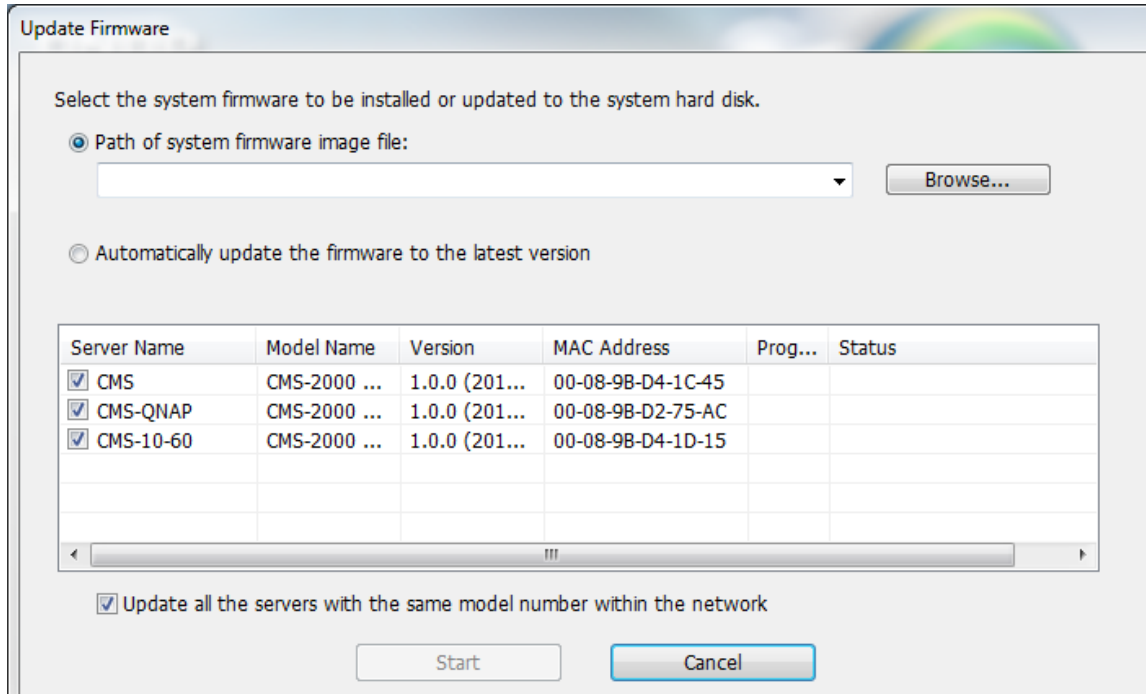


Login the CMS Server as an administrator.



The image shows a 'Login Administrator [CMS]' dialog box. It has a title bar with a close button (X). The main area contains two text input fields: 'Administrator Name:' with the text 'admin' and 'Administrator Password:' with six dots. Below the password field is a checkbox labeled 'Remember user name and password' which is currently unchecked. At the bottom right, there are two buttons: 'OK' and 'Cancel'.

Browse and select the firmware for the CMS Server. Click "Start" to update the system.



The image shows an 'Update Firmware' dialog box. It has a title bar with a close button (X). The main area contains the following elements:

- A text label: "Select the system firmware to be installed or updated to the system hard disk."
- Two radio buttons:
 - The first is selected: "Path of system firmware image file:" followed by a text input field and a "Browse..." button.
 - The second is unselected: "Automatically update the firmware to the latest version"
- A table with the following columns: "Server Name", "Model Name", "Version", "MAC Address", "Prog...", and "Status".
- A checked checkbox: "Update all the servers with the same model number within the network"
- Two buttons at the bottom: "Start" and "Cancel"

Server Name	Model Name	Version	MAC Address	Prog...	Status
<input checked="" type="checkbox"/> CMS	CMS-2000 ...	1.0.0 (201...	00-08-9B-D4-1C-45		
<input checked="" type="checkbox"/> CMS-QNAP	CMS-2000 ...	1.0.0 (201...	00-08-9B-D2-75-AC		
<input checked="" type="checkbox"/> CMS-10-60	CMS-2000 ...	1.0.0 (201...	00-08-9B-D4-1D-15		

Note: The CMS servers of the same model on the same LAN can be updated by the QNAP Finder at the same time. Administrator access is required for system update.

5.7 Restoring to Factory Default

To reset all the system settings to default, click "RESET" and then click "OK".

Restore to Factory Default

Restore to Factory Default

To reset all settings to default, click **[RESET]**.

Caution: When you press **[RESET]** on this page, all drive data, user accounts, network shares and system settings are cleared and restored to default. Please make sure you have backed up all the important data and system settings before resetting the CMS Server

Caution: When "RESET" is pressed on this page, all the disk data, user accounts, network shares, and system settings will be cleared and restored to default. Always back up all the important data and system settings before resetting the CMS Server.

5.8 Disk Management

This page shows the model, size, and current status of the hard drives on the CMS Server. You can format and check the hard drives, and scan the bad blocks on the hard drives.

5.8.1 Volume Management

Volume Management

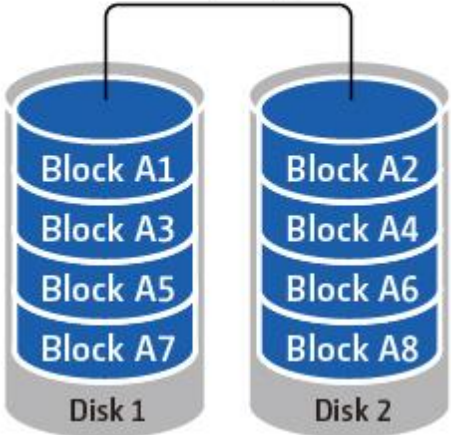
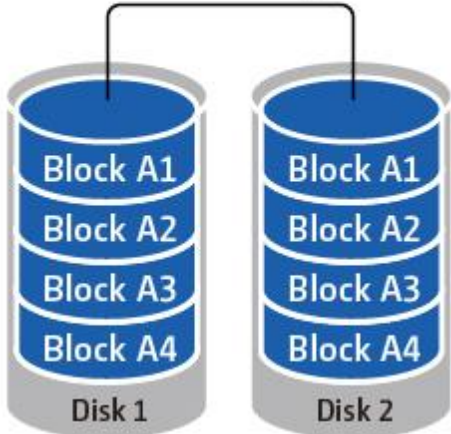
Current Disk Volume Configuration : Physical Disks

Disk	Model	Capacity	Status	Bad Blocks Scan	SMART Information
Drive 1	Seagate ST3320418AS CC44	298.09 GB	Ready	<input type="button" value="SCAN NOW"/>	GOOD
Drive 2	--	--	No Disk	<input type="button" value="SCAN NOW"/>	---

Note that if you are going to install a hard drive (new or used) which has never been installed on the NAS before, the hard drive will be formatted and partitioned automatically and all the disk data will be cleared.

Current Disk Volume Configuration : Logical Volumes

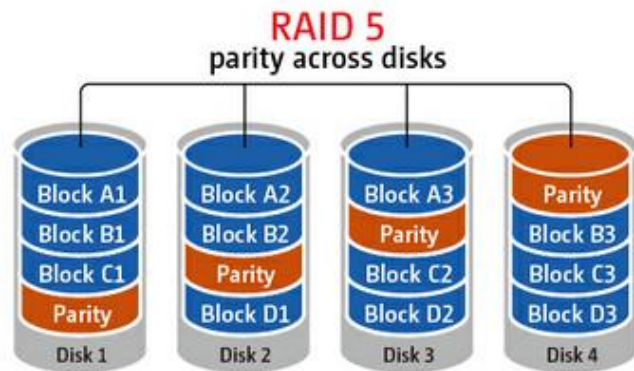
Volume	File System	Total Size	Free Size	Status
Single Disk: Drive 1	EXT4	294.26 GB	293.45 GB	Ready

Disk Configuration	
<p>Single Disk Volume</p> <p>Each hard drive is used as a standalone disk. If a hard drive is damaged, all the data will be lost.</p>	
<p>RAID 0 Striping Disk Volume</p> <p>RAID 0 (striping disk) combines 2 or more hard drives into one larger volume. The data is written to the hard drive without any parity information and no redundancy is offered. The total storage capacity of a RAID 0 disk volume is equal to the sum of the capacity of all member hard drives.</p>	<p style="text-align: center;">RAID 0 striping</p>  <p>The diagram illustrates RAID 0 striping across two disks. A bracket at the top connects the two disks. Disk 1 (left) contains odd-numbered blocks: Block A1, Block A3, Block A5, and Block A7. Disk 2 (right) contains even-numbered blocks: Block A2, Block A4, Block A6, and Block A8.</p>
<p>RAID 1 Mirroring Disk Volume</p> <p>RAID 1 duplicates the data between two hard drives to provide disk mirroring. To create a RAID 1 array, a minimum of 2 hard drives are required. The storage capacity of a RAID 1 disk volume is equal to the size of the smallest hard drive.</p>	<p style="text-align: center;">RAID 1 mirroring</p>  <p>The diagram illustrates RAID 1 mirroring across two disks. A bracket at the top connects the two disks. Both Disk 1 (left) and Disk 2 (right) contain identical data: Block A1, Block A2, Block A3, and Block A4.</p>

RAID 5 Disk Volume

The data are striped across all the hard drives in a RAID 5 array. The parity information is distributed and stored across each hard drive. If a member hard drive fails, the array enters degraded mode. After installing a new hard drive to replace the failed one, the data can be rebuilt from other member drives that contain the parity information.

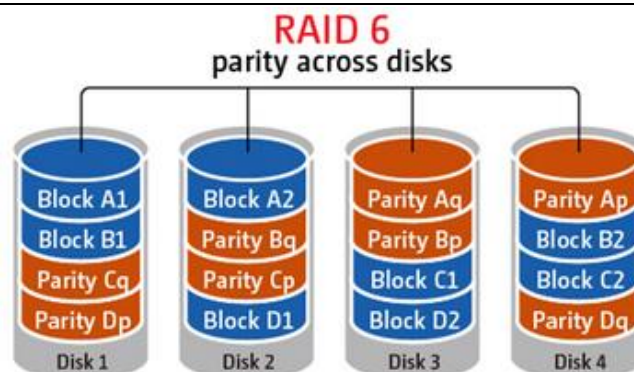
To create a RAID 5 disk volume, a minimum of 3 hard drives are required. The storage capacity of a RAID 5 array is equal to $(N-1) * (\text{size of smallest hard drive})$. N is the number of hard drives in the array.



RAID 6 Disk Volume

The data are striped across all the hard drives in a RAID 6 array. RAID 6 differs from RAID 5 that a second set of parity information is stored across the member drives in the array. It tolerates failure of two hard drives.

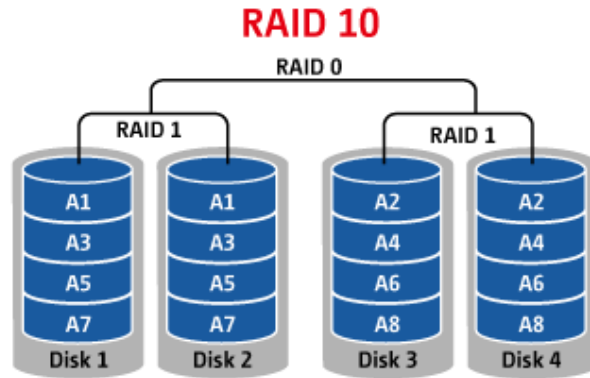
To create a RAID 6 disk volume, a minimum of 4 hard drives are required. The storage capacity of a RAID 6 array is equal to $(N-2) * (\text{size of smallest hard drive})$. N is the number of hard drives in the array.



RAID 10 Disk Volume

RAID 10 combines four or more disks in a way that protects data against loss of non-adjacent disks. It provides security by mirroring all data on a secondary set of disks while using striping across each set of disks to speed up data transfers.

RAID 10 requires an even number of hard drives (minimum 4 hard drives). The storage capacity of RAID 10 disk volume is equal to (size of the smallest capacity disk in the array) * N/2. N is the number of hard drives in the volume.



5.8.2 RAID Management


You can perform online RAID level migration and recover a RAID configuration on this page. You can perform online RAID capacity expansion (RAID 1, 5, 6, 10) and online RAID level migration (single disk, RAID 1, 5, 10), add a hard drive member to a RAID 5, 6, or 10 configuration, configure a spare hard drive (RAID 5, 6, 10) recover a RAID configuration on this page.

RAID Management ?

This function enables capacity expansion, RAID configuration migration or spare drive configuration with the original drive data reserved.
Note: Make sure you have read the instructions carefully and you fully understand the correct operation procedure before using this function.

Current Disk Volume Configuration				
Volume	Total Size	Bitmap	Status	Description
<input type="radio"/> Single Disk: Drive 1	294.26 GB	--	Ready	No operation can be executed for this drive configuration.

For detailed instructions, please [click here](#).

 **Caution:** When the hard drive synchronization is in process, do NOT turn off the CMS Server or plug in or unplug the hard disk drives

HDD Hot Swapping in RAID Configuration

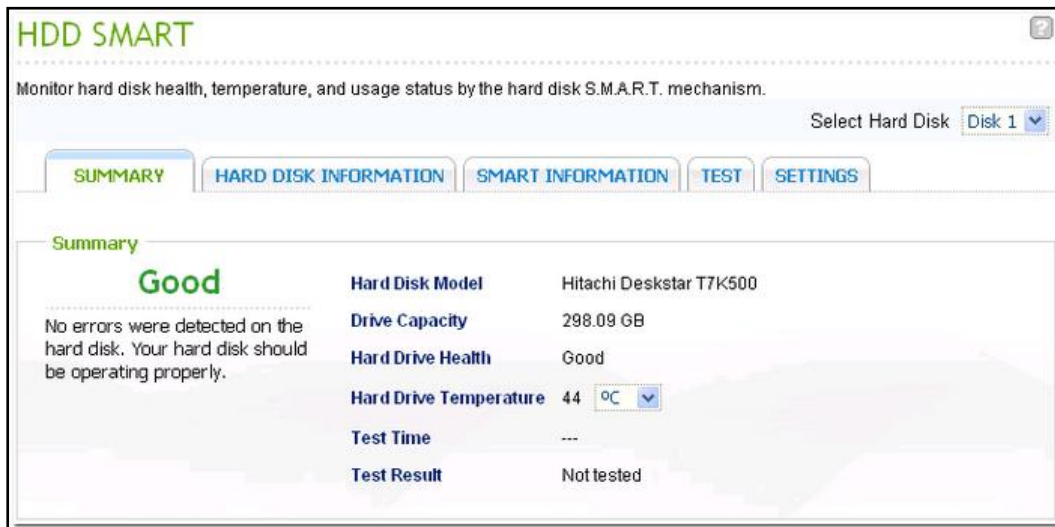
The CMS Server supports HDD hot swapping. When a hard drive of a RAID configuration fails, the failed hard drive can be replaced by a new one immediately without shutting down the server, and the recording data can still be retained. However, if the hard drives are working properly and the recording is in process, do not swap the hard drives to avoid damages to the hard drives or the recording files.



Warning: It is strongly recommended to turn OFF the server before replacing the hard drives to reduce the risk of electric shock. The system should only be managed and maintained by authorized system administrators.

5.8.3 HDD SMART

Monitor the hard disk drives (HDD) health, temperature, and the usage status by HDD S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology).



The following information of each hard drive on the CMS Server is available.

Field	Description
Summary	Display the hard drive S.M.A.R.T. summary and the latest test result.
Hard disk information	Display the hard drive details, for example, model, serial number, HDD capacity.
SMART information	Display the hard drive S.M.A.R.T. information. Any items that the values are lower than the threshold are regarded as abnormal.
Test	Perform quick or complete hard drive S.M.A.R.T. test.
Settings	Configure temperature alarm. When the hard drive temperature is over the preset values, the NAS records the error logs. You can also set the quick and complete test schedule. The latest test result is shown on the Summary page.

5.8.4 Encrypted File System

You can manage the encrypted disk volumes on the CMS Server on this page. Each encrypted disk volume is locked by a particular key. The encrypted volume can be unlocked by the following methods:

- Encryption Password: Enter the encryption password to unlock the disk volume. The default password is "admin". The password must be 8-16 characters long. Symbols (! @ # \$ % ^ & * () _ + = ?) are supported.

- Encryption Key File: Upload the encryption file to the CMS Server to unlock the disk volume. The key can be downloaded from "Encryption Key Management" page after the disk volume has been unlocked successfully.

Please note that the data encryption functions may not be available in accordance to the legislative restrictions of some countries.

Click "ENCRYPTION KEY MANAGEMENT" on the "Action" column of an unlocked disk volume.

Volume	Total Size	Status	Action
Mirroring Disk Volume: Drive 1 2	145.24 GB	Unlocked	ENCRYPTION KEY MANAGEMENT

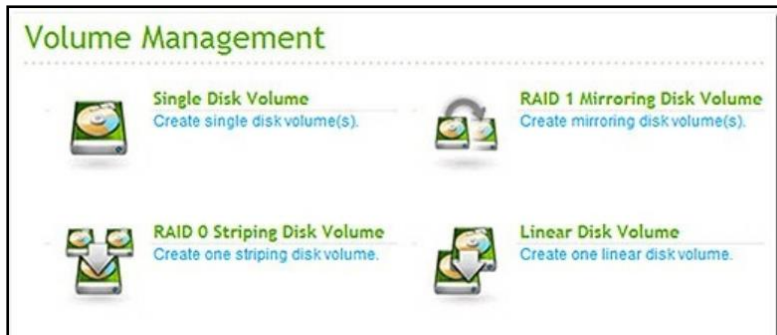
You can perform the following actions:

- Change the encryption key: Input your old encryption password and input the new password. (Note that after the password is changed, any previously exported keys will not be working anymore. You have to download the new encryption key if necessary, see below).
- Save the encryption key: Save the encryption key on the CMS Server for automatic unlocking and mounting the encrypted disk volume when the CMS Server restarts.
- Download the encryption key file: Input the encryption password to download the encryption key file. Downloading the encryption key file will allow you to save the encryption key in a file. The file is also encrypted and can be used to unlock a volume, without knowing the real password (see "unlock a disk volume manually" below). Please save the encryption key file in a secure place!

Create a new encrypted disk volume with new hard drives

To create a new encrypted disk volume and install new hard drives on the CMS Server after its installation, follow the steps below:

1. Install the new hard drive(s) to the CMS Server.
2. Log into the CMS Server as an administrator. Go to "Disk Management" > "Volume Management".
3. Select the disk volume you want to configure according to the number of new hard drives installed.



4. Select the hard drive(s) for creating the disk volume. In this example, we select to create a single drive. The procedure applies also to a RAID configuration.
5. Select "Yes" for the "Encryption" option and enter the encryption settings.
6. Then click "CREATE" to create the newly encrypted volume. Note that all the data on the selected drives will be DELETED! Please back up the data before creating the encrypted volume.
7. You have created an encrypted disk volume on the CMS Server.

Verify that disk volume is encrypted

To verify the disk volume is encrypted, log into the CMS Server as an administrator. Go to "Disk Management" > "Volume Management".

You will be able to see the encrypted disk volume, with a lock icon in the Status column. The lock will be open if the encrypted volume has been unlocked. A disk volume without the lock icon in the Status column is not encrypted.

5.9 System Status

5.9.1 System Information

You can view the system information such as CPU usage and memory on this page

System Information

System Information

Server Name	CMS
Firmware Version	1.0.4 Build 20130701
System Up Time	2 Day 1 Hour 21 Minute(s)
Serial Number	Q131102691

Port Status

Port No.	Port Status	IP Address	MAC Address	Packets Received	Packets Sent	Error Packets
Ethernet 1	Up	169.254.100.100	00:08:9b:d5:0c:70	18747	3958	0
Ethernet 2	Up	10.11.10.199	00:08:9b:d5:0c:71	1933944	639576	0

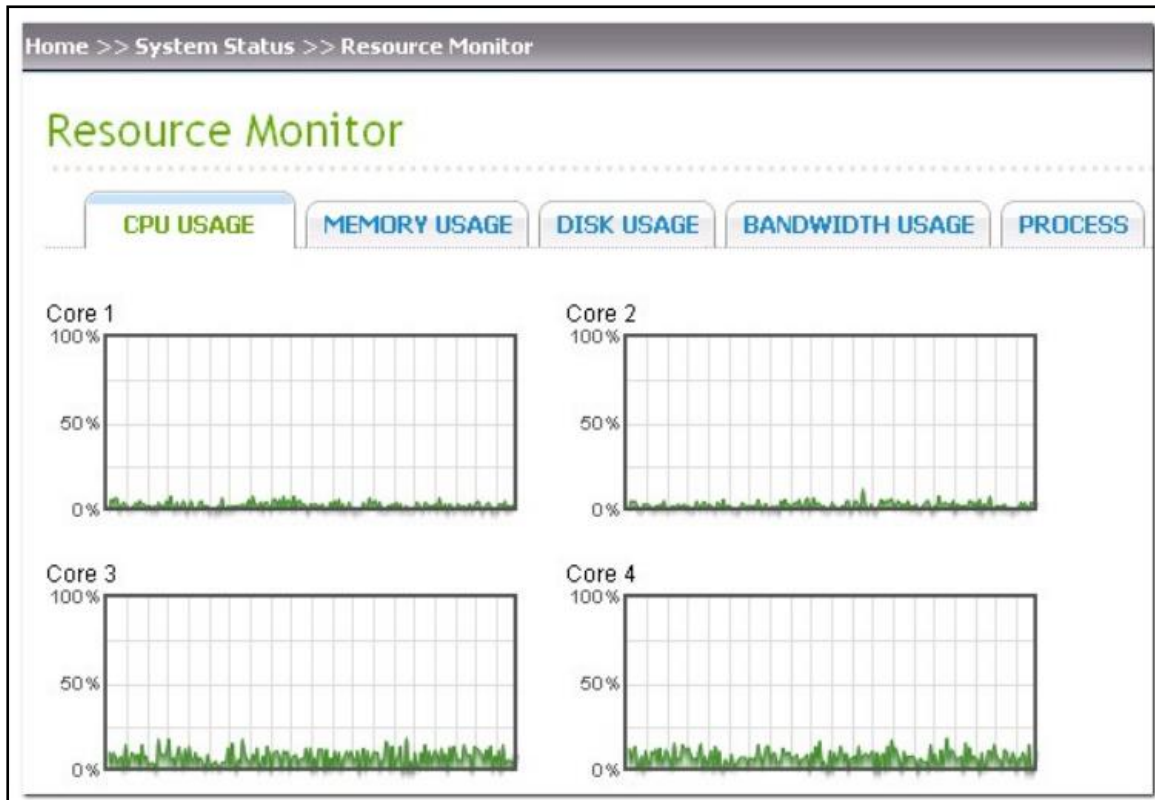
Hardware Information

CPU Usage	9.4 %
Total Memory	986.4 MB
Free Memory	736.4 MB

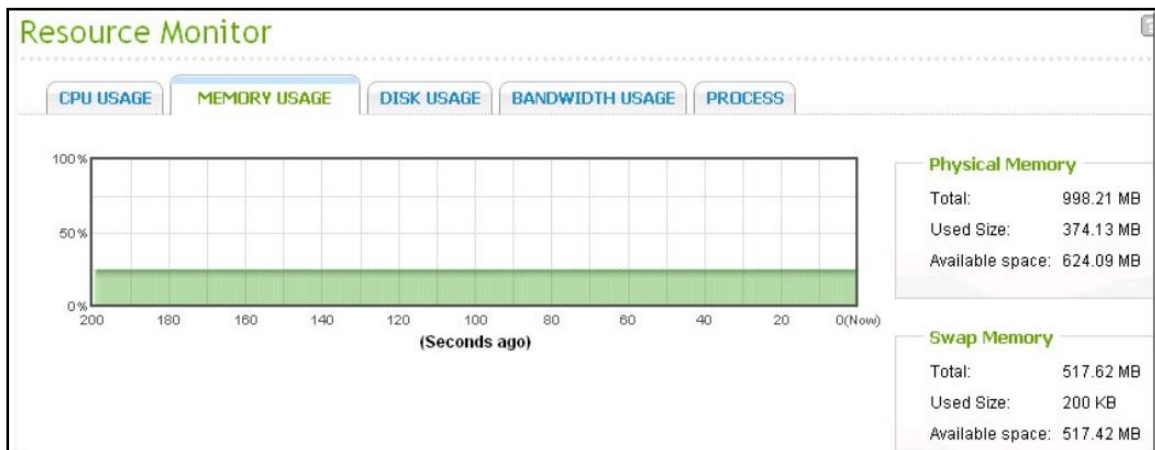
5.9.2 Resource Monitor

You can view the CPU usage, disk usage, and bandwidth transfer statistics of the CMS Server on this page.

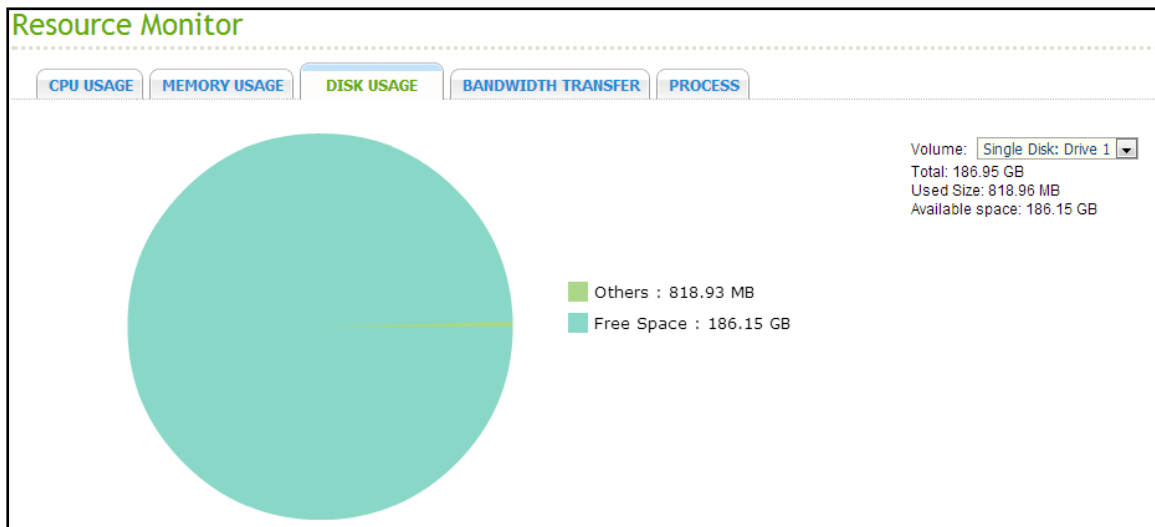
CPU Usage: This tab shows the CPU usage of the CMS Server.



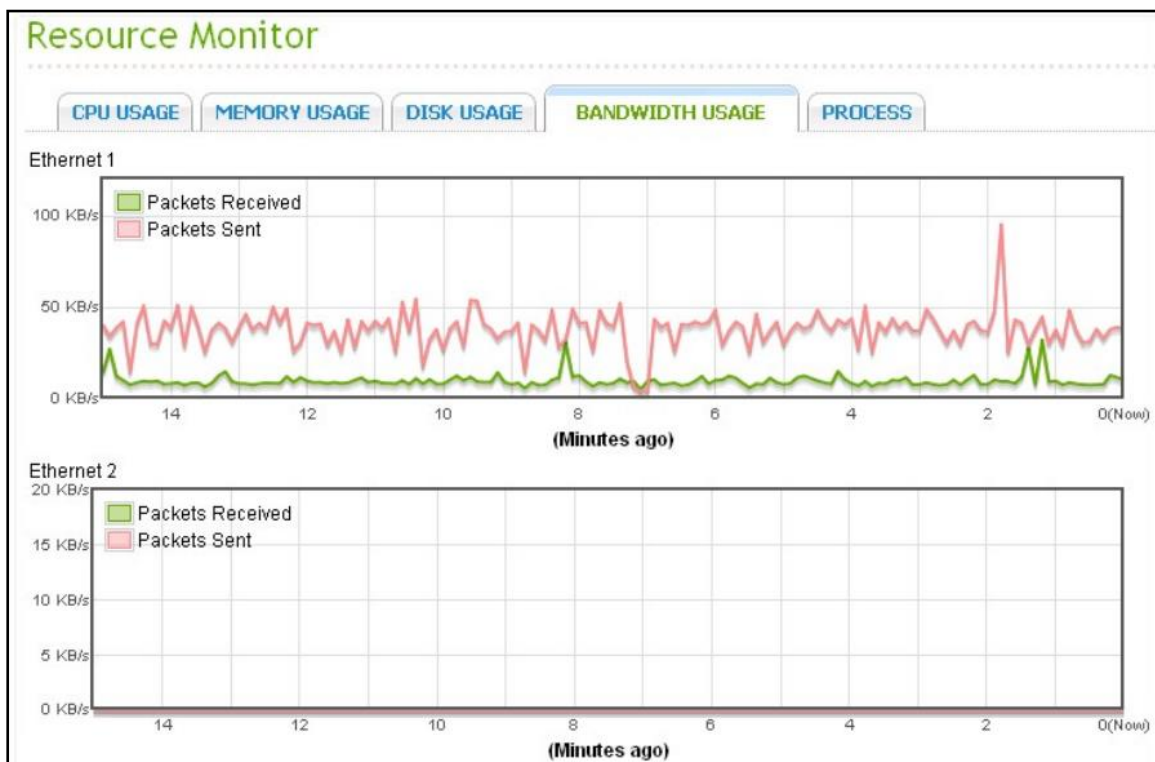
Memory Usage: This tab shows the memory usage of the CMS Server by real-time dynamic graph.



Disk Usage: This tab shows the disk space usage of each disk volume and its network shares.



Bandwidth Usage: This tab provides information about bandwidth transfer of each available LAN port of the CMS Server.



Process: This tab shows information about the processes running on the CMS Server.

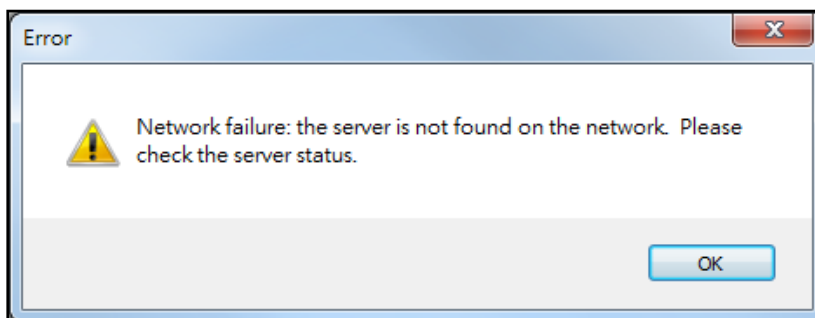
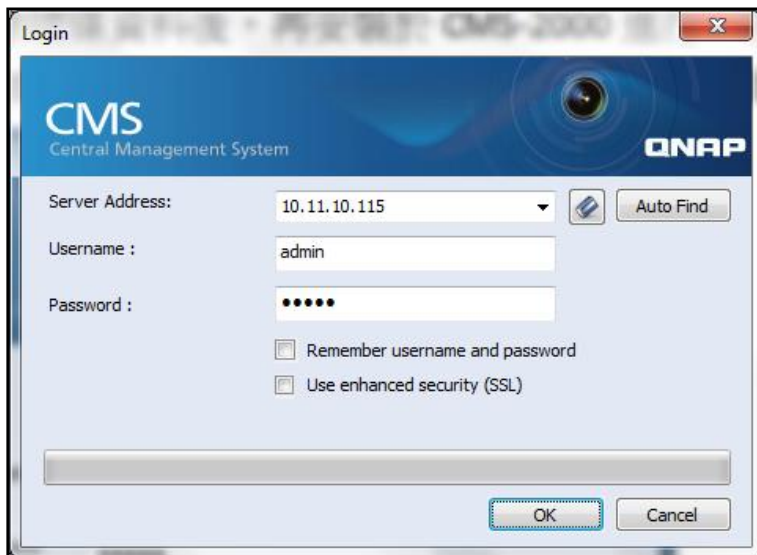
Resource Monitor

CPU USAGE MEMORY USAGE DISK USAGE BANDWIDTH TRANSFER **PROCESS**

Process Name	Users	PID	CPU Usage	Memory
top	admin	21016	2.9%	876 K
postgres: wal writer proc...	postgres	4899	0.9%	1996 K
top	admin	21021	0.9%	868 K
qLogEngine: Write log i...	admin	6747	0	1284 K
modagent	admin	2371	0	552 K
hotswap	admin	3062	0	1384 K
qsmartd	admin	3067	0	992 K
dhcpcd	admin	3386	0	408 K
dhcpcd	admin	3701	0	252 K
thttpd	admin	4259	0	1868 K
cupsd	admin	4331	0	2052 K
smbd	admin	4437	0	2960 K
crond	admin	4576	0	720 K
smbd	admin	4606	0	1120 K
ntpdated	admin	4648	0	728 K

Chapter 6 Troubleshooting

1. After quick installation of the CMS-2000 (CMS Server) and having entered the correct user name and password, the system showed the warning message "Network Failure: the server is not found on the network. Please check the server status."



Solution

Please check the following:

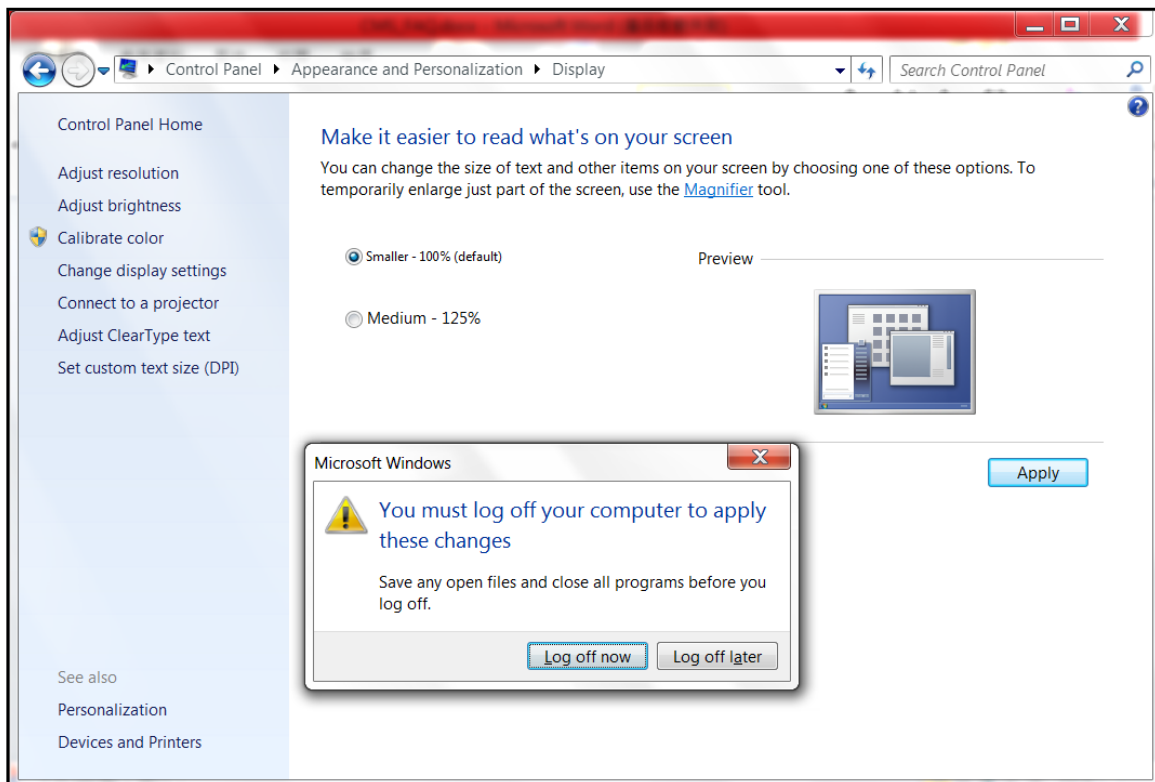
- a) The hard drives are empty and do not contain any data. You can clean all the data on the hard drives in Windows Disk Management, and install the CMS-2000 again.
- b) If a hard drive has been used in a NAS or an NVR, it may be determined abnormal and unavailable by CMS.

2. The CMS Client interface displays abnormally and does not show complete contents.



Solution

Please go to "Display" on Windows ("Control Panel" > "Appearance and Personalization" > "Display" > "Make it easier to read what's on your screen") and change the setting from "Medium - 125 %" to default.

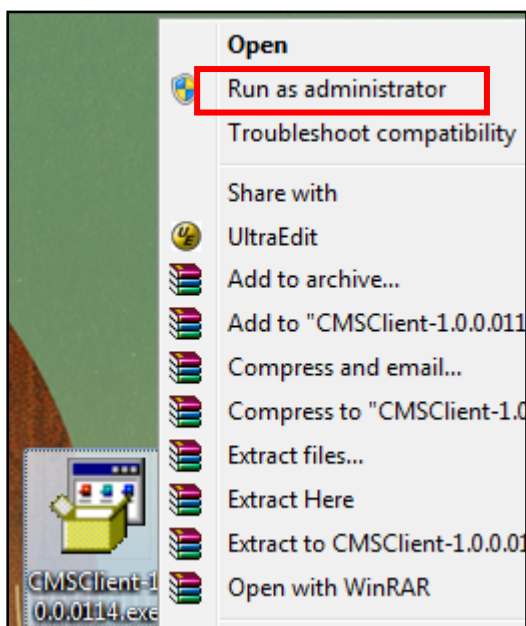


3. The live view page did not display.

Solution

Please check the following:

- a) The NVR and the IP camera are turned on and correctly connected to the network.
- b) The IP addresses of the CMS Server and NVR do not conflict with other devices on the same subnet.
- c) Check if the CMS Server, NVR, and IP camera is connected to each other.
- d) Please use a user account with administrator privilege to install the CMS Client, if not, please run the CMS Client installer as administrator.



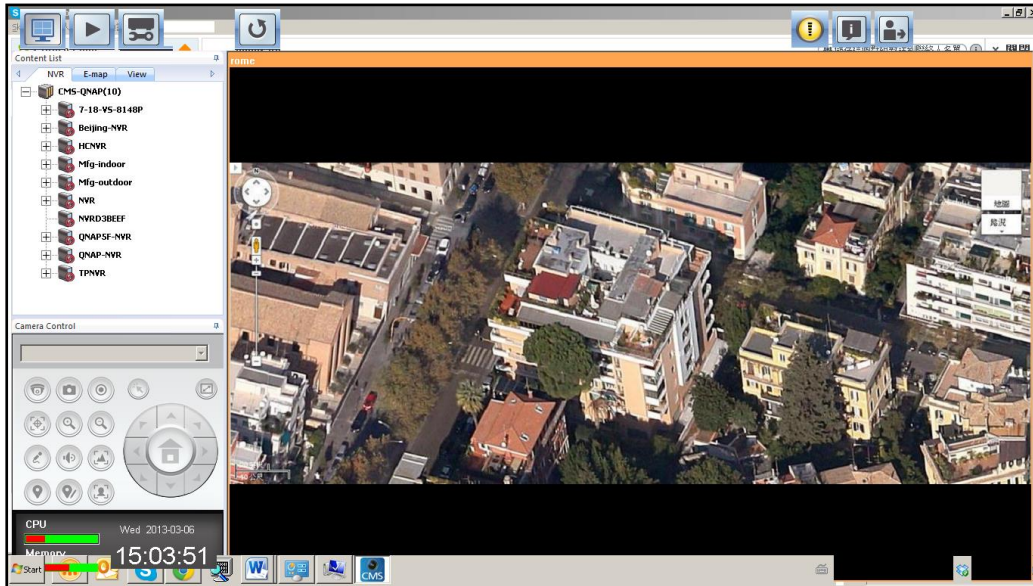
- e) Update the latest driver of your Intel onboard graphics chip or graphic card, please download in Intel download center: <http://downloadcenter.intel.com/>

4. The live video is not clear or smooth sometimes.

Solution

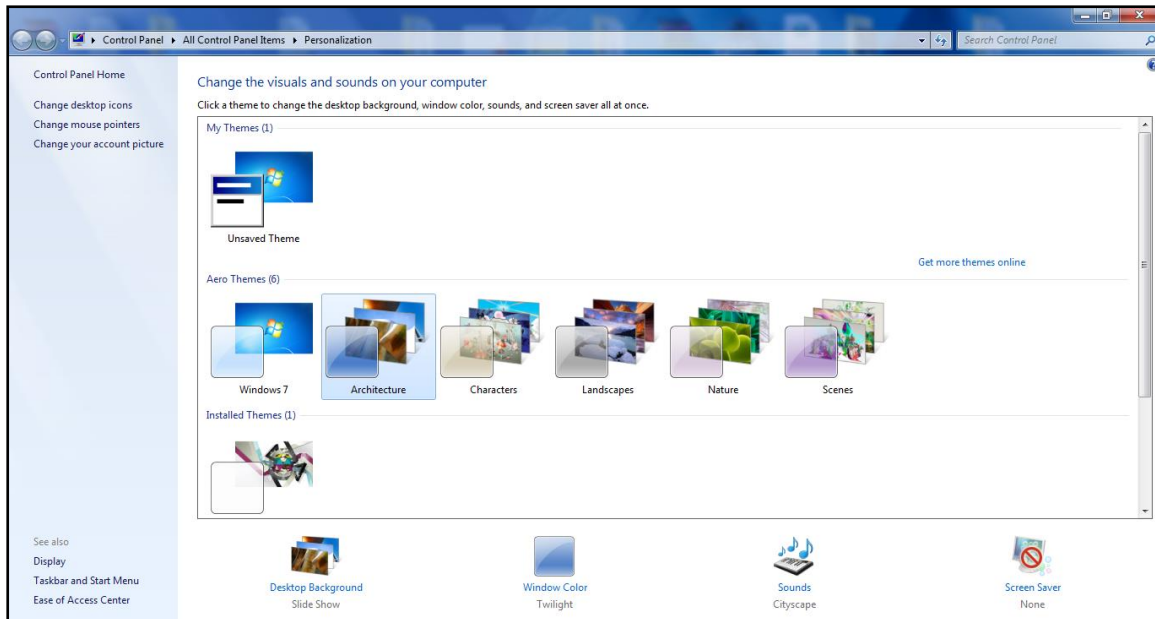
The image quality may be restricted or interfered by the network traffic. Please use independent connections or avoid sharing the same connection with other network devices.

5. After login, the GUI (Graphic User Interface) looks abnormal in crushed shape (as the figure below). Is this a system compatibility problem? How do I solve this?



Solution

Please select the Aero Theme of the operating system (Control Panel > All Control Panel Items > Personalization), please note that CMS doesn't support Basic and High Contrast Themes of Windows OS.



6. The E-map cannot be displayed correctly.

Solution

Please check the format of the uploading image files. Currently the CMS supports E-maps in JPEG, BMP, and PNG (not including translucent images) only.

7. Unable to find the CMS Server by the "Auto Search" after logging into the CMS Client. Or, cannot find the NVR by the "Auto Search" at the "Add Server" of the CMS Client configuration.

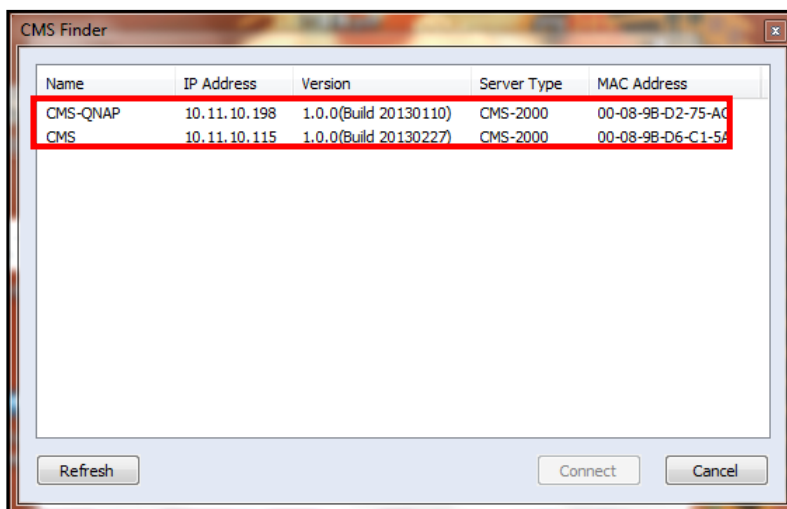
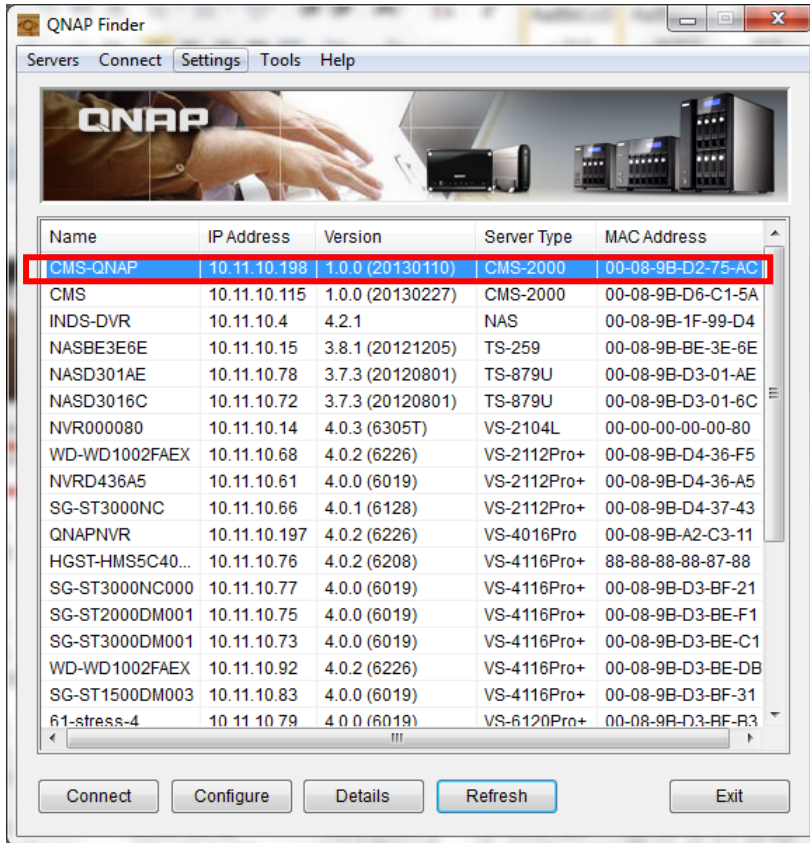
Solution

- Check that the CMS Server and the NVR have been turned on.
- Connect the local PC and the CMS Server/NVR to the same subnet.
- Install the latest version of CMS Client from www.qnapsecurity.com.
- Run the CMS Client to search for the CMS Server. Make sure all the firewall software on the computer have been turned off; or add the CMS Client to the list of allowed programs in the firewall.
- Please check if the QNAP Finder program is closed.
- If the CMS Server and NVR are not found, click the "Auto Search" button to try again.
- If the problem persists, contact the technical support.

- Unable to find the CMS Server or any NVR by the CMS Client, but able to find by QNAP Finder.

Solution

Please close the QNAP Finder and run the CMS Client. The search function of the QNAP Finder is mutually exclusive with that of the CMS Client.



9. The changes to the system configuration did not take effect.

Solution

After changing the settings on the configuration page, click "Apply" to save the changes; otherwise the settings will not be saved and will not take effect.

10. The CMS Client does not show the alarm information.

Solution

You have to configure the alarm settings in the NVR, and check the event management page in the CMS Client. After that, you can find the alarms in the Live View user interface.

11. After power outage and improper server shutdown, the server does not function properly after the restart. What should I do?

Solution

Please try the following:

- a) If the system configuration were lost, configure the system again.
- b) If the problem persists, contact the technical support.

Technical Support

QNAP Security provides dedicated online support and customer service via instant messenger. Please contact us by the following means:

Online Support: <http://www.qnapsecurity.com/onlinesupport.asp>

Forum: <http://forum.qnapsecurity.com>

Technical Support in the USA and Canada:

Email: q_supportus@qnap.com

TEL: 909-595-2819

Address: 168 University Parkway Pomona, CA 91768-4300

Service Hours: 08:00–17:00 (GMT- 08:00 Pacific Time, Monday to Friday)

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