CMS 2.0

System Administrator's Manual

For V2.0.07 version

2015/03/10

About This Manual

Target Audience

This manual is intended for **System Administrators** who are responsible for installing and setting up CMS surveillance system. The reader is expected to know the fundamentals of IP surveillance system integration and to own the administrative privileges to achieve all the configuration tasks.

Content Overview

This manual provides information needed for planning the installation, installing, setting up the system and configuring the video streaming devices. Its main content consists of the following three sections:

- **Getting Started** provides the preparatory knowledge you should study before starting installation, such as system requirements and license registration procedures.

- **Log in to the System** explains how to log in to the system right after a successful installation.

- **System Setup** gives instructions on administrative tasks such as centrally managing the Onesecure and the devices, setting up event rules, customize the live view layouts or managing system storage. For each major task, you will be given a brief introduction of operation principles, step-by-step instructions, and a simple tip to check if you have done it correctly.

Technical Support

If you have any questions during system installation, please feel free to contact our engineers via support@Level1.com

Conventions Used in This Manual

The following are typographic conventions used in this manual:

- **Bold**: Bold typeface is used for a keyword, major functions of CMS, or a title of a section/column.
- *Italic*: Italic typeface is used for a filename or location path.
- Underlined: Underlined typeface is used for a document name or hyperlink.
- "**Bold**": Bold interface enclosed in double quotation marks indicates the name of a button, a menu or a choice item.

Some notices are placed within the following boxes; each type of the box indicates different purposes or levels of importance for system:

Important Notice

The content within this box is an **important notice**. This notice is important for you to get certain functions to work properly, or to prevent from certain potential problems that may damage your system. Make sure you read this notice and follow the instructions.

Note

The content within this box is a **note**. A note is some necessary information you need to know about the action you are currently taking, like what will happen after you follow or do not follow certain procedure.

Tip

The content within this box is a **tip**. A tip gives you an alternative method to easily or quickly achieve an objective, usually for specific conditions.

Related Documentation

Since this manual focuses on how to accomplish the tasks for system installation and configurations, there is very limited information about operation-wise directions for **End Users** who will be operating CMS server system. To obtain the instructions on use of CMS applications such as monitoring and playback, please download the latest CMS User's Manual from http://global.level1.com.

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Overview

Designed for large-scale multi-site video surveillance solution, **Central Management System 2.0** (hereafter referred to as **CMS**) software allows its user the full capabilities to monitor and manage multiple **Network Video Recorders** (**NVR**) via network. It also possesses full functionalities to manage not only NVRs but devices (network cameras, video encoders, etc.), users and events.

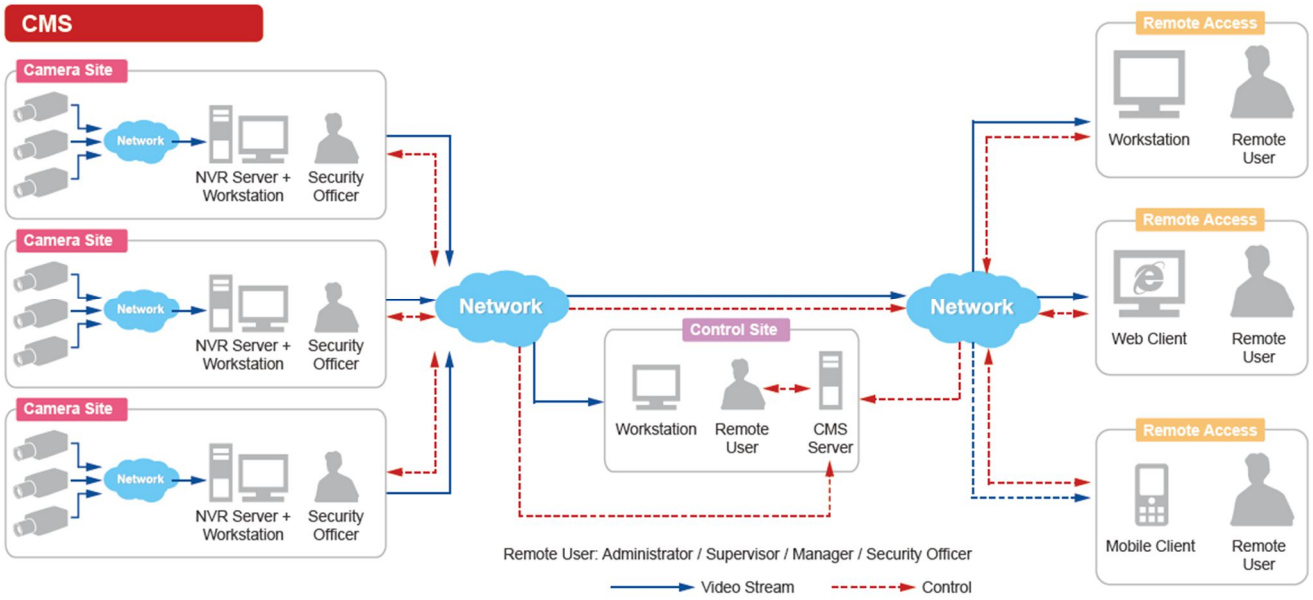
CMS Server / Client Architecture

CMS is a typical web-based server/client system. In a multi-site surveillance solution, **CMS Server** serves as a management command center; a **Client** makes requests of monitoring video streams or playing recordings sent to **CMS Server**, and **CMS Server** will pass this request to the involved **NVR Server** to send data/video stream to the **Client**. **CMS Server** starts automatically as soon as the **Server computer** (where it is installed) boots up, and operates in the background without requiring the login of administrator. It would provide services over the TCP/IP network to multiple **Clients** upon requests coming through HTTP protocol.

There are two types of **Clients** in CMS system: **Web Client** and **Workstation Client**. A user, connecting from whether web browser or workstation, will be provided with the same user interface and be CMS functions.

- **Web Client**: the web version of interface to access **CMS Server** without the need of installing any client program. Logging in to the **CMS Server** is as simple as visiting a website through the browser.

- **Workstation Client:** the client application making accessing **CMS Server** free from the use of browser .The workstation includes a set of programs that provide interface between users and the **CMS Server**.


CMS
Camera Site
Network
NVR Server + Workstation
Security Officer
Camera Site
Network
NVR Server + Workstation
Security Officer
Camera Site
Network
NVR Server + Workstation
Security Officer
Network
Control Site
Workstation
Remote User
CMS Server
Network
Remote Access
Workstation
Remote User
Remote Access
Web Client
Remote User
Remote Access
Mobile Client
Remote User
Remote User: Administrator / Supervisor / Manager / Security Officer
Video Stream
Control

System Installation Check List

Pre-installation				
Item		**Task**	**Description**	**Reference**
1	☐	Prepare software license	Please purchase the license from your system supplier and get the license information before activation.	How Does License Activation Work on page 24
2	☐	Prepare the server computer	Make sure the computer's hardware spec, operating system and browser version are compatible with CMS system requirements.	System Requirements on page 15 Prerequisites on page 17
3	☐	Assign a fixed IP for server computer	The server computer should have a fixed IP to be used by CMS server.	
4	☐	Set up Active Directory (Optional)	To add users through the Active Directory service, please make sure an Active Directory server is available on your domain.	
Installation				
Item		**Task**	**Description**	**Reference**
5	☐	Install CMS server software	Follow the instructions to install the software on the server computer.	Server Installation on page 19
6	☐	Check if the installation is successful	Log in to CMS to check if you can see the login page. (On server computer, type http://localhost:[port number] in browser's URL bar).	Log in to the System on page 28
7	☐	Activate the license	Activate your license key to get your required number of channels ready for adding devices.	
System Setup				
Item		**Task**	**Description**	**Reference**
8	☐	Connect external devices	Attach external devices such as the joystick, speakers or microphone to the client computer.	Joystick on page 78
9	☐	Create User Groups & Accounts	Configure user group permissions and create required user accounts.	Manage Users on page 36
10	☐	Add NVR source to CMS server	Add NVR servers and devices, and configure their settings.	Add an NVR on page 36; Configure NVR / Devices Settings on page 46
11	☐	Configure e-mail settings	Fill in the e-mail properties and test if CMS server succeeds in sending e-mails to the test e-mail address. This step is necessary if you will use this service for event handling.	How to Setup SMTP Settings for Event Rules on page 55;
12	☐	Configure Event rules	Set up the event rules.	How to Edit an Event Rule on page 50

Live View Setup				
Item		**Task**	**Description**	**Reference**
13	☐	Create Views for users	Create views and set patrols.	Customize Views on page 61
Backup System Settings				
Item		**Task**	**Description**	**Reference**
14	☐	Create a system settings backup	Create a backup file of current system settings for future re-installation or in case of critical system failure.	Back up System Data on page 81
Post-installation Validation				
Item		**Task**	**Description**	**Reference**
15	☐	Check Live View and monitoring-related operations	Make sure if the user is able to see live view with pre-defined Views and perform basic operations (e.g. PTZ controls, sending out audio or watching instant playback).	User's Manual
16	☐	Examine Event Handling rules	Check if the expected actions (e.g. pop-up windows, beep alert, e-mail notification, etc) are triggered by events.	
17	☐	User Access	Make sure the user can access CMS with given account/password, and can perform operations based on given user rights.	
18	☐	Playback	Make sure the user can perform playback and video search, and the export function can generate viewable files to designated folder.	

Getting Started

System Requirements

The performance of CMS is largely determined by the computer hardware capability. The table below provides basic guidelines for selecting proper computer hardware (*1). The **Minimum PC Spec** will provide acceptable performance.

Minimum PC Spec	Display Mode	Live Layout (*2)	Number of Channels	
			1-16,00	1,601-unlimited
CPU	Server PC + Local Client	1-16	Intel Core 2 Quad 2.4 GHz	Intel Core i5 2.4 GHz
		17-64	Intel Core i5 2.4 GHz	Intel Core i7-920 2.67 GHz
	Server PC	No Live View	Intel Core 2 Quad 2.4 GHz	Intel Core i5 2.4 GHz
	Remote Client PC	11-16	Intel Core 2 Quad 2.4 GHz	Intel Core i5 2.4 GHz
		17-64	Intel Core i5 2.4 GHz	Intel Core i7-920 2.67 GHz
RAM	4GB (*3)			
Operating System	Windows 8, Windows 7, Windows Server 2012, Windows Server 2008 (*4)			
Browser	Internet Explorer 9.0 and 10.0			
Network	Ethernet (1000 Base-T recommended)			
Display	Resolution: 1024 X 768 or higher			

For a system that has more than 1600 channels or more than 16 live view channels should satisfy **Recommended PC Spec** for good performance.

Recommended PC Spec	O/S: Windows 7 (latest service packs), Browser: Internet Explorer 9 (Web client), CPU: Intel Core i7-920 2.67 GHz, RAM: 4GB, Display Resolution: 1080p Network Adapter: Ethernet 1000 Base-T

*1 These specifications are based on following camera settings:
Single stream mode →1280x1024, 3Mbps, 18fps, MPEG-4
Dual stream mode→1280x1024, 3Mbps, 18fps, H.264 (recording);
640x480, Quality: 100, 18fps, MJPEG (live view).

*2 Live view of multiple channels requires good hardware for smooth performance. If your live view performance is not satisfactory, please reduce the number of channels viewed at the same time, and use **Layout Patrol** to scan through all the channels or views instead.

*3 Please use 64-bit system if your computer has more than 4GB RAM. Microsoft Windows

operating system has limits on memory and address space, regardless of the real or virtual memory available on a particular computer. Take Windows 7 Professional for example, the maximum physical memory for a 32-bit(X86) system can address is 3.5 GB even though 16 GB of RAM has been installed on this computer. Therefore, if you consider increasing the computer's multi-tasking capability by adding more RAM, you will need a 64-bit version of Windows to take advantage of it all.

Please visit the link below for more memory limitations on various Windows platforms.
http://msdn.microsoft.com/en-us/library/aa366778%28VS.85%29.aspx#physical_memory_limits_windows_7

Besides the limitation mentioned above, you may find the usable memory displayed on → **Computer** → **Properties** is still less than actual installed memory.

This is a common symptoms of all Windows platforms, please find explanations and solutions in this Windows official support document
http://support.microsoft.com/kb/978610/en-us and
http://windows.microsoft.com/en-us/windows7/taking-the-mystery-out-of-64-bit-windows

*4 Please make sure your operating system is fully patched with the latest service packs.

Prerequisites

Please preview these prerequisites below and make sure they are met before installation:

1. Upgrade All the NVR servers

Please upgrade all the NVR servers to the latest version.

2. Suitable System Specifications

Ensure that the server computer meets the minimum system requirements.

3. Uninstall Previous Onesecure or CMS Products

As the previous Onesecure software cannot co-exist with CMS server on the same computer, please uninstall their main program and patches from **Windows → Control Panel** before installing CMS server. Please also manually delete the program folder. By default, this folder **Levelone** is under *C:\Program Files*.

4. Turn off UAC in Windows

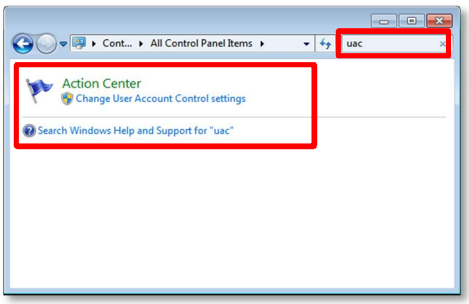
UAC (User Access Control) is a security setting that restricts access in Microsoft Windows. You must disable UAC before installing CMS in **Windows 7**, for the installation of application components and certain program features would be interrupted by this security rule.

If you are using **Windows 8**, please enable the built-in **Administrator** account and log in with this identity, or add this CMS site to IE browser's trusted sites (please follow the solution provided for Condition 2: Why can't I install Active X controls after logging in? on page 29 to do so).

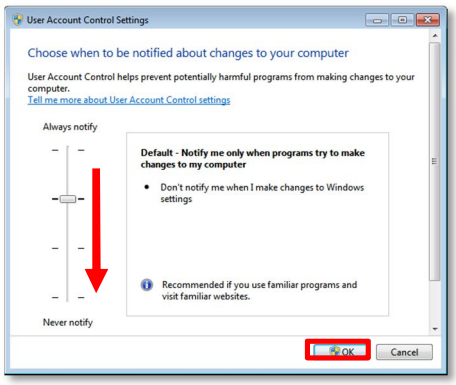
Disable UAC in Windows 7

1. Go to **Windows Control Panel**, type "**UAC**" in search box.

2. Click "**Change User Account Control settings**"

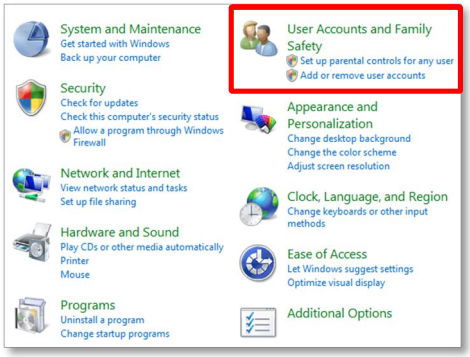


3. Move the slider to "**Never notify position**", and then click "**OK**". You will have to restart the computer for this change to take place.



Disable UAC in Windows Vista

1. Go to **Windows Control Panel**, click "**User Account and Family safety"**.



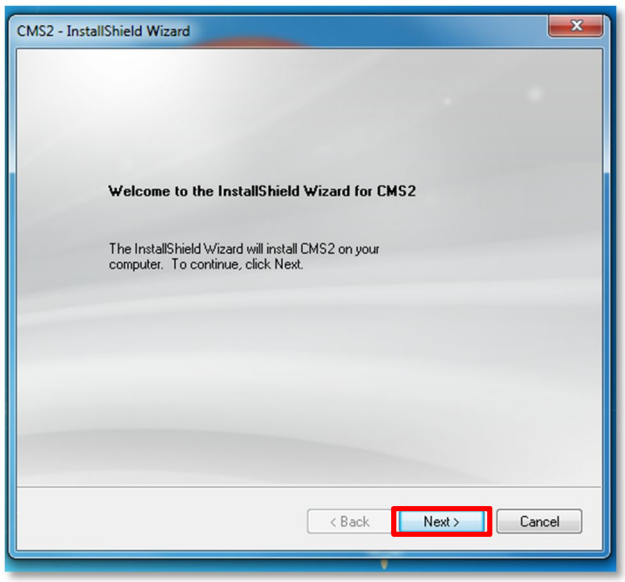
2. Select the account, then "**Turn User Account Control on or off**".
3. On the "**Turn on User Account Control (UAC) to make your computer more secure**" window, uncheck the "**Use User Account Control (UAC) to help protect your computer**". Click on the "**OK**" to apply, you will have to restart the computer for this change to take place.

Server Installation

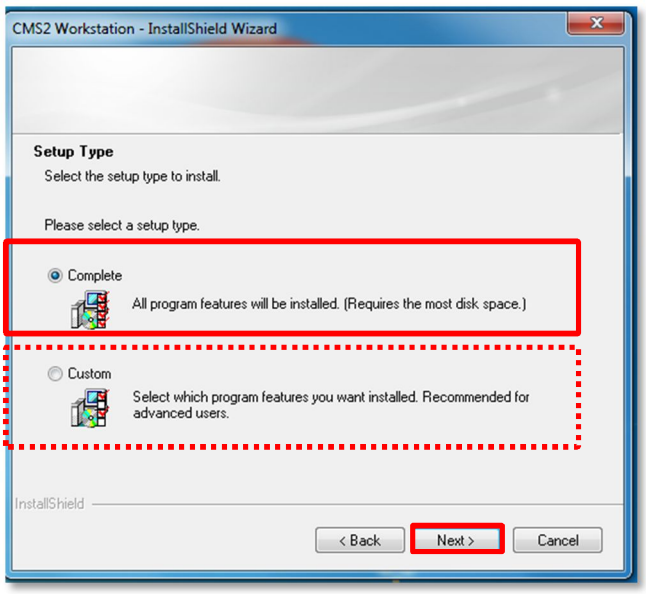
The server program installation is as easy as 1-2-3 by following the installation wizard's instructions. The server would start its service right after installation completes, without the need to restart the server computer.

Install the Software

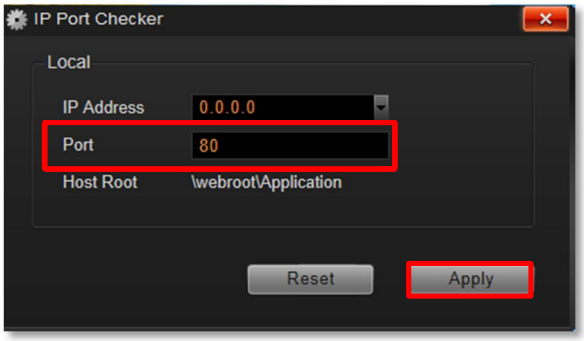
1. Execute the install shield application .
2. Follow the onscreen instructions of **InstallShield Wizard**, accept the license agreement and proceed.



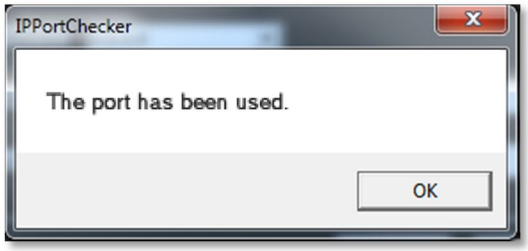
When selecting **Setup Type**, the default "**Complete**" will have the program installed on default **C drive**, you may select "**Custom**" to choose another program location.



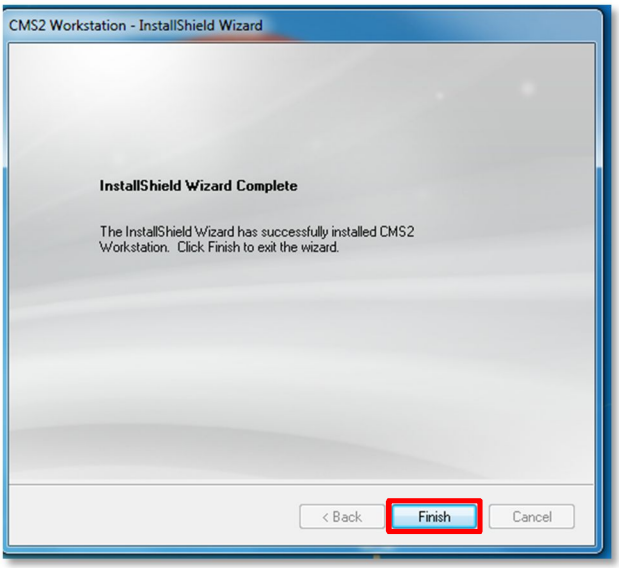
3. The **IP Port Checker** will pop up to confirm the CMS port number. The installation program will use **80** as default. You may enter another available port number in "**Listen Port**" field and click "**Apply**".



You may just click "**Apply**" if you are not sure whether this port has been taken or not. If the port is being used by another service, you will be asked to input another available port number.



4. As the server port is confirmed, the installation process is done, click "**Finish**".



5. After the installation completes, connect to http://localhost:port_number with Internet Explorer browser, you will see CMS Login page.

Note

If IIS Web Server has been installed on the computer and you are asked to restart the computer during installation process, please

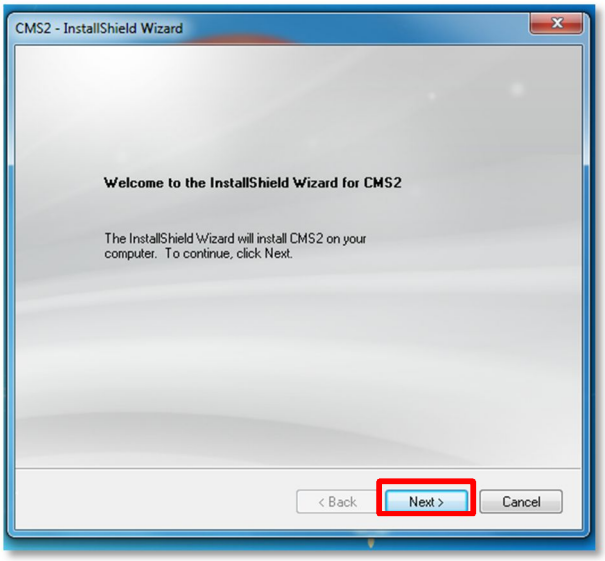
1. Choose Yes, I want to restart my computer now. to restart right away.
2. After the computer reboots, this install shield will automatically continue the installation.

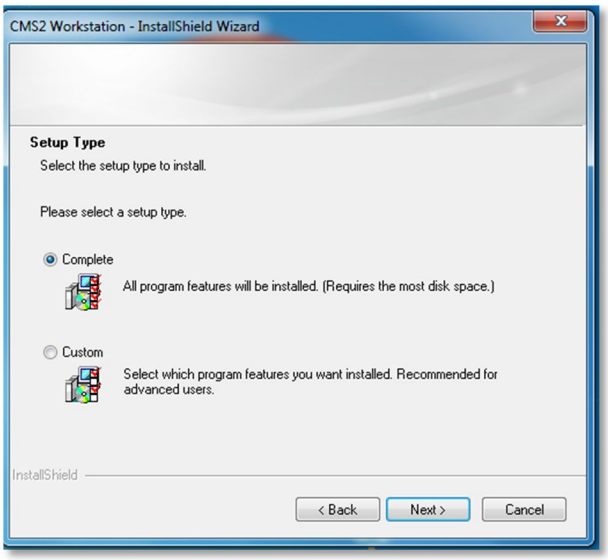
Workstation Installation

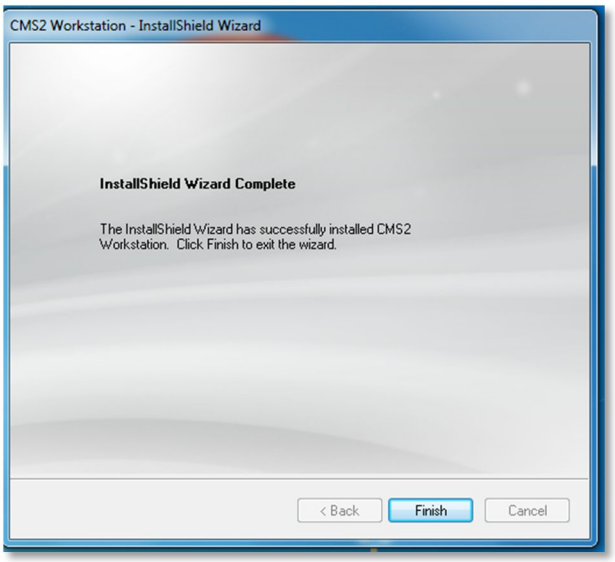
CMS2 Workstation provides interface between users and the CMS server. It may be installed on the server computer or on a separate computer with internet access to CMS server.

Install the Software

1. Execute install the shield application .
2. Follow the onscreen instructions of **InstallShield Wizard**, accept the license agreement and proceed.







3. After the installation completes, double-click the shortcut

on desktop to execute the application.

License and Activation

In CMS system, the maximum number of channels is **unlimited**; your required number of channels should be licensed and activated before adding the devices to the system. To get the license, you may contact sales representatives to purchase the licenses and obtain the **License Key**. Upon the activation of license with the **License Key**, the channels will automatically become available.

Please note:

- The license is cumulative and perpetual.
- The license is not version-specific, software version upgrading will not influence the existing license you have activated on CMS server.

How Does License Activation Work

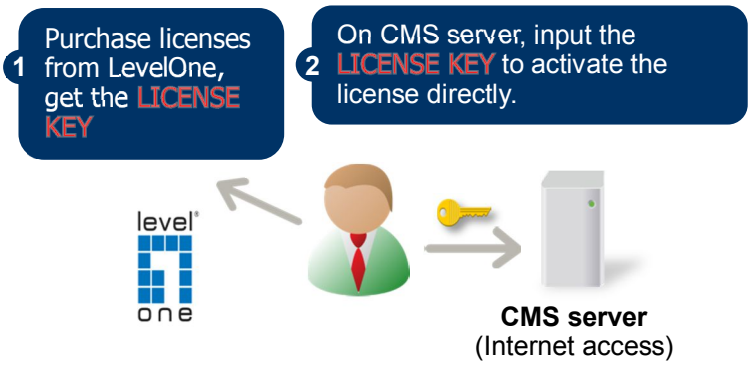
License activation is the process of unlocking the channels on CMS server with the received **License Key**. **License Key** is a serial number delivered as a printed card or by email after the purchase is carried out. During license activation, your **License Key** is matched against the MAC address of the Network Interface Card (NIC) on CMS server computer. Once this license key is used by the computer with given MAC, it cannot be activated with another MAC. This matching record will be stored on the activation database. If your computer has more than one network cards, CMS server will detect them and provide you a dropdown list to select from.

How to Activate the Licenses

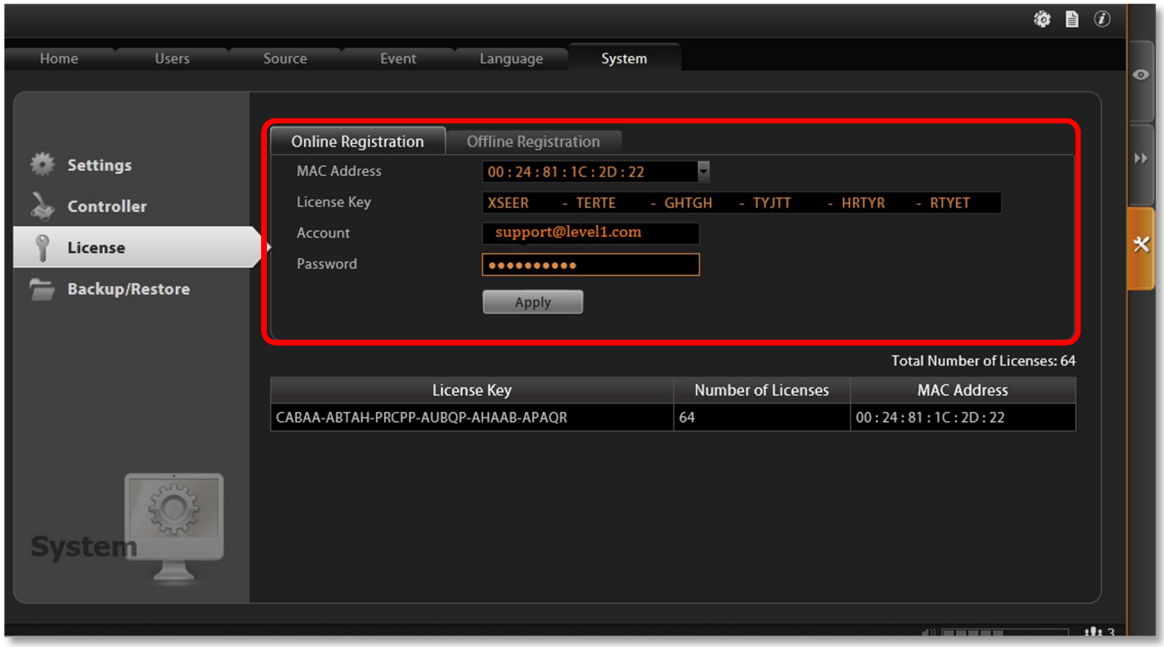
There are two ways to activate the licenses depending on your CMS server network condition:

Online Activation

If your CMS server computer has available Internet access, you should take online activation.



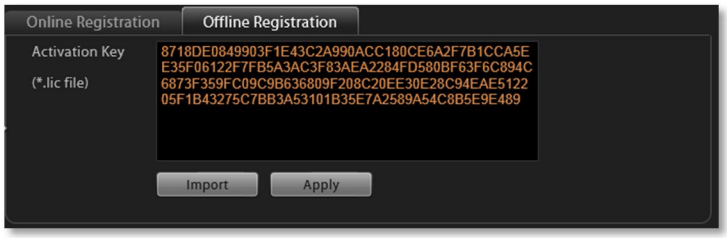
Log in CMS server, go to **Setup** page→**System** tab→**License**→"**Online Registration**". Select the **MAC Address**, enter your **License Key**, **Account: support@level1.com** and **Password:support,** and then click "**Apply**". CMS server will connect to the activation database via Internet to register the license key, and unlock the channels.



Offline Activation

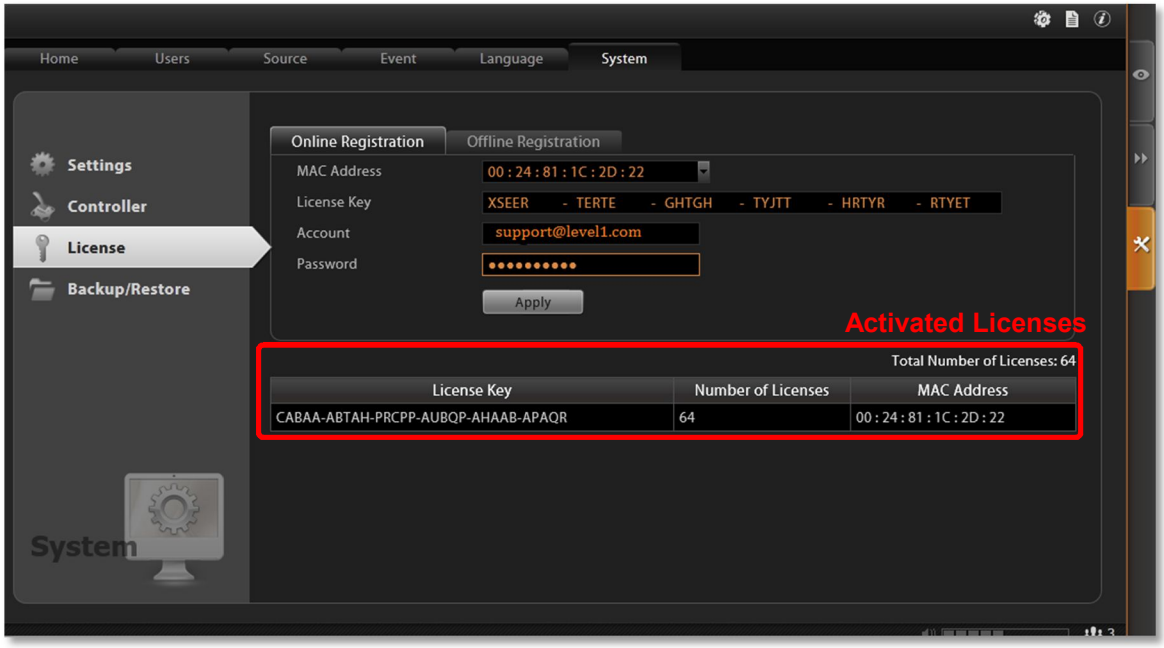
Offline activation does not require Internet access for CMS server. It is used when CMS is located in a network not connected to public Internet (e.g. in a restricted military base). You will need to get an activation file (**AUL.lic** file) from another computer and transfer it to CMS server computer.

Log in CMS server from local or via web client. Go to **Setup** → **System** tab → **License** → "**Offline Registration**"→ click "**Import**" and upload the license file (**AUL.lic**). Click "**Apply**" to activate this license.



Verify Your License

Once your license is successfully activated, the license information will be shown on **License** page.



Tip

How to find MAC Address

1. Click **Windows Start**, in the run box on **Start** menu, input "**cmd**".
2. Execute the **cmd** program, and input the command "**ipconfig /all**" or "**getmac**"
3. The MAC address will be referred to as the **Physical Address**, made up of 12 characters e.g. **00-1E-65-FE-8E-98**

Log in to the System

Access CMS via Internet Explorer

From Server Computer Using Local Client

Open Internet Expolrer. If your computer is where CMS server is installed, type **http://localhost/** or the computer'sIPaddress in URL box.

From Remote Client Computer

A remote client refers to any client using a computer over WAN or LAN other than server computer. If you are connecting to a CMS server as a remote client, please type server computer's IP (e.g. local network ip: **http://172.16.26.217** within LAN; public IP **http://220.228.146.21** in URL box. If the port number is **80**, you can omit it when typing the address.

Accept ActiveX Controls Installation Requests

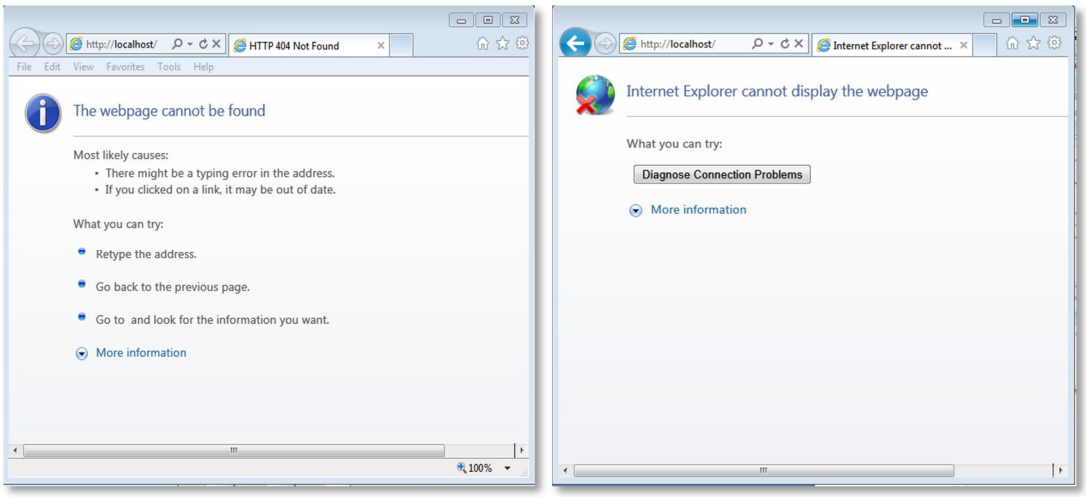
CMS interface requires the add-on ActiveX Control components, please make sure browser's security settings allow ActiveX controls to be downloaded and installed. When your browser asks if you allow add-on components to run, please allow them.

Login Failure Troubleshooting

Once you confront with problems accessing CMS server, refer to the possible conditions below and follow the instruction to solve your issues.

Condition 1: Why can't I access CMS server via browser?

After typing in the correct CMS server IP, if you cannot access CMS Login page, you may get the below browser screens:



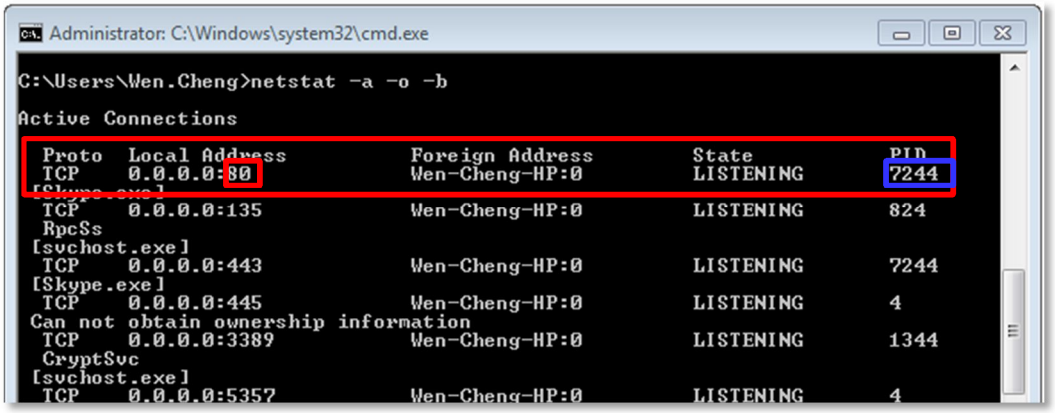
Cause 1: Server is not ready

Solution: It may happen when you just started the server computer or the server installation has just finished, please wait a few seconds and connect again.

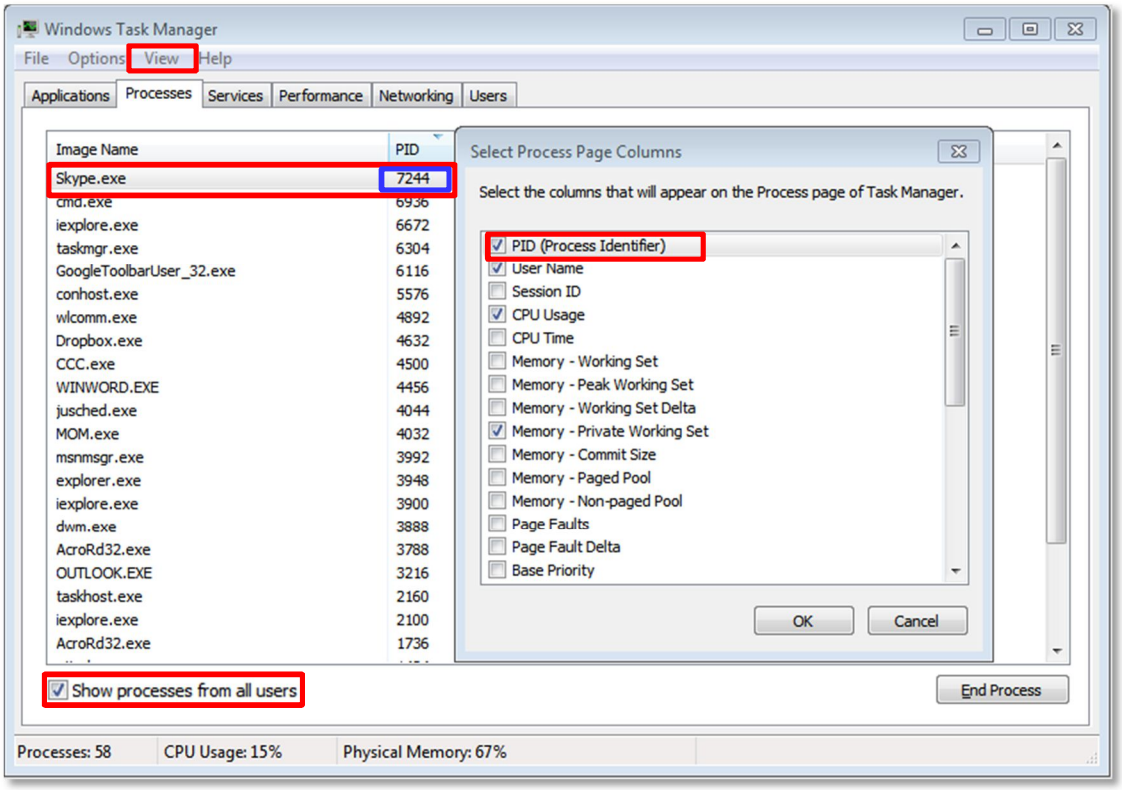
Cause 2: This may happen when your CMS server uses default port 80. Server is not able to respond to your request through current path because port 80 has been seized by another service running on server computer, and that service is executed right before CMS server starts its services.

Solution: Please check if there is another service using port 80 right now (e.g. **Skype**), and change the setting in that program to release port 80 for CMS server. Below are the steps to find the service:

1. Please click on "**Windows Start**" (Windows-Logo) , then enter "**cmd.exe**" in the run box and execute it.
2. Input the command "**netstat -a -o -b**". You will be provided with the ports in use and the services using them. Find the **Local Address** that has taken port **80**, and the **PID** number.

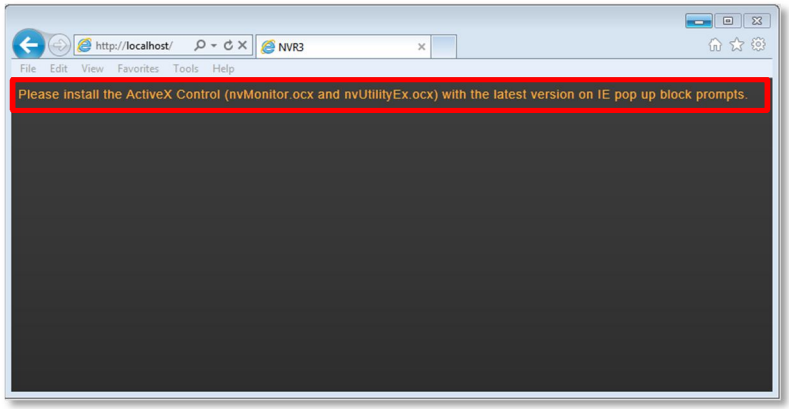


3. Press down "**ctrl**"+ "**alt**" + "**Delete**" keys to bring up **Windows Task Manager**. Select "**View"**, and then "**Select columns**", and enable the **"PID (Process Identifier)**" to appear on search results. Please also make sure "**Show process from all users**" is enabled.
4. On **Task Manager Process** tab, locate the PID number of the service using port 80. The service name is shown under "**Image Name**" column.



Condition 2: Why can't I install Active X controls after logging in?

ActiveX Control components are essential for CMS server to present user interface. The message below will show if these controls were not installed.



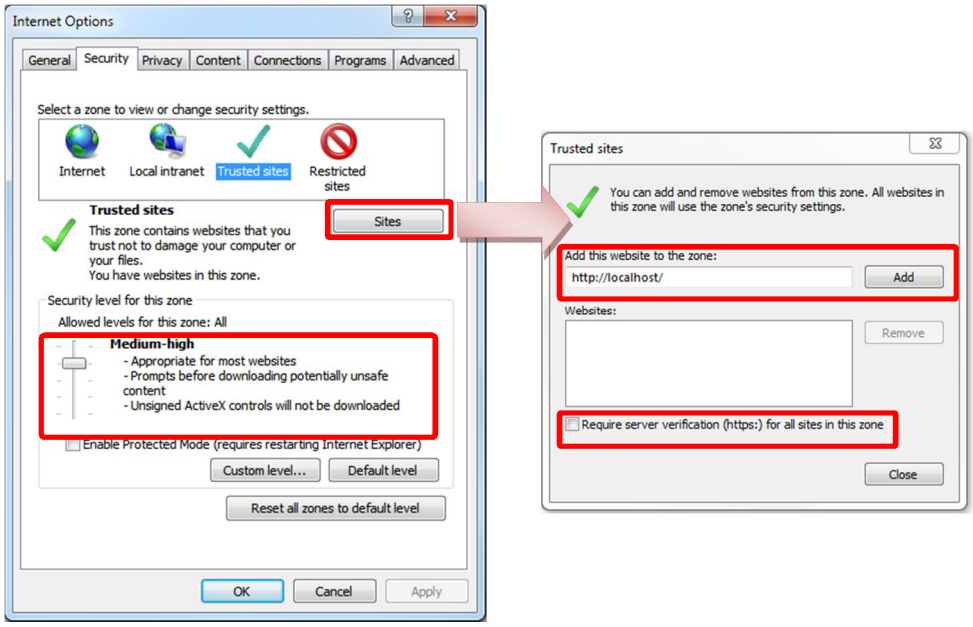
Cause 1: Your **Internet Explorer** browser version does not support CMS.

Solution: Make sure you are using the **32-bit** version of Internet Explorer.

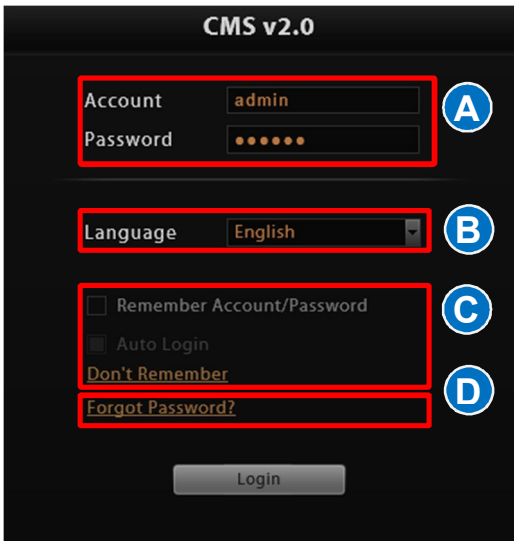
Cause 2: Your browser restricts the installation of add-on components.

Solution: Internet Explorer security settings may restrict the installation of add-on components. To ensure CMS server is always accessible from your web client regardless of any change in browser's overall Internet security settings, you may add CMS server site to Internet Explorer's Trusted sites. These sites are which you consider safe and wish to visit with low security restrictions while maintaining higher security for the rest of the Internet.

1. On IE browser, click **Tools** → **Safety** and make sure **ActiveX Filtering** is unchecked.
2. On IE browser, go to **Tools** →**Internet Options**→**Security** tab, select "**Trusted sites**", set the security level to "**Medium High**", and then click "**Sites**".
3. Add http://localhost or server IP to the zone, and **clear** the box "**Require server verification (https:) for all sites in this zone**".
4. Back on **Security** tab, click "**Apply**" to apply the changes. This will allow ActiveX and scripting to be available for the chosen sites but not for the Internet as a whole.



Login



A. Enter Account & Password

Account (non case-sensitive)**:**

Admin (default)

Password (case-sensitive)**:**

123456 (default)

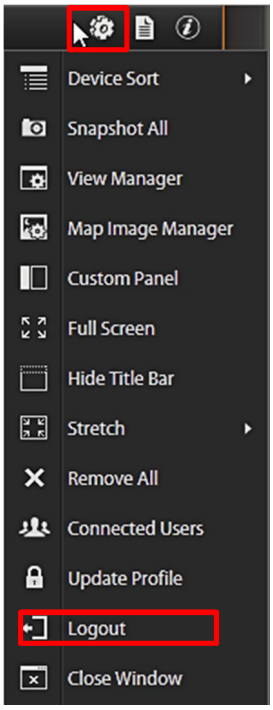
B. Change UI language

To change UI language, select the desired language from "**Language**" dropdown list.

C. Remember Account/Password

To have the server remember your Login **Account** and **Password** for future, check "**Remember Account/Password**". Clicking "**Don't Remember**" will clear your input text and reset to default.

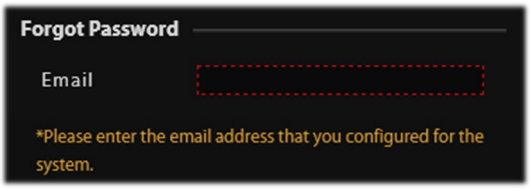
To directly enter the main page every time you log in from this PC in the future Check "**Remember Account/Password**" then "**Auto Login**" to skip the Login page. **If your computer may be accessed by someone without proper authority, please DO NOT use either of these functions**.



To cancel auto-login, on title bar, click → "**Logout**" to return to login page, and this function is cancelled.

D. Retrieve the Forgotten Password

CMS Server can send the password of the User's account to the saved email address. To have Users be able to use this service, please make sure (1) the SMTP settings have been configured (refer to How to Setup SMTP Settings for Event Rules) and (2) a valid email address has previously been saved in **Setup** page → **Users** tab → User list.



The email address input in **Forgot Password** window should match the one under your User account saved in CMS server.

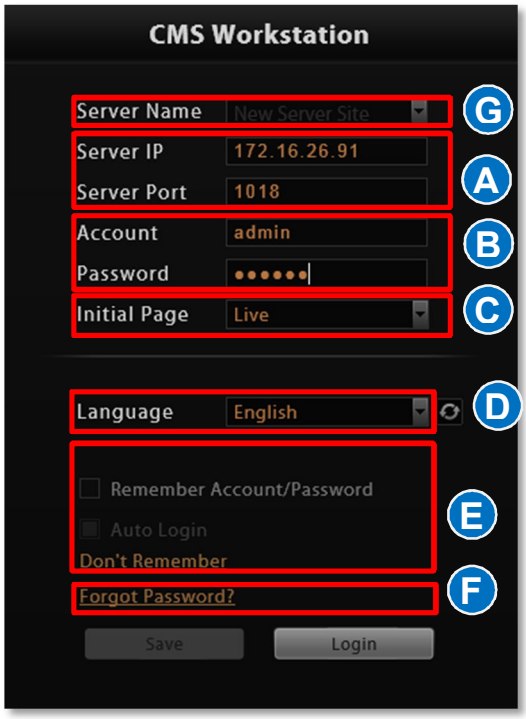
Access CMS Server via Workstation

CMS Workstation includes a set of programs that provide interface between users and the CMS server. It may be installed on the same PC as the CMS server, or on a separate client computer.

Double-click the shortcut icon on your desktop to execute this workstation application.

Login

Fill in the following fields then click "**Login**" to log in to the system. The login process of Workstation is very much the same as that of Web browser:



A. Server IP & Server Port

In **Server IP** field, key in **localhost** or **127.0.0.1** if CMS Workstation is on the same computer with CMS server. If you are connecting from a non-server computer, please input the IP address of server computer, for example: **220.228.146.22**.

In **Server Port** field, key in the port number (default is 80).

B. Enter Account & Password

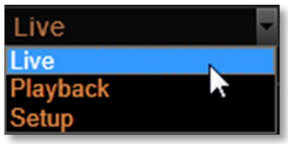
Account (non case-sensitive)

Admin (default)

Password (case-sensitive)

123456 (default)

C. Choose the Initial Screen



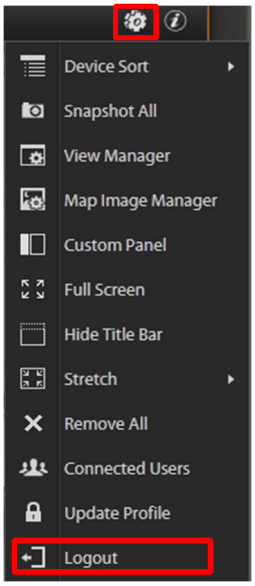
CMS user interface consists of three main module screens: **Live View**, **Playback** and **Setup**, you may choose one where you would like to enter after logging in. Default is **Live View** screen.

D. Language

Choose a UI language from drop-down list.

E. Remember Login Information

To have **CMS2 Workstation** remember the **Account**, **Password,** your choices of **Initial Page** and UI **Language**, simply check "**Remember login info**". Click "**Don't Remember**" will clear your input text and reset to default.



To directly enter the desired page every time you log in from this PC , check "**Remember login info**" then "**Auto Login**" to skip the Login page. **If your computer may be accessed by someone else, you might consider not to use either of these functions**.

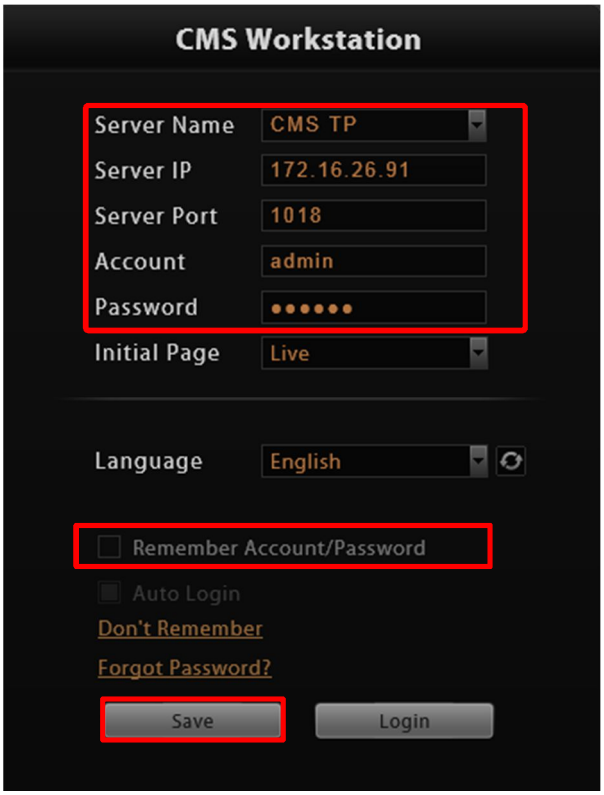
To cancel auto-login, on title bar, click → "**Logout**" to return to login page, and this function is cancelled.

F. Retrieve the Forgotten Password

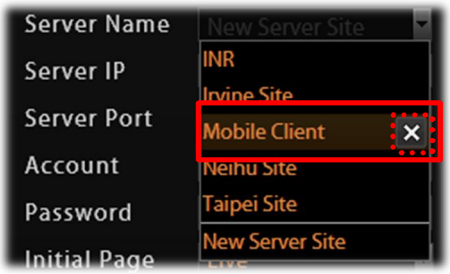
Please refer to D. Retrieve the Forgotten Password

G. Server Name/Server Sites List

CMS2 Workstation can remember multiple server sites and their login settings and show the site lists on **Login** window. To add a new site:



1. Click in the **Server Name** box and input the server site name.
2. Fill in the other fields. If you disable the "**Remember Account/Password**", then only the **Server Name**, **Server IP** and **Server Port** of this server site will be remembered.
3. Click "**Save**"
4. After a server site is saved, it will be shown on **Server Name** dropdown list. You may click on its name to enter its Login window or ✕ to delete it from the list.



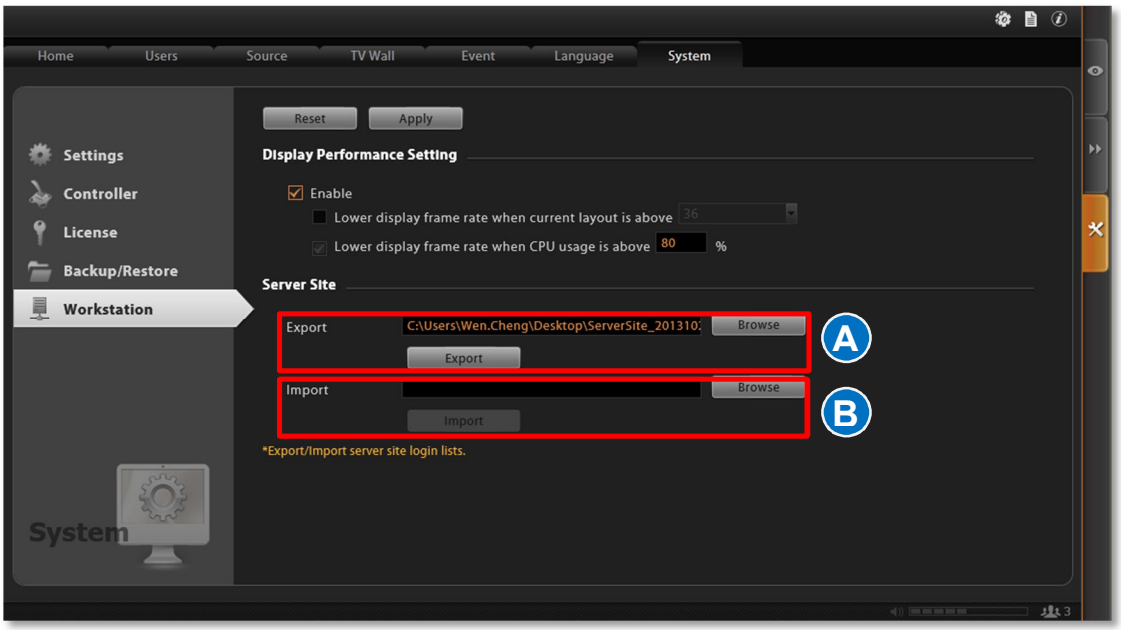
5. You can export the saved server sites, or import it to another Workstation client computer. Access CMS server via **CMS　Workstation**, go to **Setup** page → **System** tab → **Workstation**.

A. Export current server sites list

Click "**Browse**" to select a folder to save the list, and then click "**Export**". This file will be saved as an *.xml file.

B. Import a server site list

Click "**Browse**" to select the *.xml file, and then click "**Import**". The server sites will appear in **Server Name** dropdown list on **Login** window of your next login.



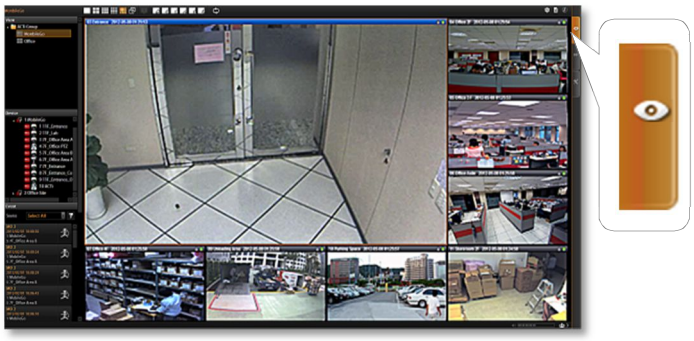
Set up the System

This chapter will guide you through everything you need to know in **System Setup** procedure from first time connection with CMS server to general system configuration.

CMS Main Screen

On the right are link buttons to three CMS major functions: (1) **Live View**, (2) **Playback** and (3) **Setup**. You can click the orange button to enter the function page.

Live View



In this module, you can see live view from NVRs, perform PTZ operations with a mouse or a joystick, view system log, receive alerts on the event panel, set view layouts, perform manual recording or take a snapshot.

Playback

You may search and play existing recordings in multiple channels synchronously. Snapshots or video segments can be taken from playback files. Recorded files can also be exported to AVI format here.

Setup

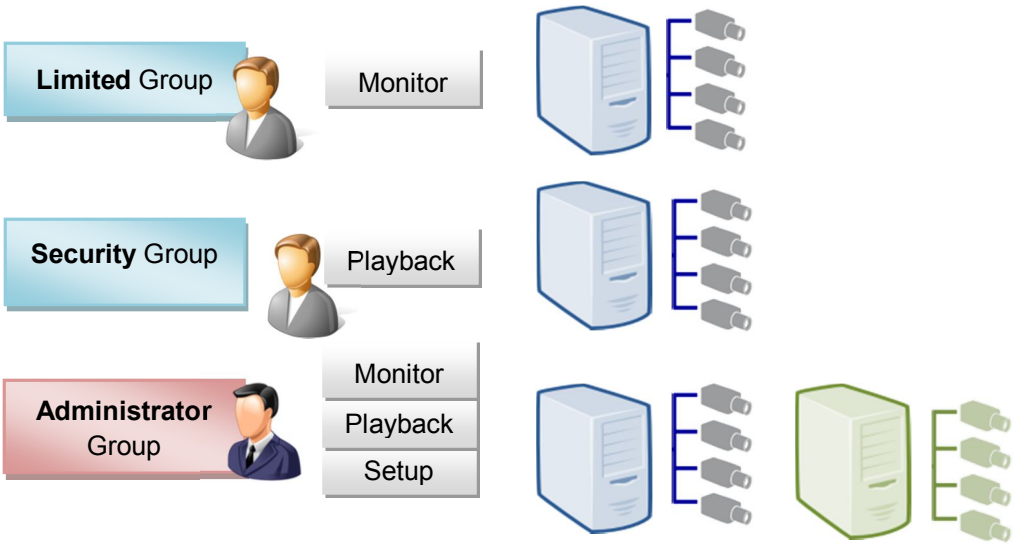
This module includes user setup, NVR source/device setup, TV Wall setup, event setup and CMS system-wide settings.

Manage Users

The User Groups/Users page allows you to (1) manage the access permissions of different user groups, (2) add users to or delete them from user groups, (3) assign users to specific user group. This chapter will take you through these settings.

Access Permissions

In CMS, the access permissions are managed by **User Groups**. **User Groups** defines which CMS operations and NVRs are allowed for the group users. Different **User Groups** will have different access rights. For example, an Administrator User is allowed for the complete operations in CMS system, while a standard User may only be permitted to see **Live View** and do **Playback** with limited NVRs. The chart below displays an example consisting of different employees as CMS Users and their access rights in this system:



Overview

Go to **Setup** page →**Users** tab. There are two sections to manage User Groups and Users individually.

User Groups: To setup user groups and its permissions for device and functionalities.
Users: To manage user accounts and configure user information.

CMS has integrated **Microsoft Active Directory®** service to provide network administrators a more convenient choice for user management. Active Directory is a directory service built in Microsoft Server products to manage user identities and privileges within the domain network. As CMS runs on a server computer logged on to the same domain with an Active Directory

server, you can import a user account or a group from those concurrently existing in Active Directory into CMS server. In this way, the user identification is processed by Active Directory centrally, and there is no need for CMS administrator to maintain these user accounts.

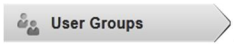
User Groups

You can specify access permissions to each NVR for an entire user group. This user grouping can save you significant amount of works if you have multiple users performing similar tasks and acting as similar roles.

There are already two default User groups

- **Administrator**: With full permissions in CMS interface.
- **User**: With the permissions to watch all camera live view and playback.

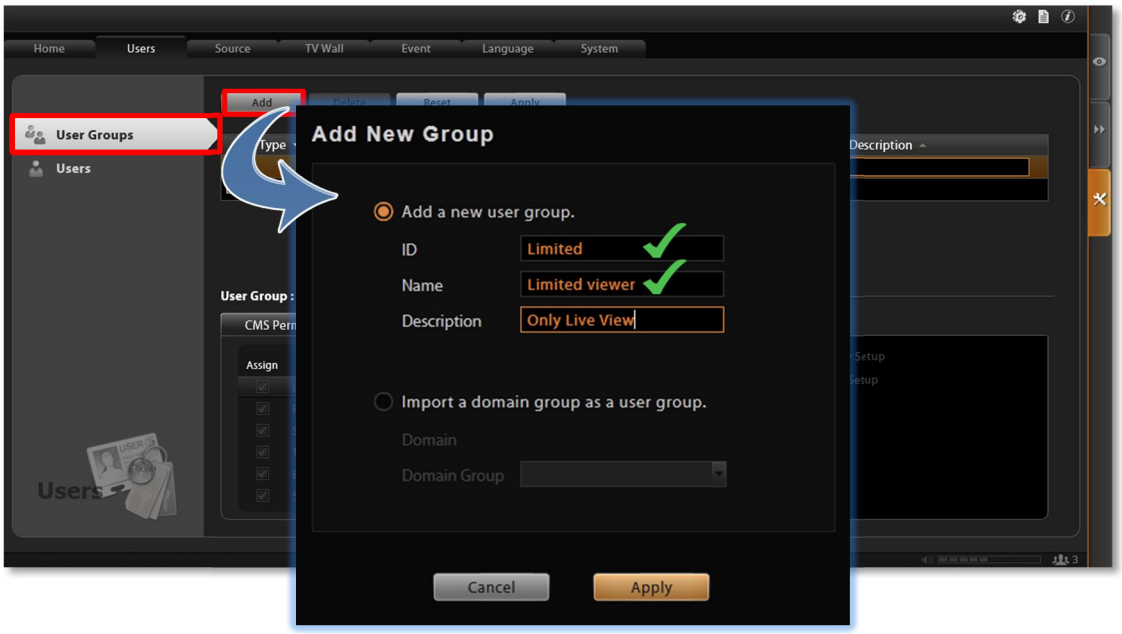
The **Administrator** User is predefined with full permissions in the CMS server, and cannot be deleted. You can choose to create a new user group on CMS server or import an existing group from the Active Directory database within your domain.

1. Select 

, click "**Add**" and then choose the group type:

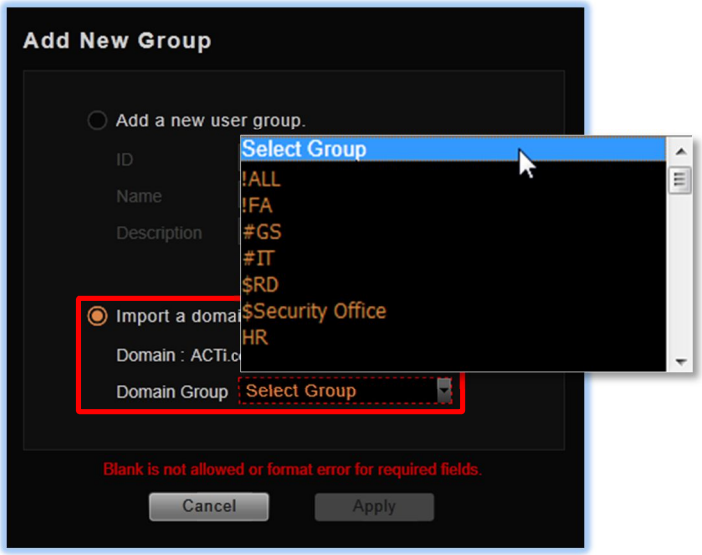
   ●Add a new user group:

   Insert **ID**, group **Name** and group **Description**, your input in the **Name** field will be the name of this User group. Click "**Apply**" to finish.

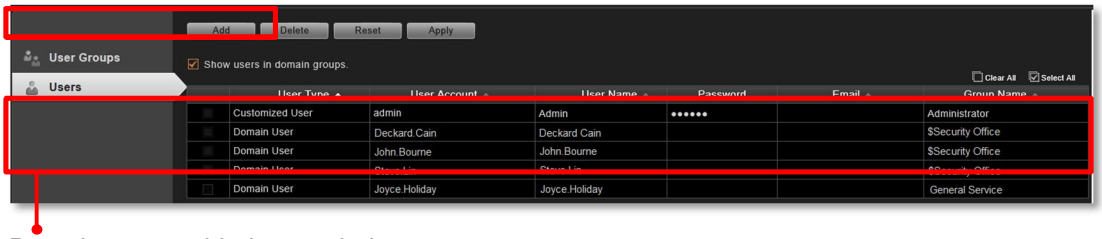


- Import a domain group as a User group:

  Choose an existing user group from your domain, and click "**Apply**" to finish.

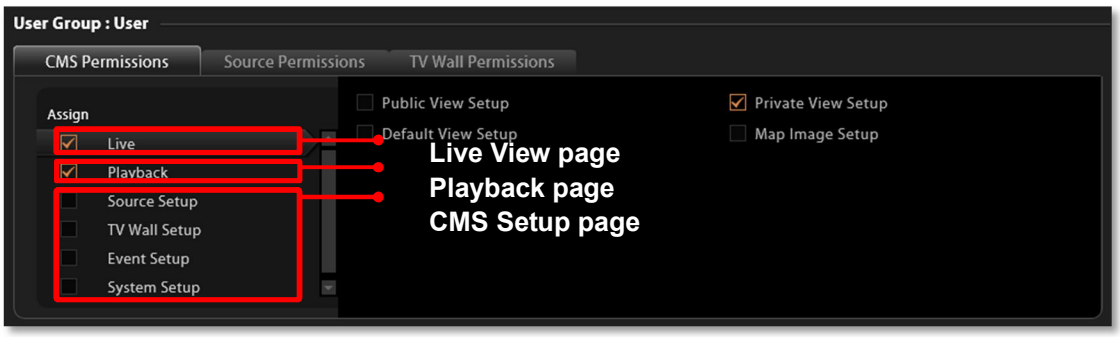


The domain users within that group will all be added to CMS server at the same time. To view the whole users within this group, please select Users and enable the "**Show users in domain groups.**" The account information of these domain users, unlike those user accounts you add one by one to CMS server, are not editable on **Users** page.



Domain users added as a whole group

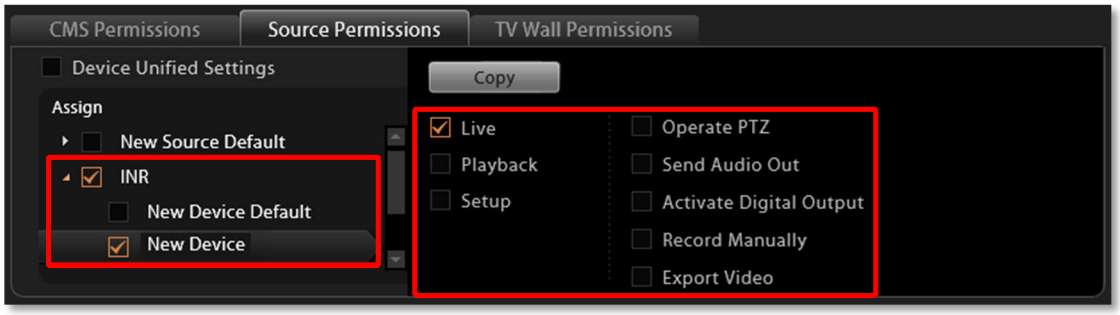
2. Assign **CMS Permissions** for created group. This will define what functions this User group is allowed to access. By default, a User group will initially be allowed to access only **Live View** page and **Playback** page on CMS, but without any permission to CMS or NVR settings, so you may have to assign the **Source Permissions** later.



3. Assign **Source Permissions** for created groups. This will define which NVRs this User group is allowed to access. If this User group is allowed to access later-added NVRs, check "**New Source Default**" and edit the permissions.

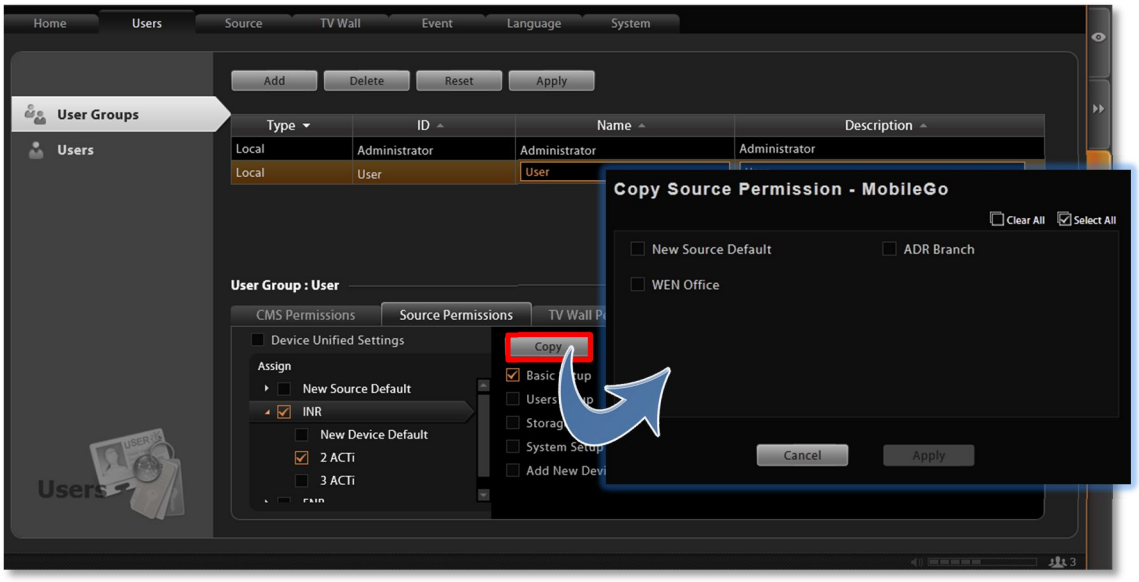
You may individually check the NVRs this user group is allowed to access, and set the permissions to configure NVR settings.

You may also enable the permissions related to a specific camera under the NVR.



Instead of tailoring the settings for each device, you may click "**Device Unified Settings**" and set universal settings, which will be applied to any device you check under this NVR.

You may copy the **Source Permissions Settings** to other sources. Click "**Copy**" under **Source Permissions** tab to bring up the target NVR menu, check the target sources, and click "**Apply**".



Click "**Apply**" on the top to save the settings.

Add Users

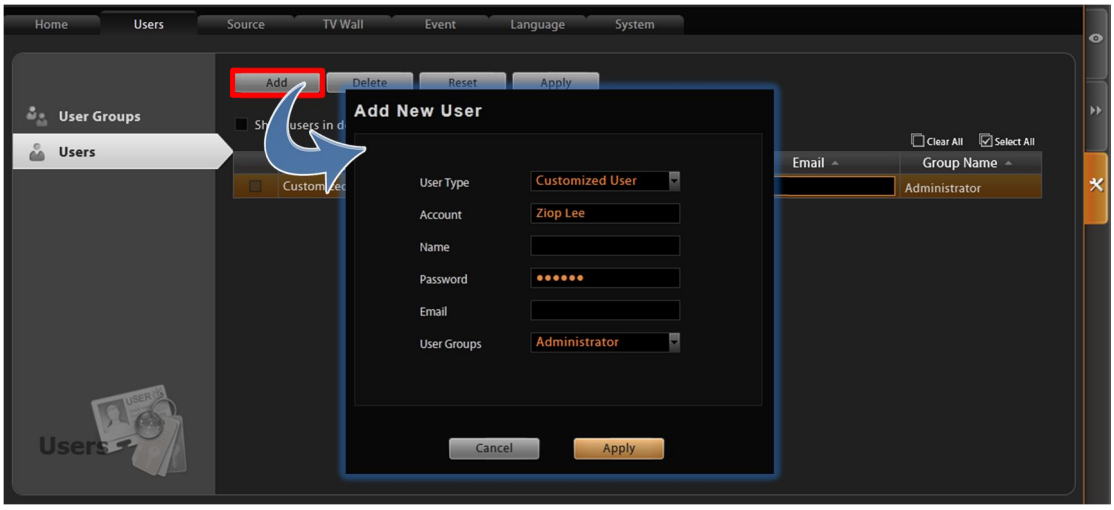
To create a user account with on CMS server.

1. Select

, and click **Add** button.
2. Select **User Type** as **Customized User** or **Domain User.**

   ●**Customized User**: an account created and managed on CMS server only. You will input an account name, its password and e-mail address for this User.

   ●**Domain User**: an account that already exists in Active Directory database within the domain. Since this is an existing account in your domain, you will have to select this account from **Account** dropdown list.
3. Insert user account, name, password, and the account e-mail (For **Customized User**).
4. Assign this created user account to a specific user group.
5. After you click "**Apply**", this new user will be added to the list on the top.



Note

CMS server provides a procedure to help Users who have forgotten the password retrieve the original information, which relies solely on the "e-mail address" authentication. It is strongly recommended that you input an e-mail address that this User has access to when you establish the User account. To update the e-mail address of an account, go to **Setup** page→ **Users** tab → edit "**Email**" of an selected User account; the Users can also update the e-mail addresses themselves after logging in to CMS on **Live View** page→ → **Update Profile**

Note

Account /Password Rules

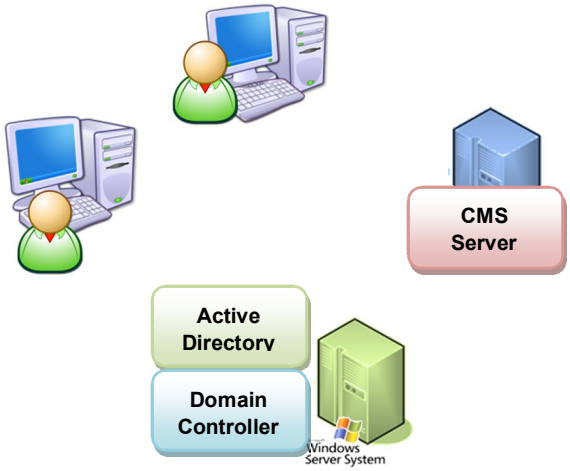
1. **Account** and **Password** fields allow alphabets, numbers, and symbols except the following: **/ \ [ ] : ; | = , + * ? < > "**
2. In **Account** field, for alphabets, the input will be recognized as lowercase letters. Space is only allowed between characters; the space in the beginning or at the end will be deleted when it is saved.
3. The **Password** field is case-sensitive, and the space is allowed.

Note

Admin is the default user account and belongs to "**Administrator**" user group. Hence, the user **Admin** and its group **Administrator** cannot be deleted; it possesses full permissions to all NVRs, devices, and CMS settings.

Domain Users Management

As CMS server computer is logged on to a domain Active Directory, it can import a user account from Active Directory.



This type of User account is "**Domain User**". Upon being added to CMS server, the User properties stored on Active Directory database including account name and e-mail address will be imported to CMS server.

Whenever the Domain User client tries to log in to CMS server, CMS server will first verify if this account exists in CMS server database, if not, it will then have Active Directory verify the user account and password.

As Active Directory owns the privilege to create, edit and delete domain users, **the Domain User's account and password are not editable through CMS user interface but via Active Directory Administrative Tool**.

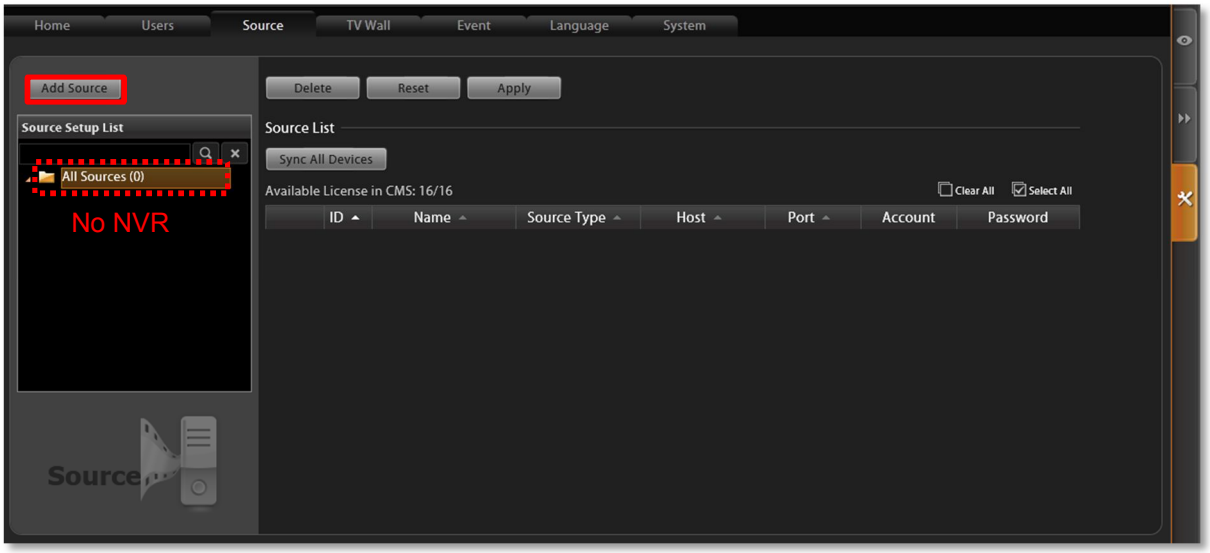
Manage NVRs

A CMS server manages multiple NVR severs, whose fundamental building blocks are the cameras or video encoders. The first thing you should do after you have registered the license is to setup your NVR connections in CMS **Setup** page. In this section, we will guide you through how to manage the NVRs and their devices.

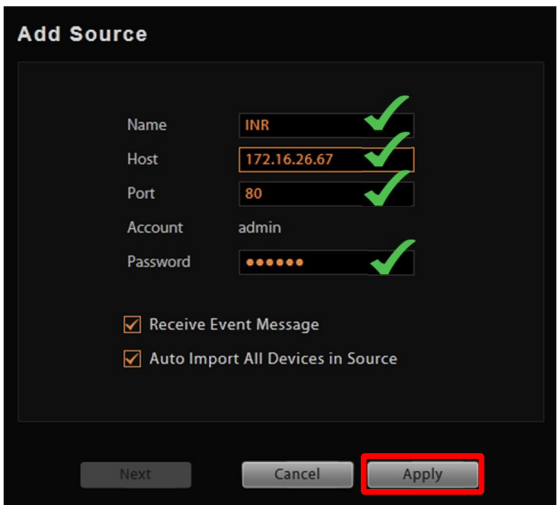
Add an NVR

To start adding a new NVR, please follow steps as below:

1. On **Setup** page→ click "**Source**". There is **no** source in **All Sources** list. Now click "**Add Source**".



2. On the **Add Source** window, fill in the following fields and click "**Apply**":

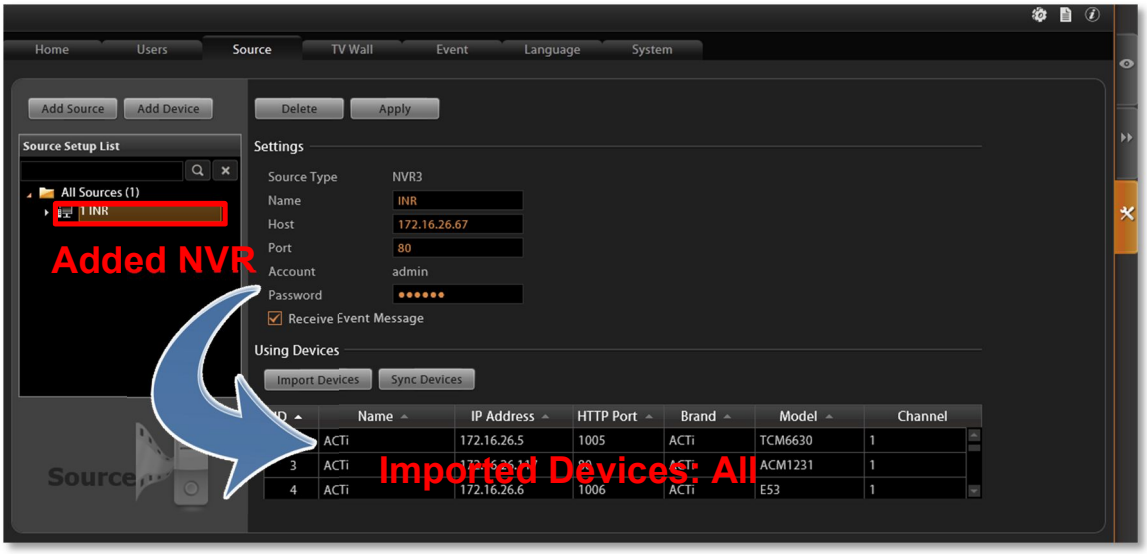


- ●**Name** - title of this NVR
- ●**Host** - the NVR's IP address
- ●**Port** - the NVR's port number
- ●**Password** - the Administrator's password of this NVR. By default, all the devices in the NVR will be automatically added to CMS server after you click "**Apply**". If you want to select only the desired devices rather than import all the devices at this stage, de-select "**Auto Import All Devices in Source**" before clicking "**Apply**".

Import Devices from NVRs

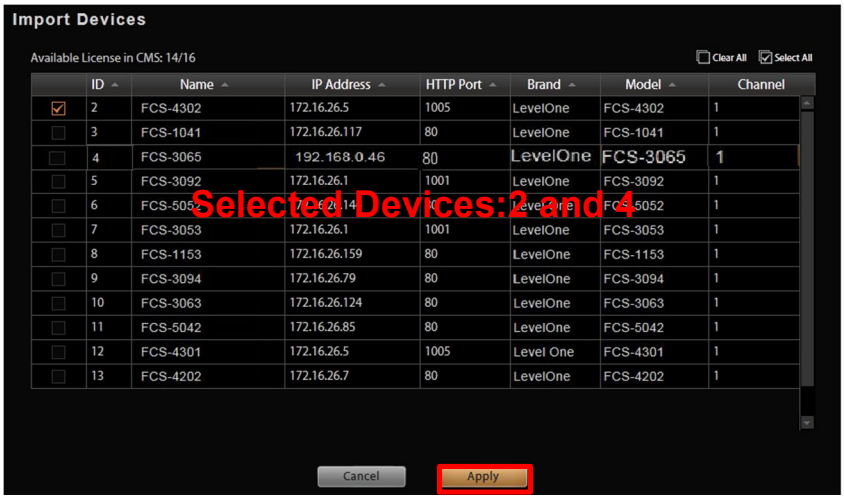
In most cases, with limited licenses, you do not import all devices of all NVRs to your CMS server. After an NVR is added, you may start selecting your desired devices to be imported to CMS server. Once a device is imported, on CMS interface you can (1) modify this device directly, (2) see its live stream ,(3) receive the instant event notifications from this device and (4) watch the recorded video of this device.

1. On **All Sources** list, select this NVR, the **Using Devices** list on the right will display the imported devices. By default, all the devices of an NVR were already imported as you added it to CMS server.

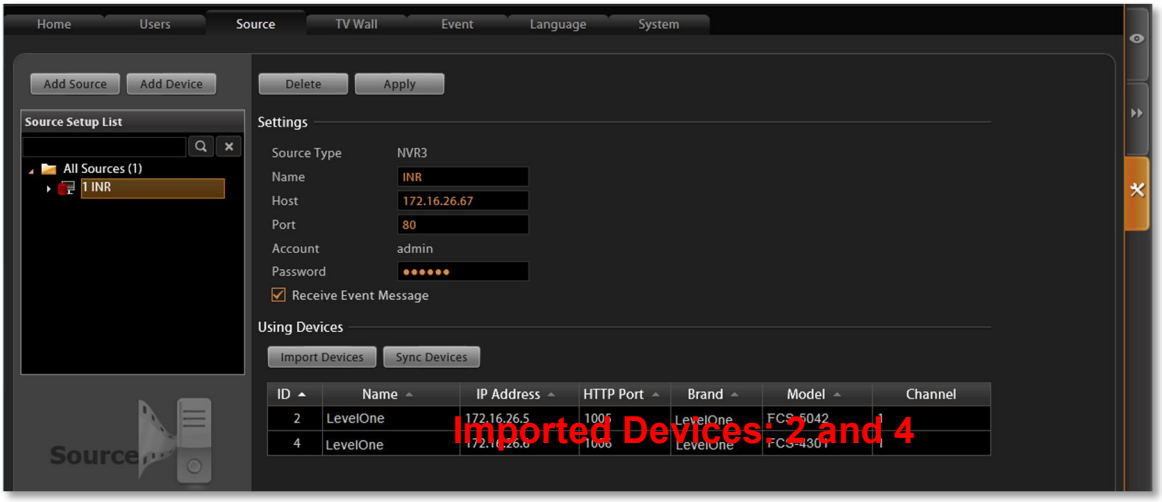


2. Click "**Import Devices**" to enter NVR device list.

3. On the **Import Devices** list will show all devices of this NVR. Select the desired devices you want to import and click "**Apply**".



4. The **Using Devices** list will be updated in accordance with your selection on **Import Devices** list.



Synchronize Device Settings

The configurations done on NVR site will not be synchronized with CMS server actively. For example, an NVR administrator may replace several cameras (which have also been imported to CMS server) with new ones, and therefore the CMS site would lose the connections between those replaced cameras. On CMS site, you can synchronize with an NVR server via one click:

1. Go to **Setup** page → **Sources** tab, on **All Sources** list, select this NVR.
2. On the right, click "**Sync Devices**" button.
3. Click "**Apply**".

Tip

Whenever your CMS server loses connections with certain devices, it is always suggested that you click this button Sync Devices first, since the loss of connection probably resulted from some changes done on the NVR site.

Tip

You may turn off the status display of an NVR server and its devices shown in the **Source Setup List**. On **Source** tab, select the NVR server under **All Sources** list, and de-select "**Receive Event Message**" Receive Event Message

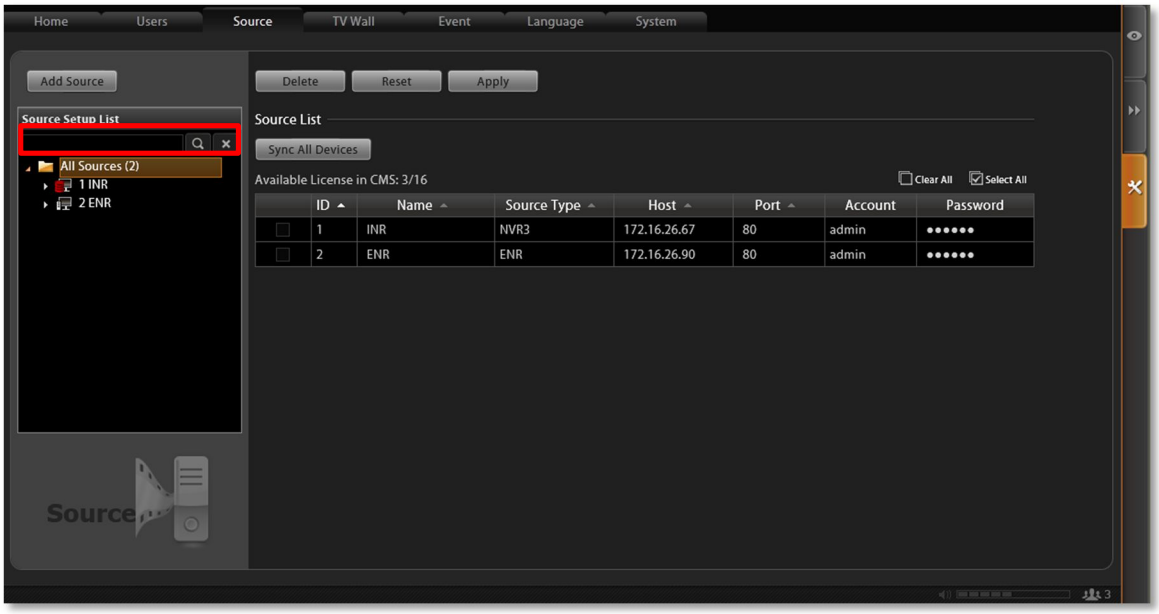
Manage Multiple NVRs

You may centrally manage multiple NVRs on the **All Sources Setup List** easily.

Go to **Setup** page → **Sources** tab. Under All Sources lists all the NVRs you added.

Search an NVR

To locate a specific NVR in the **All Sources** tree, you may input the keyword in its name in the search bar, click to start searching, and click to show all sources.



Delete NVRs

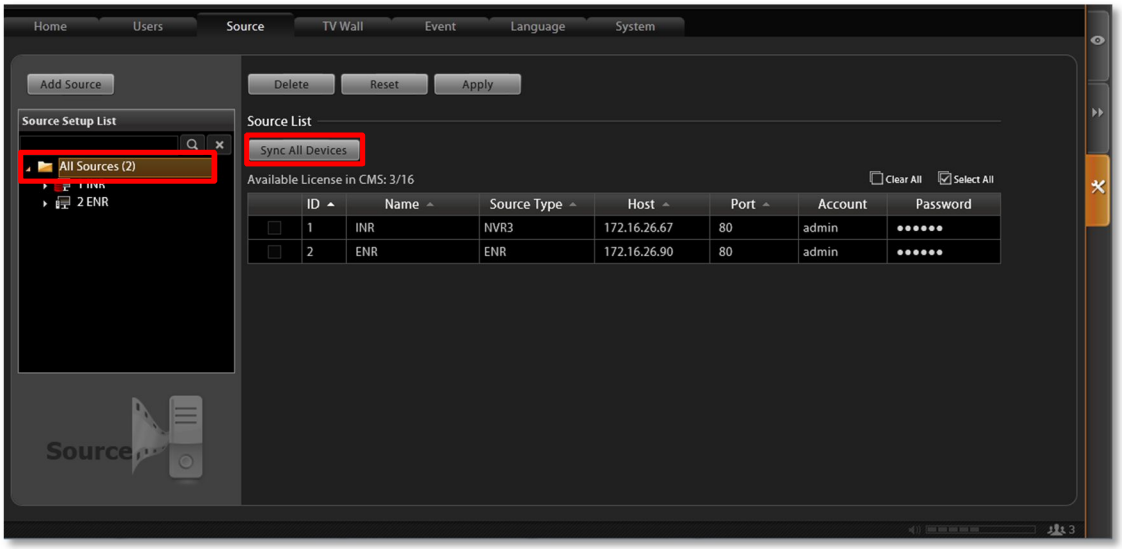
Highilight

, a list of connected NVRs will appear on the right. Select the NVRs you want to delete, and click "**Delete**" then "**Apply**".

Synchroinze with All Devices

Highilight

and click "**Sync All Devices**", CMS server will synchronize with all the NVRs and imported devices.

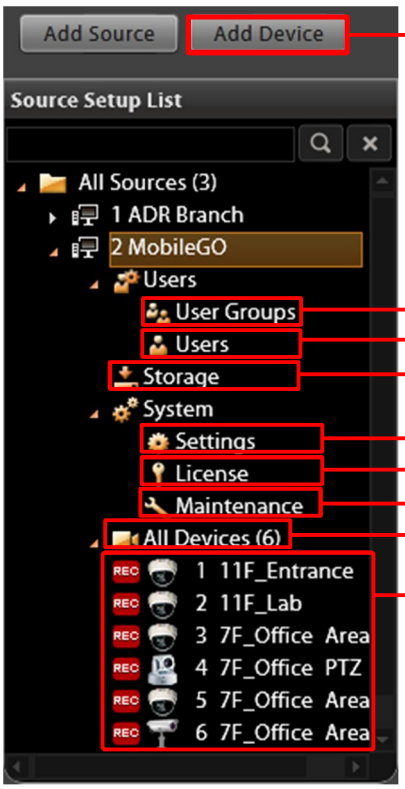


Configure NVR / Devices Settings

As CMS administrator owns unrestricted rights to control all the NVRs and their devices, it is sometimes more convenient to modify the NVR settings directly from CMS interface. On CMS **Source** management page, you may change any property of an NVR or its devices.

Access NVR Settings

To enter an individual NVR's settings, Go to **Setup** page → **Sources** tab, on **All Sources** list, select an NVR, and click on the arrow to expand its sub category. By selecting a title, the setup page will appear on the right. Any change applied to the NVR will be saved to both NVR itself and CMS server.



Add Devices to this NVR by auto-search or manually

NVR User Group/Permissions management

NVR User Account management

NVR Storage setup

NVR System setup (**Email/SMTP/FTP/Export folder/UI** style)

NVR License management

NVR Backup/Restore/Language file management

NVR Device list

Device Connection/Video/Motion Detection/PTZ /Preset Tour /Schedule/Event setup

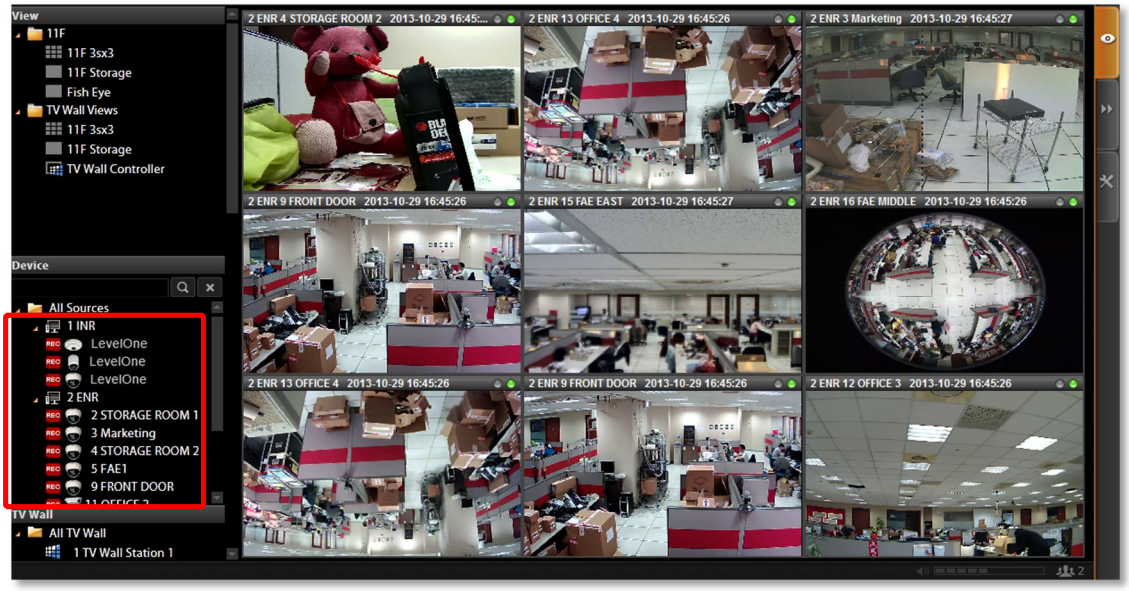
Note

Please note the following before applying any change to an NVR server:

1. It is strongly recommended that you enter "**Maintenance**" to make a backup of the original NVR settings.
2. Only the devices in the same network segment with the selected NVR can be found or manually added by clicking "**Add Device**".
3. To modify a device's schedule or event rules, please select the device and enter the **Schedule** or **Event** tab on the right.
4. The customized views saved on an NVR server cannot be configured via CMS interface.

Status Icon Description

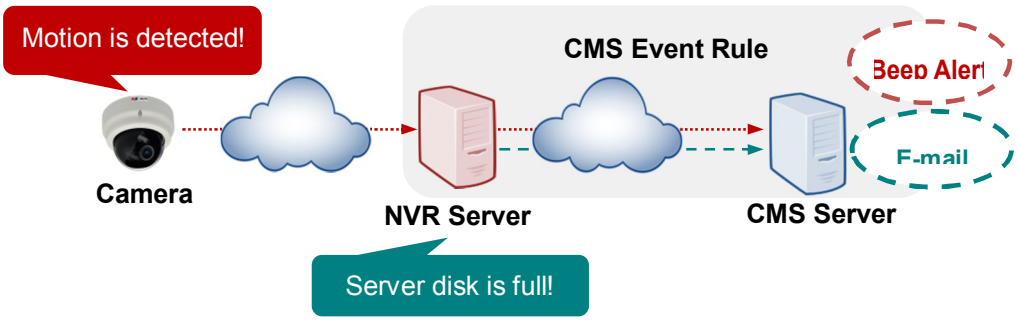
On **Live View** screen or **Setup** page →**Source** tab, the icons shown under **All Sources** category will display the status of each NVR server as well as the devices.



Example Icon	Status Description
	Video loss: CMS cannot retrieve the video stream.
	Modification has not been saved: This device's settings have been modified but not saved yet. If you leave these modifications unsaved, they will not take effect.
	Connection loss: CMS cannot build up connection with this NVR or device. Please check the connection settings (including IP Address, Port number, Account Name and Password); or increase the "**Connection Timeout**" to allow more time for the device or NVR to respond.
	Disk Full: The storage space of this NVR server is full, and no recording is taking place. You will need to go to Setup → **Source** tab and configure the **Storage** settings in **Source Setup List**.
	Recording This device is currently connected, and video is being recorded either manually or according to the schedule.
	You have blocked the system event messages sent from this server, which means the current status of this server is invisible now.

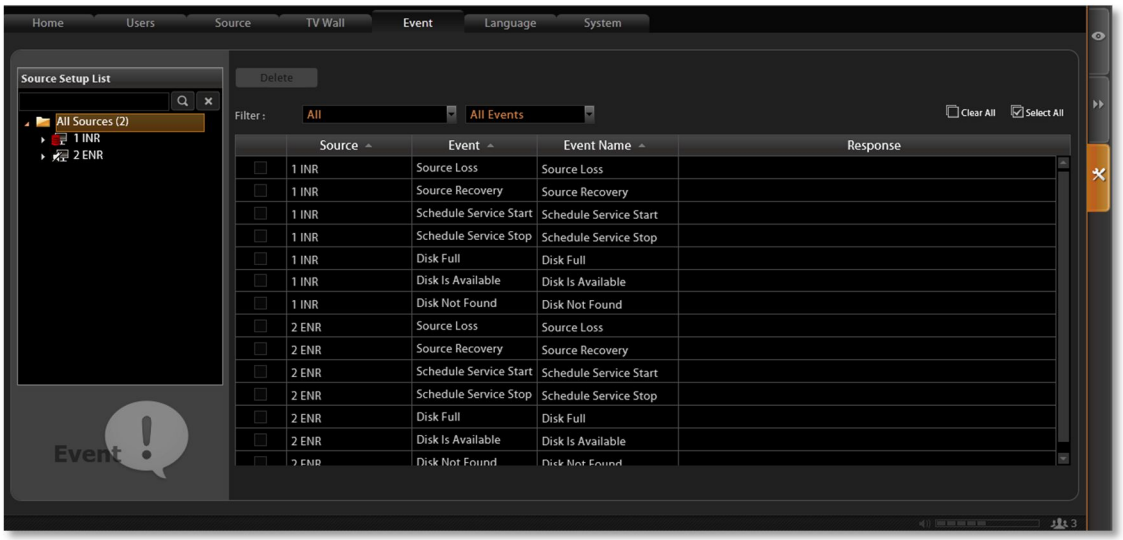
Event Management

Under CMS's management, an event detected by a single device can be notified not only to the NVR clients but to CMS clients at the same time. For example, once a camera detects a motion, both an NVR client and a CMS client can receive the alerts via emails. To do so, you have to set even rules in **CMS Setup** page → **Event** tab. The event rules set here will be independent from those set on NVR.



How to Edit an Event Rule

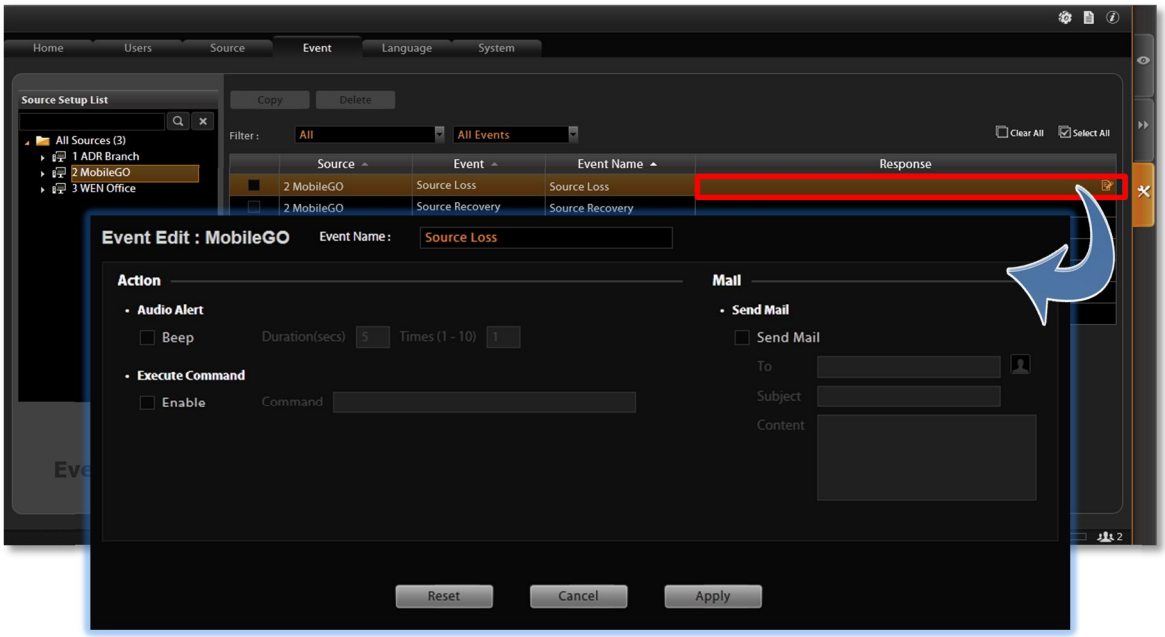
Go to **Setup** page → **Event** tab. All the editable event rules are listed on the right.



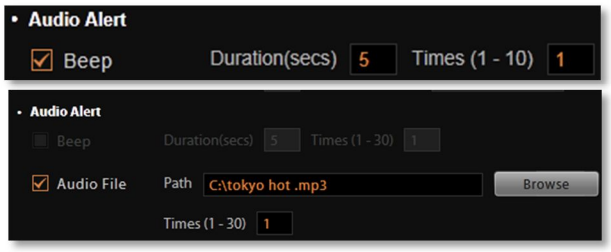
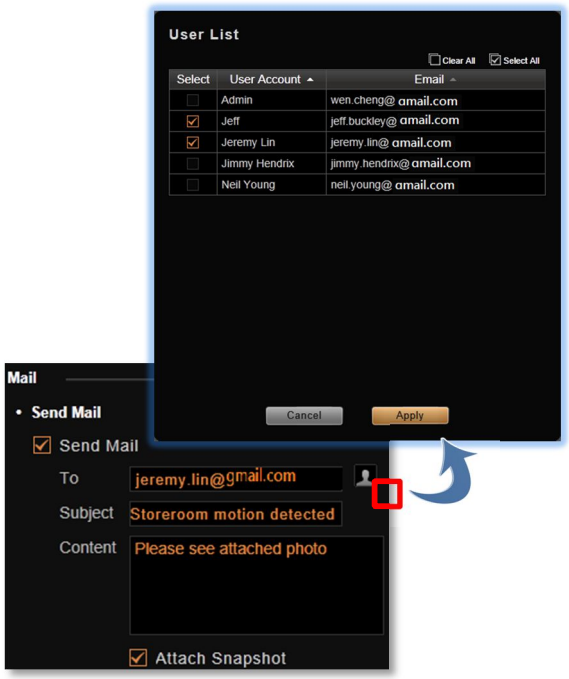
NVR Status Event Rule

An event rule set for an NVR will trigger actions to notify CMS client.

1. Select an NVR source to edit an NVR event rule. There are seven types of NVR status that can be set as event triggers – **Source Loss**, **Source Recovery**, **Schedule Service Start**, **Schedule Service Stop**, **Disk Full**, **Disk is Available** and **Disk Not Found**.



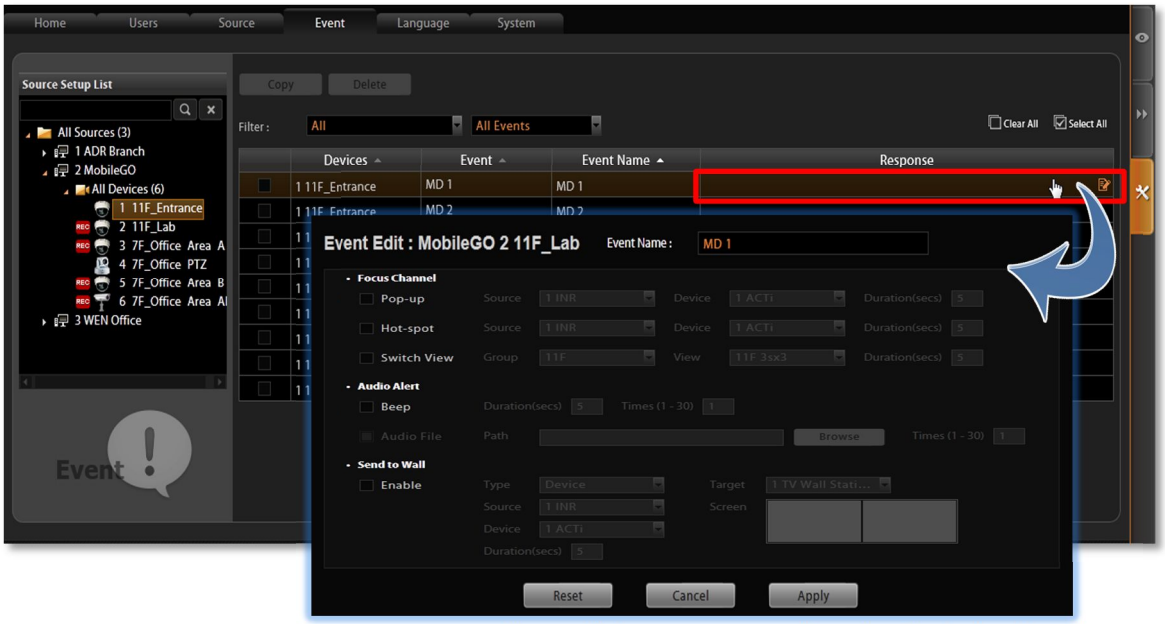
2. Highlight the rule you wish to edit. Double-click the "**Response**" field to edit the response action.
3. On **Event Edit** window, you can enable multiple response actions by first checking the box(es) to enable the items:

Action Items	Function Description
	Set to play beep sound for a number of repetitions. On **CMS2 Workstation** client computer, you can upload a WAV file or an MP3 file as the alert sound, and set how many times this audio file is play when event occurs. **Beep** and **Audio file** responses cannot be executed at the same time.
	Enables CMS server to execute a specific command upon this event. You can use it to integrate CMS event with other programs. Enter the path of the command to be executed upon event.
	Enables CMS server to send an email notification via SMTP server. The default SMTP and sender's e-mail settings can be set in advance in **Setup** page →**System** tab→**Settings** → **Email& SMTP Settings**. **1.** Type one or more recipients' email addresses in "**To**" column (if more than one, please separate them by "**;**" symbol) or click the icon to select recipients from existing NVR User list. The User's Email address should be set in advance (in **Setup** page→**Users** tab→**Users**) so that it can be selected in this list. **2.** Edit the e-mail subject and content.

Device Status Event Rule

An event rule set for a specific device will trigger actions to notify CMS client.

1. Select an NVR, click the arrow to expand its sub-categories, and select the device. There are five types of device status that can be set as event triggers – **Motion**, **DI Trigger**, **Video Loss**, **Video Recovery**, **Network Loss** and **Network Recovery**.
2. Highlight the rule you wish to edit. Double-click the "**Response**" field to edit the response action.

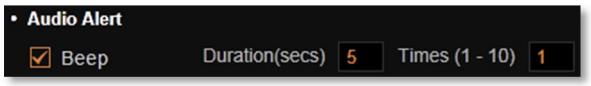


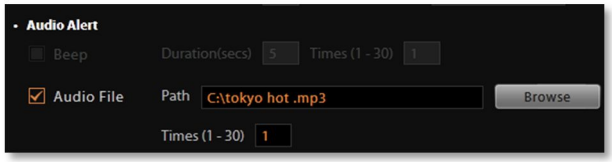
3. On **Event Edit** window, you can enable multiple response actions by first checking the box(es) to enable the items:

Action Items	Function Description
	This kind of action will focus your attention on the channel on client's **Live View** page when triggered. **Pop-up**: Brings up event pop-up playback window of selected channel upon trigger. You may also define the display duration of video on the window. **Hot-spot**: Displays video in **Hot-spot** window (red flashing frame) upon event. You may also define display duration of video on the **Hot-spot** window You may also define duration of the temporary View. Only **Public** Views are selectable for Switch View event rule.

Switch View:
The current Live View will be switched to another one for a while. To enable this option, you will need to customize and save Views on Live View screen first.

Hot-spot and **Switch View** responses cannot be executed at the same time.

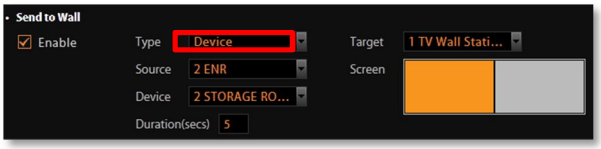


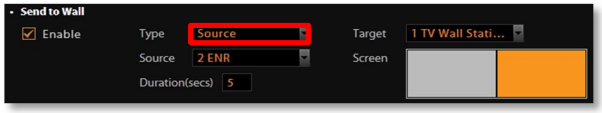


Makes CMS client computer play beep sound for a number of repetitions.

On **CMS Workstation** client computer, you can upload a WAV file or an MP3 file as the alert sound, and set how many times this audio file is played when the event occurs. (This CMS server has to be already on **Server Site list**, see G. Server Name/Server Sites List on page 33)

Beep and **Audio file** responses cannot be executed at the same time.





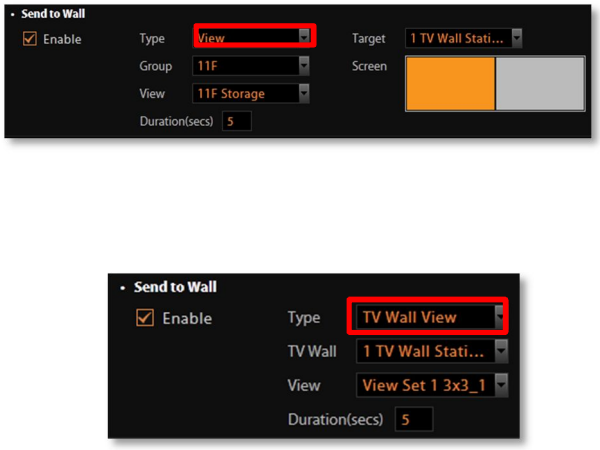
Pushes any of the following to a designated TV Wall monitor: a specific live view of a device, a customized CMS View, all devices of an NVR, or a TV Wall View Set to. Please check the box "**Enable**" first to enable this configuration:

Send live view of a device

Select **Type** as "**Device**", the NVR **Source** and the **Device** name, define how long this live view will stay on the screen, and click the monitor from the **Target** TV Wall station you select on the right.

Send live view of all devices

Select **Type** as "**Source**" and the NVR **Source**, define how long this live view will stay on the screen, and click the monitor from the **Target** TV Wall station you select on the right.



Send live view of a CMS View

Select **Type** as "**View**", the name of the View **Group**, and the **View** name, define how long this live view will stay on the screen, and click the monitor from the **Target** TV Wall station you select on the right.

Send a TV Wall View Set

Select **Type** as "**TV Wall View**", the **TV Wall** station, and the name of the **View** Set, at last, define how long this live view will stay on the screen.

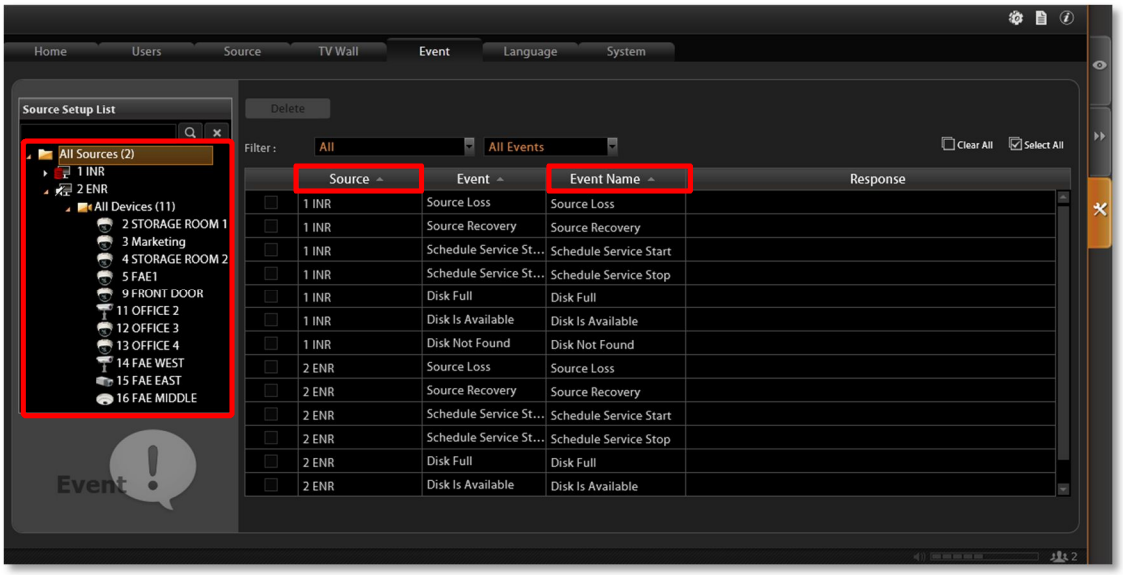
To validate if this rule is successfully set, please make sure you have properly configured the involved settings like **Motion Detection Region**s or hardware devices like an audio speaker.

Manage the Event Rules

Event List panel gives an overview on event rules set on the CMS server. Go to **Setup** page → **Event** tab → select **All Sources** on the left. As the entire available rules of all NVRs are listed here, you may want to sort out some of them from the long list.

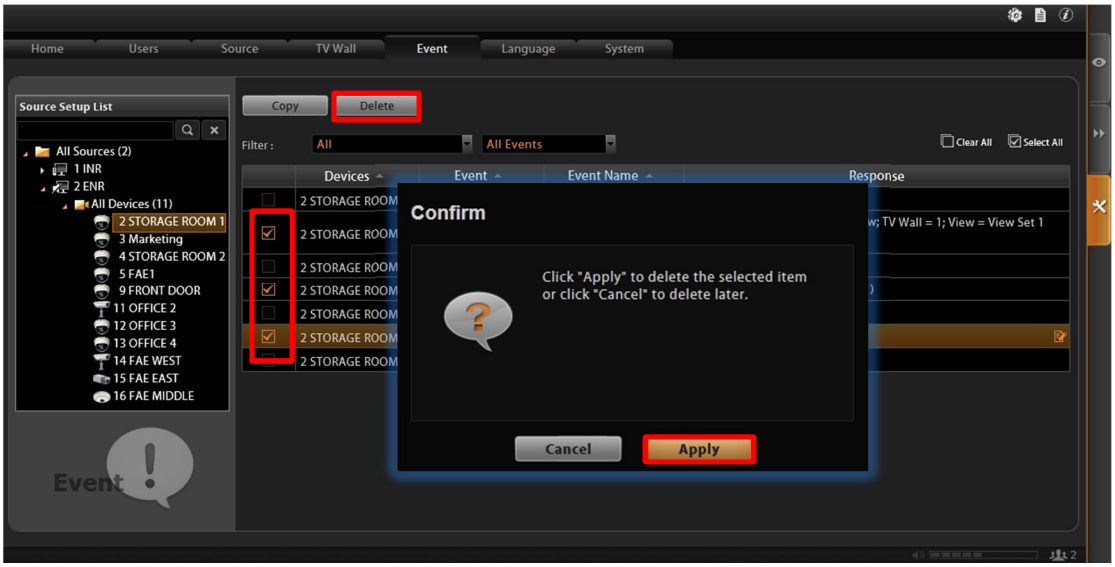
View the Event Rules

To sort by NVR **Source** name or **Event Name**, click the titles to list the entries in ascending or descending alphabetic order; another way is to click an NVR source of a single device in **Source Setup List** to view their own event rules.



Delete the Event Rules

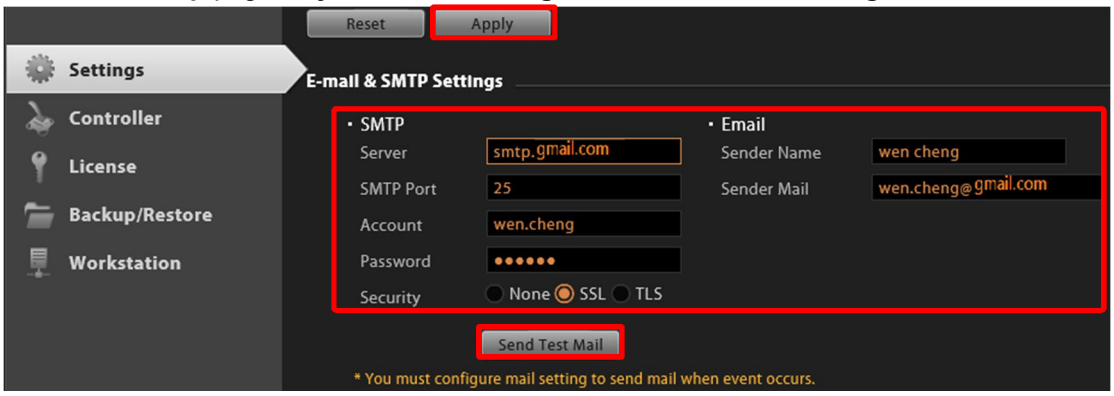
On **Event List**, select the rules you wish to delete, and then click "**Delete**" to clear this rule.



How to Setup SMTP Settings for Event Rules

CMS supports email notification sent through an SMTP server. You can specify the email and server settings here.

1. Go to **Setup** page→**System** tab→**Settings** → **Email& SMTP Settings**.



Fill in **each** of the following fields.

Field Name	Description
Server	Input the sender's SMTP server address. Only alphabets, numbers, and the symbols (.), (_), (-) are valid.
SMTP Port	Set the SMTP port, allowed value is from 1~65535, default is **25**.
Account	Input the name of the SMTP server account. Only alphabets, numbers, and the symbols (@), (.), (_), (-) are valid.
Password	Input the password of the SMTP server account. Only alphabets and numbers are valid.
Security	Certain webmail providers provide the SSL/TLS-encrypted SMTP connections to secure your data when sending/receiving e-mails. Please check if the SMTP

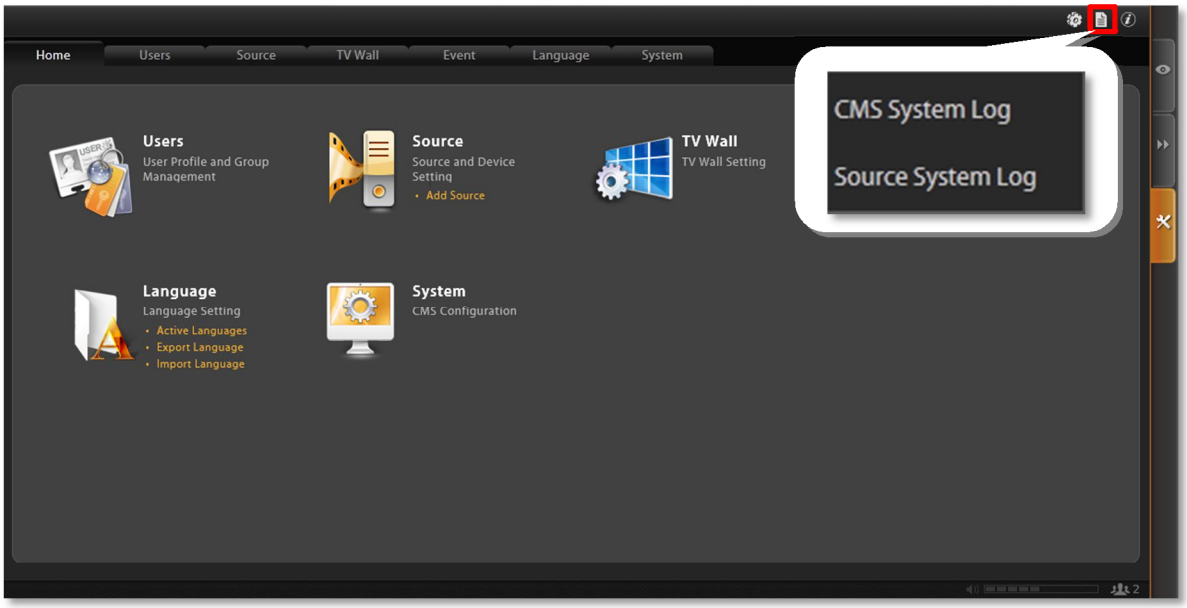
	connection settings you use (especially the **SMTP Port**) now require to enable either SSL or TLS.
Sender Name	Input the name or title of the sender. You may input a name different from the account name.
Sender Mail	Input the sender's e-mail address, which should be the same account you set for SMTP server.

2. As all necessary information is filled in, click "**Send Test Mail**" to try sending an email according to your settings, and then log in to your SMTP server to check incoming emails. If the test mail is sent successfully, CMS server is ready to send out emails.
3. As the settings are confirmed, click "**Apply**" to save.

System Log

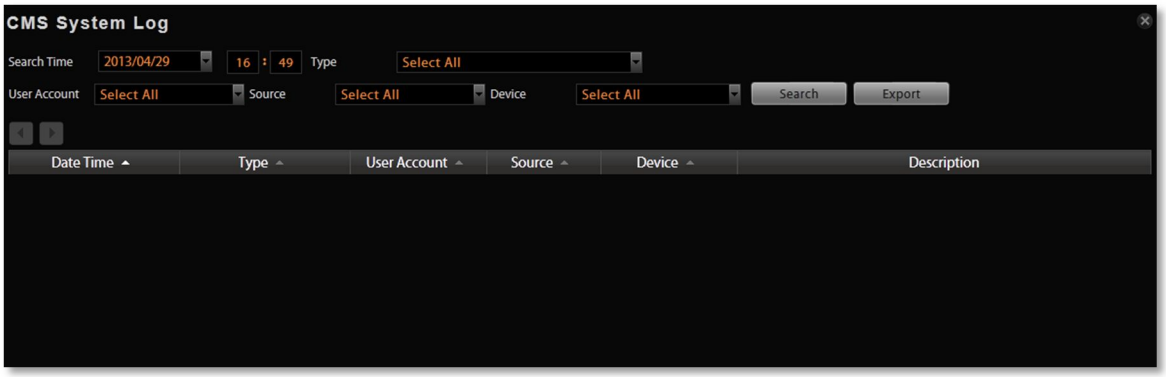
The activities performed by logged-in Users are recorded on server as **System Log**. With the access permission, a user may view, search and export this record for analysis or investigation. This section will provide the instructions on how to read and search data in the system log.

"**System Log**" is one of the resident buttons on top of CMS server user interface, click it to enter either "**CMS System Log**" or "**NVR Source System Log**".



CMS System Log

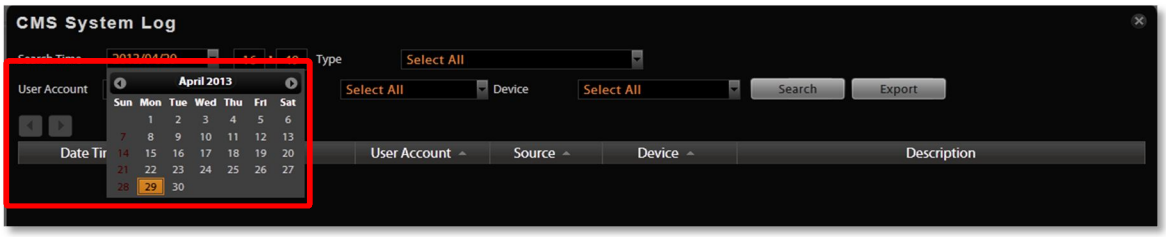
Upon entering the log page, you will be provided with a blank result list. After you define the searching criteria and click "**Search**", the **CMS System Log** will search the activities performed on CMS.



To start, please define the search criteria.

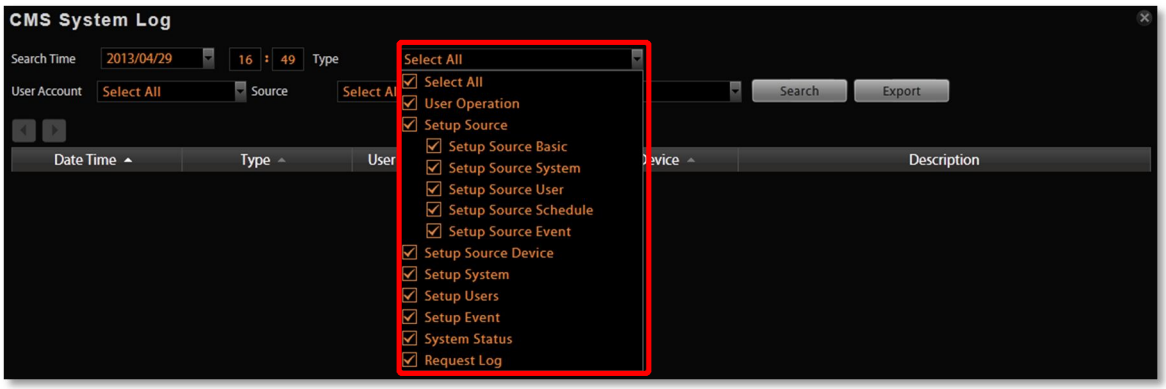
Search Time

The default is your current client time.



Log Type

You may filter the logs by activity **Type**. By default, all types are selected.

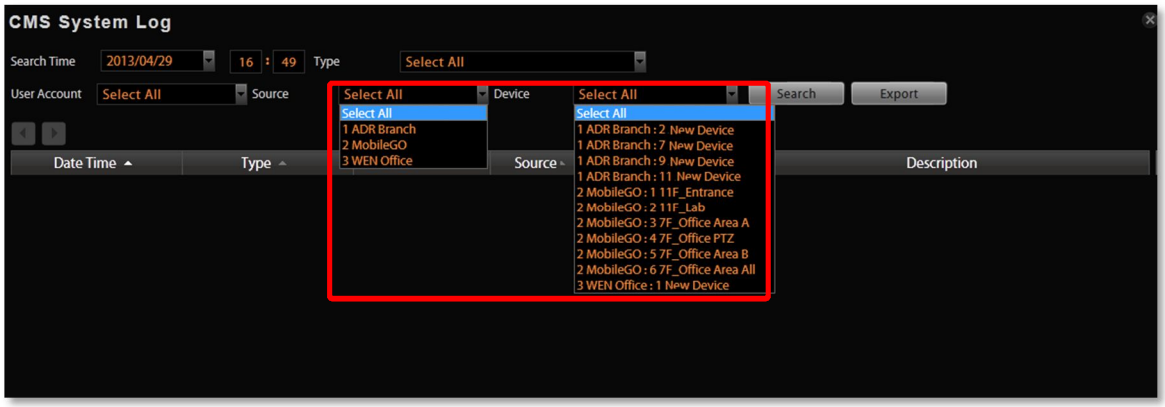


User Account

You may filter the activities performed by a specific user.

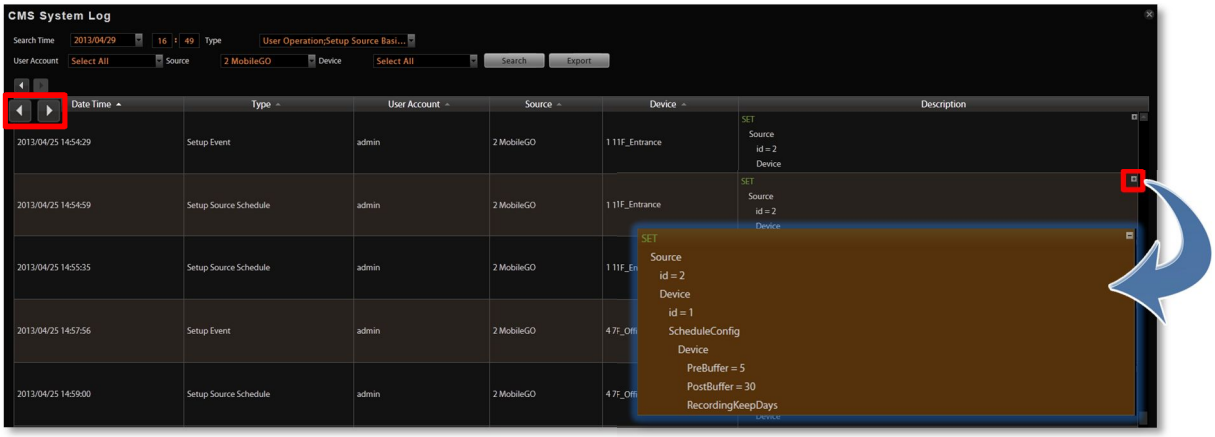
NVR Source / Device

You may filter the activities related to a specific NVR or a device.



Read the Log

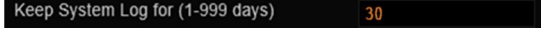
The search result will show 1000 records before and after your query time. You may click the pagination buttons to navigate earlier or later records. If there is an icon on the top right corner of an entry, click it to view the full description content.



A log entry contains several kinds of information including **Date Time**, **Type, User Account**, **Source**, **Device** and **Description**. Check **Type** and **Description** fields to know what the user has done or what happened to the whole system. In **Type** field shows what major functions this behavior was involved in, in **Description** field narrates how the change was done (in green font color, uppercase) and the result (in white font color).

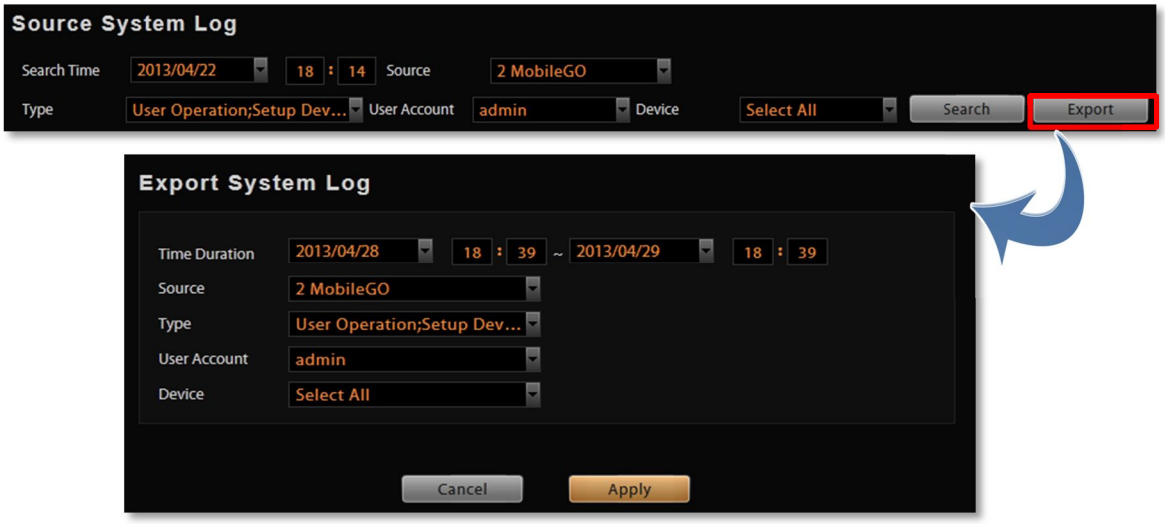
Take the case below for example, you can tell that the **admin** user set up an event rule on 2013/4/25 for **#1** device(11F_Entrance) on **#2** NVR(MobileGo) to trigger a response upon the motion detected by **#1** device(11F_Entrance)'s motion region **1**.

Note

If the pagination button appears to be disabled, that means no more records are found on CMS server. By default, the server will keep the logs for 30 days. If you wish to adjust the period, please go to **Setup** page → **System** tab → **Settings**, in **System Log Settings** section, key in the value in this field: 

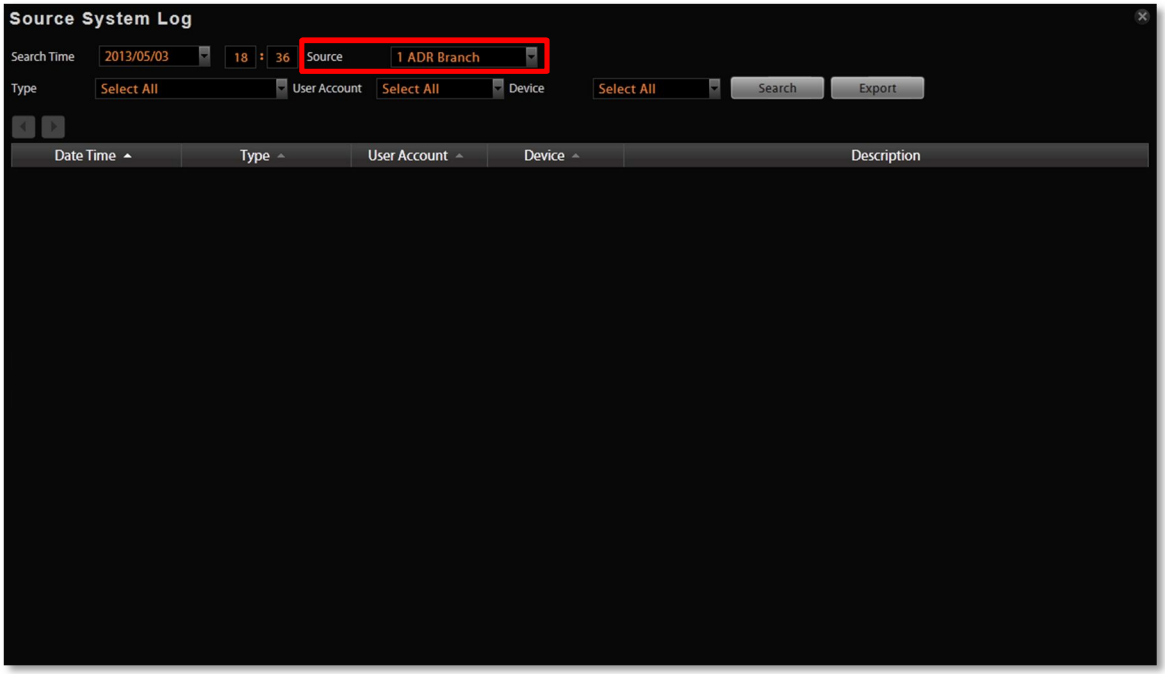
Export the Log

Click "**Export**" button to export the log as .csv file. You can specify the **Time Duration**, **NVR Source**, **User Account** and the involved **Device** of the logs, and click "**Apply**".



NVR Source System Log

As the CMS administrator owns the same privileges of an NVR administrator, it is able to acquire the NVR system log from CMS interface. Unlike **CMS System Log**, **NVR Source System Log** records an NVR user's activities on NVR. Click , enter **Source System Log**, specify the **NVR Source** name and other criteria, CMS will start searching.



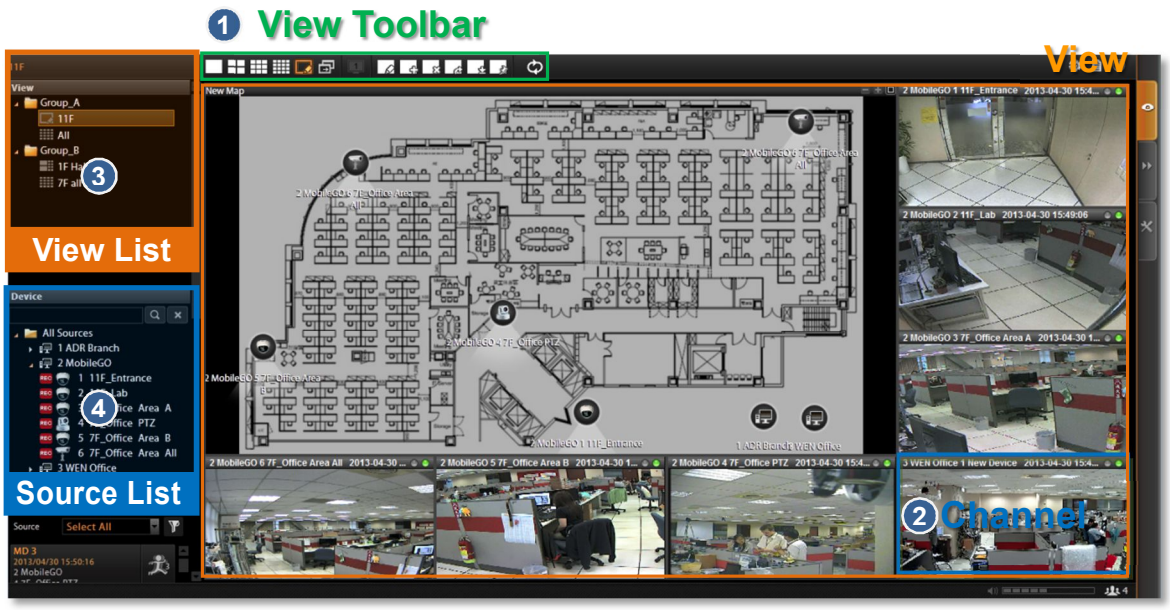
Customize Views

After all NVRs and devices are added, you may start customizing the views for different users and purposes. This chapter will teach you how to add video source, arrange the channels and manage live view layouts.

In CMS system, a **View** refers to the layout where the live images of **Cameras** or **Maps** are placed in proper positions to suit the monitoring purpose. This is very similar to a camera group, which often consists of cameras in the same physical location. For example, a View named **11F Emap & Camera** may contain the 11F floor plan and the cameras actually placed on 11F.

On CMS Live View, a saved View not only remembers (1) layout style, (2) which channel to display which camera, (3) but the fisheye view mode (for fisheye cameras only.

Live View Interface Overview



1. **View Toolbar**: Provides 24 options for layout styles and the functions keys for editing a view.
2. **Channel**: Each channel window may display a camera view or a map. In edit mode, you can adjust the channel size at will.
3. **View List**: All the saved Views are shown here. On **Live View**, you can go to → **View Manager** to group and manage these views (refer to Manage the Views on page 68).

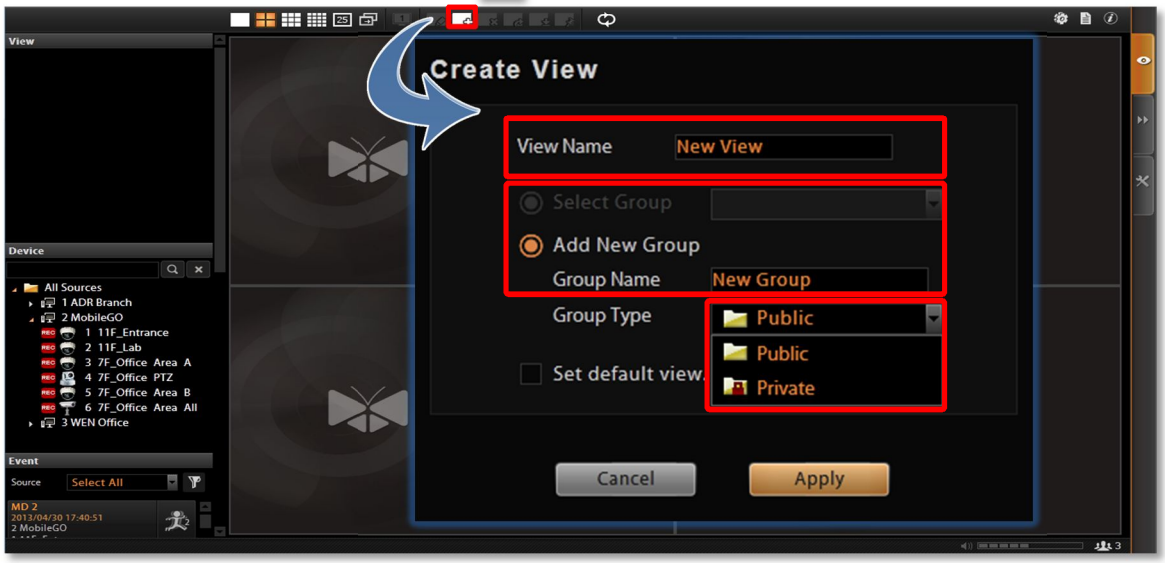
4. **Device List**: In edit mode, drag a camera from here to your desired channel.

Step 1: Create a New View

On **View Tool Bar**, click the **Create View** button , input the **View Name**, add a **New Group** for this View and decide whether this group is to be **Public** or **Private**, and then click "**Apply**".

●The views under **Private View Group** are only available to the User who created them.

●The views under **Public View Group** are open to every User.

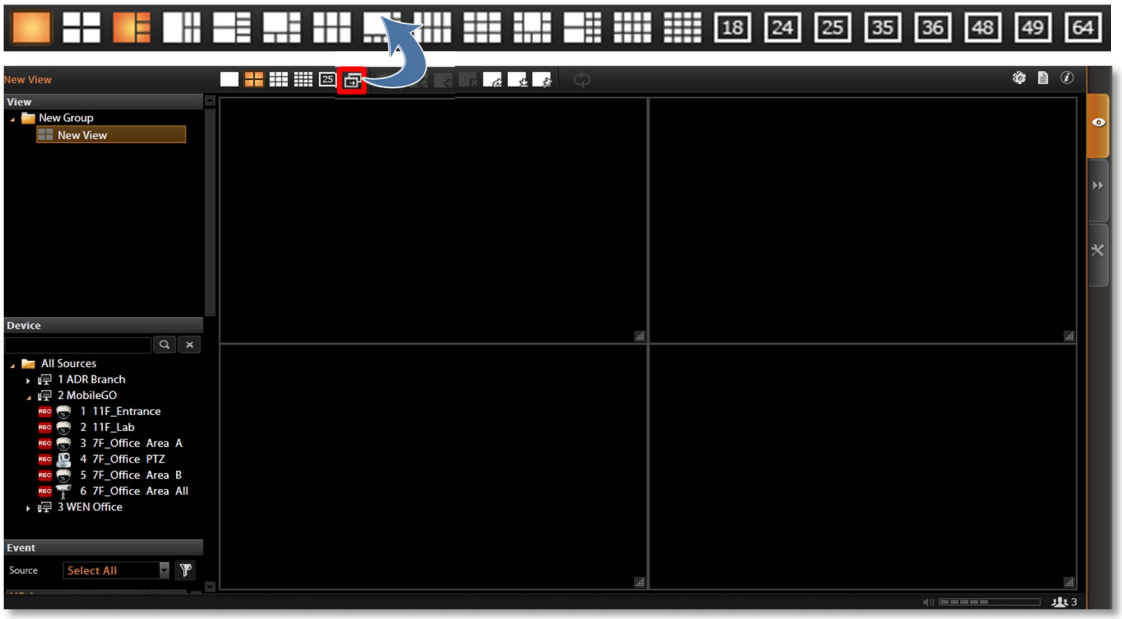


Step 2: Enter Edit Mode

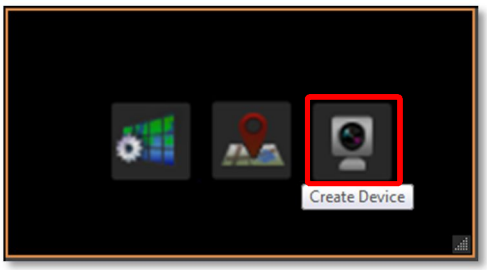
On **View Toolbar**, click the **Edit View** button , this view will turn into edit mode. In edit mode, you may add a video source to a channel, and adjust the channel size.

Step 3: Select a Layout

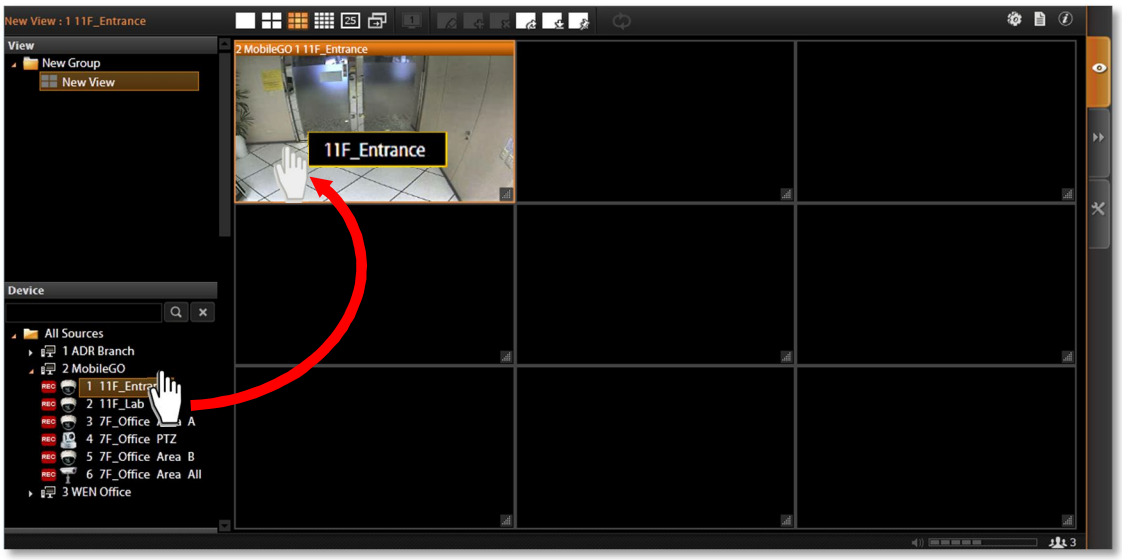
On **View Toolbar**, click the **Expand** button to find all provided layout styles. Select a layout that is perfect for your required channel number and ideal arrangement.



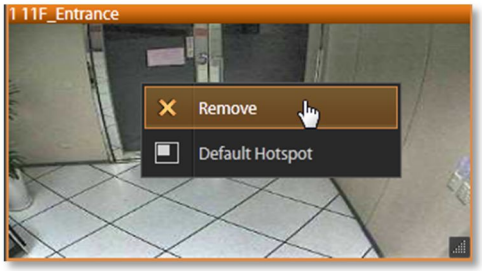
Step 4: Add Video Source



In edit mode, move the mouse over the channel and click to select a camera from the source list. You may also directly pull a camera from the **Device** panel to your desired channel.

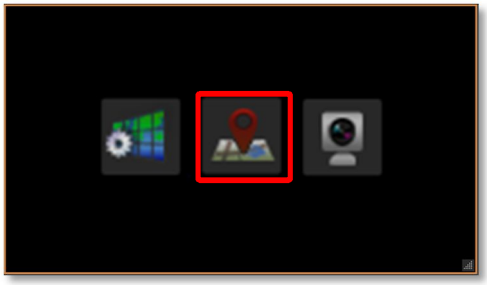


●**Remove the camera view:** right-click on the channel and select "**Remove**".

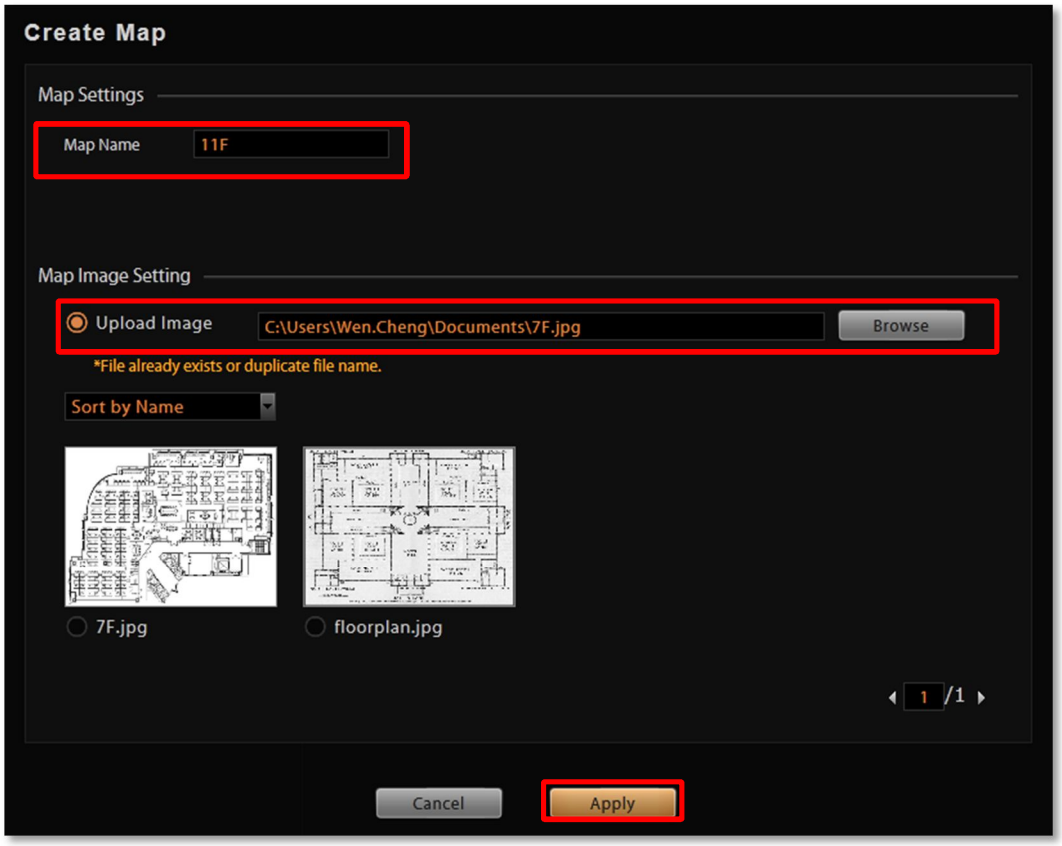


Step 5: Add a Map

By adding a map, you put a picture on the channel, where you may place camera icons later to make it an "**e-Map**.



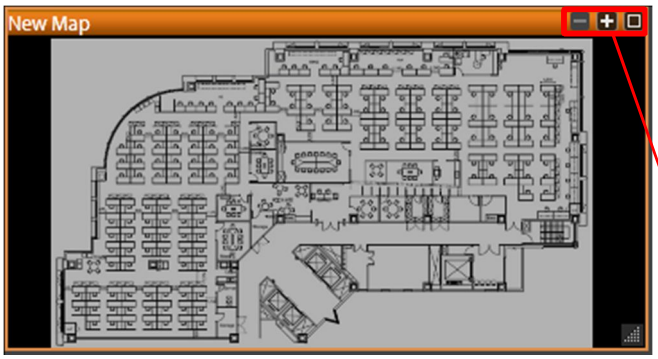
In edit mode, move the mouse over the channel and click to upload a map. Please input the **Map Name**, select the image location (file format must be JPG) and click "**Apply**".



●**Map brightness**:

To change the map brightness, right-click on the map, select "**Map Mask**" and the brightness percentage level.

●**Map size**:



By default, the map will be displayed in its original size. Use the button s on upper right to adjust the map size.

Enlarge to fill channel height

Original image size

Zoom in

Zoom out

● **Edit map title**:

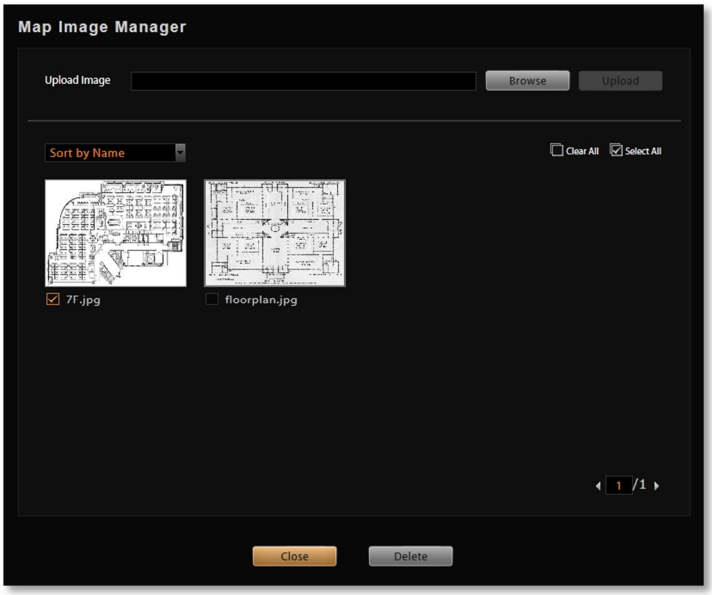
The map title will be shown on channel title bar. In edit mode, right-click on a map channel and select "**Edit Map Information**"

●**Remove the whole map**:

Right-click on the map and select "**Remove**".

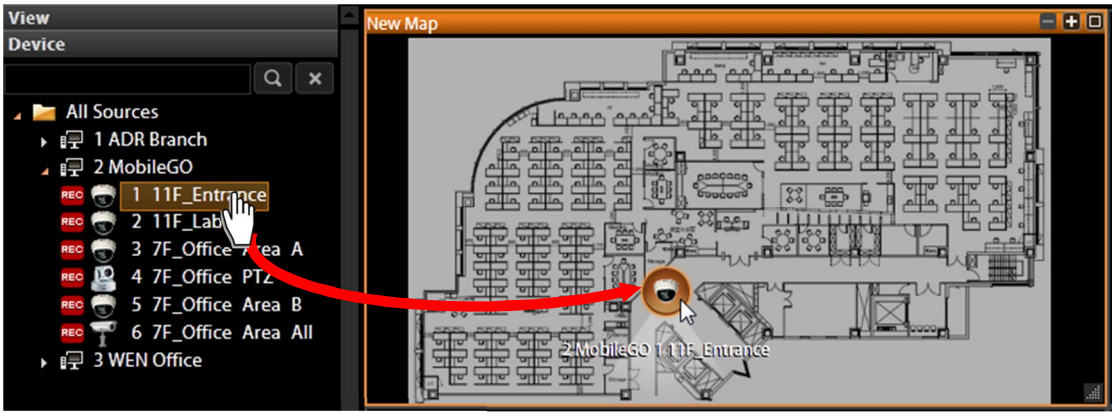
●**Manage maps**:

All the uploaded images are managed under **Map Image Manager**. On **Live View** screen, you may go to → **Map Image Manager** to view, upload or delete the maps.



Step 6: Add Devices to the Map

Pull a device from **Device List** to the map.



●To remove this device from map:

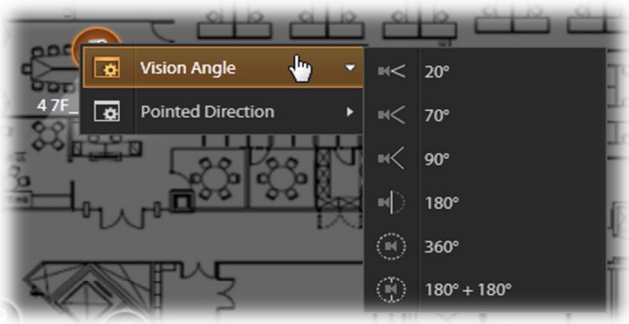
Click

●To move this device:

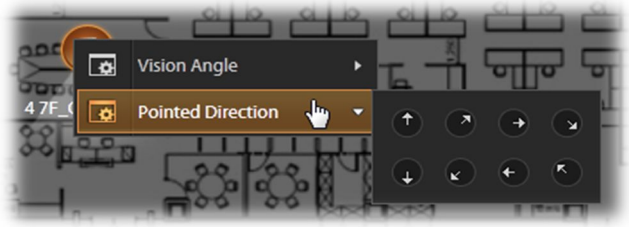
Left-click on the device icon and drag.

●To change the pointed direction:

Mouse over the viewing angle area, left-click on the clockwise arrow to turn the direction.



●To adjust precise pointed direction: Right-click on the device icon, select "**Pointed Direction**".

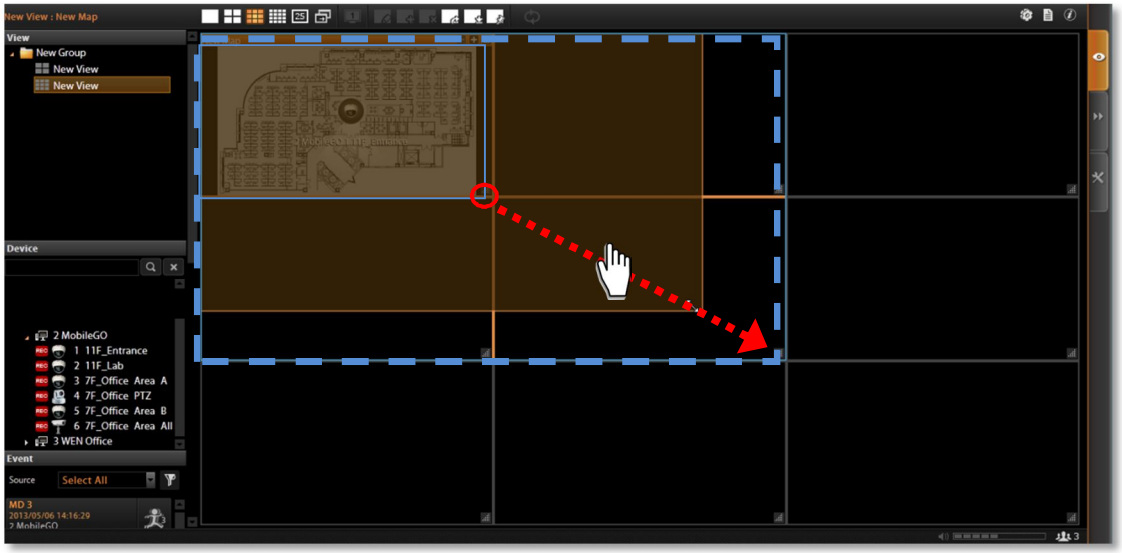


●To adjust device's viewing angle: Right-click on the device icon, select "**Vision Angle**".

Step 7: Adjust the Channel Size & Layout

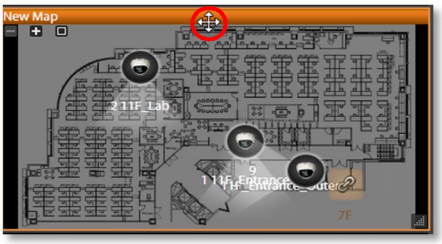
●**Adjust the channel size**:

Click on right lower corner of the channel window, drag and then release.



●**Switch channel windows**:

Click on a channel title until the cross arrow appears, hold it to drag this device or map to your desired channel.



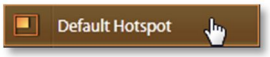
Step 8: Save the View

Click on **View Toolbar** to save it.

Step 9: Set Default View

To set a **View** as default, select it in the **View List** panel and then cli **on View Tool Bar**. By next time you log in, you will directly enter this View.

Step 10: Set Default Hotspot Channel (Optional)

By system default, the global hotspot channel will always be the **top left one**. You can set any other channel on your live view screen to be the default hotspot channel. Right-click on the channel and select **"Default Hotspot"** 

, then click on **View Tool Bar** to save it.

Step 11: Set Fisheye Camera Mode

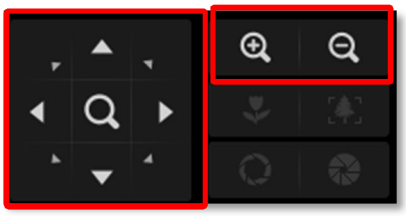
Define a view for a fisheye camera channel by selecting its mode and using ePTZ control. Please note that the maximum number of fisheye channels on the same View is **16**.

1. On this channel, right-click to bring up channel menu, click "**Fisheye Mode**" and select one mode.

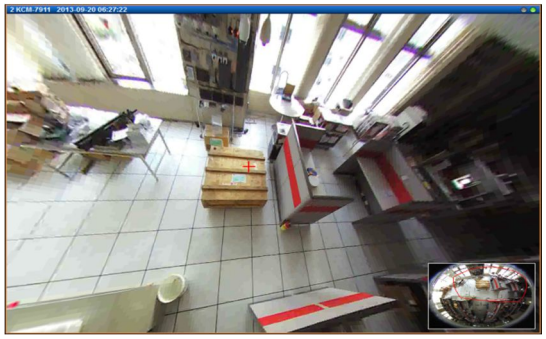
2. After the fisheye mode is selected, click a region of interest.

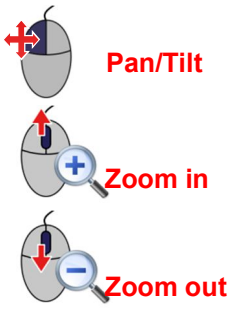
●Use **PTZ Panel** controls to operate PTZ movements:

ePTZ Controls on PTZ Panel



●Click the mouse anywhere on the view to pan/tilt, scroll the mouse wheel to zoom in/out.





●To reset the ePTZ navigation area back to default viewing angle, right-click to bring up channel menu, and then click "**Reset**".

3. click on **View Tool Bar** to save the configuration.

Note

Once a channel is changed to any of the following fisheye modes: **Dewarping**, **Panorama**, **Double Panorama**, **Panorama/Focus** or **Quad**, the resolution of this live stream will become 1920x1080, while NVR still records the live stream at the resolution you set on **Setup** page.

Manage the Views

Each View belongs to a specific **View Group**. With the group management, CMS makes it easy to deal with Views you created for multiple Users.

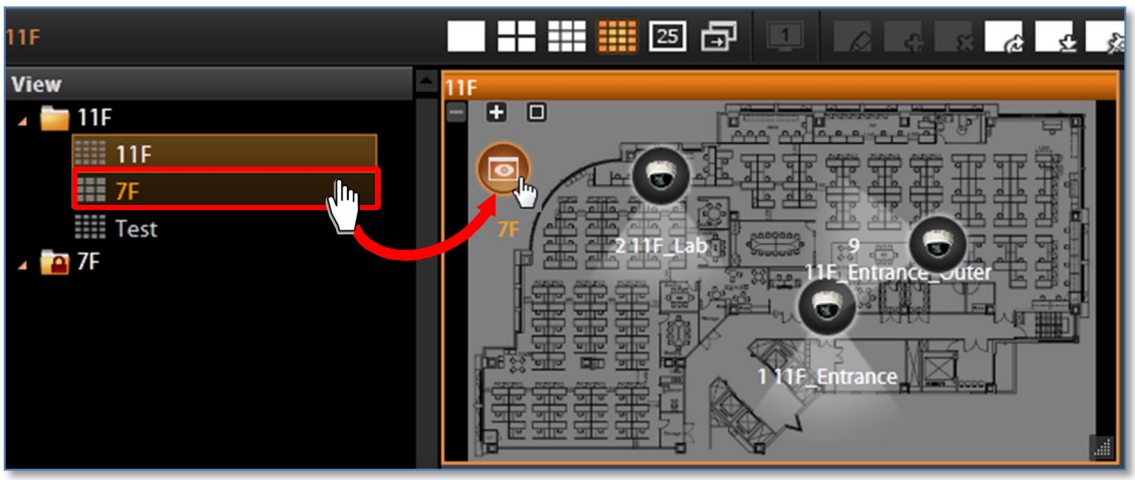
After you created and saved the Views on **Live View** screen, click → **View Manager**.

1. Click on the arrow icon in front of a group folder to reveal its **Views**.
2. By selecting a **View**, you may directly modify its name in **Name** field.
3. You may change a group's **Group Type**. Upon the change, for example, by changing a group from "**Private**" to "**Public**", all the views belonging to it will be open to every User.
4. Click this icon to add a new group.

5. Click this icon to delete a selected group.
6. Click this icon to copy a selected group to another group.
7. Click this icon to move a selected group to another group.

Set View Link

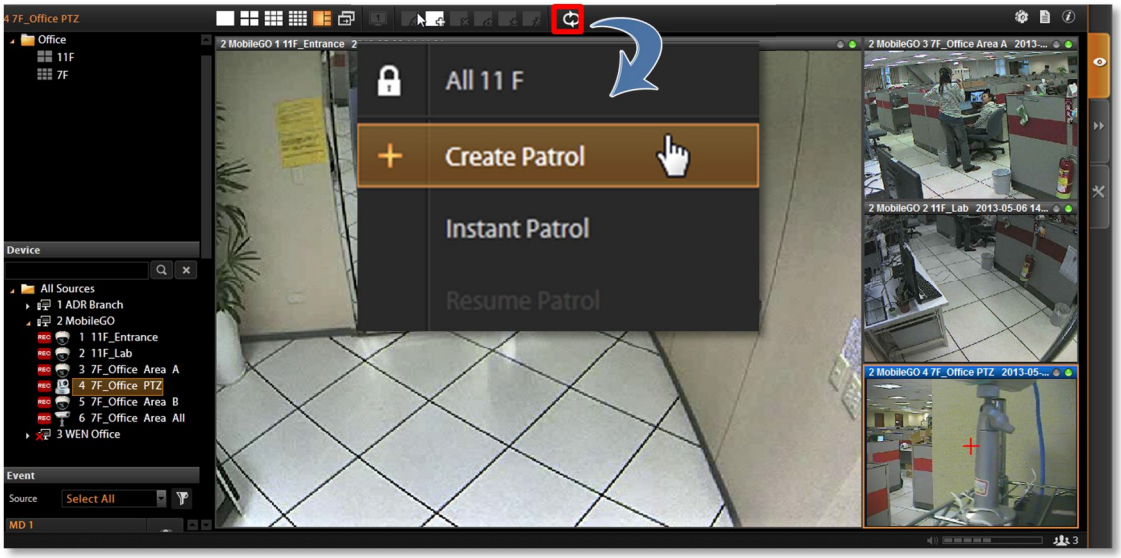
By creating a link button on a map view, you can directly be linked to another view. On the picture below shows how to create a link button to 7F View on 11F map.



1. Select a map View, on which you will place a link button to another view.
2. Click on **View Tool Bar** to enter edit mode.
3. From **View List**, drag the target View to current View, a link button will appear.
4. Click on **View Tool Bar** to save it.

Set View Patrol

You may have the saved Views patrol in turns. In this way, the views in different area in your site may cycle through themselves for you automatically.



On **View Tool Bar**, click then **Create Patrol**.

1. Input **the Patrol Name**.
2. Select the **Patrol Type** to be open to all Users or to the creator only.
3. Define the **Global Dwell Time** between the views. If you want to set different dwell time length for individual Views, do not check this option, and configure them separately in below table.
4. Choose the **Views** to display in patrol. If you select the **All Sources** group, you will also need to select "**Source Layout Style**" for it.
5. Click "**Apply**" to save the settings.

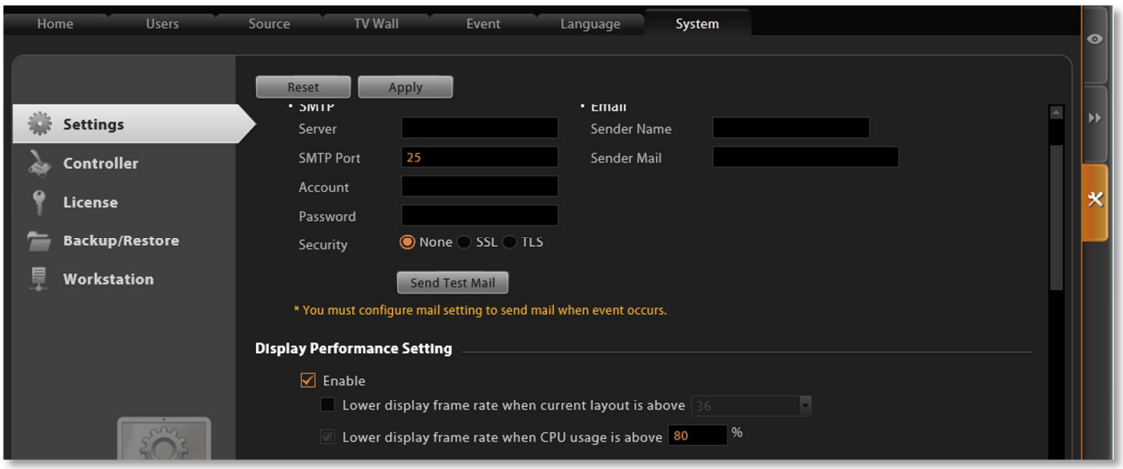
6. The saved patrols will be shown on the patrol list after you click on **View Tool Bar**, you may delete and edit a saved patrol or select it to start patrolling.

Tips to Enhance Live View Performance

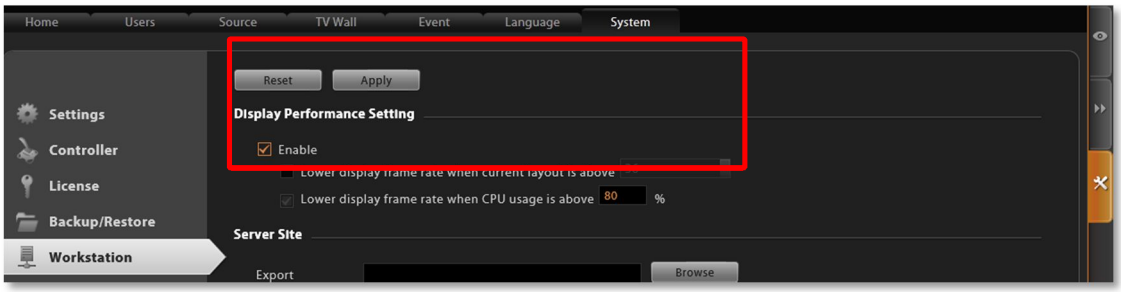
Live view for multiple channels requires sufficient computing power to run the performance. In certain extreme cases, like when viewing several megapixel H.264 video streams at the same time, client computer will be overloaded and hence affect browser's performance. This is a common limitation imposed upon all Windows based video management programs and web browser.

To enhance live view performance, below are several tips you may try:

1. Use another browser client to share these high-resolution channels. Given that there are 32 megapixel channels to be monitored, you may have Layout 1 to display channel 1~16, set Layout 2 to display channel 17~32, then open one browser client to show Layout 1 and the second browser on an extended monitor to show Layout 2.
2. Have CMS automatically lower the frame rate of live streams when system loading is high. Go to **Setup** page → **System** tab→ **Settings** → **Display Performance Setting** and enable this function. Basically, this setting will lower frame rate when the CPU usage is above certain percentage. You may also enable "**Lower the frame rate when current layout is above_**", in this way, when the layout is displaying over certain number of channels, the frame rate of all live streams will be declined. By default, this setting will be applied to the live display of all connected web clients and Workstation clients.



A **Workstation** client computer can have its own specific display configuration without being affected by CMS universal setting. Log in as **CMS2 Workstation** client, go to **Setup** page → **System** tab→ **Workstation** and configure the **Display Performance Setting**.

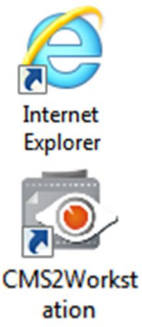


Let Windows Automatically Start up CMS Live View

You may have the CMS client application automatically run and open the live view after Windows starts. In this way, you may save steps and time before you eventually see the desired live view screen. Additionally, whenever a power breakdown takes place, the live view may recover as soon as your computer resumes.

If more than one users would log in to this computer, this tip might not be suitable due to account security issues.

1. On CMS server, set a **Default View** for your account. For detailed procedures, please refer to this section in this manual: Customize Views on page 61.
2. Set **Auto-login** for your Workstation client or web browser client. For detailed procedures, please refer to this section in this manual: C. Remember Account/Password on page 31.
3. If you are using a browser client, open the browser, and set the CMS server IP as default homepage.
4. Set your browser or Workstation application to start right after Windows has started. Click **Windows Start** → **Programs** → **Startup** to open the **Startup** folder, and drag the application shortcut into it. In your case, you will have to drag the Internet Explorer shortcut or CMS2Workstation shortcut into the **Startup** folder.



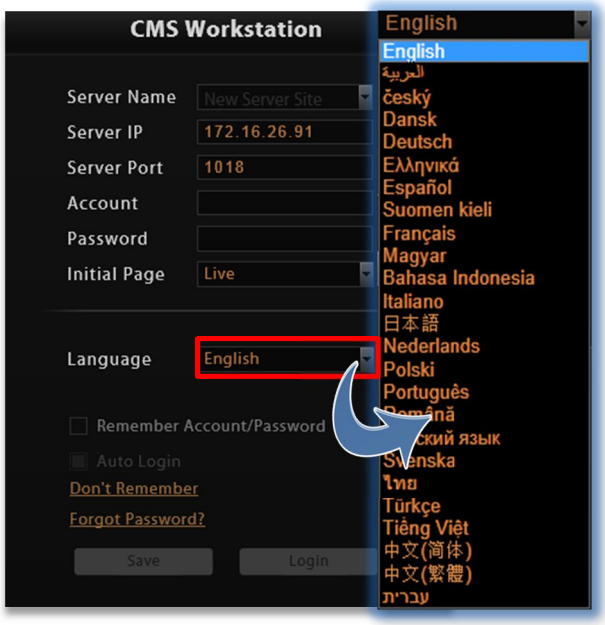
5. The next time you start Windows, CMS live view will be running automatically, and you may start monitoring the system in no time.

Customize System Language

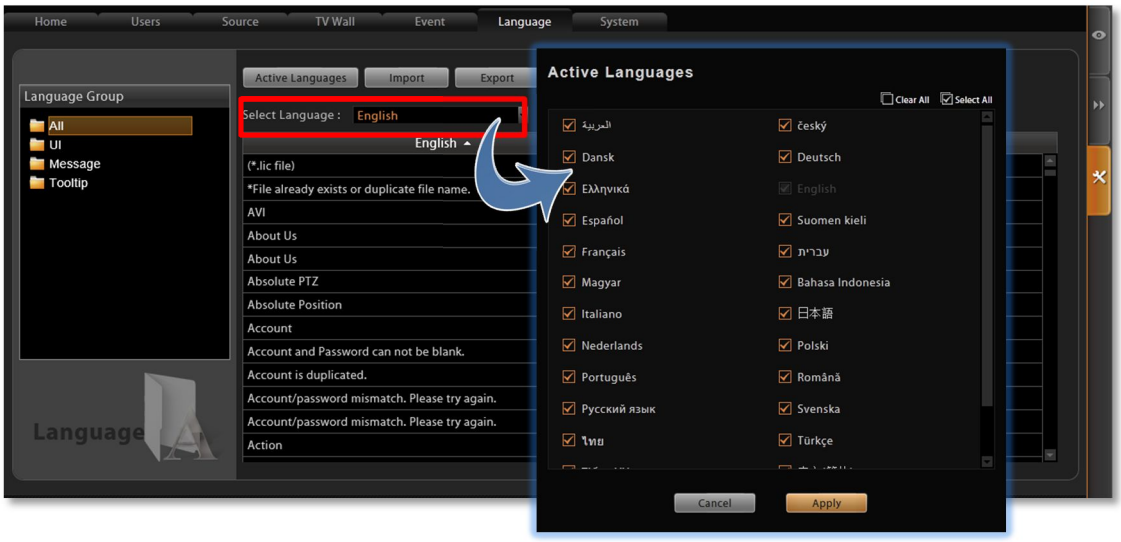
CMS server supports multiple languages for user interface display. There are already several translated language files in the server system. Each language is open to customization based on your own needs. This section will describe how to choose or customize language strings for your site.

Change System Language

You may decide which languages to be selectable on Login screen. The chosen languages will appear on the "**Language**" dropdown list.



Go to **Setup** page →**Language** tab, click "**Active Languages**". On popup window, check the languages you need, and click "**Apply**". By default, all languages are selected. As **English** and **Traditional Chinese** are the default system language, they are not removable from this list.

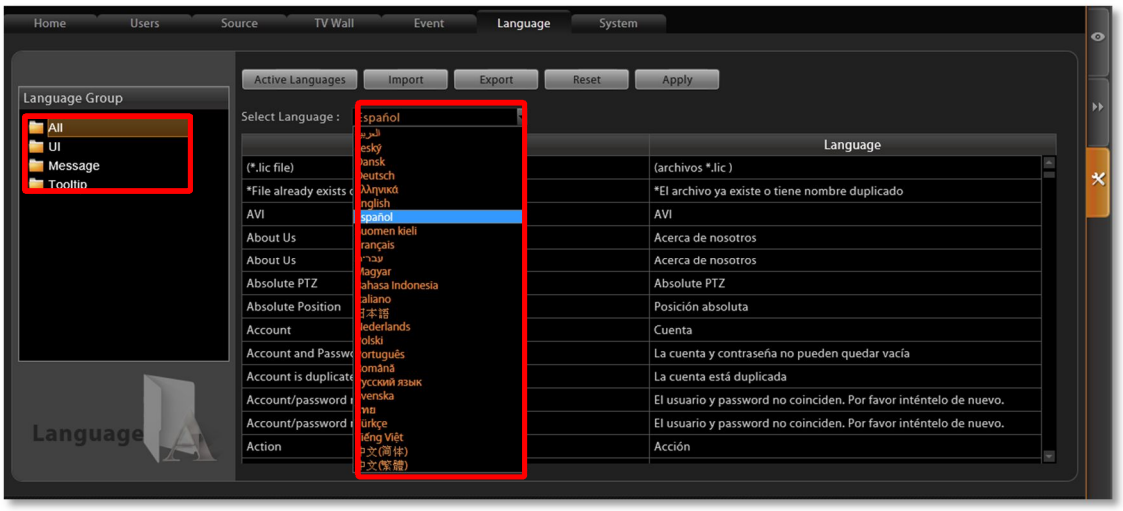


Edit User Interface Wordings

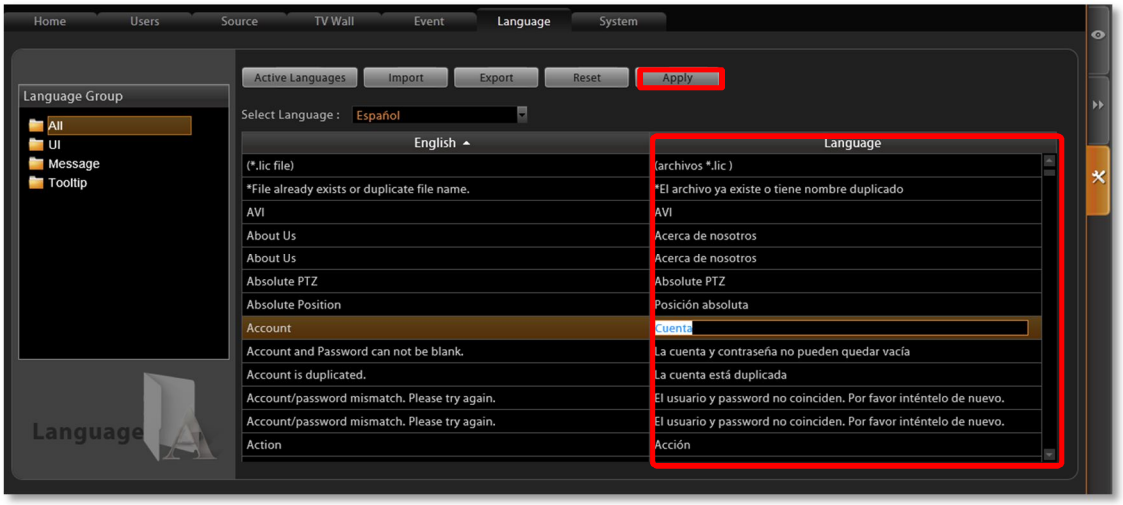
Each language file contains four editable string tables. Each table displays the default wordings in English and the translation in target language.

To view the string table:

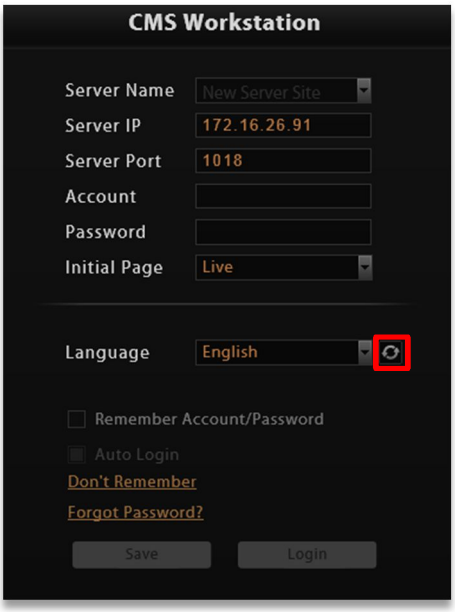
1. Select the language from "**Select Language**" dropdown list, then select a table from the "**Language Group**" list on the left column.



2. Your target language will be displayed on the right column, while the default system language "**English**" appears on the left for reference. Click in any field on right column to customize your desired wordings, and click "**Apply**" to overwrite the current.

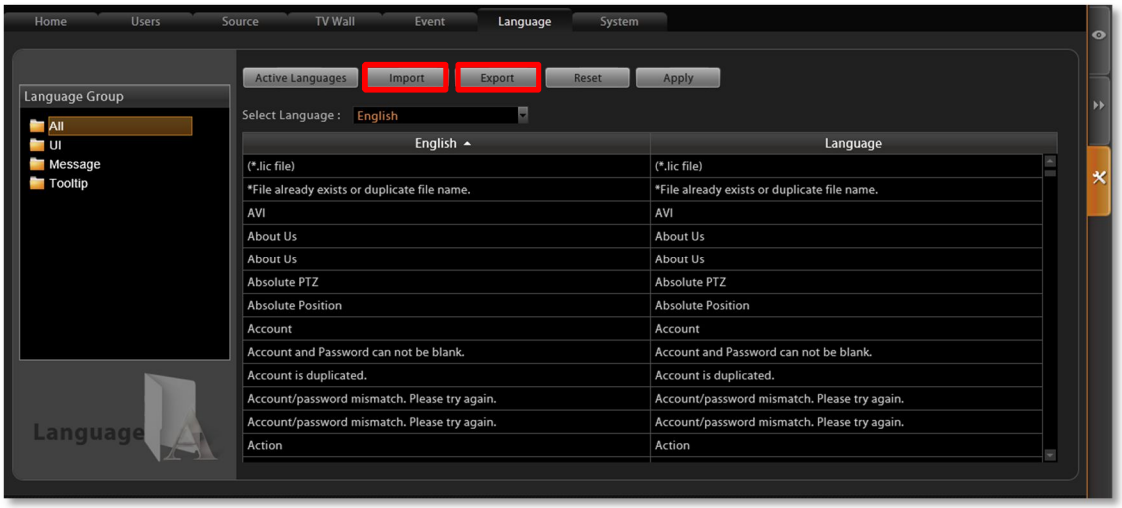


The new string will be applied by next time you log in. If you log in as a **CMS2 Workstation client**, please press button on **Login** page to synchronize with the latest modified language file, then log in to the system.



Export / Import Language String File

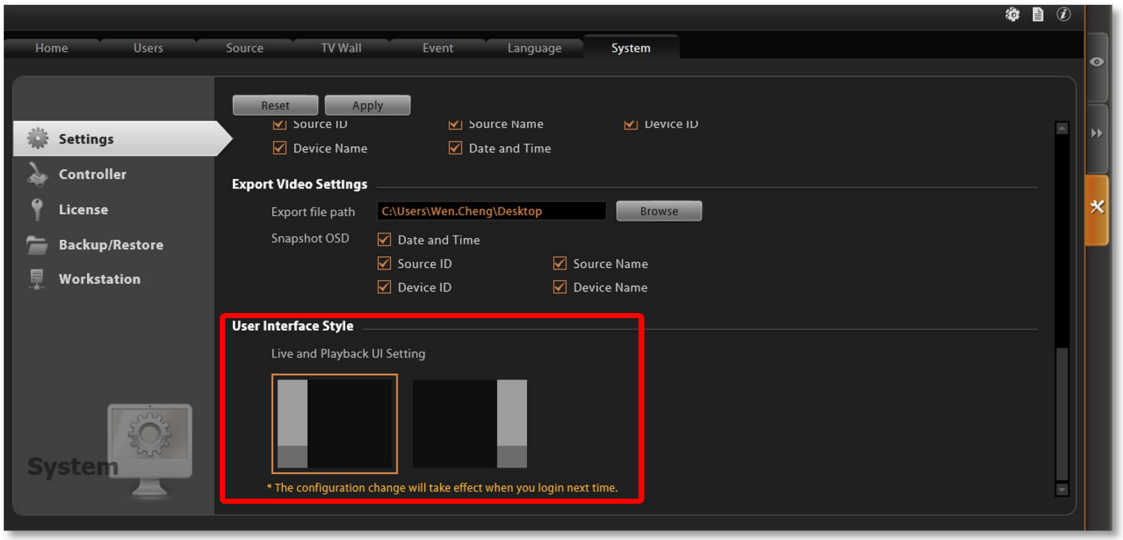
You may also click "**Export**" to export the language file as .xml format to edit in **Notepad**, or "**Import**" to import a language file to use in the system.



In general, it is suggested that you always save a modified language table with a different file name in a location other than default system language folder on server computer *C:\Program Files\CMS2\Language*, then import it to use. In this way, you can avoid overwriting the original language file.

Display Configurations

You can change the user interface style by arranging the main screen and **Panel/Device List** on the right or left. Go to **Setup** page→**System** tab→**Settings**, scroll down to the **User Interface Style** section, select the setting style then click "**Apply**". The change will be applied upon your next login.

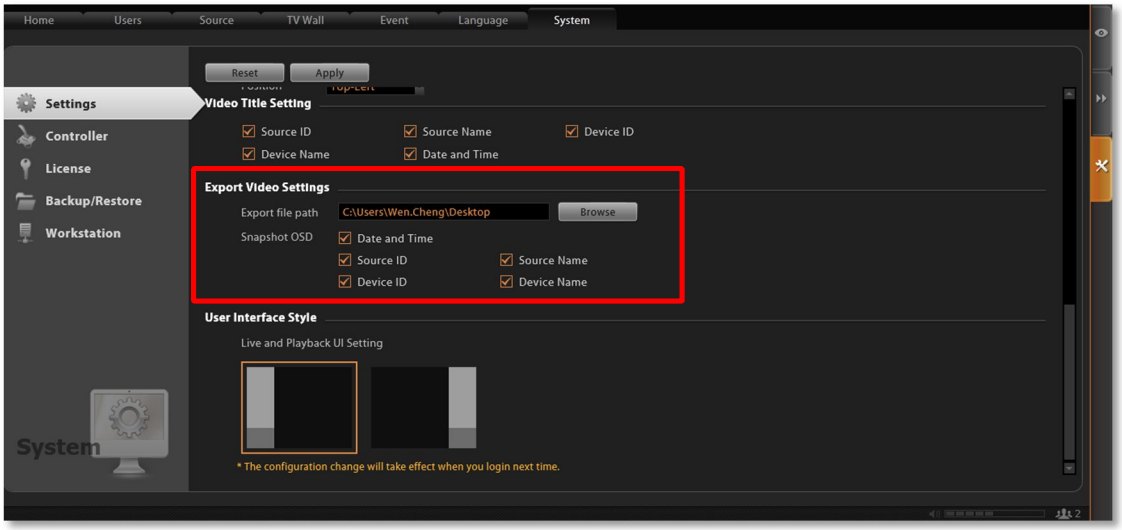


Video & Snapshot Export Configurations

By default, the snapshots taken by Users on **Live View** and all exported video files are saved to the current client's Desktop. You may configure the destination by selecting another available file location on your client's computer. Go to **Setup** page→**System** tab→**Settings**, in **Export Video Settings** section, click "**Browse**" to choose the file path.

You may also define what information is printed on each snapshot by checking the items: **Date and time**, **Source ID**, **Device ID**, **Source Name** and **Device Name**.

These configurations will take place after you click "**Apply**".



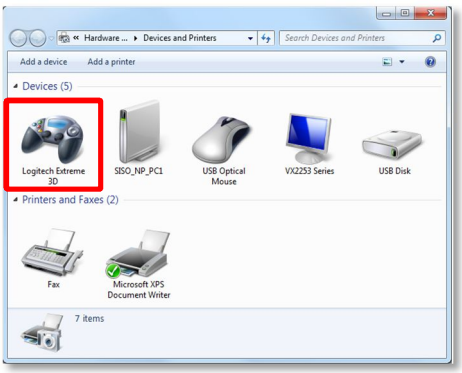
Joystick

In CMS, other than user interface PTZ panel and mouse operation, you may also control the PTZ movements by physical controllers. CMS supports two types of controllers, which both feature in a joystick with twelve buttons for users to assign specific actions.

Model: **IP Desktop**
Manufacturer: CH Products

Model**: Extreme™ 3D Pro**
Manufacturer: Logitech

How to Install the Joystick



1. Log out from CMS client interface.
2. Connect the controller device to your computer. To make sure the device is installed properly, open **Windows Start menu** and enter **Devices and Printers** to check the status.
3. Log in to CMS server, go to **Setup** page →**System** tab, enter "**Controller**" section and select your product.
4. You may assign specific commands from dropdown list to buttons 1~12 of the controller. When setting is done, click "**Apply**". The modification you did on one controller model will be applied to the other joystick model as well.

5. To validate its function, go to **Live View** page and focus on a PTZ device channel to operate the supported PTZ operations.

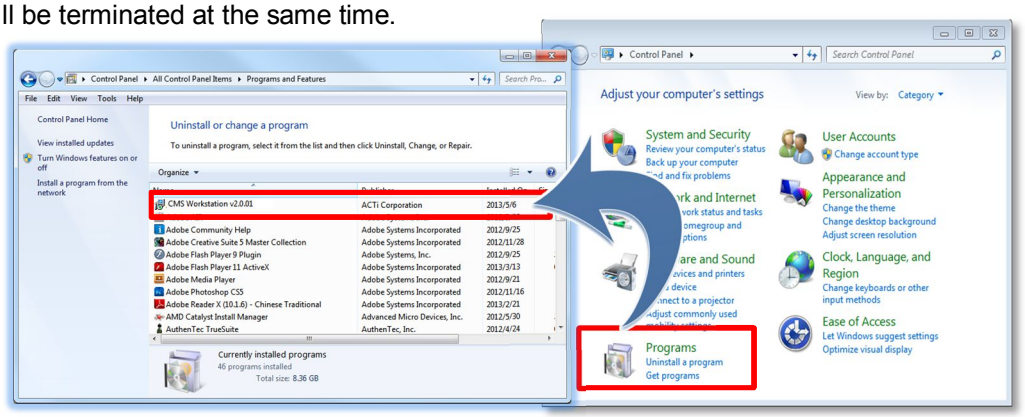
Un-install Server Software

In certain cases, un-installation of CMS system is necessary, for example, (1) you want to terminate CMS server and clear all the evidence due to privacy and security reasons, (2) you need to reinstall the system due to an unsuccessful installation.

Before starting un-installation, please back up important data (please refer to Back up System Data on page 81) first and prepare the CMS server install shield application. This chapter will describe un-installation process.

Step 1: Remove CMS Server Program

1. Go to **Windows Control Panel→ Programs and Features** (in Windows Vista /Windows 7/Windows 2008) to remove it. When you un-install CMS server program, the web client will be terminated at the same time.



2. After you choose to uninstall "**CMS Server**" program, the uninstallshield will execute and notify you when it is completed.

Step 2: Remove CMS Server Program Folder (Optional)

If you are performing a complete un-installation without leaving any CMS server related data on the current computer, you may consider deleting this folder.

After un-installation, the **CMS** system folder will remain under product folder on your hard drive, the system configuration data here will not be removed until you delete them manually. By default, the path of **CMS** system folder is *C:\Program Files*\
However, keeping this folder is convenient for a un-installation followed by an instant re-installation, for the previous system settings can directly be applied to the new server.

Back up System Data

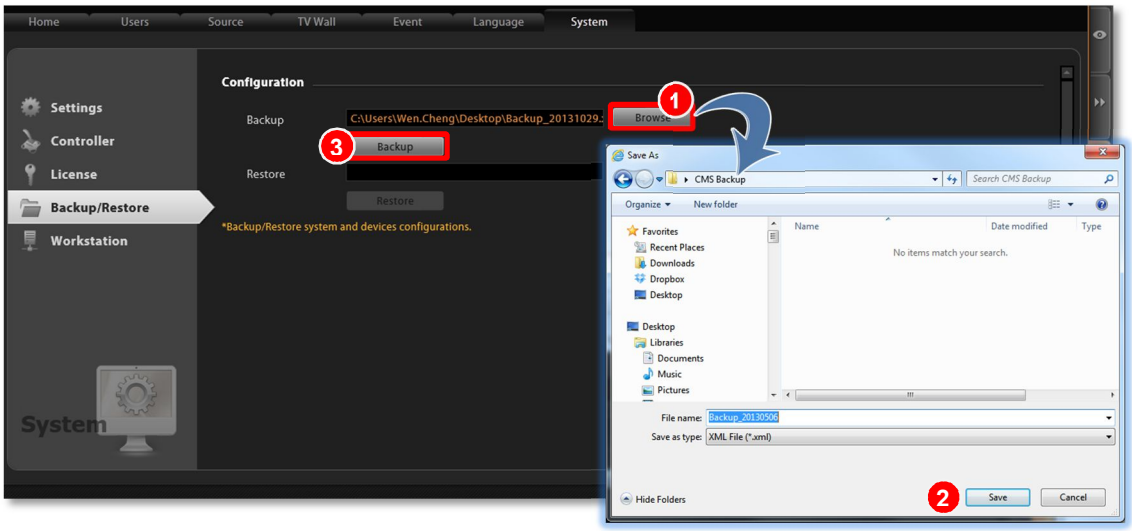
Making regular system backups is always recommended in case of unexpected disasters or accidents that may damage CMS server. Other than this, you may need to perform an on-demand backing up to (1) migrate the whole CMS server data to another computer, or (2) re-install the CMS server on current computer. There are several types of data on CMS server essential to your surveillance system please consider your purpose and follow the below instructions to create their backups.

CMS Settings Backup

CMS server can create a backup file of the whole system settings within one click. The settings being backed up include the following properties you set for system: (1) **Users** (2) Imported **NVR Source** & **Device** properties (3) **Event Rules** (4) **System** →**Settings** / **User Interface Style** / **Joystick**, and (7) the saved **Views** in **Live View** page, and (8) **TV Wall Server** information and **TV Wall Views**.

Step 1: Back up CMS System Settings

1. Go to **Setup** page →**System** tab→ **Backup / Restore**
2. In **Backup** section, click "**Browse**" to select the destination for backup file, the file will be saved as *Backup_YYYYMMDD.xml* file. Then click "**Backup**" to export the file.



Important Notice

The license data is not included in the system backup file. You have to preserve the license key information provided in email or printed card to you after the purchase takes place.

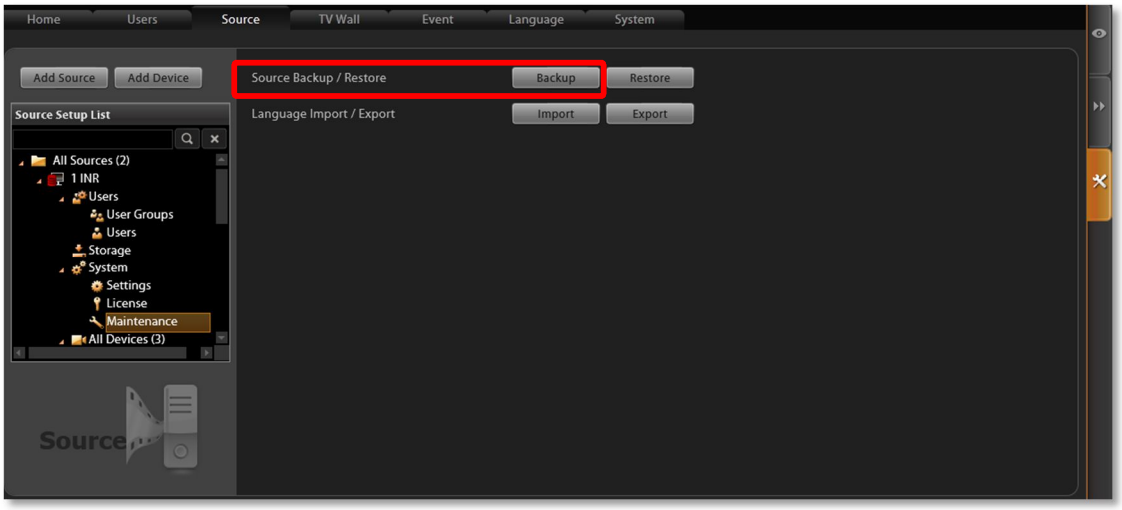
Step 2: Back up CMS System Log (Optional)

The system log records the operations Users perform during logging in to CMS server. You may export the system log of latest three days as *.csv file as backup. Please refer to the section in this manual: Export the Log on page 60 for instructions.

Step 3: Back up NVR Source Backup (Optional)

You may also back up individual NVR's system on **Setup** page → **System** tab→**Source** tab. This backup file is the same with that made on the NVR interface, which contains the entire system settings of an NVR server and its customized Views.

On **Source** tab, select your desired NVR and enter its sub category **Maintenance**. Click "**Backup**", select a file destination path and click "**Apply**".



Restore System Data

Before starting restoring the system, make sure you have done the following:

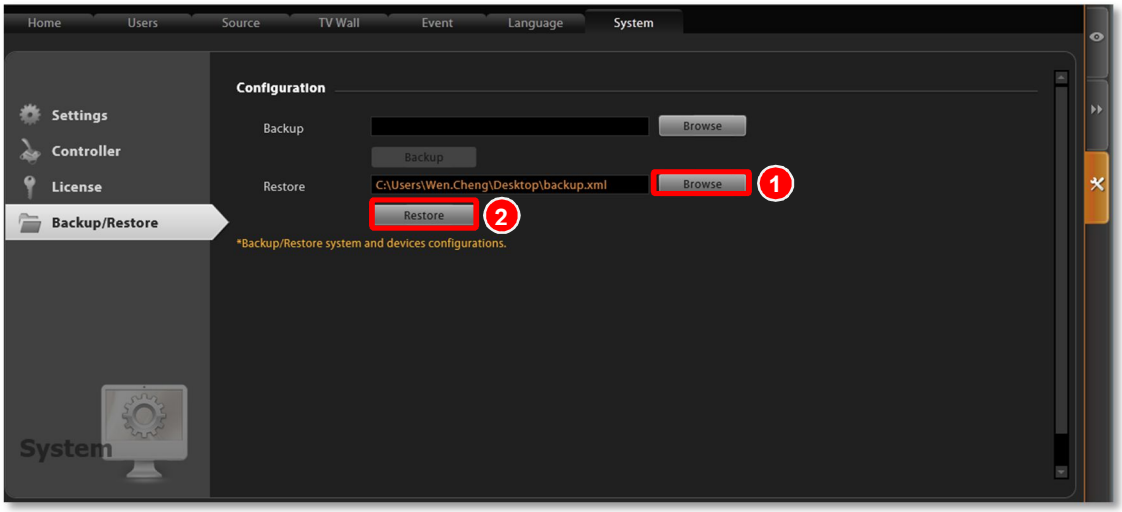
(1) Re-activate the license

The activation file(.lic) for offline activation, and follow the instructions How to Activate the Licenses on page 24 to activate your license. The license should be activated before settings are restored so that the licensed channels are ready for recovery.

(2) The backup file(.xml).

To start,

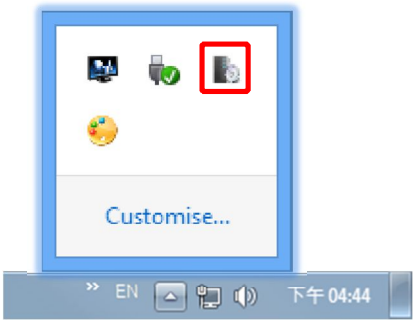
1. Go to **Setup** page →**System** tab→ **Backup / Restore**
2. In **Restore** section, Click "**Browse**" to select the backup file, and then click "**Restore**" to start restoring the settings.



3. The restoring process requires logging out of CMS server. After restoring is done, you may log in using your previous user account properties.

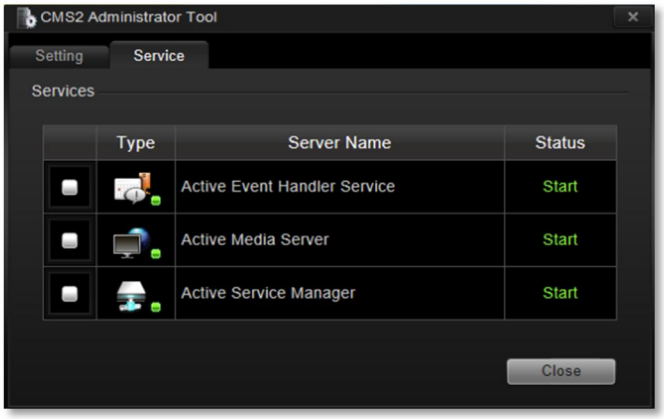
Advanced Administrative Tasks

To assist the CMS administrator in monitoring the server status and basic trouble-shooting, the **CMS2 Administrator Tool** is installed along with CMS server program on the server computer. This tool will start running as the server computer starts up, and resides in the system tray. You may double-click the icon to open this tool.



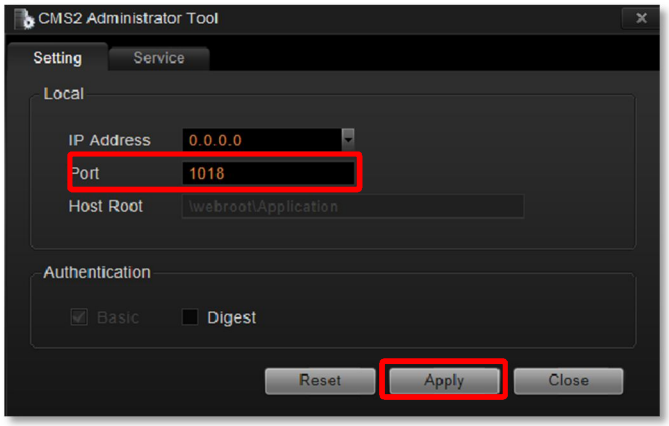
CMS Server Status

You may observe the CMS services status on **Service** tab.

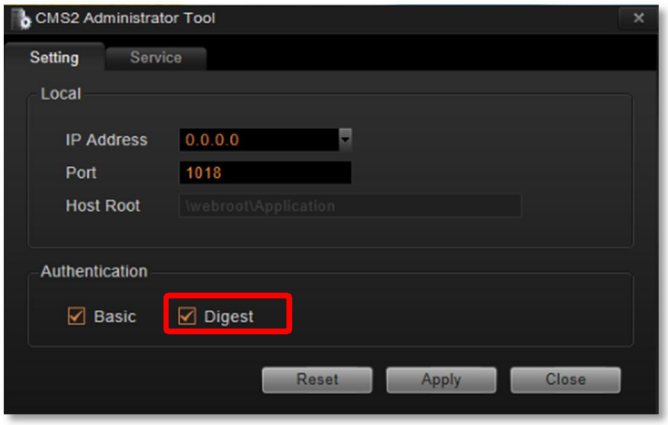


Change Server Port

On **Settings** tab, input a new port and then click "**Apply**".



Change Authentication Method

You may enable the **Digest** authentication other than the basic way. With this method, when logging in to CMS server, User's credentials are encrypted using MD5 algorithm. In this way, there is more secure protection to prevent from unauthorized access.

Please also note that, with **Digest** authentication method enabled, a mobile client user or a domain user will be blocked from CMS system.