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# 0.About Rapidvms

Rapidvms is a simple VMS and NVR, it support Winodws and Linux, and MacOS client.  
Rapidvms include RapidStor(server) and RapidClient(client)

# 1. Installing Software

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## Server Requirements

### Hardware Requirements

- Hardware decoding on Windows (H264 & H265)
  - Windows 10
- Hardware decoding on Linux (H264 & H265)
  - Intel Sandybridge, Ivybridge, Haswell, Broadwell, Skylake, Kaby Lake(HD Graphics)
  - Intel Baytrail, Braswell, Apollo Lake
- Hardware decoding on macOS 10.12(Only H264 support)

### Operating System Requirements

- CentOS 7: `sudo yum install nasm xorg-x11-server-devel zlib-devel gcc gcc-c++ perl-version libxcb libxcb-devel xcb-util xcb-util-devel xcb-util-* -devel libX11-devel libXrender-devel libXi-devel redhat-lsb-core libxslt-devel cmake libuuid-devel`
- Linux Ubuntu : `sudo apt-get install libx11-dev yasm libxext-dev libgl1-mesa-dev zlib1g-dev "^libxcb.*" libx11-xcb-dev libglu1-mesa-dev libxrender-dev libxi-dev`
- macOS 10.12

## Software Installation

<https://linkingvision.com/download/RapidVMS/> Download Page

The server and client is in one package.

## Server Software Start

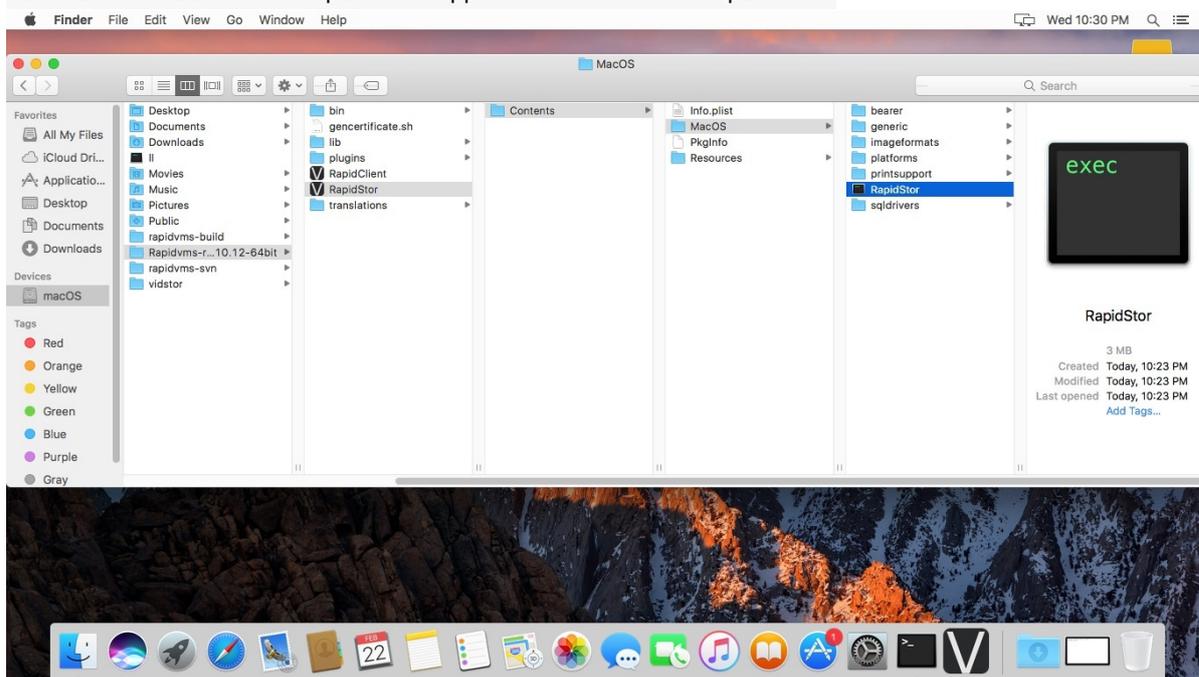
Windows you can direct start the RapidClient.exe and RapidStor.exe

Linux you should Start the RapidStor and RapidClient

- `./exportpath.sh`

## macOS

- In Finder click the RapidStor.app/Contents/MacOS/RapidStor



- In Finder click the RapidClient.app

## Default User

- Default user is **admin**
- Default password is **admin**

# Run RapidStor as service

## Windows

Please install vs2017 redistributable x86

[https://download.visualstudio.microsoft.com/download/pr/100349138/88b50ce70017bf10f2d56d60fcb6ab1/VC\\_redist.x86.exe](https://download.visualstudio.microsoft.com/download/pr/100349138/88b50ce70017bf10f2d56d60fcb6ab1/VC_redist.x86.exe)

x64

[https://download.visualstudio.microsoft.com/download/pr/11100230/15ccb3f02745c7b206ad10373cbca89b/VC\\_redist.x64.exe](https://download.visualstudio.microsoft.com/download/pr/11100230/15ccb3f02745c7b206ad10373cbca89b/VC_redist.x64.exe)

Run the `regservice.bat` and `unregservice.bat` for the RapidStor

## CentOS (CentOS 7)

1. Create an user for the desired service
2. Ensure the created user has full access to the binary you want to set up

3. Copy the `service/rapidvms-centos` to the `/etc/init.d/rapidvms`
4. Adjust the APPDIR in `/etc/init.d/rapidvms`
5. Make sure the script is marked as executable:  
`chmod +x /etc/init.d/rapidvms`
6. Enable the config in in runlevels 2, 3, 4, and 5:  
`chkconfig rapidvms on`
7. `service rapidvms start`

## Ubuntu

1. Create an user for the desired service
2. Ensure the created user has full access to the binary you want to set up
3. Copy the `service/rapidvms-ubuntu.conf` to the `/etc/init/rapidvms.conf`
4. Adjust the APPDIR in `/etc/init.d/rapidvms.conf`
5. `sudo start rapidvms`

## Debian(Include Ubuntu)

1. Create an user for the desired service
2. Ensure the created user has full access to the binary you want to set up
3. Copy the `service/rapidvms-debian` to the `/etc/init.d/rapidvms`
4. Adjust the APPDIR in `/etc/init.d/rapidvms`
5. Make sure the script is marked as executable:  
`chmod +x /etc/init.d/rapidvms`
6. Enable the daemon with:  
`update-rc.d rapidvms defaults`
7. `service rapidvms start`

## 2.Build From Source Code

### Windows

visual studio 2017 setup for 5.x. <https://linkingvision.com/rapidvms-vs2017>

## 3. Rapidvms Software Overview

### Client/Server Architecture

Rapidvms software is based on a client/server architecture, Rapidvms client can manage multiple Rapidvms Server, a Server also can be managed by multiple Client.

The Server name is RapidStor, the Client name is RapidClient

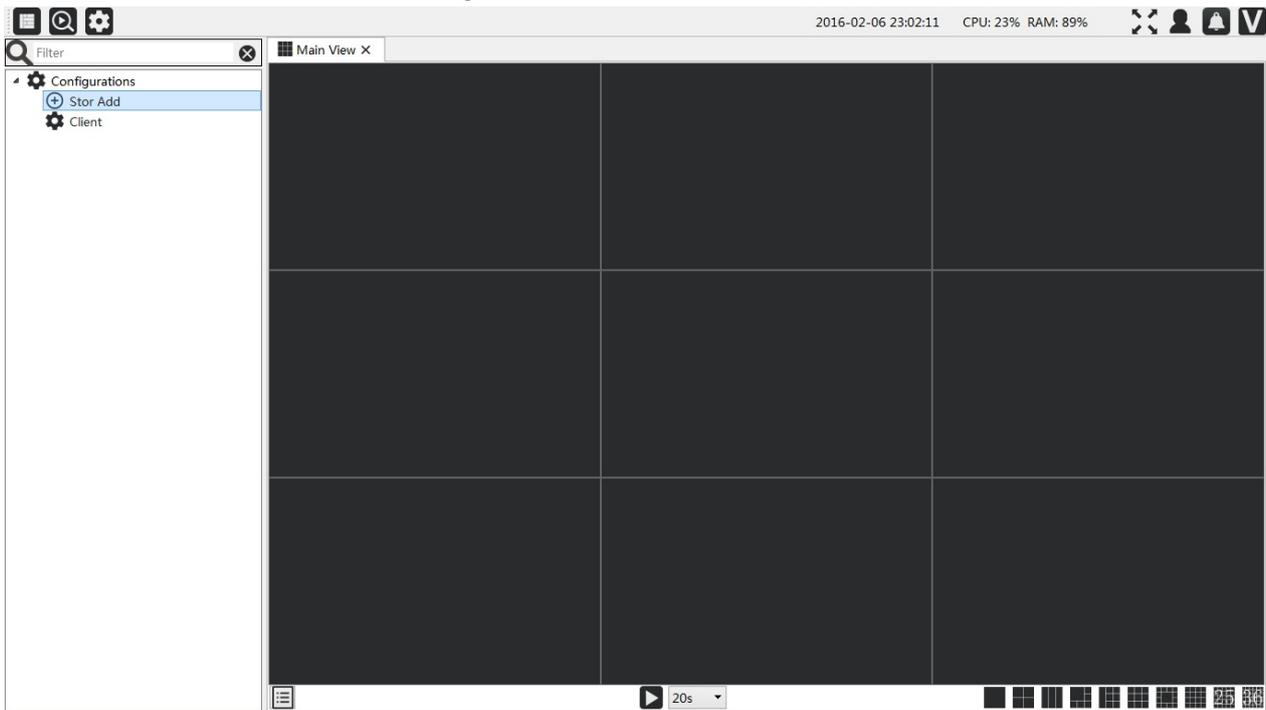
### Main pages

-  Live view
-  Playback and Search
-  Setting

## 4. Configuration overview

### Installing Software

Double Click the item in the Configurations tree.



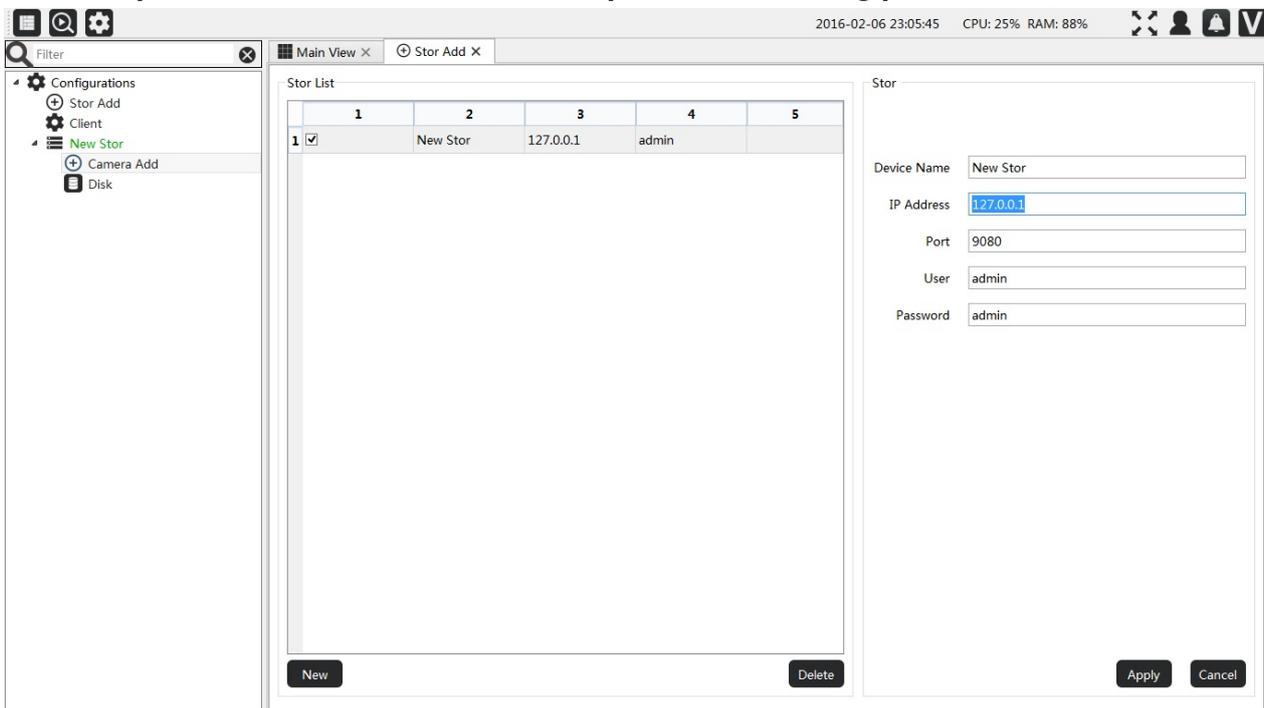
# Config Stor

Double Click the Stor add and New a stor, the IP address is the OpenCVRStor running host IP.

\*Notes:

**Make sure start the Stor, if the Stor is not started, the Stor node in the Configurations tree is gray.\***

***The Stor port is 9080, not 9100. The 9100 port is Stor debug port.***



The screenshot displays the 'Config Stor' interface. On the left, a navigation tree shows 'Configurations' expanded, with 'Stor Add' selected. The main area is divided into two panes. The left pane, titled 'Stor List', contains a table with the following data:

	1	2	3	4	5
1	<input checked="" type="checkbox"/>	New Stor	127.0.0.1	admin	

The right pane, titled 'Stor', contains a configuration form with the following fields:

- Device Name: New Stor
- IP Address: 127.0.0.1
- Port: 9080
- User: admin
- Password: admin

Buttons for 'New', 'Delete', 'Apply', and 'Cancel' are visible at the bottom of the interface.

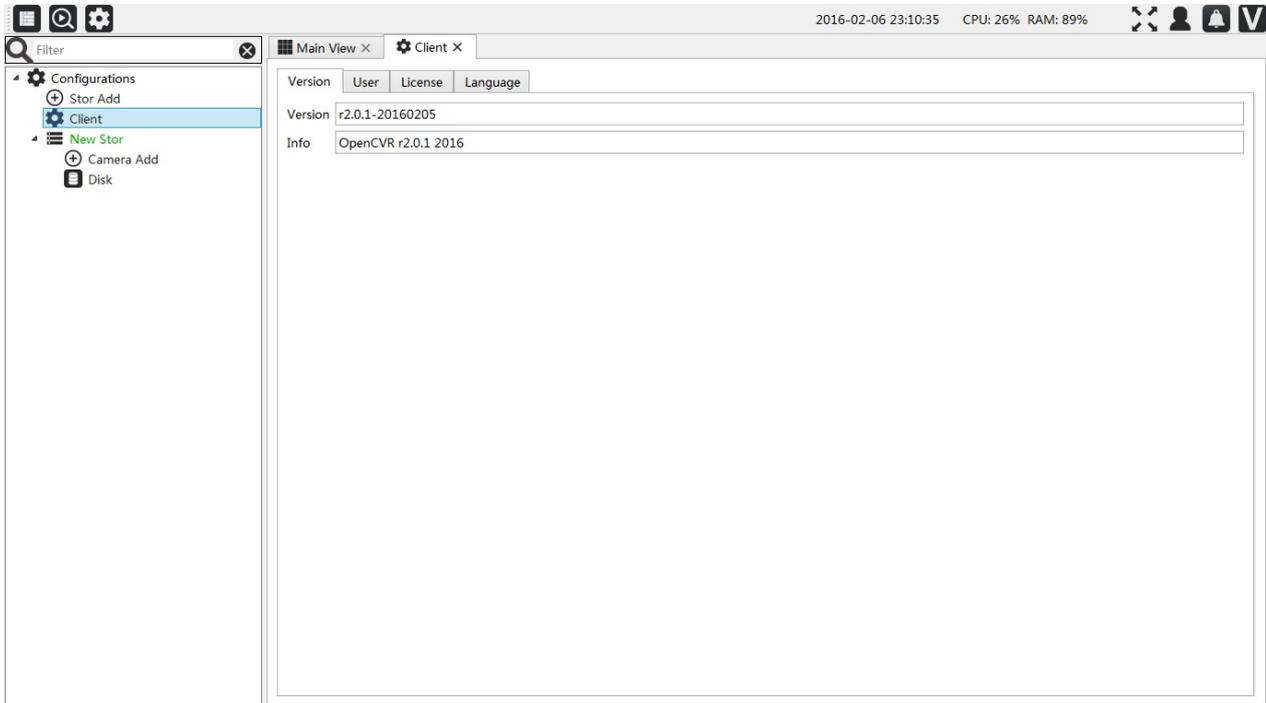
# Config Disk

Double Click the Disk, and then Select the disk you want to record video.

***Notes: If you want record Video, you first need Config the Disk.***

# Config Client

Double Click the Client node in the Configurations tree.

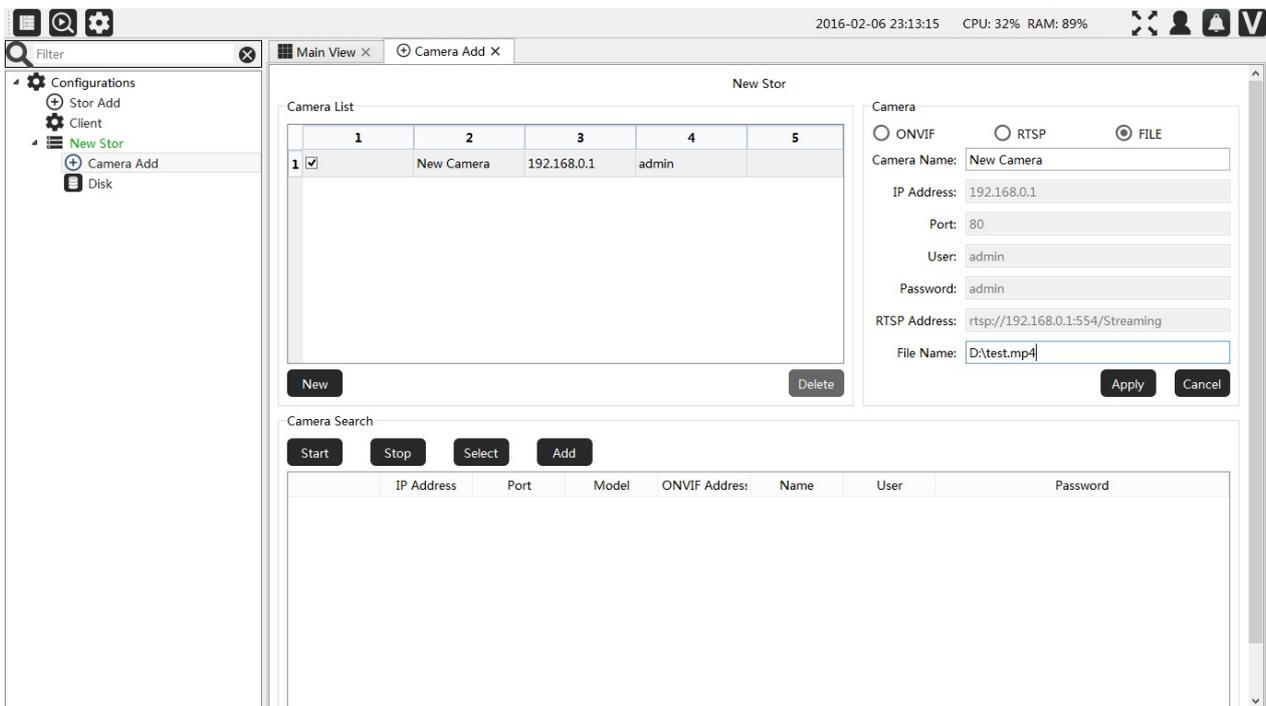


# Camera Config

## Camera add and delete

Double Click the Cam add and New a Cam.

- ONVIF: Input the IPaddress and port, user name & password.
- RTSP: Input the user and password and full rtsp URL.
- File: Input the full path of the File



## Camera Config

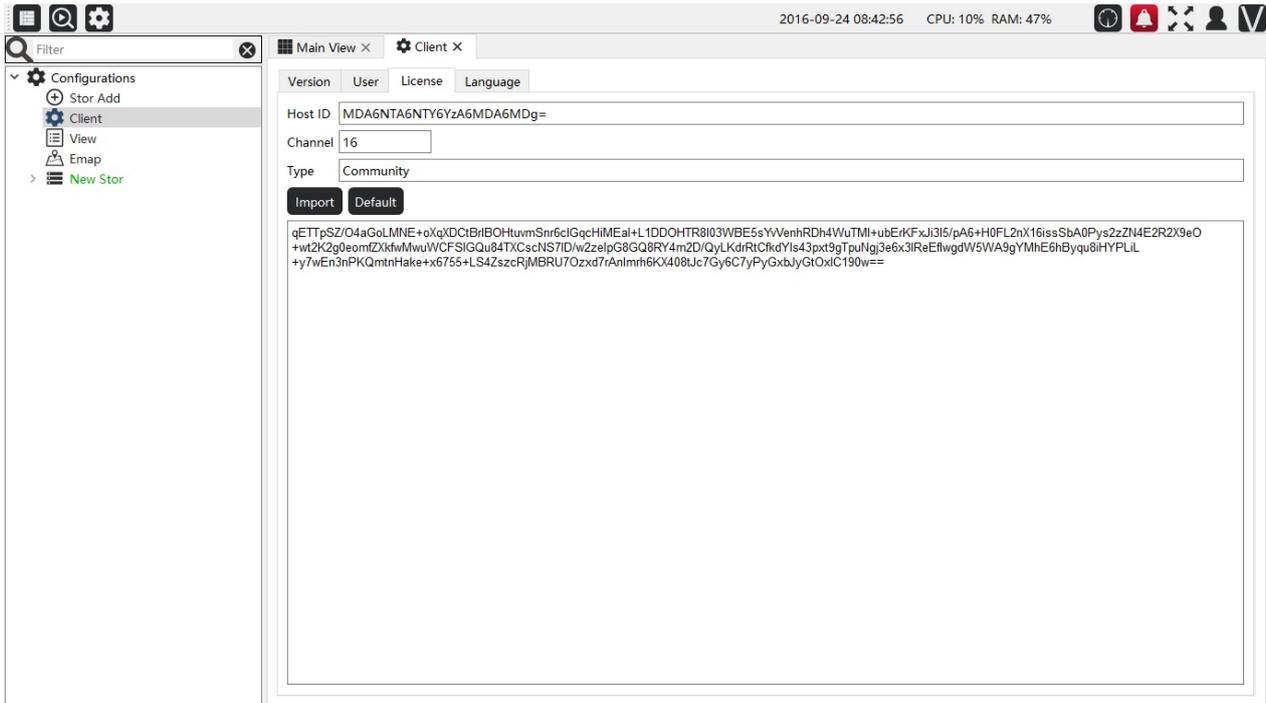
### Double Click the camera in the Camera add

The screenshot shows a web-based configuration interface for a camera system. At the top, there is a status bar with the date and time '2016-02-06 23:18:15', system resources 'CPU: 31% RAM: 89%', and several utility icons. The interface is divided into a left sidebar and a main content area. The sidebar, titled 'Filter', contains a tree view of configurations: 'Configurations' (expanded), 'Stor Add', 'Client', 'New Stor' (expanded), 'Camera Add' (expanded), 'New Camera' (selected), and 'Disk'. The main content area has two tabs: 'Main View' and 'Camera X'. The 'Camera X' tab is active, displaying a live video feed of a shopping mall corridor labeled 'New Stor'. Below the video feed, there are two tabs: 'Information' and 'Recording'. The 'Recording' tab is selected, showing configuration options for recording. There are three radio buttons: 'ONVIF', 'RTSP', and 'FILE', with 'FILE' selected. Below these are input fields for: 'Camera Name' (New Camera), 'IP Address' (192.168.0.1), 'Port' (80), 'RTSP Address' (rtsp://192.168.0.1:554/Streaming), and 'File Name' (D:\test.mp4).

# Config license

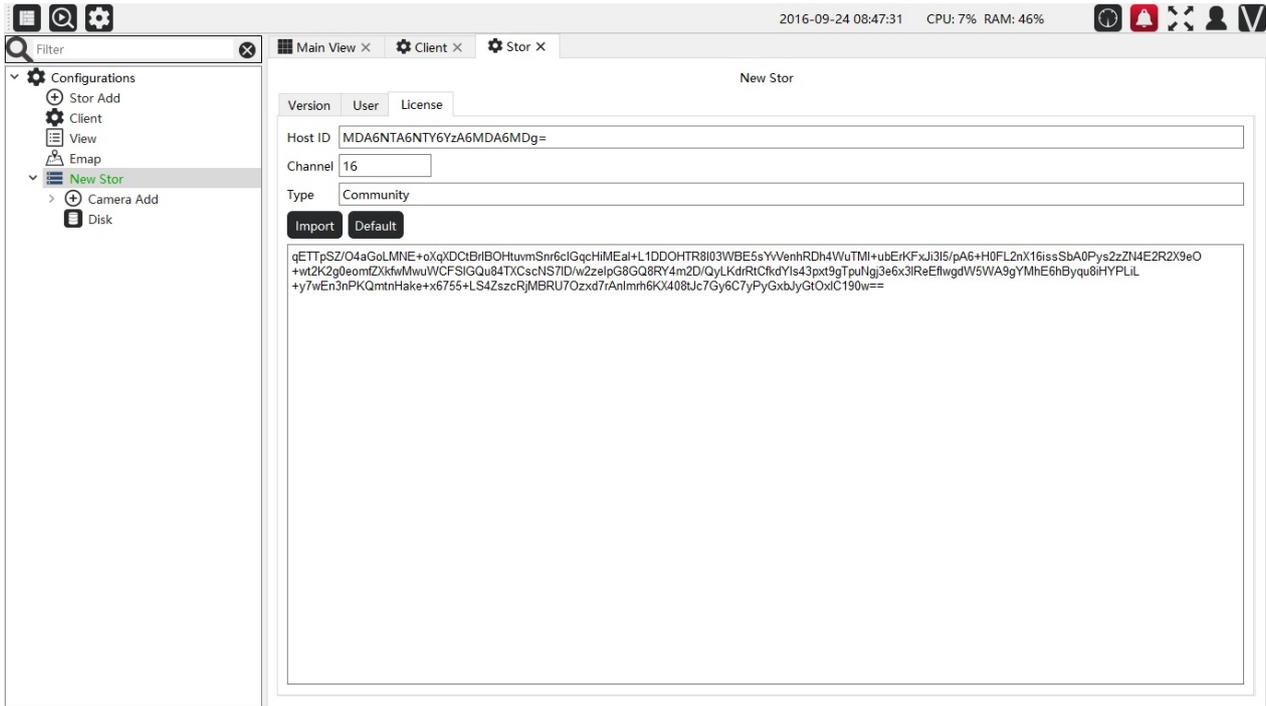
## Client license

Double Click the Client node in the Configurations tree, and click the license tab. And then import the lic file you have got.

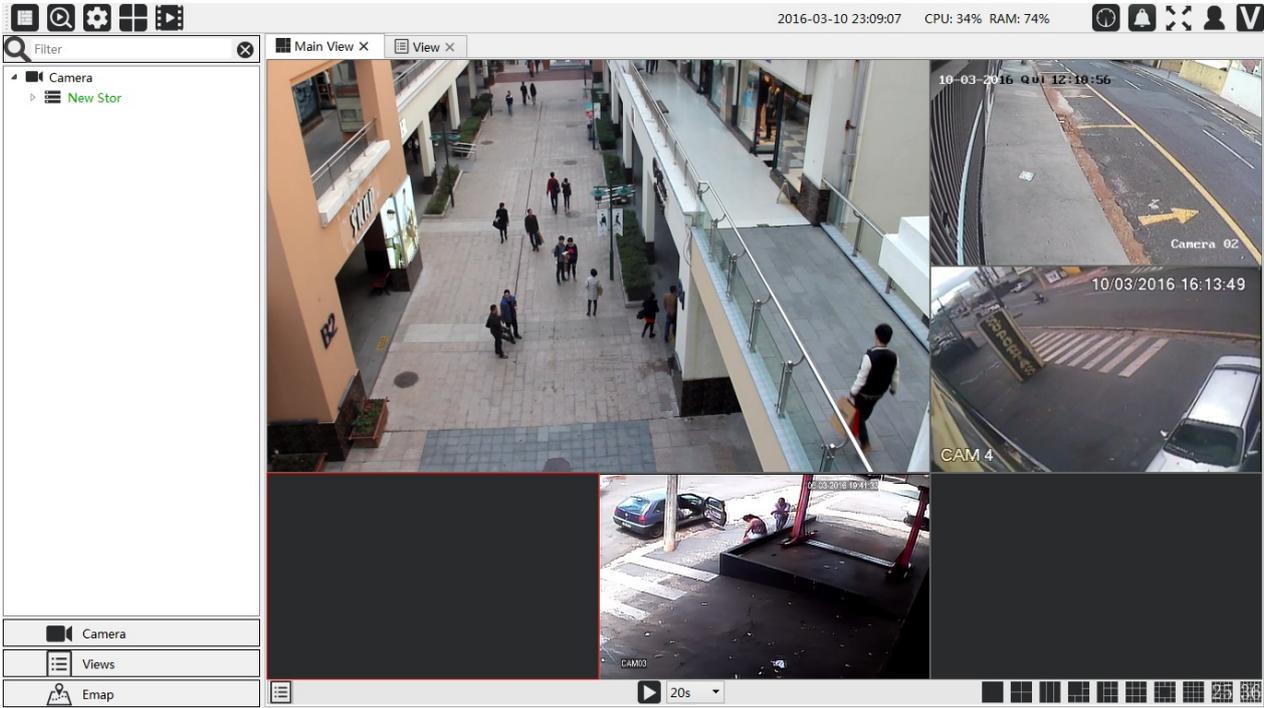


## Stor license

Double Click the Stor node in the Configurations tree, and click the license tab. And then import the lic file you have got.



# 5. LiveView



# View

## Add View

First drop the camera to the live view, Then Click the 

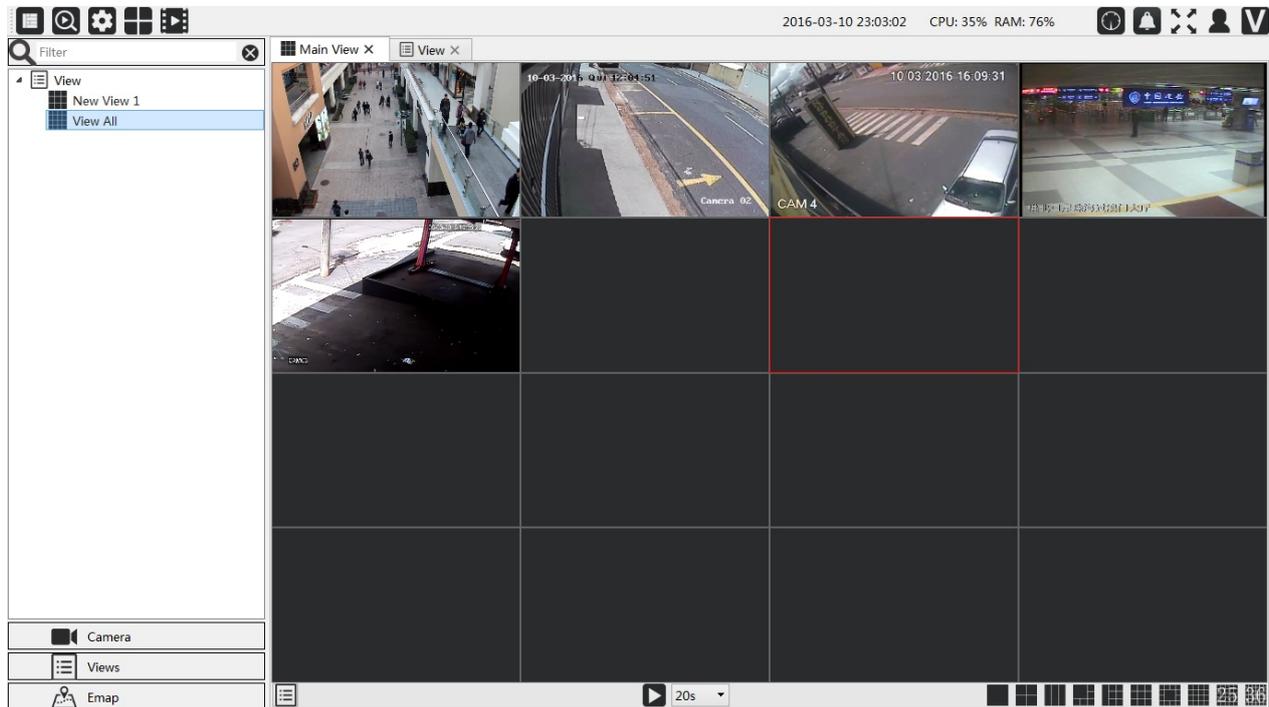
The layout will be saved.

## Delete View

Go to the Configuration page, then double click the view, then can delete view

## Apply View

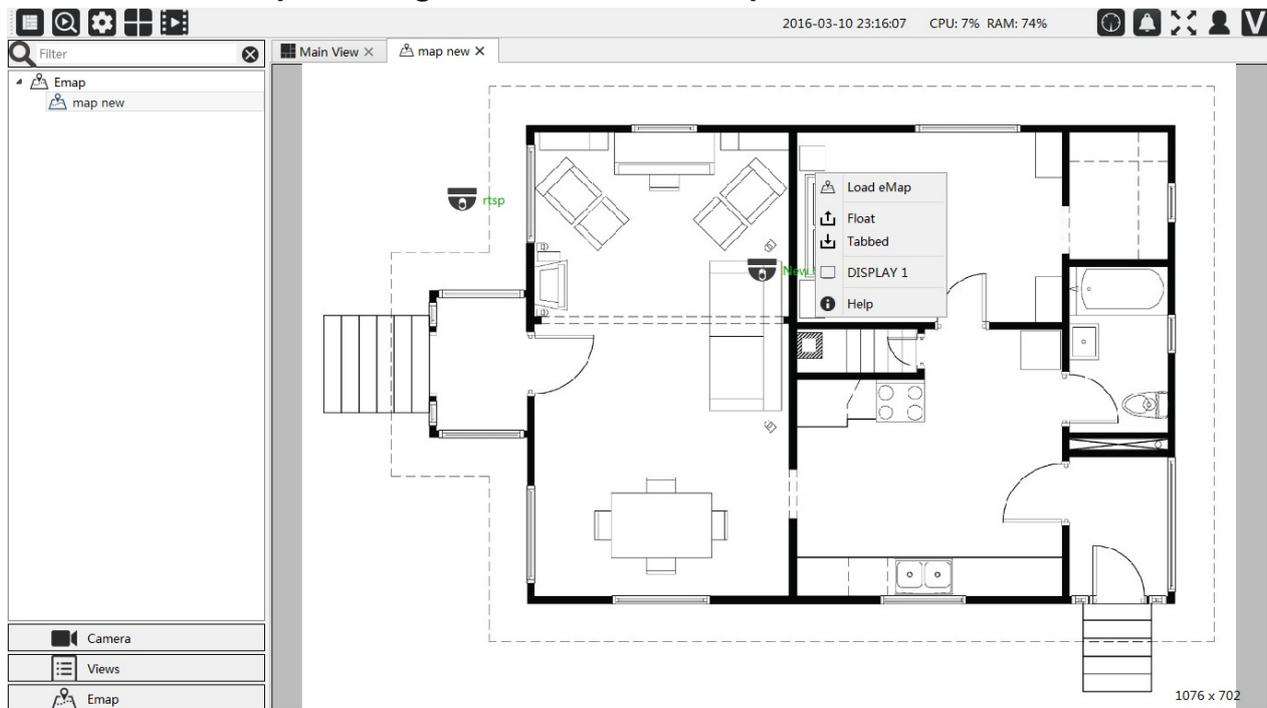
Drag or double click the view to apply the view



## 6. Emap

First add the Emap in the Configuration page. Then go to the double click the map.

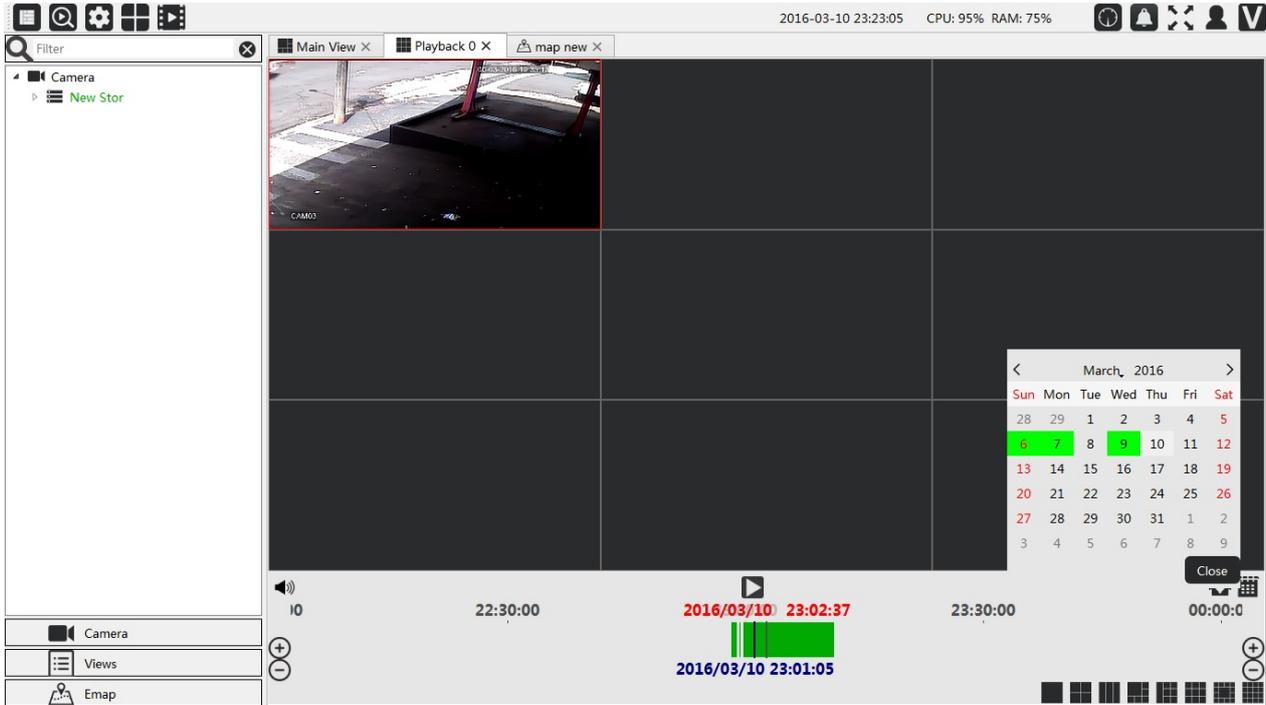
**Note: Load the map file, drag the camera to the map.**



# 7. Playback

Click the 

Right click on the live view, you can enter the single playback window.

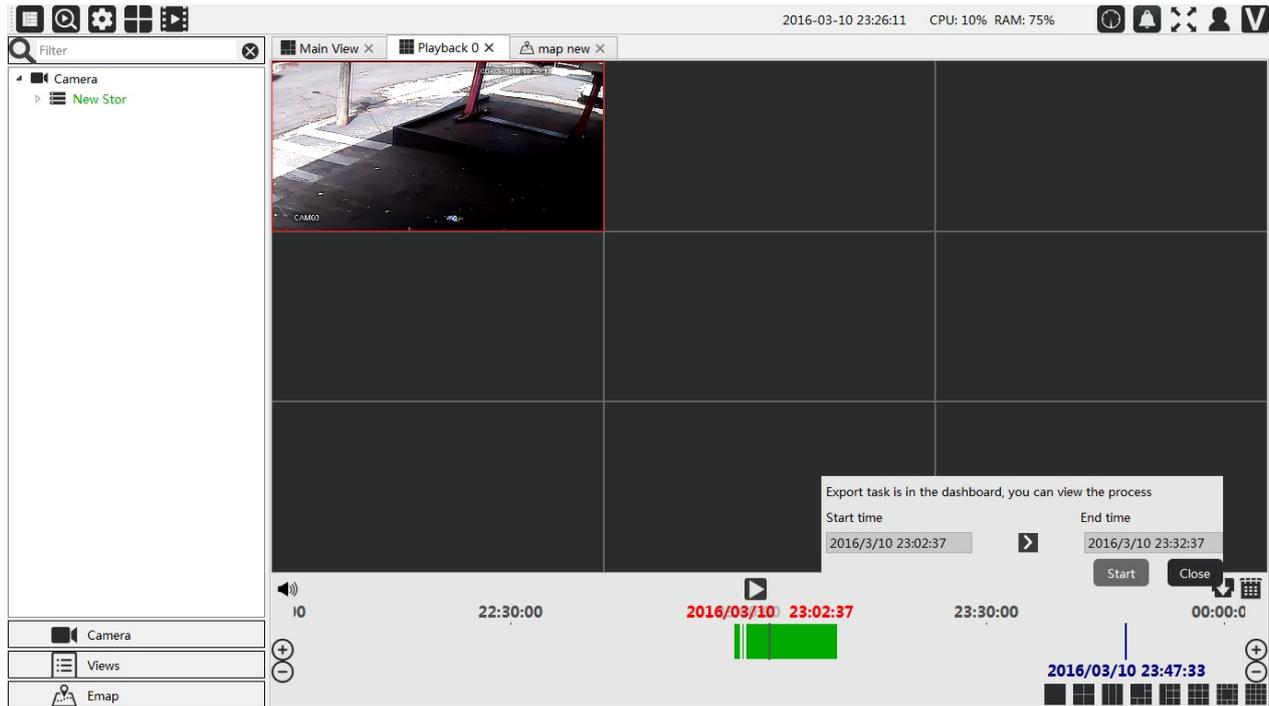


**Note:** You can drop the camera the playback view, the playback support the select the date that have view.

## 8.Export

Click the  in playback mode, you can export the video file to the c:\vidstor\export\video(Win32) or c:\vidstor64\export\video(Win64) or the ve/vidstor/export/video(Linux)

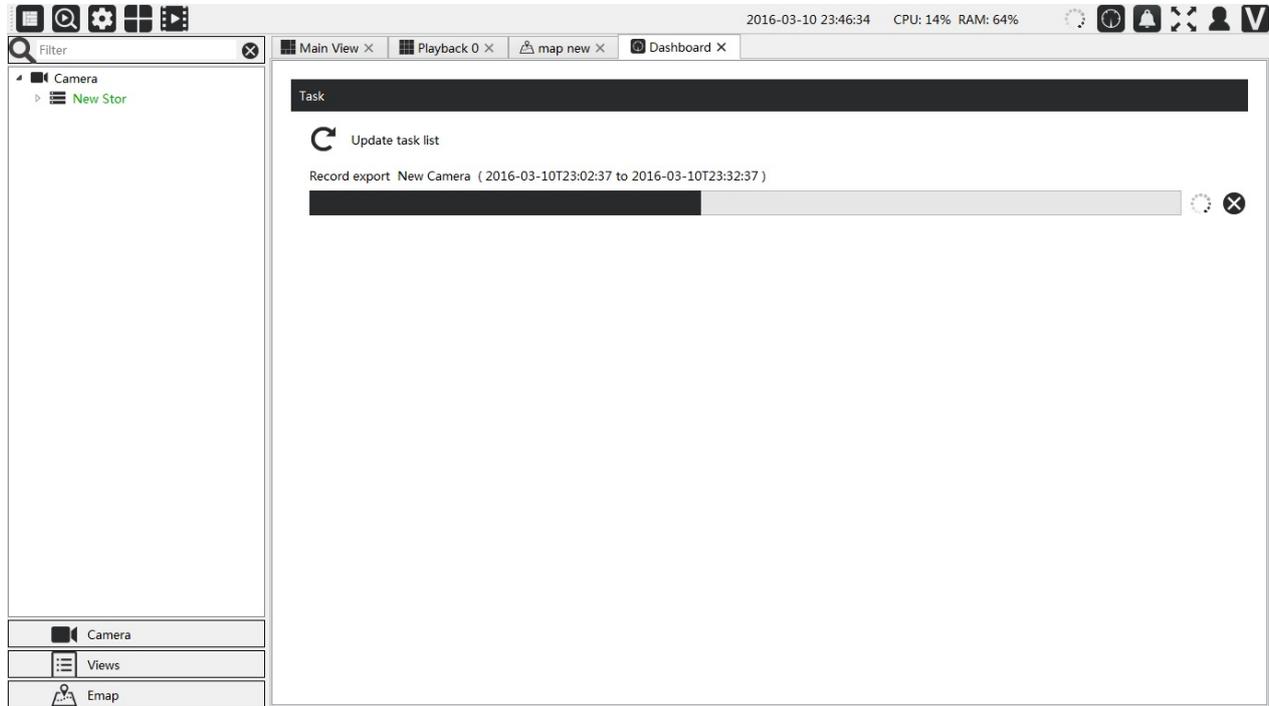
Use the VLC to play the mp4 file.Current only export H264 video.



Check the export status in the dashboard

# 9. Dashboard

Dashboard will show the current task such as the export.



## 10. Rapidvms API Guide

## 10.1 Link API

### Link API

Rapidvms support websocket based LinkAPI, and the API use protobuf as the framework, you readme about the API at

<https://github.com/linkingvision/rapidvms/blob/master/include/config/proto/linkproto.proto>

## 10.2 VAPI

### HTTP Restful API

Rapidvms support restful api, it support request by any browser(tested with chrome)

#### Get Device List

[http://\[ip\]:9080/vapi/GetCamList](http://[ip]:9080/vapi/GetCamList)

Example: <http://192.168.0.1:9080/vapi/GetCamList>

#### Get Stream Url(RTSP/RTMP/HLS)

[http://\[ip\]:9080/vapi/GetStreamUrl?Camera=xxxxxxx\(guid\)](http://[ip]:9080/vapi/GetStreamUrl?Camera=xxxxxxx(guid))

Example: <http://192.168.0.1:9080/vapi/GetStreamUrl?Camera=62dee750-d9b8-4c1f-9e5a-c47fdf5050b2>

#### Get Image

[http://\[ip\]:9081/vapi/GetImage?Camera=xxxxxxx\(guid\)&Width=xx&Height=xx](http://[ip]:9081/vapi/GetImage?Camera=xxxxxxx(guid)&Width=xx&Height=xx)

Example: <http://192.168.0.1:9081/vapi/GetImage?Camera=62dee750-d9b8-4c1f-9e5a-c47fdf5050b2&Width=720&Height=480>

Note: The Width and Height are optional.

## **10.3 Rapidvms Streaming Server**

**Rapidvms has a build in  
RTSP/RTMP/HLS/HTML5 server**

### **Live View**

Refer VAPI for the streaming Url.

# 11. Network

# 11.1 Port Summary

## 1.RapidStor

### Link API/VAPI/Webserver

HTTP 9080 & HTTPS 9443

### RTSP server

10554

### RTMP server

11935

### HLS server

HTTP 10080 & HTTPS 10443

### RapidStor Debug port

9100

## 2.RapidClient

### RapidClient Debug port

9200

## **11.2 Secure Protocol**

### **Link API/VAPI/Webserver over SSL**

HTTPS 9443

### **RTSP server over SSL**

10443

### **RTMP server over SSL**

10443

### **HLS server over SSL**

10443

## 12. Video Analysis

## 12.1. OpenCV based video analysis

OpenCV framework has been added to Rapidvms, and you can add yourself video analysis based on OpenCV. You can enable the `ALGO_FACE_DEBUG` in `vsmotalgoface.cpp`. the `imshow("FaceDetectAlgo", m_cvImage)` show `m_cvImage`, and then you can add video analysis based on OpenCV such as Face Detect.

## **12.2. Caffe deep learning with Network ONVIF Camera**