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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

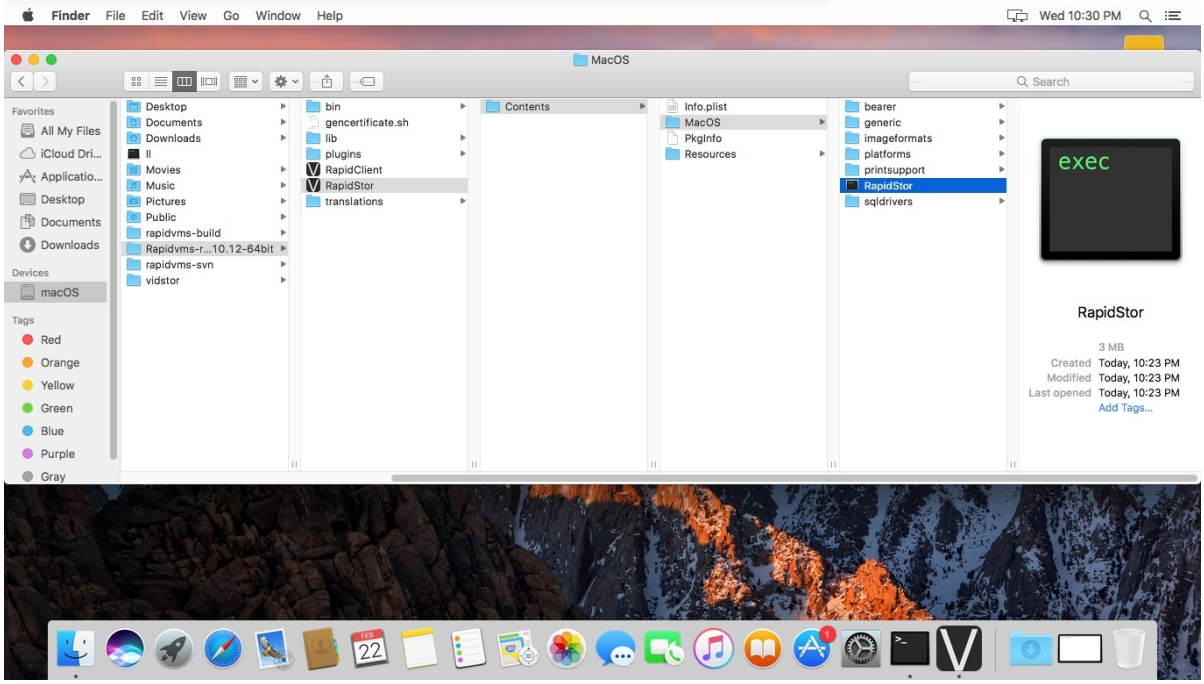
Windows you can direct start the RapidClient.exe and RapidStor.exe

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/100349138/88b50ce70017bf10f2d56d60fcba6ab1/VC_redist.x86.exe

x64
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 manged 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.

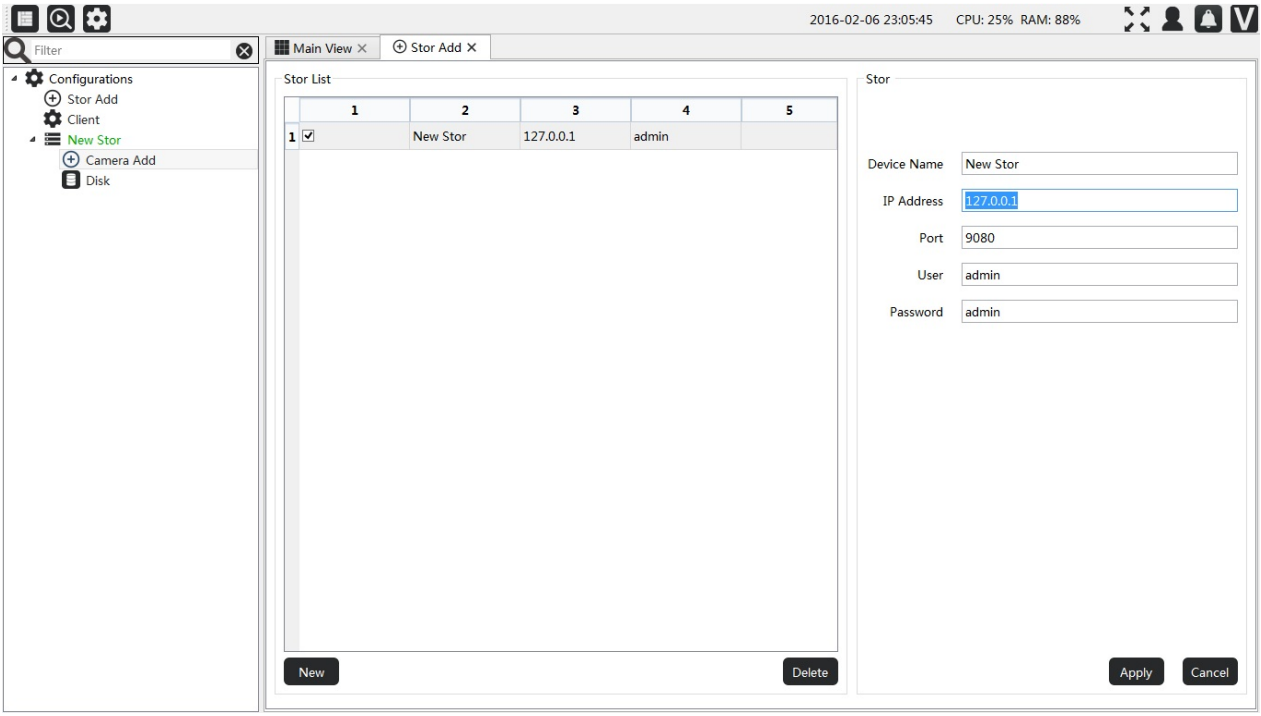
Config Stor

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.



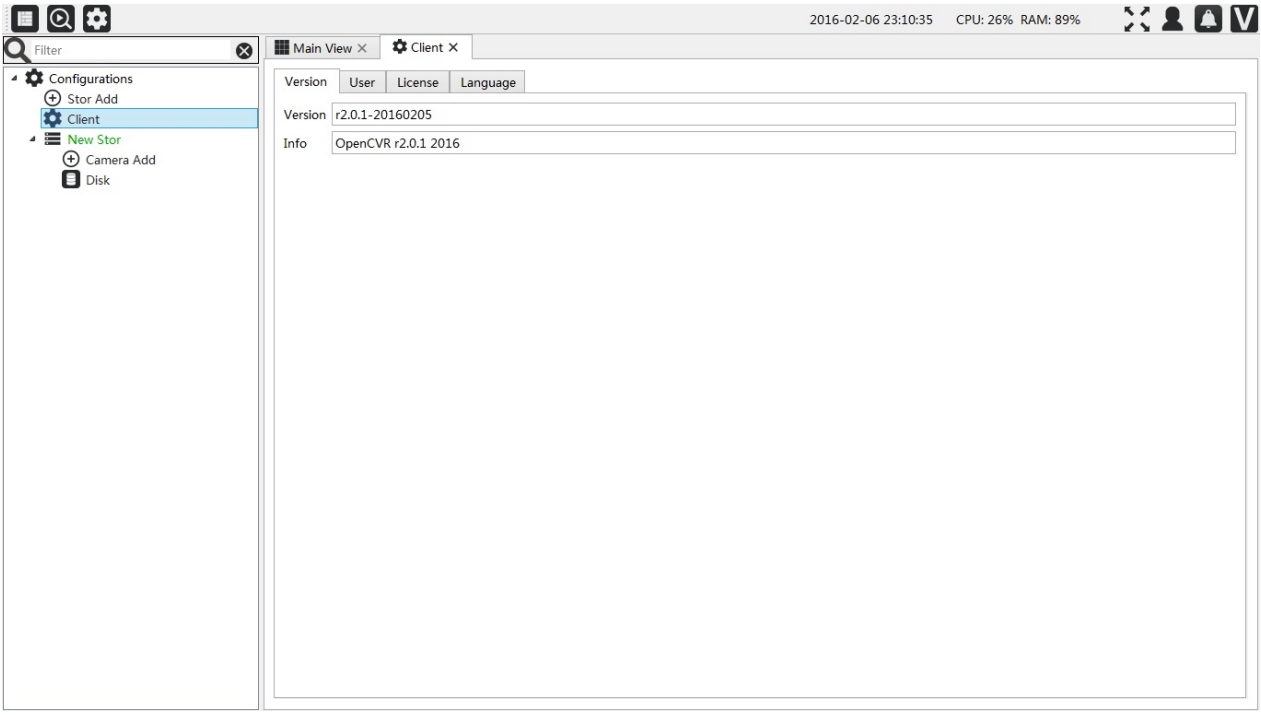
Config Disk

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.

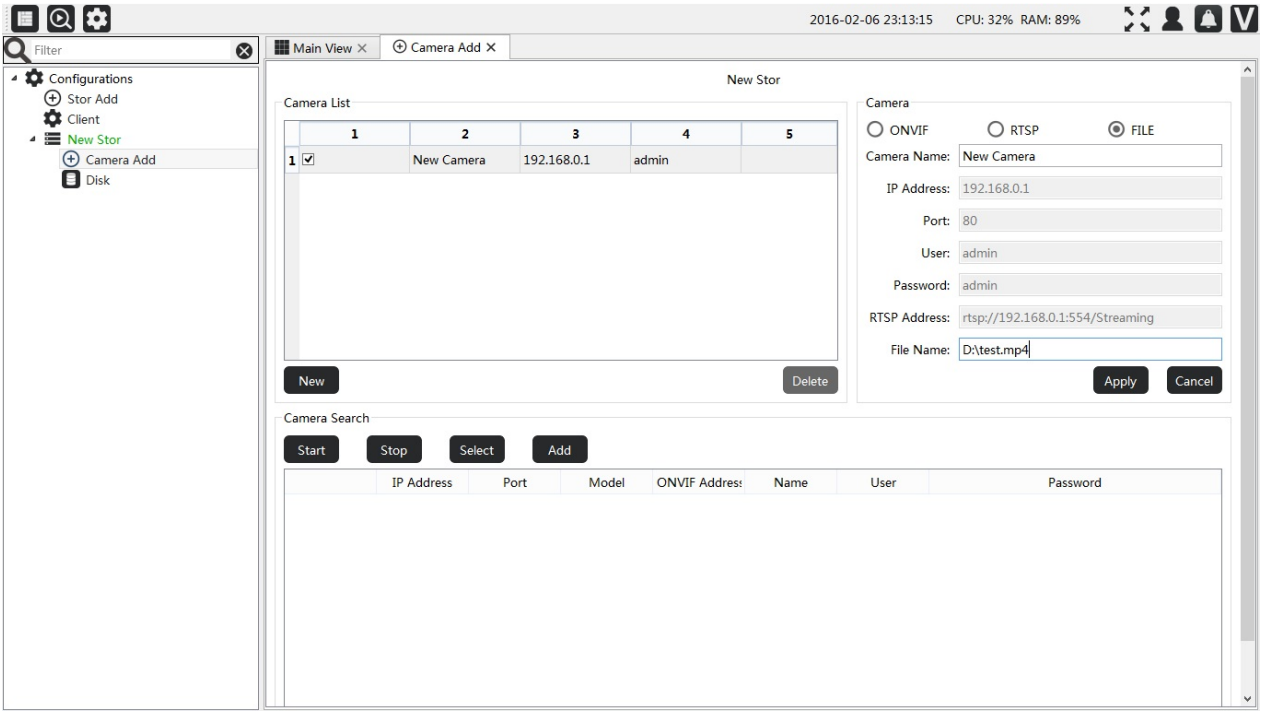


Camera Config

Camera add and delete

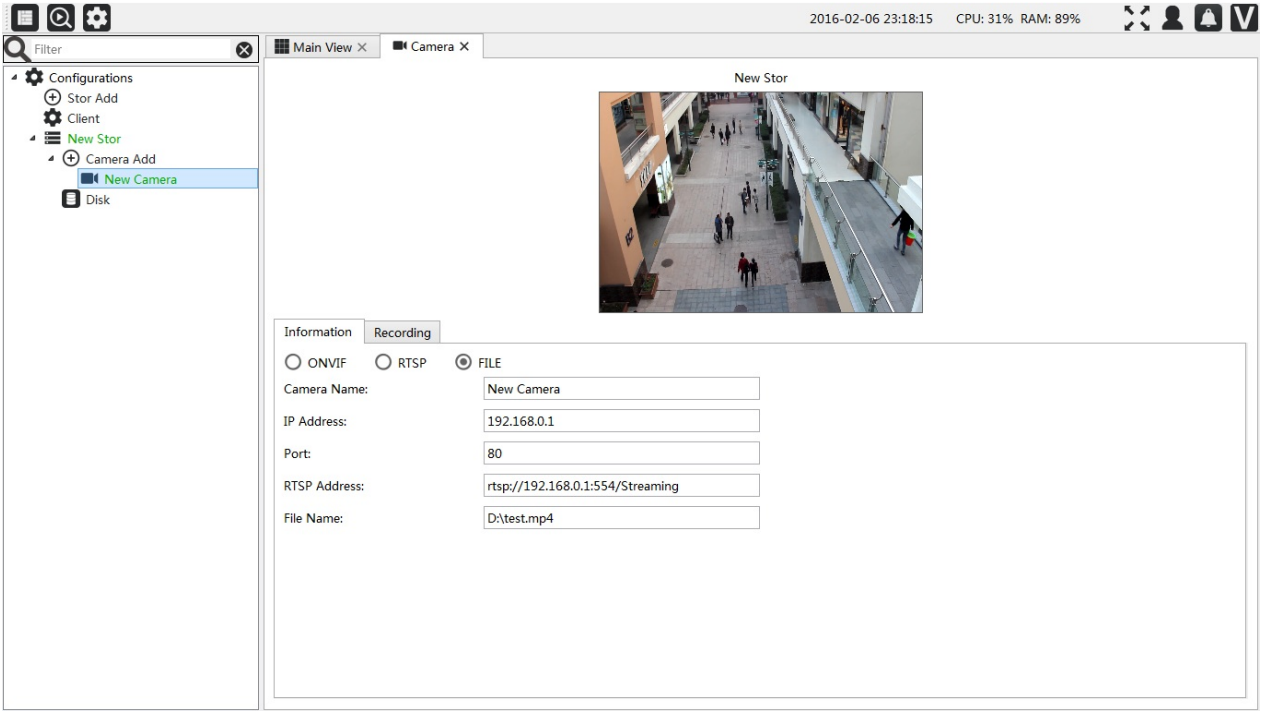
Double Click the Cam add and New a Cam.

- ONIVF: 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

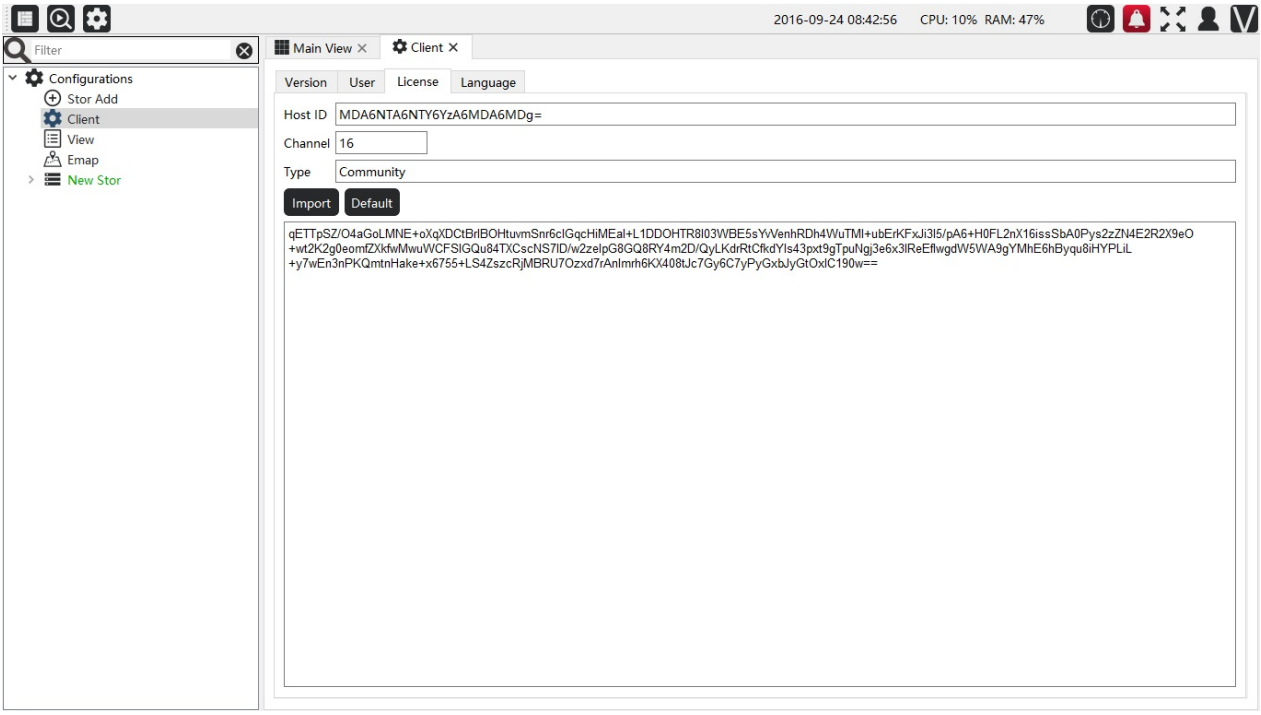
Double Click the camera in the Camera add



Config license

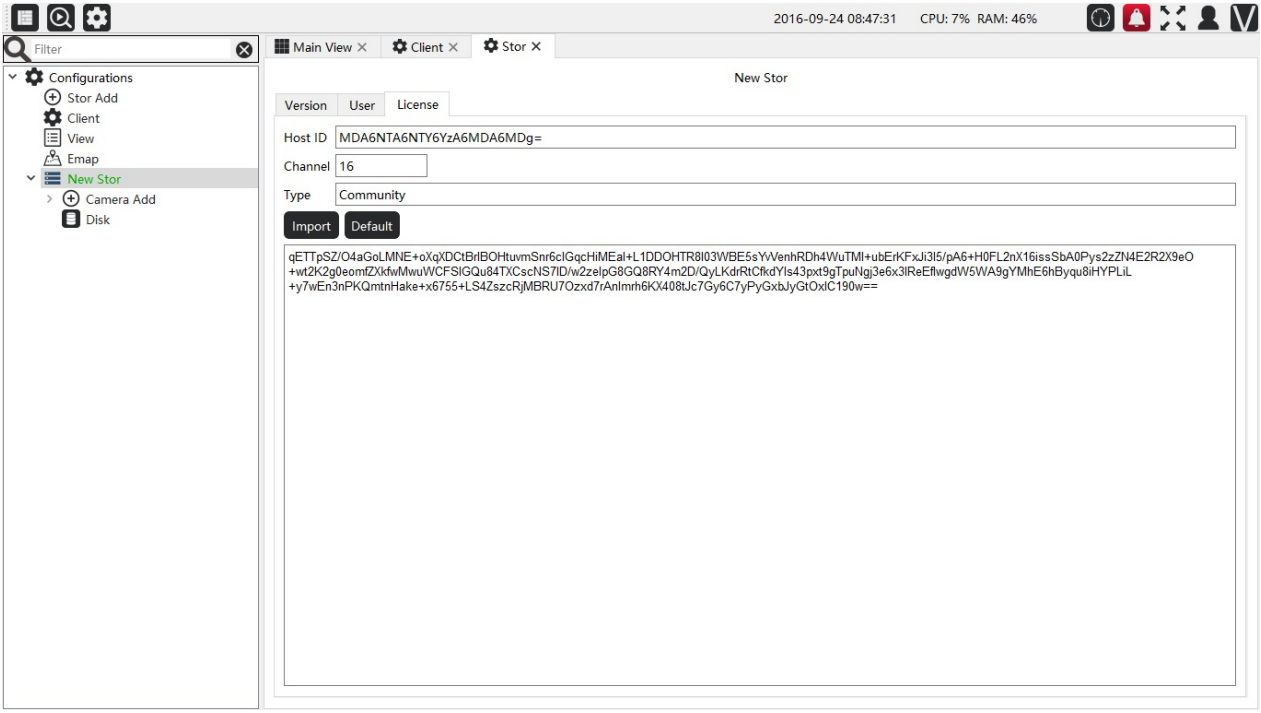
Client license

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

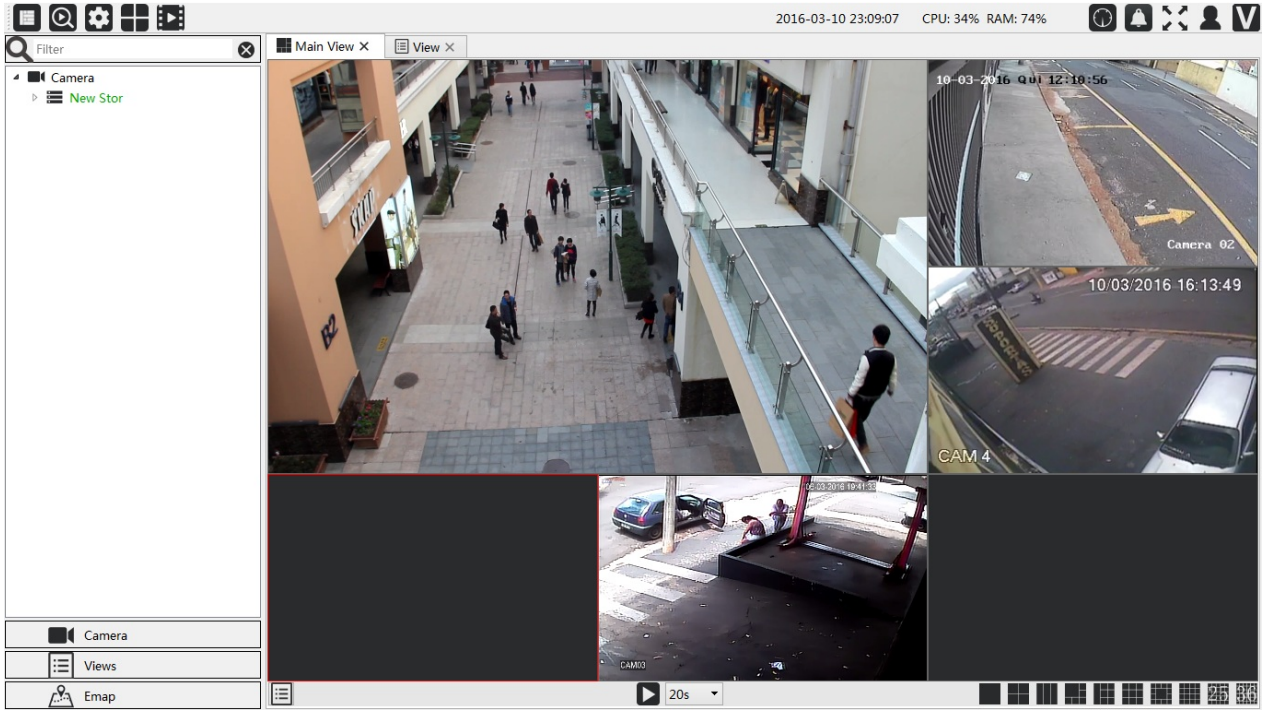


Stor license

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


2016-03-10 23:09:07
CPU: 34% RAM: 74%
Filter
Camera
New Stor
Main View
View
10-03-2016 Qui 12:10:56
Camera 02
10/03/2016 16:13:49
CAM 4
Camera
Views
Emap
20s

View

Add View

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

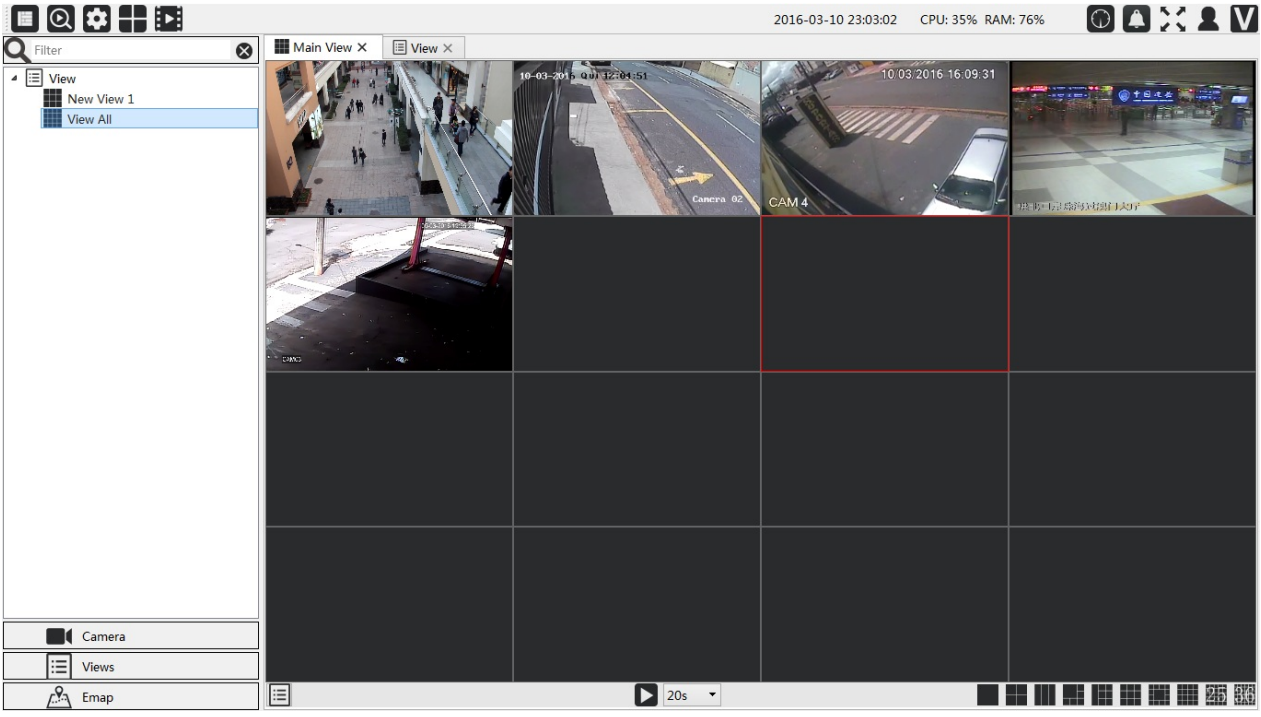
The layout will be saved.

Delete View

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

Apply View

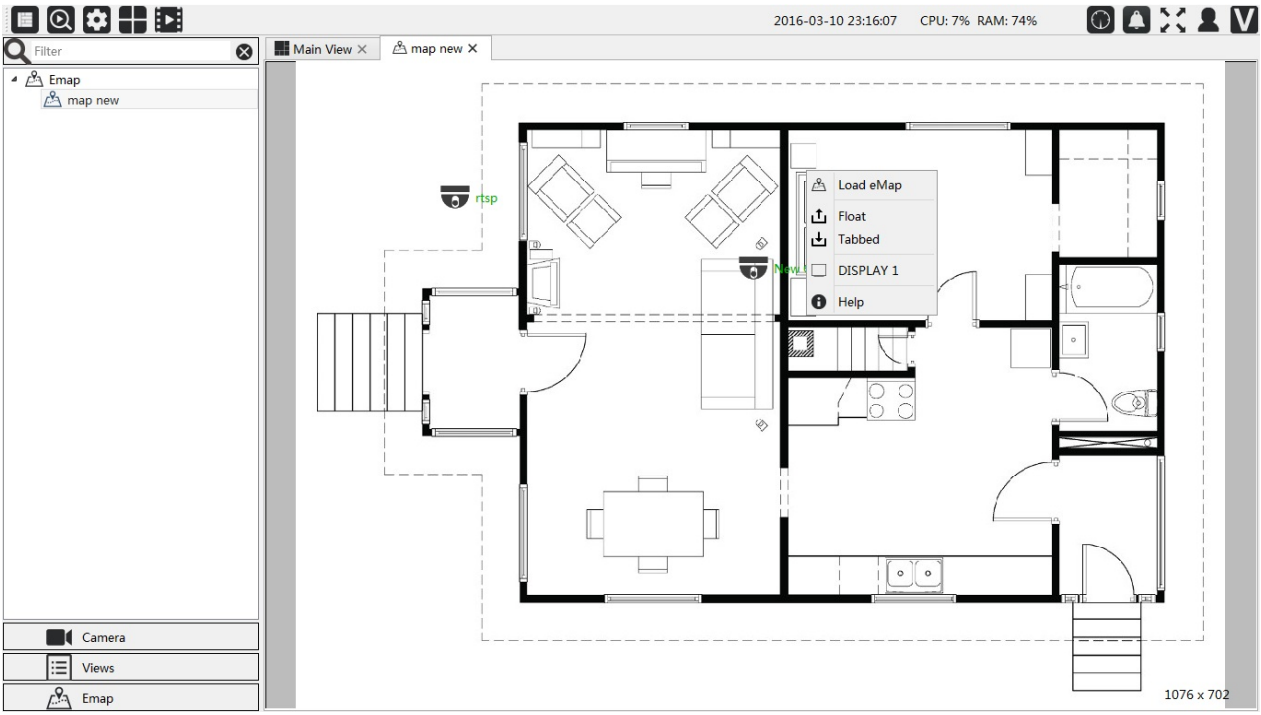
Drag or double click the view to apply the view



6. Emap

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

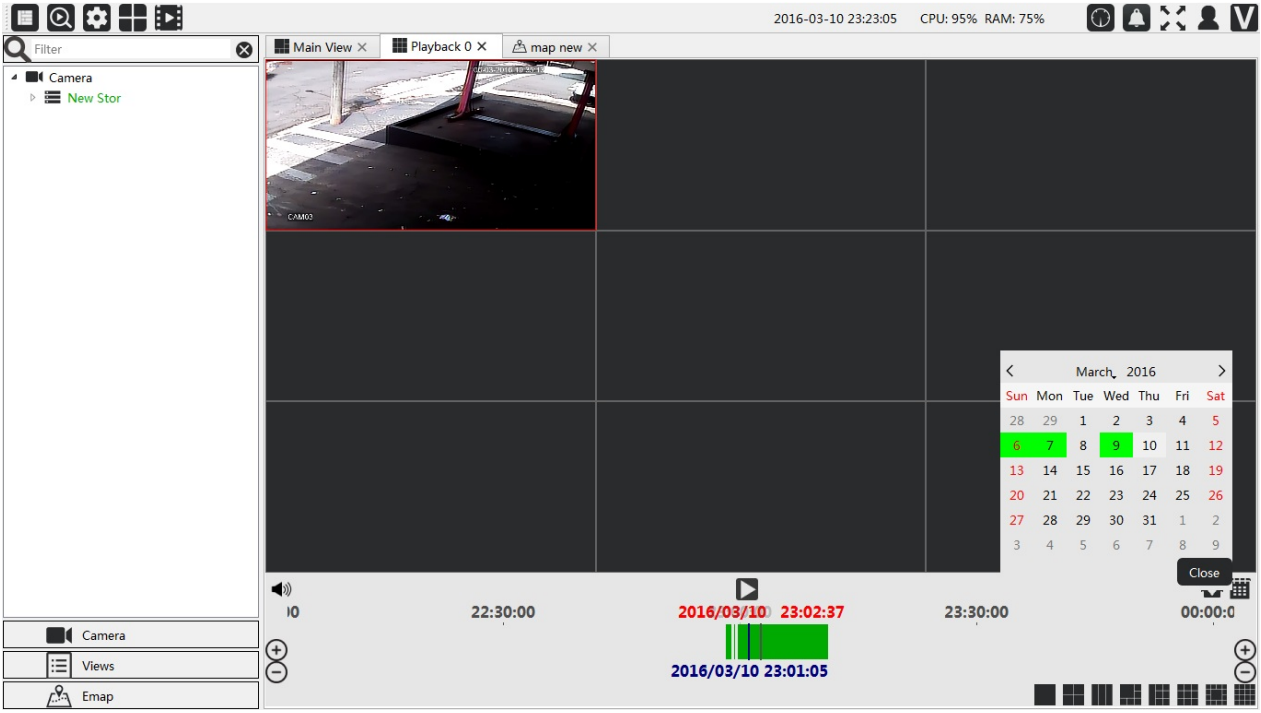
Note: Load the map file, drag the camera to the map.



7. Playback

Click the 

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

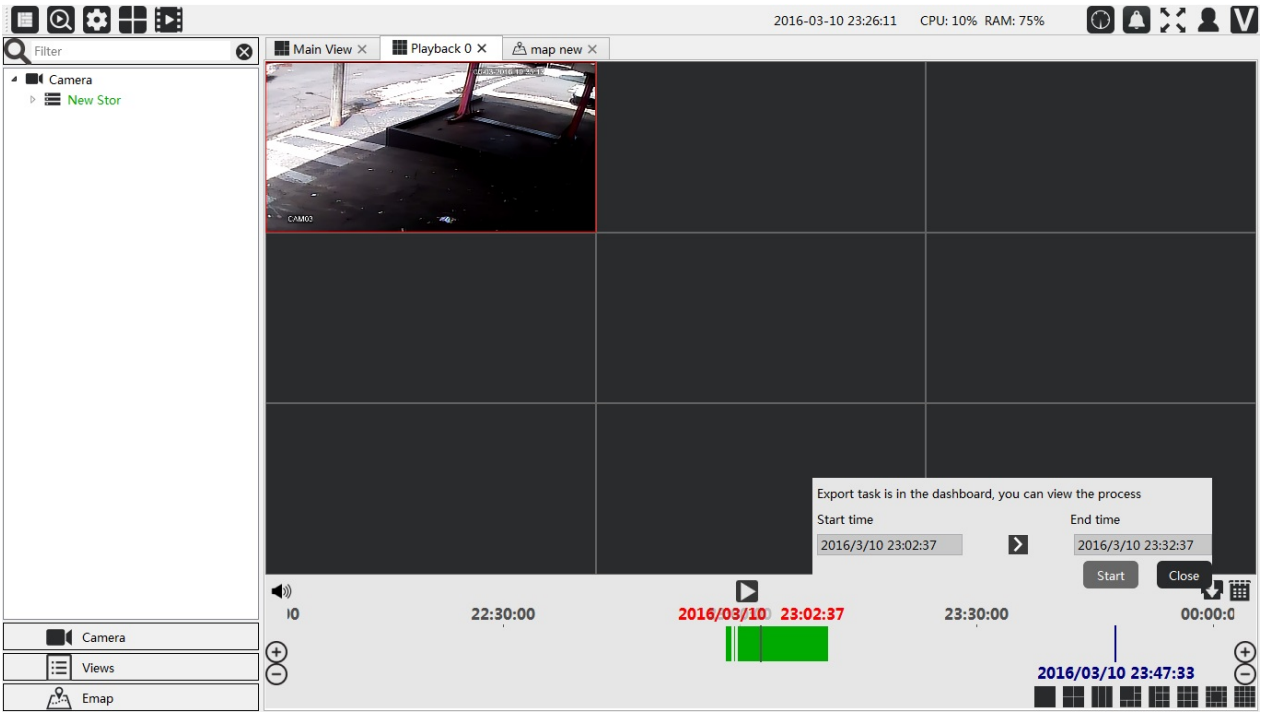


Note: You can drop the camera the playback view, the playback support the select the date that have view.

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)

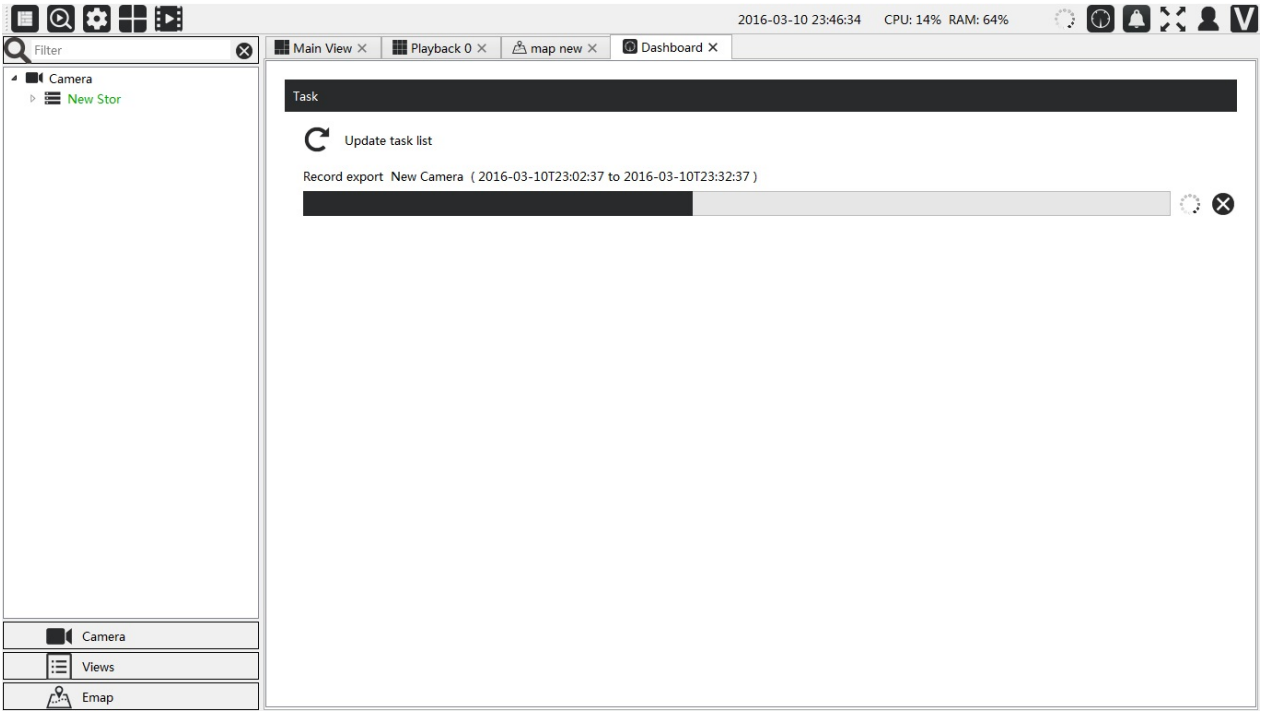
Use the VLC to play the mp4 file.Current only export H264 video.



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

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

Get Stream Url(RTSP/RTMP/HLS)

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

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

Get Image

http://[ip]:9081/vapi/GetImage?Camera=xxxxxxxx(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