The Issues

Currently there is no simple script for sys admin to play / record any live stream from ONVIF camera under Windows Platform.

Our Magic Solution

ONVIF scripting tools.

Its windows script specially written for query profile, playback live stream and record live stream from any ONVIF camera. handy tools for sys admin. :)

How it works

OMVIF scripting tools is windows script specially written for query profile, playback live stream and record live stream from any ONVIF camera. handy tools for sys admin. :)

the scripting tool allow sys admin to have unlimited ways of using ONVIF camera.

Example Sys admin juz need to purchase a few ONVIF cameras and install them in the server room.

There is no need to purchase any separate Video recorder.

All Sys Admin need is to juz schedule a video recording session via scheduled task on any video server.

Sys Admin can also purchase an ONVIF camera and mount it at the server room door entry

Sys admin can even perform a jpeg snapshot and record who is entering into the server room!!!

With the scripting tool, it open up unlimited and full potential using for ONVIF camera!!!

the scripting tools require the following library

1.)   FFmpeg

https://ffmpeg.zeranoe.com/builds/

download the static standalone exe (ffplay.exe & ffmpeg.exe) and place them on the folder will do.

2.) VLC player

https://www.videolan.org/vlc/download-windows.html

onvifQuery.vbs

onvifQuery.vbs allow user to query the profile of the ONVIF camera.

cscript /nologo   onvifQuery.vbs   camera_IP userID password

e.g

cscript /nologo   onvifQuery.vbs   195.60.68.239 operator Onv!f2018

```
Command Prompt                                                           —    □    ✕

D:\src\cpp\onvif\scripts> cscript /nologo  onvifQuery.vbs  195.60.68.239 operator Onv!f2018
Found 2 Profile(s).
 Profile 0 token: profile_1_h264 Name: profile_1_h264
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
 Profile 1 token: profile_1_jpeg Name: profile_1 jpeg
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast

D:\src\cpp\onvif\scripts>_
```

take note of the profile token

for the above example it's

 Profile 0 token: profile_1_h264 Name: profile_1_h264

   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast

Profile 1 token: <mark>profile_1_jpeg</mark> Name: profile_1 jpeg

Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast

onvifPlay.ffmpeg.vbs

onvifPlay.ffmpeg.vbs allow user to playback a live stream of a specific profile of the ONVIF camera using FFmpeg player.

cscript /nologo   onvifPlay.ffmpeg.vbs   camera_IP userID password profile_token

e.g

cscript /nologo   onvifPlay.ffmpeg.vbs   195.60.68.239 operator Onv!f2018 profile_1_h264

```
Command Prompt                                                      —   □   ✕

D:\src\cpp\onvif\scripts>cscript /nologo  onvifPlay.ffmpeg.vbs  195.60.68.239 operator Onv!f2018 profile_1_h264
Found 2 Profile(s).
 Profile 0 token: profile_1_h264 Name: profile_1_h264
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
   Token matched.
   Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unic
ast


lauching ffplay using D:\src\cpp\onvif\scripts\ffplay -rtsp_transport tcp -i "rtsp://operator:Onv!f2018@195.60.68.239/on
vif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast"

D:\src\cpp\onvif\scripts>
```

A DOS window and a video windows will pop up

```
D:\src\cpp\onvif\scripts\ffplay.exe

ffplay version 3.4.2 Copyright (c) 2003-2018 the FFmpeg developers
  built with gcc 7.3.0 (GCC)
  configuration: --enable-gpl --enable-version3 --enable-sdl2 --enable-bzlib --enable-fontconfig --enable-gnutls --enabl
e-iconv --enable-libass --enable-libbluray --enable-libfreetype --enable-libmp3lame --enable-libopencore-amrnb --enable-
libopencore-amrwb --enable-libopenjpeg --enable-libopus --enable-libshine --enable-libsnappy --enable-libsoxr --enable-l
ibtheora --enable-libtwolame --enable-libvpx --enable-libwavpack --enable-libwebp --enable-libx264 --enable-libx265 --en
able-libxml2 --enable-libzimg --enable-lzma --enable-zlib --enable-gmp --enable-libvidstab --enable-libvorbis --enable-l
ibvo-amrwbenc --enable-libmysofa --enable-libspeex --enable-libxvid --enable-libmfx --enable-cuda --enable-cuvid --enabl
e-d3d11va --enable-nvenc --enable-dxva2 --enable-avisynth
  libavutil      55. 78.100 / 55. 78.100
  libavcodec     57.107.100 / 57.107.100
  libavformat    57. 83.100 / 57. 83.100
  libavdevice    57. 10.100 / 57. 10.100
  libavfilter     6.107.100 /  6.107.100
  libswscale      4.  8.100 /  4.  8.100
  libswresample   2.  9.100 /  2.  9.100
  libpostproc    54.  7.100 / 54.  7.100
Input #0, rtsp, from 'rtsp://operator:Onv!f2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeou
t=60&streamtype=unicast':
  Metadata:
    title           : Session streamed with GStreamer
    comment         : rtsp-server
  Duration: N/A, start: 0.100011, bitrate: N/A
    Stream #0:0: Video: h264 (Main), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9], 30 tbr, 90k tbn, 180
k tbc
[swscaler @ 09d0fbe0] deprecated pixel format used, make sure you did set range correctly
  36.21 M-V:  0.020 fd=   0 aq=    0KB vq=  301KB sq=    0B f=0/0
```

onvifPlay.vlc.vbs

onvifPlay.vlc.vbs allow user to playback a live stream of a specific profile of the ONVIF camera using VLC player.

cscript /nologo   onvifPlay.vlc.vbs   camera_IP userID password profile token

e.g

cscript /nologo   onvifPlay.vlc.vbs   195.60.68.239 operator Onv!f2018 profile_1_h264

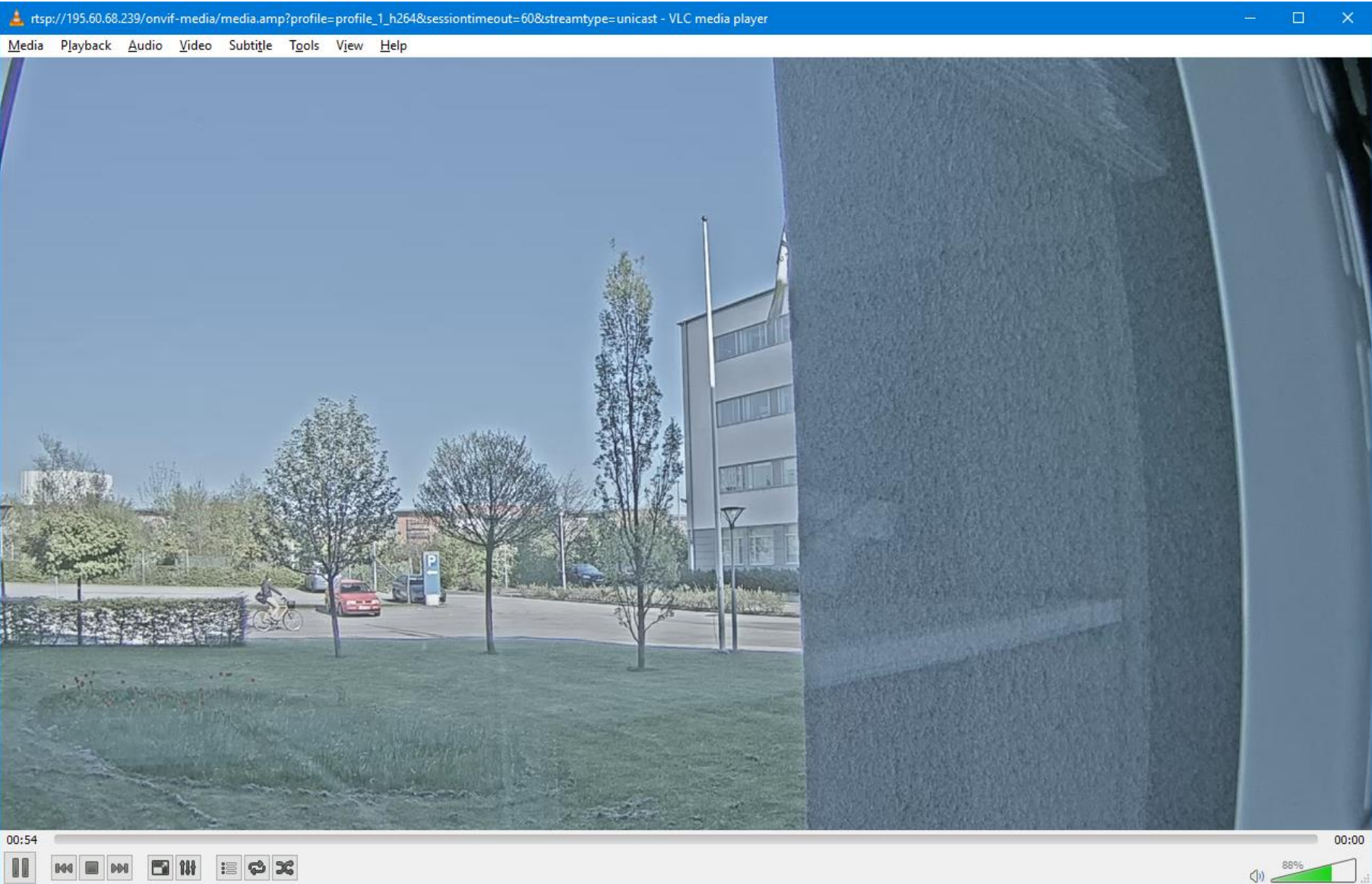```
Command Prompt   —   □   ✕

D:\src\cpp\onvif\scripts>cscript /nologo onvifPlay.vlc.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264
Found 2 Profile(s).
 Profile 0 token: profile_1_h264 Name: profile_1_h264
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
   Token matched.
   Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unic
ast

lauching ffplay using "D:\Program Files (x86)\VideoLAN\VLC\vlc.exe" "rtsp://operator:Onv!f2018@195.60.68.239/onvif-media
/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast"

D:\src\cpp\onvif\scripts>_
```

VLC player with the live stream window will pop up

00:54

00:00

88%

**onvifRec.ffmpeg.vbs**

onvifRec.ffmpeg.vbs allow user to record a live stream of a specific profile of the ONVIF camera using FFmpeg recorder (recording duration configurable).

cscript /nologo    onvifRec.ffmpeg.vbs    camera_IP userID password profile_token filename_to_save "-t HH:MM:SS"

e.g to record 30 sec video file

cscript /nologo    onvifRec.ffmpeg.vbs    195.60.68.239 operator Onv!f2018 profile_1_h264 output.mp4 "-t 00:00:30"

```
Command Prompt   — □ ✕

D:\src\cpp\onvif\scripts>cscript /nologo onvifRec.ffmpeg.vbs 195.60.68.239 operator Onv!f2018 profile_1_h264 output.mp
4 "-t 00:00:30"
Found 2 Profile(s).
 Profile 0 token: profile_1_h264 Name: profile_1_h264
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
   Token matched.
   Using the stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unic
ast

lauching ffmepg using D:\src\cpp\onvif\scripts\ffmpeg -y -rtsp_transport tcp -t 00:00:30 -i "rtsp://operator:Onv!f2018@1
95.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast" -acodec copy -vcodec cop
y D:\src\cpp\onvif\scripts/output.mp4

D:\src\cpp\onvif\scripts>_
```

A DOS window will pop up and disappear after 30sec (recording duration)

```
D:\src\cpp\onvif\scripts\ffmpeg.exe                                          —    □    ✕

  libavfilter      7. 13.100 /  7. 13.100
  libswscale       5.  0.102 /  5.  0.102
  libswresample    3.  0.101 /  3.  0.101
  libpostproc     55.  0.100 / 55.  0.100
Input #0, rtsp, from 'rtsp://operator:Onv!f2018@195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeou
t=60&streamtype=unicast':
  Metadata:
    title           : Session streamed with GStreamer
    comment         : rtsp-server
  Duration: N/A, start: 0.099989, bitrate: N/A
    Stream #0:0: Video: h264 (Main), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9], 30 tbr, 90k tbn, 180
k tbc
Output #0, mp4, to 'D:\src\cpp\onvif\scripts/output.mp4':
  Metadata:
    title           : Session streamed with GStreamer
    comment         : rtsp-server
    encoder         : Lavf58.10.100
    Stream #0:0: Video: h264 (Main) (avc1 / 0x31637661), yuvj420p(pc, bt709, progressive), 1280x720 [SAR 1:1 DAR 16:9],
q=2-31, 30 tbr, 90k tbn, 90k tbc
Stream mapping:
  Stream #0:0 -> #0:0 (copy)
Press [q] to stop, [?] for help
[mp4 @ 0000029d8567f6c0] Timestamps are unset in a packet for stream 0. This is deprecated and will stop working in the
future. Fix your code to set the timestamps properly
[mp4 @ 0000029d8567f6c0] Non-monotonous DTS in output stream 0:0; previous: 0, current: 0; changing to 1. This may resul
t in incorrect timestamps in the output file.
frame=  332 fps= 14 q=-1.0 size=    3840kB time=00:00:25.36 bitrate=1240.1kbits/s speed=1.08x
```

and the file will be save to output.mp4.
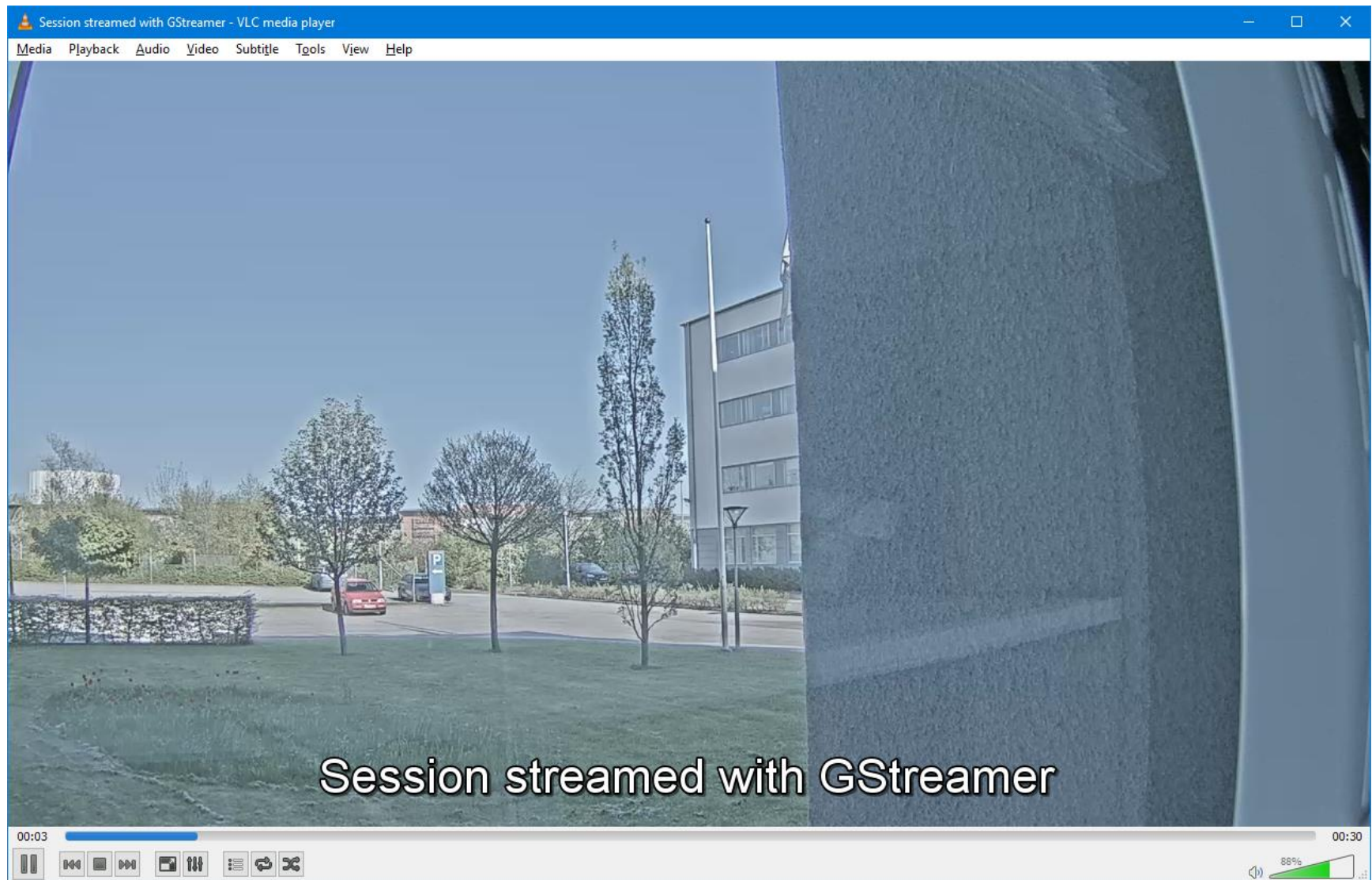
to continuously recording use "-t 00:00:00"

Real live DOS Batch File examples using scripting tools

AllCamerasPlay.ffmpeg.bat or AllCamerasPlay.vlc.bat

AllCamerasPlay.ffmpeg.bat / AllCamerasPlay.vlc.bat is a batch file that play back all live stream of all the profile of the test ONVIF cameras (IP Camera Logins - Sheet1.csv) using FFmpeg or VLC player.

AllCamerasPlay.ffmpeg.bat or AllCamerasPlay.vlc.bat
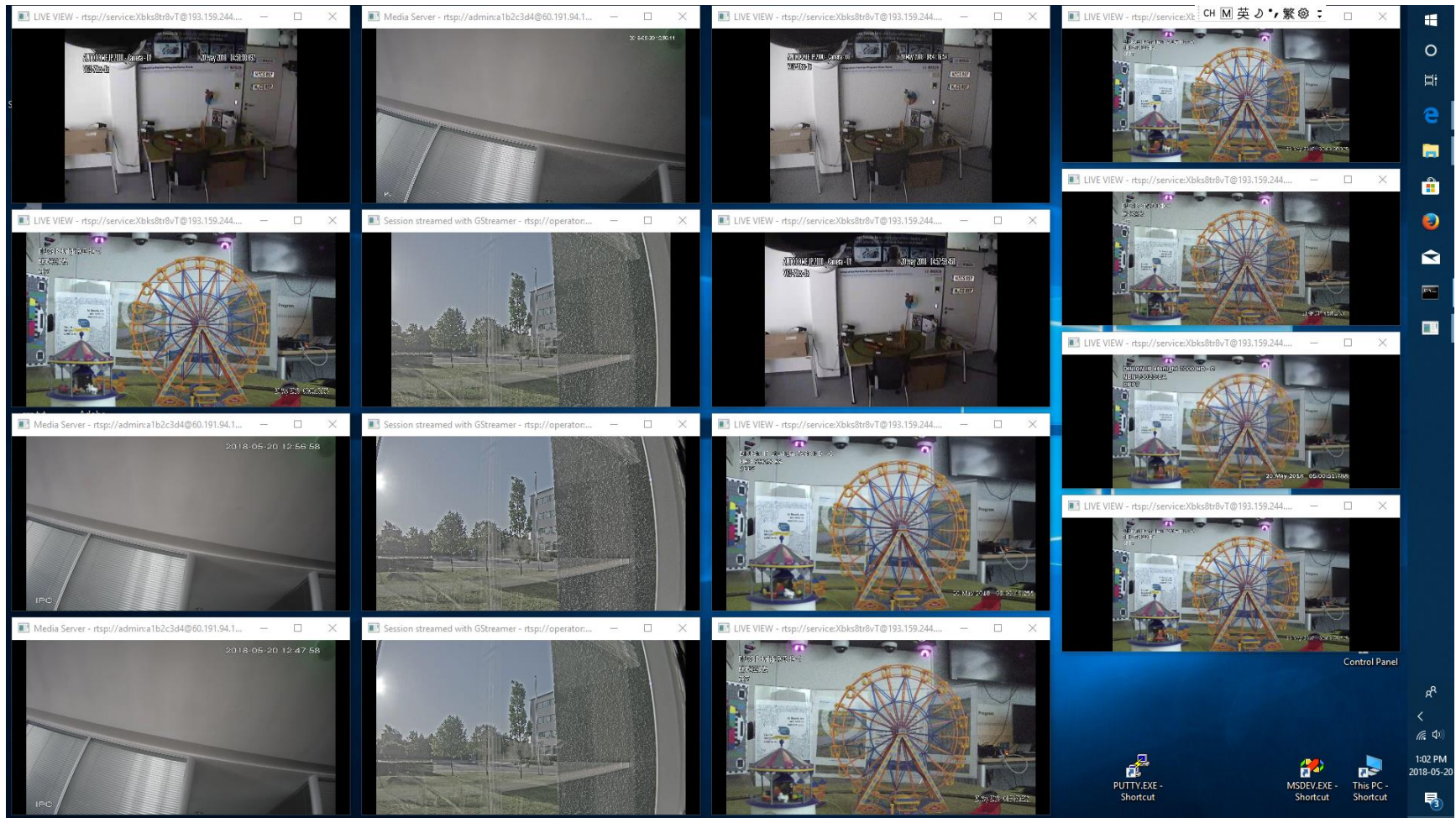
AllCamerasQuery.bat

AllCamerasQuery.bat is a batch file that query all the profile of the test ONVIF cameras (IP Camera Logins - Sheet1.csv) .

AllCamerasQuery.bat

```
Command Prompt                                                    —   □   ✕

C:\Users\mrrekcuf>D:\src\cpp\onvif\scripts\AllCamerasQuery.bat

C:\Users\mrrekcuf>echo off
Bosch (Dinion7000HD) 193.159.244.134   service Xbks8tr8vT
Found 7 Profile(s).
 Profile 0 token: 0 Name: H26x_L1S1
   Found stream: http://193.159.244.134/rtsp_tunnel?profile=0&h26x=4&enableaudio=1&audio_mode=1&vcd=2
 Profile 1 token: 1 Name: H26x_L1S2
   Found stream: http://193.159.244.134/rtsp_tunnel?profile=1&inst=2&h26x=4&enableaudio=1&audio_mode=1
 Profile 2 token: 2 Name: JPEG_L1S3
   Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
 Profile 3 token: IJ720x1280 Name: IJ720x1280
   Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
 Profile 4 token: IH720x1280 Name: IH720x1280
   Found stream: http://193.159.244.134/rtsp_tunnel?profile=IH720x1280&h26x=4&enableaudio=1&audio_mode=1
 Profile 5 token: IJ1080x1776 Name: IJ1080x1776
   Found stream: http://193.159.244.134/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1
 Profile 6 token: IH1080x1776 Name: IH1080x1776
   Found stream: http://193.159.244.134/rtsp_tunnel?profile=IH1080x1776&h26x=4&enableaudio=1&audio_mode=1

Bosch (Autodom7000) 193.159.244.132   service Xbks8tr8vT
Found 3 Profile(s).
 Profile 0 token: 0 Name: H26x_L1S1
   Found stream: http://193.159.244.132/rtsp_tunnel?profile=0&h26x=4&enableaudio=1&audio_mode=1&vcd=2
 Profile 1 token: 1 Name: H26x_L1S2
   Found stream: http://193.159.244.132/rtsp_tunnel?profile=1&inst=2&h26x=4&enableaudio=1&audio_mode=1
 Profile 2 token: 2 Name: JPEG_L1S3
   Found stream: http://193.159.244.132/rtsp_tunnel?h26x=0&enableaudio=1&audio_mode=1

Axis 195.60.68.239   operator Onv!f2018
Found 3 Profile(s).
 Profile 0 token: profile_1_h264 Name: profile_1_h264
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_h264&sessiontimeout=60&streamtype=unicast
 Profile 1 token: profile_1_jpeg Name: profile_1_jpeg
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile_1_jpeg&sessiontimeout=60&streamtype=unicast
 Profile 2 token: profile0 Name: patate
   Found stream: http://195.60.68.239/onvif-media/media.amp?profile=profile0&sessiontimeout=60&streamtype=unicast

Hikvision 123.157.208.28:81 admin abcd1234
Found 3 Profile(s).
 Profile 0 token: Profile_1 Name: mainStream
   Found stream: http://10.17.114.161:81/Streaming/Channels/101?transportmode=unicast&profile=Profile_1
 Profile 1 token: Profile_2 Name: subStream
   Found stream: http://10.17.114.161:81/Streaming/Channels/102?transportmode=unicast&profile=Profile_2
 Profile 2 token: Profile_3 Name: thirdStream
   Found stream: http://10.17.114.161:81/Streaming/Channels/103?transportmode=unicast&profile=Profile_3

Uniview (UNV) 61.164.52.166:88  admin Uniview2018
Found 3 Profile(s).
 Profile 0 token: media_profile1 Name: media_profile1
 Profile 1 token: media_profile2 Name: media_profile2
   Found stream: http://61.164.52.166:88/media/video2
 Profile 2 token: media_profile3 Name: media_profile3

Dahua 60.191.94.122:8086 admin a1b2c3d4
Found 4 Profile(s).
 Profile 0 token: IH1080x1920 Name: IH1080x1920
   Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=0&unicast=true&proto=Onvif
 Profile 1 token: IJ1080x1920 Name: IJ1080x1920
   Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=0&unicast=true&proto=Onvif
 Profile 2 token: MediaProfile000 Name: MediaProfile_Channel1_MainStream
   Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=0&unicast=true&proto=Onvif
 Profile 3 token: MediaProfile001 Name: MediaProfile_Channel1_SubStream1
   Found stream: http://60.191.94.122:554/cam/realmonitor?channel=1&subtype=1&unicast=true&proto=Onvif
```

Further Improvement

Enhance OMVIF scripting tools to support Open CV in such way it can further supports face detection, crown detection, image recognition etc.

Thanx you