

# Getting login information via ONVIF



# THE WISH

The wish was to create a program that connects to a camera and retrieves the login and login-failures (attacks) of the last time.

After a first short test it turned out, however, that it is only possible to obtain this information via ONIVF with one of six cameras. And the one supporting this information, the information was not sufficient.

# GetSystemLog, GetSystemSupportInformation, GetSystemBackup and GetSystemUris

To receive the information about user logins and login failures, i like to use the functions:

GetSystemLog, GetSystemSupportInformation, GetSystemBackup and GetSystemUris

It turns out, that only the Dahua-Camera out of Bosch, Axis, Hikvision, Uniview and Dahua, did support sending login information.

# Create small program for test

So i created a small program, to show that the cameras does not supported the needed functions for “My Wish”.

The program is close to the sample from Spotlight-Challenge.

If there is not entered any ip-Address, Username and Password, all the cameras used for the Spotlight-Challenge will be tested one after another. (This may take about 5 minutes for retrieving all information).

# Axis: GetSystemLog does not work at all, others are not implemented.

Leave empty for connecting to SpotlightChallengeTest-Cameras

Enter IP

User

Password

Device under test: AXIS  
Model: AXIS Q3505 Mk II  
FW: 18+snapshot-20180307  
SerialNumber: ACCC8E90705A

Result for GetSystemLog with "Access"  
GetSystemLog with "Access" did throw an exception:  
The HTTP request is unauthorized with client authentication scheme 'Digest'. The authentication header received from the server was 'Digest realm="AXIS\_WS\_ACCC8E90705A", nonce="oMKB2Zpt8QA=853945fcd5'

Result for GetSystemLog with "System"  
GetSystemLog with "System" did throw an exception:  
The HTTP request is unauthorized with client authentication scheme 'Digest'. The authentication header received from the server was 'Digest realm="AXIS\_WS\_ACCC8E90705A", nonce="ttiG2Zpt8QA=7978f5805a6b5'

GetSystemSupportInformation TEST:  
GetSystemSupportInformation did throw an exception:  
Optional action not implemented

GetSystemBackup TEST:  
GetSystemBackup did throw an exception:  
The HTTP request is unauthorized with client authentication scheme 'Digest'. The authentication header received from the server was 'Digest realm="AXIS\_WS\_ACCC8E90705A", nonce="arSS2Zpt8QA=f55311f38b9a1'

GetSystemUri TEST:  
GetSystemUri did throw an exception:  
Optional action not implemented

# Bosch: GetSystemLog 400 Bad Request, only Backup implemented, all others not implemented. No Login information can be received.

Leave empty for connecting to SpotlightChallengeTest-Cameras

Enter IP: 192.168.0.118

User: service

Password: .....

Connect

Device under test: Bosch  
Model: DINION IP starlight 7000 HD  
FW: 6.44.0007  
SerialNumber: 044449275518183031

Result for GetSystemLog with "Access"  
GetSystemLog with "Access" did throw an exception:  
The remote server returned an unexpected response: (400) Bad Request.

Result for GetSystemLog with "System"  
GetSystemLog with "System" did throw an exception:  
The remote server returned an unexpected response: (400) Bad Request.

GetSystemSupportInformation TEST:  
GetSystemSupportInformation did throw an exception:  
Optional Action Not Implemented

GetSystemBackup TEST:  
GetSystemBackup did throw an exception:  
Optional Action Not Implemented

GetSystemUri TEST:  
systemUri:  
SupportInfoUri:  
SystemBackupUri: http://192.168.0.118/rtc\_image\_xml  
Extension:

# Hikvision: None support of any functions delivering login information.

Leave empty for connecting to SpotlightChallengeTest-Cameras

Enter IP

User

Password

Device under test: HIKVISION

Model: DS-2DE2204IW-DE3/W

FW: V5.5.11 build 180601

SerialNumber: DS-2DE2204IW-DE3/W20160611CCCH611488922W

Result for GetSystemLog with "Access"

Log-String:

No available system logs

Log-Binary was NULL

Result for GetSystemLog with "System"

Log-String:

No available system logs

Log-Binary was NULL

GetSystemSupportInformation TEST:

SupportInformation got string: No available system support information

GetSystemBackup TEST:

GetSystemBackup did throw an exception:

Optional Action Not Implemented

GetSystemUri TEST:

systemUri: OnvifVideoSample.device.SystemLogUri[]

SupportInfoUri:

SystemBackupUri:

Extension:

# Uniview: See next sheet for more information.

Leave empty for connecting to SpotlightChallengeTest-Cameras

Enter IP61.164.52.166:88

Useradmin

Password●●●●●●●●

Connect

Device under test: UNIVIEW  
Model: HIC6622HX22-5CIR-U  
FW: IPC\_HCMN2103-B0020P30D1711  
SerialNumber: 210235C1TS3158000027

Result for GetSystemLog with "Access"

GetSystemLog with "Access" did throw an exception:  
The content type multipart/related; charset=utf-8; boundary=="=5iwwgAEgData6GR98KIWSOIbT2tmZMLTv7zP73v/RdnMj4JkCu6U9DvQ5c2T=="; type="application/xop+xml"; start="<http://tempuri.org/0>"; start-info="application/soap+xml" of the response  
Content-Type: application/xop+xml; charset=utf-8; type="application/soap+xml"  
Content-Transfer-Encoding: binary  
Content-ID: <http://tempuri.org/0>

<?xml version="1.0" encoding="UTF-8"?>  
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://www.w3.org/2003/05/soap-envelope" xmlns:SOAP-ENC="http://www.w3.org/2003/05/soap-encoding" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema-instance">  
 <SOAP-ENV:Header>  
 <xsi:type="application/xop+xml" xop:base="http://tempuri.org/0" />  
 </SOAP-ENV:Header>  
 <SOAP-ENV:Body>  
 <xsi:type="application/xop+xml" xop:base="http://tempuri.org/0" />  
 </SOAP-ENV:Body>  
</SOAP-ENV:Envelope>

Result for GetSystemLog with "System"

GetSystemLog with "System" did throw an exception:  
The content type multipart/related; charset=utf-8; boundary=="=pBmY8Zn4QW3hzetXW27Yl2si5byy4oFhpr5IEgdU2U2qyjBla8g/yMhroTeg=="; type="application/xop+xml"; start="<http://tempuri.org/0>"; start-info="application/soap+xml" of the response  
Content-Type: application/xop+xml; charset=utf-8; type="application/soap+xml"  
Content-Transfer-Encoding: binary  
Content-ID: <http://tempuri.org/0>

<?xml version="1.0" encoding="UTF-8"?>  
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://www.w3.org/2003/05/soap-envelope" xmlns:SOAP-ENC="http://www.w3.org/2003/05/soap-encoding" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema-instance">  
 <SOAP-ENV:Header>  
 <xsi:type="application/xop+xml" xop:base="http://tempuri.org/0" />  
 </SOAP-ENV:Header>  
 <SOAP-ENV:Body>  
 <xsi:type="application/xop+xml" xop:base="http://tempuri.org/0" />  
 </SOAP-ENV:Body>  
</SOAP-ENV:Envelope>

GetSystemSupportInformation TEST:


GetSystemSupportInformation did throw an exception:  
The content type multipart/related; charset=utf-8; boundary=="=7jBkP6JTanoQ7e6uB72b4Xaqj7WLOOrJXstmm36AeiRZALHBH+d/V3p4z/EB=="; type="application/xop+xml"; start="<http://tempuri.org/0>"; start-info="application/soap+xml" of the response  
Content-Type: application/xop+xml; charset=utf-8; type="application/soap+xml"  
Content-Transfer-Encoding: binary  
Content-ID: <http://tempuri.org/0>

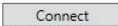


Uniview: GetSystemLog, GetSystemSupportInformation and GetSystemBackup does deliver Binary, but none String (I could see this with wireshark). Unfortunately, my programm does show only bad receiving from Uniview. Currently no idea why this is the case.

GetSystemUris is not implemented.

# Dahua: See next sheet for more information.

 Leave empty for connecting to SpotlightChallengeTest-Cameras

Enter IP	<input type="text" value="60.191.94.122:8086"/>	
User	<input type="text" value="admin"/>	
Password	<input type="password" value="••••••••"/>	

Device under test: Dahua

Model: IPC-HDW4830EM-AS

FW: 2.622.0000000.21.R, Build Date 2018-02-03

SerialNumber: 2E05F8AYAW00038

Result for GetSystemLog with "Access"

```
Log-String: 1 2018-06-02 05:24:30 85.197.10.190 LogOut admin
2 2018-06-02 05:24:30 85.197.10.190 LogIn admin
3 2018-06-02 05:24:29 85.197.10.190 LogOut admin
4 2018-06-02 05:24:29 85.197.10.190 LogIn admin
5 2018-06-02 04:56:03 162.210.97.18 LogOut admin
6 2018-06-02 04:56:03 162.210.97.18 LogIn admin
7 2018-06-02 04:56:01 162.210.97.18 LogOut admin
8 2018-06-02 04:56:01 162.210.97.18 LogIn admin
9 2018-06-02 04:56:00 162.210.97.18 LogOut admin
10 2018-06-02 04:56:00 162.210.97.18 LogIn admin
11 2018-06-02 04:55:54 162.210.97.18 LogOut admin
12 2018-06-02 04:55:54 162.210.97.18 LogIn admin
13 2018-06-02 04:55:53 162.210.97.18 LogOut admin
14 2018-06-02 04:55:53 162.210.97.18 LogIn admin
15 2018-06-02 04:54:35 162.210.97.18 LogOut admin
16 2018-06-02 04:54:35 162.210.97.18 LogIn admin
17 2018-06-02 04:54:34 162.210.97.18 LogOut admin
18 2018-06-02 04:54:34 162.210.97.18 LogIn admin
19 2018-06-02 04:50:18 85.197.10.190 LogOut admin
20 2018-06-02 04:50:18 85.197.10.190 LogIn admin
21 2018-06-02 04:50:17 85.197.10.190 LogOut admin
22 2018-06-02 04:50:17 85.197.10.190 LogIn admin
23 2018-06-02 04:50:16 85.197.10.190 LogOut admin
24 2018-06-02 04:50:16 85.197.10.190 LogIn admin
25 2018-06-02 04:50:14 85.197.10.190 LogOut admin
26 2018-06-02 04:50:14 85.197.10.190 LogIn admin
27 2018-06-02 04:50:13 85.197.10.190 LogOut admin
28 2018-06-02 04:50:13 85.197.10.190 LogIn admin
29 2018-06-02 04:50:12 85.197.10.190 LogOut admin
30 2018-06-02 04:50:12 85.197.10.190 LogIn admin
31 2018-06-02 04:50:08 162.210.97.18 LogOut admin
```

Dahua: GetSystemLog does reply with LogIn and LogOut. But there is not an information about bad login and possible attacks. Also the list is not complete. At first three days of test, the list send from camera was only 2 entries long. Today it is 100 entries long. Nevertheless to say, if using the webpage of camera, there have always been about 900 and more LogIn/Outs.

GetSystemSupportInformation, GetSystemBackup and GetSystemUris is not implemented.

## Conclusion and outlook.

The informations about LogIn/LogOut via ONVIF seems be incomplete or most of time not available on most of camera brands. Therefore the program could not be completed or developed like it was meant to be.

With the current program, it is possible to check if a brand does deliver the information or not.

If there would be an next step of developing for this tool, it should be checked to download the binary-file from UniView and check if the wished information is in this file.

Also it should be checked with Dahua-Support, why camera does not respond with all LogIn/LogOut information via ONVIF. Because all information seems to be available via vendor-API.