

2014 Oct.

Dear Partners:

In order to support camera through ONVIF integration, NUUO provides two methods to support IP devices in NUUO recorders. Based on our experience, a strict verification phase must present in order to ensure successful ONVIF integration. Please refer to the below instructions and provide the information which requested for integration.

For ONVIF 2.0 includes a lot of profiles (ex: storage, camera, AC) NUUO support Profile S (streaming profile) which includes video and audio stream. Moreover, Profile S provides ability to support ONVIF previous version.

The latest ONVIF 2.0 NUUO supports the following features:

- MJPEG, MPEG-4 and H.264 streaming (multi-stream) – Up to 3 configurable video/audio stream
- Continuous/Relative PTZ
- Event notification for DI/DO/Motion detection
- Audio output (Talk) via RTSP back channel

For ONVIF partner, NUUO only guarantee above feature with ONVIF test report.

For further feature support, we will suggest to NUUO standard camera integrate process.

NUUO ONVIF camera support list:

Crystal™: [Here](#)

Titan NVR: [Here](#)

Mainconsole(IP+): [Here](#)

NVRmini2: [Here](#)

NVRsolo: [Here](#)

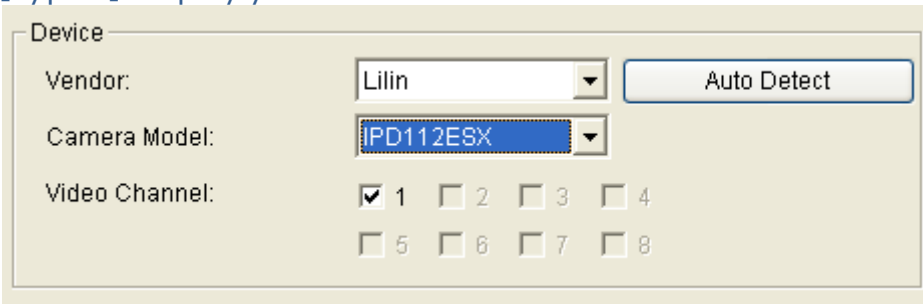
Note:

1. After providing Onvif testing report but if above feature of the device cannot work, please go to technical service support process.
2. Features defined in Onvif specification but not in above list will not be treated as technical issue.
3. Multi-stream supported products: Mainconsole (IP+), NVRmini2, NVRsolo
4. Support multi-stream: It might not work well due to upgrade process. Please help to check and reset camera parameter to correct configuration.
5. If a partner wants to be on the NUUO support list, please request camera integration via NUUO Regional Sales.
6. Onvif support:  
Onvif 2.0 Profile S with test tool v12.06: Crystal™, Titan NVR, NVRmini 2, NVRsolo and Mainconsole  
Onvif v1.01: NVRmini
7. Sample ONVIF test report: [Doc link](#)

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## ONVIF support types:

[Type 1] Display your camera brand and models on our software (using ONVIF protocol).



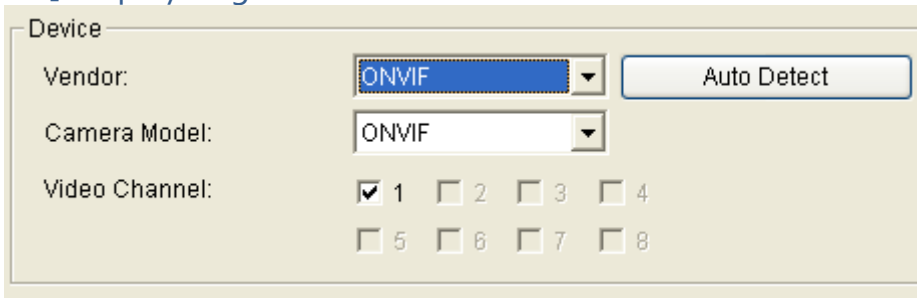
Request camera integration via NUUO Regional Sales

Required items:

- Device Pack-Partner Integration Appendix v1.1
- Device samples or remote links (with correct ID/PW)  
Note: NUUO will not support the requested camera if neither of device sample nor remote link is provided. Only video streaming and PTZ will be integrated in the case of remote link. Camera sample is necessary for integrating other features such as I/O, motion detection and audio.
- ONVIF test report (Must pass all items of ONVIF official test tool)
- Camera Specification Sheet
- Camera target firmware file
- Camera brand RD contact window

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[Type 2] Display as general ONVIF brand and ONVIF model on our software



Device

Vendor: ONVIF Auto Detect

Camera Model: ONVIF

Video Channel:  1  2  3  4  
 5  6  7  8

- **Tuned/Tested by camera manufacturer**  
Camera manufacturer can test the compatibility by itself. NUUO only guarantees the correctness of current feature set if and only if the device has passed ONVIF test and corresponding test report is provided.
- **If there are any problems regarding ONVIF integration issues, please contact NUUO Regional Sales.**

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Test Case for NUUO ONVIF support  
ONVIF 1.02  
Official test tool version - ONVIF 1.01.1.26

## MUST

### Device Management Test Cases

- NVT ALL CAPABILITIES
- NVT DEVICE CAPABILITIES
- NVT SYSTEM COMMAND DEVICE INFORMATION

### Media Configuration Test Cases

- NVT MEDIA PROFILE CONFIGURATION
- NVT DYNAMIC MEDIA PROFILE CONFIGURATION
- NVT MEDIA STREAM URI – RTP/UDP UNICAST TRANSPORT
- NVT MEDIA STREAM URI – RTP/RTSP/HTTP TRANSPORT

### Real Time Viewing Test Cases

- NVT MEDIA CONTROL – RTSP/TCP
- NVT MEDIA STREAMING – RTSP KEEPALIVE
- NVT MEDIA STREAMING – RTP/UDP UNICAST TRANSPORT
- NVT MEDIA STREAMING – RTP/RTSP/HTTP TRANSPORT

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Test Case for NUUO ONVIF support  
ONVIF 1.02  
Official test tool version - ONVIF 1.02.3.5

## MUST

### MUST if implemented

#### Device Management - Capabilities

##### 6.1.2 NVT ALL CAPABILITIES

#### Device Management - Network

##### 6.2.22 NVT NETWORK PROTOCOLS CONFIGURATION

#### Device Management - System

##### 6.3.9 NVT SYSTEM COMMAND DEVICE INFORMATION

#### Media Configuration – Media Profile

##### 7.1.1 NVT MEDIA PROFILE CONFIGURATION

##### 7.1.2 NVT DYNAMIC MEDIA PROFILE CONFIGURATION

#### Media Configuration – Video Configuration

##### 7.2.1 NVT VIDEO SOURCE CONFIGURATION

##### 7.2.2 NVT VIDEO ENCODER CONFIGURATION

##### 7.2.3 NVT JPEG VIDEO ENCODER CONFIGURATION

##### 7.2.4 NVT MPEG4 VIDEO ENCODER CONFIGURATION

##### 7.2.5 NVT H264 VIDEO ENCODER CONFIGURATION

#### Real Time Streaming – Video Streaming

##### 8.1.1 NVT MEDIA CONTROL – RTSP/RTP

##### 8.1.2 NVT MEDIA STREAMING – RTSP KEEPALIVE

##### 8.1.3 NVT MEDIA STREAMING – JPEG (RTP-Unicast/UDP)

##### 8.1.4 NVT MEDIA STREAMING – JPEG (RTP-Unicast/RTSP/HTTP/TCP)

##### 8.1.5 NVT MEDIA STREAMING – JPEG (RTP/RTSP/TCP)

##### 8.1.6 NVT MEDIA STREAMING – MPEG4 (RTP-Unicast/UDP)

##### 8.1.7 NVT MEDIA STREAMING – MPEG4 (RTP-Unicast/RTSP/HTTP/TCP)

##### 8.1.8 NVT MEDIA STREAMING – MPEG4 (RTP/RTSP/TCP)

##### 8.1.10 NVT MEDIA STREAMING – H264 (RTP-Unicast/UDP)

##### 8.1.11 NVT MEDIA STREAMING – H264 (RTP-Unicast/RTSP/HTTP/TCP)

##### 8.1.12 NVT MEDIA STREAMING – H264 (RTP/RTSP/TCP)

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Test Case for NUUO ONVIF support  
ONVIF 1.02

Official test tool version - v1.02.4

## MUST

### MUST if implemented

Device Management - Capabilities

DEVICE-1-1-2 ALL CAPABILITIES

Device Management - Network

DEVICE-2-1-22 GET NETWORK PROTOCOLS CONFIGURATION

Device Management - System

DEVICE-3-1-9 SYSTEM COMMAND DEVICE INFORMATION

Media Configuration – Media Profile

MEDIA-1-1-1 MEDIA PROFILE CONFIGURATION

MEDIA-1-1-2 DYNAMIC MEDIA PROFILE CONFIGURATION

Media Configuration – Video Configuration

MEDIA-2-1-1 VIDEO SOURCE CONFIGURATION

MEDIA-2-1-2 NVT VIDEO ENCODER CONFIGURATION

MEDIA-2-1-3 NVT JPEG VIDEO ENCODER CONFIGURATION

MEDIA-2-1-4 NVT MPEG4 VIDEO ENCODER CONFIGURATION

MEDIA-2-1-5 NVT H264 VIDEO ENCODER CONFIGURATION

Real Time Streaming – Video Streaming

RTSS-1-1-1 MEDIA CONTROL – RTSP/RTP

RTSS-1-1-2 MEDIA STREAMING – RTSP KEEPALIVE

RTSS-1-1-4 MEDIA STREAMING – JPEG (RTP-Unicast/UDP)

RTSS-1-1-5 MEDIA STREAMING – JPEG (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-6 MEDIA STREAMING – JPEG (RTP/RTSP/TCP)

RTSS-1-1-7 MEDIA STREAMING – MPEG4 (RTP-Unicast/UDP)

RTSS-1-1-8 MEDIA STREAMING – MPEG4 (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-9 MEDIA STREAMING – MPEG4 (RTP/RTSP/TCP)

RTSS-1-1-11 MEDIA STREAMING – H264 (RTP-Unicast/UDP)

RTSS-1-1-12 MEDIA STREAMING –H264 (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-13 MEDIA STREAMING –H264 (RTP/RTSP/TCP)

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Test Case for NUUO ONVIF support  
ONVIF Profile S  
Official test tool version - v12.06

## MUST

### MUST if implemented

#### Device Management - Capabilities

DEVICE-1-1-2 ALL CAPABILITIES

#### Device Management - Network

DEVICE-2-1-22 GET NETWORK PROTOCOLS CONFIGURATION

#### Device Management - System

DEVICE-3-1-9 SYSTEM COMMAND DEVICE INFORMATION

#### Media Configuration – Media Profile

MEDIA-1-1-1 MEDIA PROFILE CONFIGURATION

MEDIA-1-1-2 DYNAMIC MEDIA PROFILE CONFIGURATION

#### Media Configuration – Video Configuration

MEDIA-2-1-1 VIDEO SOURCE CONFIGURATION

MEDIA-2-1-2 VIDEO ENCODER CONFIGURATION

MEDIA-2-1-3 JPEG VIDEO ENCODER CONFIGURATION

MEDIA-2-1-4 MPEG4 VIDEO ENCODER CONFIGURATION

MEDIA-2-1-5 H.264 VIDEO ENCODER CONFIGURATION

#### Media Configuration – Metadata Configuration

MEDIA-5-1-1 METADATA CONFIGURATION

#### Real Time Streaming – Video Streaming

RTSS-1-1-1 MEDIA CONTROL – RTSP/RTP

RTSS-1-1-2 MEDIA STREAMING – RTSP KEEPALIVE (SET\_PARAMETER)

RTSS-1-1-4 MEDIA STREAMING – JPEG (RTP-Unicast/UDP)

RTSS-1-1-5 MEDIA STREAMING – JPEG (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-6 MEDIA STREAMING – JPEG (RTP/RTSP/TCP)

RTSS-1-1-7 MEDIA STREAMING – MPEG4 (RTP-Unicast/UDP)

RTSS-1-1-8 MEDIA STREAMING – MPEG4 (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-9 MEDIA STREAMING – MPEG4 (RTP/RTSP/TCP)

RTSS-1-1-11 MEDIA STREAMING – H.264 (RTP-Unicast/UDP)

RTSS-1-1-12 MEDIA STREAMING –H.264 (RTP-Unicast/RTSP/HTTP/TCP)

RTSS-1-1-13 MEDIA STREAMING –H.264 (RTP/RTSP/TCP)

#### PTZ – Move Operation

PTZ-3-1-3 PTZ RELATIVE MOVE

PTZ-3-1-4 PTZ CONTINUOUS MOVE

PTZ-3-1-5 PTZ CONTINUOUS MOVE & STOP

#### PTZ – Preset operations

PTZ-4-1-1 SET AND GET PRESET

PTZ-4-1-2 GOTO PRESET

PTZ-4-1-3 REMOVE PRESET

#### PTZ – Home Position operations

PTZ-5-1-1 HOME POSITION OPERATIONS (CONFIGURABLE)

PTZ-5-1-2 HOME POSITION OPERATIONS(FIXED)

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## Imaging – Imaging Settings

IMAGING-1-1-1 **IMAGING COMMAND GETIMAGINGSETTINGS**

IMAGING-1-1-6 **IMAGING COMMAND SETIMAGINGSETTINGS**

## Imaging – Focus Move

IMAGING-2-1-5 **IMAGING COMMAND RELATIVE MOVE**

IMAGING-2-1-7 **IMAGING COMMAND CONTINUOUS MOVE**

IMAGING-2-1-13 **IMAGING COMMAND STOP**

## Real Time Streaming – Notification Streaming Interface

RTSS-4-1-1 **NOTIFICATION STREAMING**

## Event Handling – Event Properties

EVENT-1-1-2 **GET EVENT PROPERTIES**

## Event Handling – Real-Time Pull-Point Notification Interface

EVENT-3-1-9 **REAL TIME PULLPOINT SUBSCRIPTION – CREATE PULL POINT SUBSCRIPTION**

EVENT-3-1-15 **REAL TIME PULLPOINT SUBSCRIPTION – PULLMESSAGES**

## Device Management – I/O

DEVICE-5-1-1 **IO COMMAND GETRELAYOUTPUTS**

DEVICE-5-1-3 **IO COMMAND SETRELAYOUTPUTSETTINGS**

DEVICE-5-1-5 **IO COMMAND SETRELAYOUTPUTSTATE – BISTABLE MODE (OPENED IDLE STATE)**

DEVICE-5-1-6 **IO COMMAND SETRELAYOUTPUTSTATE – BISTABLE MODE (CLOSED IDLE STATE)**