COMPLETEVIEW

ONVIF Supported Features

SALIENT

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ONVIF Configuration

CompleteView 20/20 conforms to the ONVIF media profile S standard, including configuration of video and audio streaming, PTZ, event handling, and device discovery. See the table below for supported features.

The use of ONVIF may be beneficial to those who have a camera they wish to use with CompleteView 20/20 that does not yet have a named driver within the system, but is ONVIF compatible. Given the option of using either a named driver or using the ONVIF driver shipped with CompleteView 20/20, the named driver is generally the preferable choice. In some instances however, using ONVIF may be preferable if the named driver does not support certain features, such as event handling. Before adding a camera to CompleteView 20/20 using ONVIF, verify that the camera is both ONVIF compatible and supports profile S by visiting **https://www.onvif.org/conformant-products/** and searching by profile, manufacturer, and model.

It is also worth noting that while many ONVIF compatible cameras come pre-configured with ONVIF media profiles which are required for use with CompleteView 20/20, some do not. Those cameras will have to be configured with profiles and other options before use. Specifically, an ONVIF user must be created on the camera, and it is recommended that the camera's ONVIF user password be the same as the camera's administrator password. Axis cameras currently do not come pre-configured with ONVIF profiles, so both an ONVIF user and profile must be manually created.

Note: Although ONVIF compatible, use only the named driver for the Axis M3058-PLVE panoramic camera at this time. The M3058 driver should also be used for other M305X panoramic Axis cameras, as well.

For multi-channel cameras, configurations may need to be created for each channel. Consult the manufacturers' documentation for specific information.

ONVIF Profile S Feature Compatibility

Feature	CompleteView Support
General	
System Settings	
User Authentication (WS-Username Token)	Y
User Authentication (Digest Authentication)	Y
User Handling	
Query Services and Capabilities	Y
Device Discovery	Y
Default Access Policy	
Network Configuration	
Zero Configuration	
Firmware Upgrade	
Backup and Restore	

Feature	CompleteView Support
TLS Configuration	
IP Address Filtering	
NTP	
Automatic IP Assignment	
Media Profile Configuration	Y
Media Transport (RTP/UDP)	Y
Media Transport (RTP/RTSP/HTTP/TCP)	Y
Media Transport (RTP/RTSP/HTTPS/TCP)	
Media Transport (RTP/RTSP/TCP/WebSocket)	
Media Transport (RTP/UDP Multicast)	
Video	
Video Streaming (MJPEG)	Y
Video Streaming (MPEG4)	Y
Video Streaming (H.264)	Y
Video Streaming (H.265)	
Video Encoder Configuration	Y
Video Source Configuration	Y
Media Profile for Streaming Ready out-of-the-box	
Video Source Mode	
Video Streaming (RTSP/RTP)	Y
Imaging Settings	
Recording Search	
Replay Control	
Recording Control	
Recording Control (Using an on-board media source)	
Recording Control (Using a Receiver as Source)	
Recording Control - Dynamic Recording (Recording)	
Recording Control – Dynamic Tracks (Tracks)	
Recording Source Configuration	
Events	
Event Handling (Pull-point)	Y
Event Handling (WS-Base-notification)	Y
Standard Monitoring Events for Devices	Y

Feature	CompleteView Support
Media Profile Configuration Events	
Access Control Events (Door)	
External Authorization Events	
Duress Events	
Access Profile Event (Changes on Profile)	
Credential Event (Changes on Credential)	
Schedule Event (Changes on schedule)	
Special Days Schedule Event	
Reset Antipassback Violation Event	
Stored Events (Seek)	
Motion Alarm Events	
Motion Region Detector Events	
Tampering Event	
Audio	
Audio Streaming (G.711)	Y
Audio Streaming (AAC)	
Audio Streaming (G.726)	
Audio Output Streaming (G.711)	
Audio Output Streaming (AAC)	
Audio Encoder Configuration	
PTZ	
PTZ Move (Absolute)	
PTZ Move (Continuous)	Y
PTZ Move (Relative)	
PTZ Presets	Y
PTZ – Home Position	
PTZ Configuration	
Additional	
Relay Outputs	
Auxiliary commands	
Focus Control	
Digital Inputs	
Configuration of On-Screen Display (OSD)	

Feature	CompleteView Support
JPEG Snapshot	
Motion Region Detector Configuration	
Metadata Configuration	
Metadata Streaming	
Recording	
Recording Search	
Replay Control	
Recording Control (Using an on-board media source)	
Recording Control (Using a Receiver as Source)	
Recording Control (Dynamic Tracks)	
Recording Source Configuration	
M = Mandatory compliance with the feature, C = Conditional compliance with the feature. For more information, refer to: https://www.onvif.org/profiles/profile-s/	

ONVIF Profile S Specification Queries

This section specifies all the ONVIF profile S specific function calls/queries made by the Recording Server, categorized by the type of service.

General

The following features are supported conforming to profile S but there are no specific queries for these features.

- WS-UsernameToken – Used to authenticate to a web service as described at: https://www.oasis-open.org/committees/download.php/13392/wss-v1.1-spec-pr-UsernameTokenProfile-01.htm
- Digest Authentication – HTTP digest authentication is used for all communication with the device (cameras)
- RTSP Streaming – UDP/TCP/HTTP
- Video – MJPEG, MPEG4, H.264
- Audio – G.7.11
- Device discovery – implemented using WS-Discovery mechanism via UDP broadcast over port 3702. More information can be found at: http://docs.oasis-open.org/ws-dd/discovery/1.1/os/wsdd-discovery-1.1-spec-os.html

Device

- GetCapabilities
- GetServices
- GetDeviceInformation
- GetNetworkInterfaces
- GetNetworkProtocols

- GetRelayOutputs
- GetSystemDateAndTime

Media

- GetProfiles
- GetProfile
- GetVideoSources
- GetVideoEncoderConfigurationOptions
- SetVideoEncoderConfiguration
- GetSnapshotUri
- GetStreamUri
- GetAudioSourceConfigurations
- GetCompatibleAudioSourceConfigurations
- AddAudioSourceConfiguration
- GetCompatibleAudioEncoderConfigurations
- AddAudioEncoderConfiguration
- GetAudioEncoderConfiguration
- AddPTZConfiguration

Events

- CreatePullPointSubscription
- Subscribe
- Unsubscribe
- Renew
- GetEventProperties
- GetServiceCapabilities
- PullMessages

PTZ

- GetConfigurations
- GetNodes
- GotoPreset
- SetPreset
- ContinuousMove
- Stop
- GetPresets

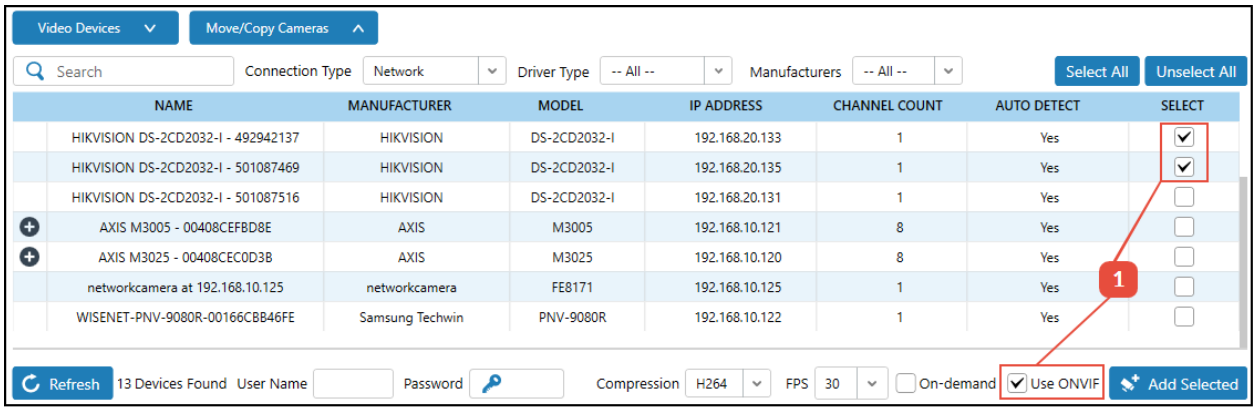
Imaging

- Move (for focus)
- Stop (for focus)
- SetImagingSettings (for auto focus and auto iris)

Note: Iris open and close are not supported.

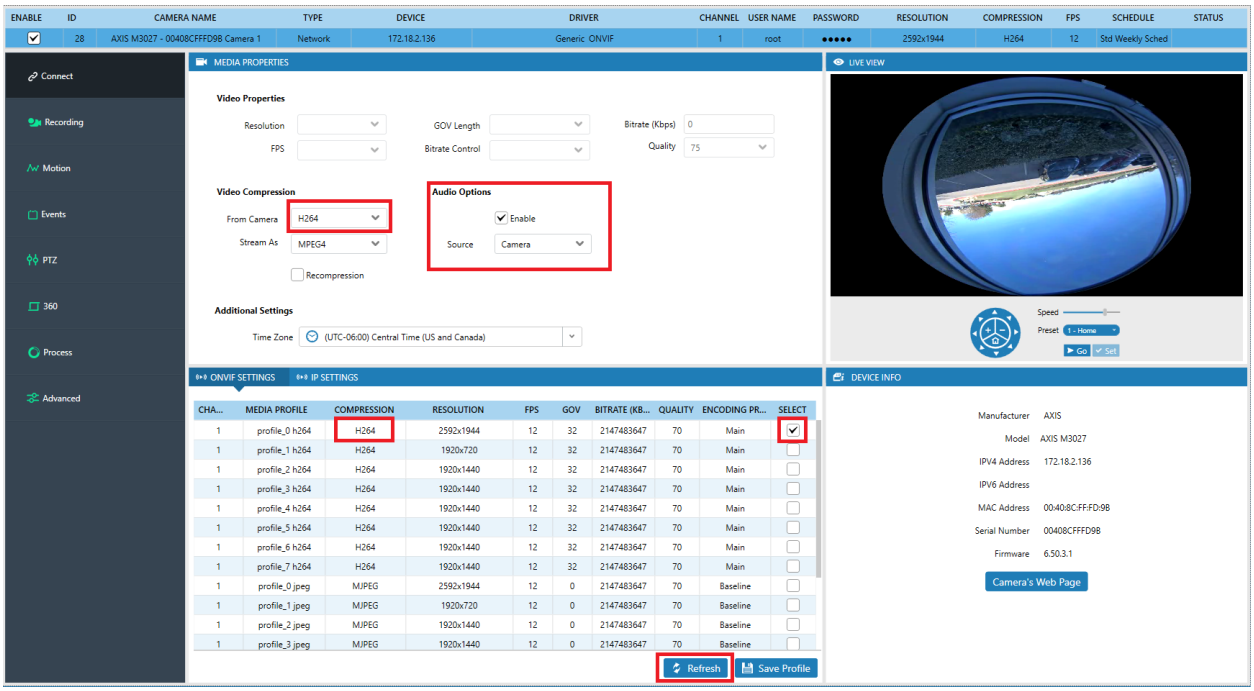
Adding ONVIF Cameras

Adding an ONVIF camera follows the same basic steps as any named driver camera, detailed in **Recording Servers Cameras** in the main guide. To use ONVIF instead of using a named driver, check the Use ONVIF box during the Adding a Camera process. CompleteView 20/20 Recording Server utilizes WS Discovery protocol for ONVIF camera discovery, consequently, UDP port 3702 must be open in Windows Firewall for discovery and other functionality. The example below shows a multi-channel camera added using the ONVIF driver, checked below.



ONVIF Configuration

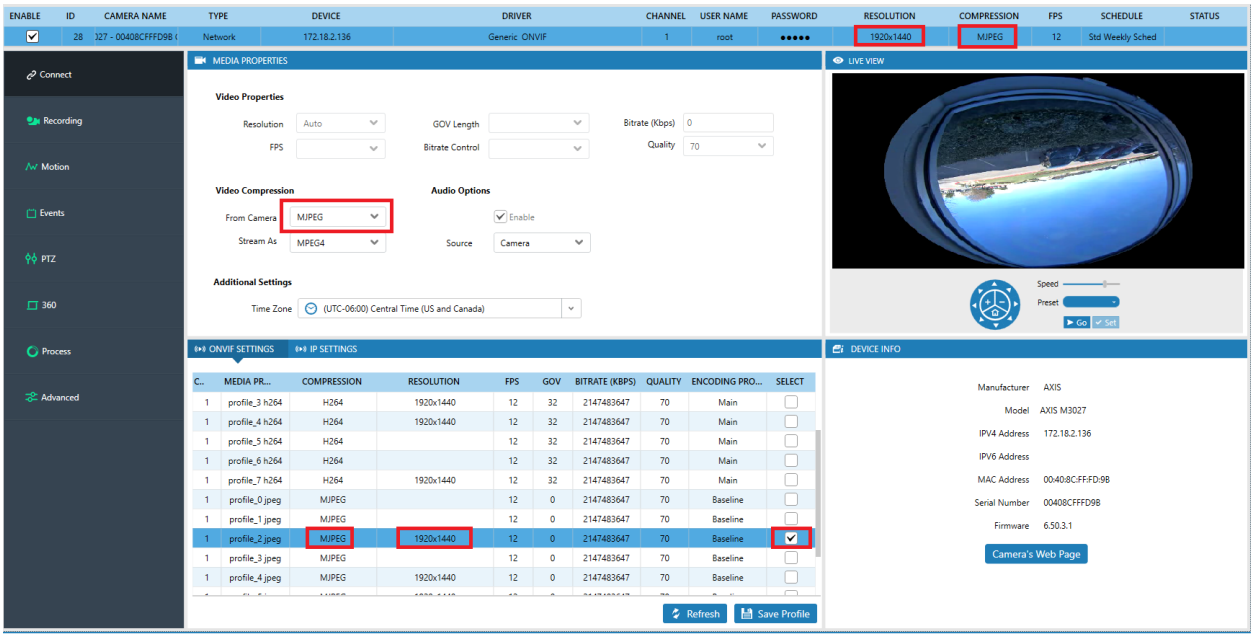
Once added, the first media profile in the video device's supported profiles that matches the selected compression and channel ID will be selected by default. If the compression selected by the user is not supported by the profiles, the first profile in the list will be selected. If the selected profile supports audio, the audio options will be enabled, or else will be disabled.



In certain cases, the media profile information might not be available immediately after adding the camera to the Recording Server. If not entered manually during the Adding a Camera process, the Recording Server uses default credentials to retrieve profile information during discovery, which may not work for all cameras. Once the correct credentials have been entered and saved, the Recording Server queries the camera for the profile details. It may be necessary to click Refresh to populate the list of media profiles.

Selecting ONVIF Media Profiles

To select a media profile, check the checkbox for the desired profile and save the configuration. Depending on the profile selected, the values are updated in the top camera grid row and Video Compression pane. The example below (using profile_2 jpeg) shows the change in compression and resolution from the example above (profile_0 h264).



If the camera supports multiple channels, changing the channel ID from the top camera grid row will update the profile selection and vice-versa. For a single channel camera with multiple profiles, the channel ID column will remain the same. **Note:** It is recommended to change and apply only one profile at a time.

Modifying Existing ONVIF Profiles

Some media profile settings may be changed and saved to the camera, depending on make and model. Change the desired settings for one or more profiles and click the Save Profile button. If the operation was unsuccessful, an "Invalid Profile Data" error will be reported and the changes will not be applied. For more information, consult Desktop Client and Recording Server diagnostic logs.

Configuring ONVIF Events

Configuration of ONVIF events is nearly identical to named driver events. See **Recording Servers Camera Events** in the main guide for more information. Note that port 7775 needs to be open in Windows Firewall to allow ONVIF based event handling.

ONVIF PTZ

An ONVIF PTZ driver has been added to the IP PTZ driver list. This can be set for any network camera, regardless of the camera driver selected. Select the Show All PTZ Drivers to view the driver. The driver supports pan, tilt, zoom, presets, focus near/far, auto focus and auto iris operations.