Driving IP-based physical security through global standardization

# ONVIF™

## ONVIF Specification Version 2.4
## Release Notes

# 1. Summary

The ONVIF 2.4release incorporates a new service called Advanced Security. Additionally this release incorporates a number of major enhancements and minor clarifications for better interoperability among ONVIF conformant clients and devices. The changes themselves are described in details in the list below chapters 2 and 3.

# 2. Additions

This release adds the following functionality to the set of ONVIF Network Interface Specifications:

## 2.1 Advanced Security Service

The Advanced Security Service Specification covers the following advanced security features:

- Keys and certificates management interface
- TLS server configuration interface

Please note that basic security features such as user authentication based on WS UsernameToken and HTTP Authentication as well as a default access policy are specified in the [ONVIF Core Specification] as part of the device management service.

## 2.2 Analytics Service

The specification so far published as Video Analytics Service has been generalized to also include Audio Analytics without compromising backward compatibility.
With the introduction of the Analytics Service Specification the Video Analytics Service Specification will be discontinued. Please note that the corresponding wsdl and schema file definitions are not altered.

## 2.3 Export File Format Specification

The specification defines structuring of media and associated meta information to provide authentication of media file content using public key certificates. It extends the ISO Surveillance Application Format which in turn builds upon the ISO Base Media File Format.

## 2.4 Imaging Service

The existing IR Cut filter configuration is extended for configuration of automatic adjustment.

## 2.5 Media Services

Two new items have been added to the Media Service.

- On Screen Display configuration is added via a set of so called OSD commands. Configuration includes textual display as well as graphical information.
- Video Source Mode configuration is provided via two commands to allow switching of the so called Video source mode.

## 2.6 PTZ Service

The new method GetCompatibleConfigurations eases configuration of multi line device with differing PTZ capabilities.

# 3. Changes

Find below all errata from Version 2.3 to 2.4 in order to improve interoperability. The numbers correspond to the Change Request ticket numbers and are not necessarily continuously ascending.

If not noted otherwise the changes refer to the Core specification.

## 1053 Improve description of limit default

In the ONVIF Access Control Service Specification sections 5.22 and 5.32 as well as the ONVIF Door Control Service Specification section 5.22

replace

> "Limit": Maximum number of entries to return. If not specified, less than one or higher than what the device supports, the number of items is determined by the device.

by

> "Limit": Maximum number of entries to return. If Limit is omitted or if the value of Limit is higher than what the device supports, then the device shall return its maximum amount of entries.

## 1055 Unclear what part of Seek buffer sould be returned

Replace the following paragraph in section 9.2 – 6) of ONVIF Core Specificadtion.

> If the device supports persistent notification storage, see 9.9, the WS-Endpoint shall provide a Seek operation. This operation allows to reposition the pull pointer into the past. In case the pull pointer is positioned beyond the beginning of the buffer, the first call to PullMessages will start with a BeginOfBuffer event as defined in 9.12.9. The SeekRequest?contains a UtcTime? argument. The UtcTime argument shall be matched against the UtcTime attribute on a NotificationMessage. When Seek is used the pull pointer shall be positioned to include all NotificationMessages in the buffer with aUtcTime attribute less than or equal to the Seek argument. The SeekRequest also contains an optional Reverse argument that can be used to reverse the pull direction of PullMessageRequest.

by

> If the device supports persistent notification storage, see 9.9, the WS-Endpoint also provides a Seek operation. This operation allows to reposition the pull pointer into the past. With the Seek operation it is also possible to reverse the pull direction. There is also anBeginOfBuffer event, as defined in 9.12.9, that signals the start of the buffer.

And also add the following paragraphs between the first and second paragraph in section 9.2.3 of ONVIF Core Specification.

> A device shall only set the subscription in reverse pull mode if the Reverse argument is present

and set to "true".

The UtcTime argument of the Seek request shall be matched against the UtcTime attribute of the notifications in the persistent notification storage.

When Seek is used the in forward mode a device shall position the pull pointer to include all NotificationMessages in the persistent storage with aUtcTime attribute greater than or equal to the Seek argument.

When Seek is used in reverse mode a device shall position the pull pointer to include all NotificationMessages in the in the persistent storage with aUtcTime attribute less than or equal to the Seek argument.

## 1056 Seek and Properties events

Add the following paragraph in the first part of section 9.6 of ONVIF Core Specification.

Note that section 9.2.3 defines rules for devices supporting persistent notification storage that override the behavior defined in this section.

And add the following paragraphs in 9.2.3 of ONVIF Core Specification.

On a Seek a pullpoint shall abort any event delivery including any initial states of properties. Furthermore the pullpoint should flush events not already queued for transmission from the transmit queue.

After a Seek request a pullpoint shall ignore the behavior described in section 9.6 for properties.

## 1057 Seek – Begin Of Buffer event

Replace the first paragraph of section 9.12.9 in ONVIF Core Specification by

The beginning of buffer event is a logical event that is connected to each subscription that signals that a subscription is reading passed the beginning of the buffer in either direction.

If a device supports persistent storage notification is shall support the beginning of buffer event.

A device shall signal the beginning of buffer event when a subscription is reading, i.e. PullMessages, passed the beginning of persistent storage buffer either in forward or reverse direction.

Furthermore when a Seek has been done to before the beginning of buffer a device shall regardless of the direction of reading return the beginning of buffer event.

A device shall for each Seek operation on a subscription at most send the beginning of buffer event one time.

## 1073 Source should be mandatory for a RecordingJob

Add the following attributes in JobOptions data type in recording.wsdl.

```
<xs:complexType name="JobOptions">
<xs:attribute name="Spare" type="xs:int"> ....
</xs:attribute>
<xs:attribute name="CompatibleSources" type="tt:StringAttrList">
<xs:annotation><xs:documentation>
      A device that supports recording of a restricted set of Media Service
Profiles returns the list of profiles that can be recorded on the given Recording.
</xs:documentation></xs:annotation>
</xs:attribute>
<xs:anyAttributeprocessContents="lax"/>
</xs:complexType>
```

The above should be also applied in section 5.20 of ONVIF Recording Control Service Specification by adding the following.

***CompatibleSources*** *A device that supports recording of a restricted set of Media Service Profiles shall return the list of profiles that can be recorded on the given Recording.*

## 1084 Documentation tag for MessageContentFilterDialect inconsistent with Core Spec

Change the documentation tag for MessageContentFilterDialect in event.wsdl from

```
The following MessageContentFilterDialects are mandatory for an ONVIF compliant
device:
http://www.onvif.org/ver10/tev/messageContentFilter/ItemFilter.
```

To

```
The following MessageContentFilterDialects should be returned if a device supports
the message content filtering:
http://www.onvif.org/ver10/tev/messageContentFilter/ItemFilter.
A device that does not support any MessageContentFilterDialectsreturns a single
url.
```

## 1086 Clarification on SetTrackConfiguration

Add the following sentences in section 5.12 of ONVIF Recording Control Service Specification.

> TrackType shall be ignored by the device as it can't be changed. The TrackConfiguration is the new configuration for the track.

## 1087 Drop the mandatory requirement for GetStreamUri and SetSynchronizationPoint

Add the following capability in 5.19 of ONVIF Media Service Specification and in media.wsdl.

> NoRTSPStreaming: Indicates the device does not support live media streaming via RTSP.

Replace the following sentence in 5.15.1 of ONVIF Media Service Specification

> A device shall support the retrieval of a media stream URI for a specific media profile through the GetStreamUri command.

By

> A device shall support the retrieval of a media stream URI for a specific media profile through the GetStreamUri command unless the NoRTSPStreaming capability is set.

And also replace the following sentence in 5.18.1 in ONVIF Media Service Specification.

> A device that supports MPEG-4 or H.264 shall support the request for an I-Frame through the SetSynchronizationPoint command.

By

> A device that supports MPEG-4 or H.264 shall support the request for an I-Frame through the SetSynchronizationPoint command unless the NoRTSPStreaming capability is set.

## 1089 9.12.9 should be moved

Add section 9.13 Persistent storage event and then move the current 9.12.9 section to 9.13.1.

## 1090 PTZPosition Search Feature - Need clarification for PTZ Spaces

Add the following paragraph in section 5.6 of ONVIF Recording Search Service Specification.

> Devices inidcatingCanContainPTZ and returning non generic spaces shall report the PTZ spaces in use at the specified point in time. For optimal interoperability device implementations should use generic spaces. Generic spaces are http://www.onvif.org/ver10/tptz/PanTiltSpaces/PositionGenericSpace and http://www.onvif.org/ver10/tptz/ZoomSpaces/PositionGenericSpace.

Add the following attribute in MetadataAttributes data type.

```
<xs:complexType name="MetadataAttributes">
<xs:sequence>
<xs:element name="CanContainPTZ" type="xs:boolean"/>
    ...
</xs:sequence>
<xs:attribute name="PtzSpaces" type="tt:StringAttrList">
<xs:annotation><xs:documentation>
List of all PTZ spaces active for recording.
       Note that events are only recorded on position changes and the actual point
of recording may not necessarily contain an event of the specified type.
</xs:documentation></xs:annotation>
</xs:attribute>
<xs:anyAttributeprocessContents="lax"/>
</xs:complexType>
```

## 1143 Pullpoint without Initialized events

The following optional subscription policy elements are defined in tev:SubscriptionPolicy:

- ChangedOnly A pullpoint should not provide Initialized nor Deleted events for Properties.

Add the following definition to event.wsdl:

```
<xs:complexType name="SubscriptionPolicy">
  <xs:annotion><xs:documentation>
    Optional ONVIF defined pull point subscription policies
  </xs:documentation></xs:annotation>
  <xs:sequence>
    <xs:any .../>
  </xs:sequence>
  <xs:attribute name="ChangedOnly" type="xs:boolean"/>
  <xs:anyAttribute processContents="lax"/>
</xs:complexType>
```

## 1147 Include start position for find ptz position search

Add the following paragraph in section 5.11 of ONVIF Recording Search Specification.

> A device shall only match the search criteria against PTZ status updates available between the time interval given in the search, i.e. the device shall not locate the PTZ position at the start of the search interval.

## 1152 Typo in FindPTZPosition Command - Recording Search Service Spec

Modify the word “optinal” in table 8 of ONVIF Recording Search Service Specification to “optional”.

## 1154 Discrepancy in documentation between search.wsdl and Recording Search Service spec v2.3

Change the annotation text of GetSearchState command in search.wsdl for consistency between the wsdl and specification as follows.

> GetSearchStatereturns the current state of the specified search session.This command is deprecated.