

# ONVIF™

## ONVIF Specification Version 18.12 Release Notes

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# 1. Summary

The ONVIF 18.12 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

The ONVIF 18.12 adopts following features with passing through the [IPR review](#).

### 2.1. Resource Query Specification

The resource query specification describes how a Video Management System can expose its resources so that a remote VSS or a client can make use of them with the APIs defined by the various ONVIF specifications.

### 2.2. Uplink Specification

The uplink specification defines the connection protocol for connecting a web service behind a firewall to a client reachable in the internet.

### 2.3. Security Configuration Service

The former Advanced Security Specification has been renamed to Security Configuration Service. Additionally a new extension provides a function to enable or disable particular version of TLS to balance security considerations with security aspects in installations.

## 3. Changes

Find below all errata from Version 18.06 to 18.12 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.

#### 2295 Clarify values used in `tt:AudioEncodingMimeNames` and `tt:VideoEncodingMimeNames`

More clarify media encoding type. Replace annotation of *VideoEncodingMimeNames* complexType in `onvif.xsd`

```
<xs:documentation>
  ONVIF prominent MIME type names as referenced by IANA. See also <a
href='http://www.iana.org/assignments/media-types/media-types.xhtml'>IANA Media Types</a>.
</xs:documentation>
```

With/

```
<xs:documentation>
  Video Media Subtypes as referenced by IANA (without the leading "video/" Video Media Type).
See also <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#video">
IANA Media Types</a>.
</xs:documentation>
```

And replace annotation of *AudioEncodingMimeNames* complexType

```
<xs:documentation>
  ONVIF prominent MIME type names as referenced by IANA. See also <a
href='http://www.iana.org/assignments/media-types/media-types.xhtml'>IANA Media Types</a> .
</xs:documentation>
```

With

```
<xs:documentation>
  Audio Media Subtypes as referenced by IANA (without the leading "audio/" Audio Media Type).
See also <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#audio">
IANA Media Types</a>.
</xs:documentation>
```

Replace annotations of Element *VideoEncoder2Configuration/Encoding* and  
*VideoEncoder2ConfigurationOptions/Encoding*

```
<xs:documentation>
  Mime name of the supported video format. For name definitions see
tt:VideoEncodingMimeNames and <a href='http://www.iana.org/assignments/media-types/media-
types.xhtml'>IANA Media Types</a>.
</xs:documentation>
```

With

```
<xs:documentation>
  Video Media Subtype for the video format. For definitions see tt:VideoEncodingMimeNames
and <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#video"> IANA
Media Types</a>.
</xs:documentation>
```

Replace annotations of Element *AudioEncoder2Configuration/Encoding* and

### *AudioEncoder2ConfigurationOptions/Encoding*

<xs:documentation>

Mime name of the supported audio format. For definitions see tt:AudioEncodingMimeNames and <a href='http://www.iana.org/assignments/media-types/media-types.xhtml'>IANA Media Types</a>.

</xs:documentation>

With

<xs:documentation>

Audio Media Subtype for the audio format. For definitions see tt:AudioEncodingMimeNames and <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#audio"> IANA Media Types</a>.

</xs:documentation>

### Replace annotation of Element *VideoAttributes/Encoding*

<xs:documentation>

Video encoding of the track. Use values from tt:VideoEncoding for JPEG, MPEG4 and H264. Otherwise use type definitions as defined by <a href="http://www.iana.org/assignments/media-types/media-types.xhtml">IANA</a>.

</xs:documentation>

With

<xs:documentation>

Video encoding of the track. Use value from tt:VideoEncoding for MPEG4. Otherwise use values from tt:VideoEncodingMimeNames and <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#video"> IANA Media Types</a>.

</xs:documentation>

### Replace annotation of Element *AudioAttributes/Encoding*

<xs:documentation>

Audio encoding of the track. Use values from tt:AudioEncoding for G711, G726, AAC. Otherwise use type definitions as defined by <a href="http://www.iana.org/assignments/media-types/media-types.xhtml">IANA</a>.

</xs:documentation>

With

<xs:documentation>

Audio encoding of the track. Use values from tt:AudioEncoding for G711 and AAC. Otherwise use values from tt:AudioEncodingMimeNames and <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#audio"> IANA Media Types</a>.

</xs:documentation>

Replace annotations of Element *EncoderInstance/Encoding* in ver20/media/wsd/media.wsdl.

<xs:documentation>

Mime name of the video format. For name definitions see tt:VideoEncodingMimeNames and <a href='http://www.iana.org/assignments/media-types/media-types.xhtml'>IANA Media Types</a>.

</xs:documentation>

With

<xs:documentation>

Video Media Subtype for the video format. For definitions see tt:VideoEncodingMimeNames and <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#video"> IANA Media Types</a>.

</xs:documentation>

Replace annotation of *EncodingTypes* simpleType and Element *VideoSourceMode/Encoding*

<xs:documentation>

Indication which encodings are supported for this video source. The list may contain one or more enumeration values of tt:VideoEncodingMimeNames, and see <a href='http://www.iana.org/assignments/media-types/media-types.xhtml'>IANA Media Types</a>.

</xs:documentation>

With

<xs:documentation>

List of one or more encodings supported for this video source. For name definitions see tt:VideoEncodingMimeNames, and see <a href="https://www.iana.org/assignments/media-types/media-types.xhtml#video">IANA Media Types</a>.

</xs:documentation>

And replace description of Encoding parameter at section 5.2.3 *Video encoder configuration* in Media2 Service specification

- Encoding – The encoding used to compress the video. See the IANA MIME Type Name reference for a full list of values.

With

- Encoding – The Video Media Subtype used to compress the video. See the IANA Media Type Reference for a full list of values.

And replace description of Encoding parameter at section 5.2.5 *Audio encoder configuration*

- Encoding – The encoding used to compress audio. See the IANA MIME Type Name reference for a full list of values.

With

- Encoding – The Audio Media Subtype used to compress the audio. See the IANA Media Type Reference for a full list of values.

## 2299 Remove unnecessary key length restriction

Relax RSA key length limitation which is specified at section 5.4.2 *Generating the signature* in Export File Format specification, as replace a sentence

- an RSA modulus length of 2048 bits

With

- an RSA modulus length of at least 2048 bits

## 2314 Mandatory SignatureAlgorithm has "default" annotation

Remove an unnecessary sentence at annotation under an element

*CreatePKCS10CSR/SignatureAlgorithm* in *advancedsecurity.wsdl*. As replace

```
<xs:documentation>The signature algorithm to be used to sign the CSR. Defaults to SHA1 with RSA Encryption.</xs:documentation>
```

With

```
<xs:documentation>The signature algorithm to be used to sign the CSR.</xs:documentation>
```

And at annotation under an element *CreateSelfSignedCertificate/SignatureAlgorithm*.

```
<xs:documentation>The signature algorithm to be used for signing the certificate. Defaults to SHA1 with RSA Encryption.</xs:documentation>
```

With

```
<xs:documentation>The signature algorithm to be used for signing the certificate.</xs:documentation>
```

## 2322 Change the type of PTZStatus in Annex A of Analytics

Correct *Type* attribute of *ElementItemDescription* example at the end of root clause of Annex A. *Specified Rules* in Analytics Service specification.

```
<tt:ElementItemDescription Name="PTZStatus" Type="tt:PTZStatusType">
```

With

```
<tt:ElementItemDescription Name="PTZStatus" Type="tt:PTZStatus">
```

## 2354 Clarification of tt:Direction

Add a following clarification text and figure 3 following to the end of first paragraph of Annex A.1 *LineDetector* in Analytics Service specification.

The specific definition of the Left and Right direction can refer to the following Figure 3, A is the first point and B is the second point.

## 2355 (ExportFileFormat) Typo in 5.4.2 Generating the signature

Correct wrong references in Export File Format specification.

At section 5.4.2 *Generating the signature*,

The generated signature string has to be included in the SignatureBox as defined in [5.3.3](#).

With

The generated signature string has to be included in the SignatureBox as defined in [5.4.3](#).

And section 5.5 *Repeated signing*,

Repeat steps defined in [5.3.1](#) and [5.3.2](#) and append another ProtectionSchemeInfoBox at the foot of the list of already existing boxes of that type as defined in [5.3.3](#) while not changing .....

With

Repeat steps defined in [5.4.1](#) and [5.4.2](#) and append another ProtectionSchemeInfoBox at the foot of the list of already existing boxes of that type as defined in [5.4.3](#) while not changing .....

## 2356 (ExportFileFormat) Rephrase section 5.5 Repeated signing

Replace following sentence to improve readability at section 5.5 *Repeated signing* in Export File Format specification.

Only if the signature algorithm applied deviates from the default the 'sigC' box shall be present.

With

The 'sigC' box shall be present when the signature algorithm applied deviates from the default.

## 2358 Wrong box type in example

Correct a second track box type "**trak**" with "**traf**" under *moof* structure at Annex B. *Box Structure* in Export File Format specification.

## 2359 Add tfdt box to example

Insert ***tfdt*** boxes under every *moof/traf* structure at Annex B. Box Structure in Export File Format specification. As replace

|      |  |
|------|--|
| moof | Fragment   |
| mfhd | Contains creation time, timescale, duration and others |
| traf | First track with Video                                 |
| tfhd | Sample information                                     |
| trun | Access to raw data in mdat box                         |
| traf | Second track with Audio                                |
| tfhd | Sample information                                     |
| trun | Access to raw data in mdat box                         |

with

|             |  |
|-------------|--|
| moof        | Fragment   |
| mfhd        | Contains creation time, timescale, duration and others |
| traf        | First track with Video                                 |
| tfhd        | Sample information                                     |
| <u>tfdt</u> | <u>Track fragment decode time</u>                      |
| trun        | Access to raw data in mdat box                         |
| traf        | Second track with Audio                                |
| tfhd        | Sample information                                     |
| <u>tfdt</u> | <u>Track fragment decode time</u>                      |
| trun        | Access to raw data in mdat box                         |

## 2360 Incorrect enum value in tt:VideoEncodingMimeNames

Add following underlined annotation beside "*MPV4-ES*" enumeration of "*VideoEncodingMimeNames*" SimpleType in onvif.xsd

```
<xs:enumeration value="MPV4-ES"/>      <!-- MPV4-ES actually references MP4V-ES. For backward compatibility, it remains misspelled. -->
```

## 2361 Remove dependancy from Media Service

Remove following the last paragraph of section 5.1.1 Parameters in Imaging Service specification.

The available imaging settings can be retrieved through the GetVideoSources command part of the media service, as specified in the ONVIF Media Service Specification. The imaging settings are part of the video source.

## 2362 Clarify Video and PT orientation alignment.

Replace the last paragraph of section 5.9 *Pan/tilt control direction configuration* in PTZ Service specification

In case the control direction of pan/tilt is changed by pan/tilt Control Direction Configuration, it is recommended that direction of the video image is also changed by Rotation Configuration in Video Source Configuration as well to match the both directions of pan/tilt and video stream.

With

If the control direction of pan/tilt is changed, it is recommended to adapt the orientation of the video image via the Rotation parameter of VideoSourceConfiguration to align pan/tilt and video.

## 2363 Update section on class type extension

Replace sentences below the third paragraph of section 5.1.3.5 *Object Class descriptor* in Analytics Service specification.

The new object class labels are introduced through the extensibility mechanism in the original schema by revising the ClassDescriptorExtension data type. The following is an example that introduces a new class type and uses in object metadata.

```
<tt:Frame UtcTime="2011-08-11T12:44:57.721">
  <tt:Object ObjectId="122">
    <tt:Appearance>
      <tt:Shape>
        <tt:BoundingBox left="20.0" top="30.0" right="80.0" bottom="40.0"/>
        <tt:CenterOfGravity x="50.0" y="45.0"/>
      </tt:Shape>
      <tt:Class>
        <tt:ClassCandidate>
          <tt:Type>Other</tt:Type>
          <tt:Likelihood>0.81</tt:Likelihood >
        </tt:ClassCandidate>
        <tt:Extension>
          <tt:OtherTypes>
            <tt:Type>LicensePlate</tt:Type>
            <tt:Likelihood>0.81</tt:Likelihood >
          </tt:OtherTypes>
        </tt:Extension>
      </tt:Class>
    </tt:Appearance>
  </tt:Object>
</tt:Frame>
```

**Table 1 Class label namespace values**

| ClassType_NS URI                            | Description   |
|---|---|
| http://www.onvif.org/objectclasslabel/ver20 | Supported object class labels are <ul style="list-style-type: none"><li>- "Animal"</li><li>- "Face"</li><li>- "Human"</li><li>- "Vehicle"</li><li>- "Other"</li></ul> |

|   |  |
|---|--|
| http://www.onvif.org/objectclasslabel/ver22 | In addition to Ver 2.0 labels, the following class labels are also acceptable; <ul style="list-style-type: none"> <li>- "LicensePlate"</li> <li>- "Group"</li> </ul> |
|---|--|

The older implementations can ignore the Extension element. New implementations can parse and use the data in Extension element. This approach keeps the ClassType data type definition while expanding the meaning when the value is "Other". Specification shall list the acceptable values for OtherType/Type element, then, implementations can validate the acceptable values.

With

Beside the small set of predefined class types free type definitions can be added using the Type member defined as StringLikelihood.

## 2372 Specify operation names for relay outputs

Replace following section titles in Device IO service specification.

5.6.1 Get relay outputs

5.6.2 Get relay output options

5.6.3 Set relay output settings

5.6.4 Trigger relay output

With

5.6.1 GetRelayOutputs

5.6.2 GetRelayOutputOptions

5.6.3 SetRelayOutputSettings

5.6.4 SetRelayOutputState

## 2376 GetAnalyticsModuleOptions Type parameter mismatch

Replace a request argument name at section 5.3.3.6 *GetAnalyticsModuleOptions* in Analytics Service specification.

- AnalyticsModuleType - optional [xs:QName]

With

- Type - optional [xs:QName]

And replace occurrence attribute for corresponding argument (*GetAnalyticsModuleOptions/Type* element) in analytics.wsdl.

<xs:element name="Type" type="xs:QName" maxOccurs="1">

With

<xs:element name="Type" type="xs:QName" minOccurs="0">

## 2378 Clarify DeleteReceiver requirement

Replace following expression at section 5.4.4 *DeleteReceiver* in Receiver Service specification.

A receiver may not be deleted if it is in use.

With

A device may reject deletion of a receiver which is in use.

## 2379 Improve note on PTZ delay

Replace the last sentence of section 5.3 *Move Operations* in PTZ Service specification.

Note that the device controls command delay and video encoding delay; network delay and client delay also affect the user experience but cannot be controlled by the device.

With

Note that the device does not have full control of the lag from PTZ control input and device movement. Network delays and client delays can further increase lag. Implementations should minimize device lag as much as possible.

## 2380 Annotate normalized digital zoom space formula

Replace the first sentence of section 5.7.1.5 *Normalized digital zoom position space* in PTZ Service specification.

The normalized digital zoom position space represents the mapping between the width of the window used for a video stream and the width of the video source (sensor).

With

The normalized digital zoom position space represents the mapping between the width of the window ( $W_w$ ) used for a video stream and the width of the Bounds element of the video source configuration ( $S_w$ ).

## 2381 Improve autostart description

Replace a sentence of description for *AutoStart* parameter at section 5.8.8 *Preset tour parameters* in PTZ Service specification.

When this flag in one of preset tours is configured as True, ones in all other preset tours referring the same PTZNode shall be maintained to false.

With

When this flag is set to True in a preset tour, the device shall set the flags of all other preset tours referring to the same PTZNode to False, so that only one tour on the device is marked as

AutoStart.

## 2382 Xpath 1.0 references URI

Add following reference to XPath 1.0 into Section 2 *Normative references* in Recording Search Service specification.

W3C XML Path Language (XPath) Version 1.0  
<<https://www.w3.org/TR/1999/REC-xpath-19991116>>

And remove following old reference from section 5.18 *Xpath dialect*.

W3C XML Path Language (XPath) Version 1.0  
<<http://www.w3.org/TR/xpath/>>

And clarify the reference with replacing a sentence at section 5.18 *Xpath dialect*,

This section defines the XPATH 1.0 dialect that a device that realises the search service shall implement to parse the Xpath strings that are passed to the methods of the search service.

With

This section defines the [W3C XPATH 1.0] dialect that a device that realises the search service shall implement to parse the Xpath strings that are passed to the methods of the search service.

Replace the reference URL at Section 2 *Normative references* in ONVIF Core specification.

W3C XML Path Language (XPath) Version 1.0  
<<http://www.w3.org/TR/xpath/>>

With

W3C XML Path Language (XPath) Version 1.0  
<<https://www.w3.org/TR/1999/REC-xpath-19991116>>

## 2383 FIPS 186-X version ...

Remove version suffix number about FIPS186 in Export File Format specification, as replace  
At section 2 *Normative references*

NIST FIPS 186-3 Digital Signature Standard (DSS)

With

NIST FIPS 186 Digital Signature Standard (DSS)

And section 5.4.2 *Generating the signature*

Generating and maintaining parameters of the signature algorithm, particularly signature and verification keys, is outside the scope of this document. Recommendations given, e.g., in FIPS 186-3 should be followed where appropriate.

With

Generating and maintaining parameters of the signature algorithm, particularly signature and verification keys, is outside the scope of this document. Recommendations given, e.g., in FIPS 186 should be followed where appropriate.

### 2385 Topic mismatch correction in analytics spec (Radiometry)

Replace the first sentence of second paragraph (between XML examples) at Annex *D.1.1 Spot Measurement Module* in Analytics Service specification.

The above analytics module description defines that a Spot Module instance produces Measurement Events (when new temperature values are produced by the video source), attached to the topic **tns1:RuleEngine/Radiometry/SpotTemperatureReading**.

With

The above analytics module description defines that a Spot Module instance produces Measurement Events (when new temperature values are produced by the video source), attached to the topic **tns1: VideoAnalytics/Radiometry/SpotTemperatureReading**.

And replace the first sentence of second paragraph (between XML examples) at Annex *D.1.2 Box Measurement Module*,

The above analytics module description defines that a Box Module instance produces Measurement Events (when new temperature values are produced by the video source), attached to the topic **tns1:RuleEngine/Radiometry/BoxTemperatureReading**.

With

The above analytics module description defines that a Box Module instance produces Measurement Events (when new temperature values are produced by the video source), attached to the topic **tns1: VideoAnalytics/Radiometry/BoxTemperatureReading**.

### 2389 Optional ExtendedGrantTime field became (by mistake) mandatory in wsdl

Make *ExtendedGrantTime* element optional under ComplexType *Credential* in credential.wsdl, by replacing

```
<xs:element name="ExtendedGrantTime" type="xs:boolean" default="false">
```

With

```
<xs:element name="ExtendedGrantTime" type="xs:boolean" default="false" minOccurs="0">
```

## 2390 Wrong type for DefaultCredentialSuspensionDuration capability

Replace data type of attribute *ServiceCapabilities/DefaultCredentialSuspensionDuration* in *credential.wsdl*.

```
<xs:attribute name="DefaultCredentialSuspensionDuration" type="xs:string" default="PT5M">
```

With

```
<xs:attribute name="DefaultCredentialSuspensionDuration" type="xs:duration" default="PT5M">
```

## 2391 Add cabability for supported authentication modes in Authentication Behavior Spec

Add following parameter description at the end of section 5.1.2.1 *ServiceCapabilities* in Authentication Behaviour specification.

- SupportedAuthenticationModes

A list of supported authentication modes (including custom modes). See section 5.2.2.4 (AuthenticationMode field) for supported authentication modes. This field is optional, and when omitted, the client shall assume that the device supports “pt:SingleCredential” only.

Replace *xs:schema* tag in *authenticationbehavior.wsdl*

```
<xs:schema targetNamespace="http://www.onvif.org/ver10/authenticationbehavior/wsdl"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:pt="http://www.onvif.org/ver10/pacs"
  xmlns:tab="http://www.onvif.org/ver10/authenticationbehavior/wsdl"
  elementFormDefault="qualified"
  version="18.12">
```

with

```
<xs:schema targetNamespace="http://www.onvif.org/ver10/authenticationbehavior/wsdl"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:pt="http://www.onvif.org/ver10/pacs"
  xmlns:tt="http://www.onvif.org/ver10/schema"
  xmlns:tab="http://www.onvif.org/ver10/authenticationbehavior/wsdl"
  elementFormDefault="qualified"
  version="18.12">
```

Increase *xs:import* tag just after *xs:schema* tag, as replace

```
<xs:import namespace="http://www.onvif.org/ver10/pacs"
schemaLocation="../../../pacs/types.xsd"/>
```

With

```
<xs:import namespace="http://www.onvif.org/ver10/pacs"
schemaLocation="../../../pacs/types.xsd"/>
<xs:import namespace="http://www.onvif.org/ver10/schema"
schemaLocation="../../../schema/onvif.xsd"/>
```

Add following attribute under *ServiceCapabilities* complexType as the last attribute.

```
<xs:attribute name="SupportedAuthenticationModes" type="tt:StringAttrList">
  <xs:annotation>
    <xs:documentation>
      A list of supported authentication modes (including custom modes).
      This field is optional, and when omitted, the client shall assume that the
      device supports "pt:SingleCredential" only.
    </xs:documentation>
  </xs:annotation>
</xs:attribute>
```

## 2393 AuthenticationMode is not a list in AuthenticationBehavior spec

Revise an attribute of *AuthenticationMode* element under *SecurityLevelConstraint* complexType definition in authenticationbehavior.wsdl.

```
<xs:element name="AuthenticationMode" type="pt:Name" minOccurs="0"
maxOccurs="unbounded">
```

With

```
<xs:element name="AuthenticationMode" type="pt:Name" minOccurs="0"
default="pt:SingleCredential">
```

And, add following sentence to bottom of *AuthenticationMode* parameter description at section 5.2.2.4 *SecurityLevelConstraint* in Authenticaion Behavior specification.

This field is optional, and if omitted, the default value "pt:SingleCredential" is assumed.

## 2396 Missing DomainComponent in tas:DistinguishedName

Add an element *DomainComponent* under *DistinguishedName* complexType in security.wsdl

```

<xs:element minOccurs="0" maxOccurs="unbounded" name="DomainComponent"
type="tas:DNAttributeValue">
  <xs:annotation>
    <xs:documentation>Domain Component as specified in RFC3739</xs:documentation>
  </xs:annotation>
</xs:element>

```

## 2397 Wrong text for overridden times in AccessDoor command

Replace a description about AccessTime at section 5.5.2 AccessDoor command in Door Control Service specification.

- AccessTime Overrides DelayTimeBeforeRelock in section 5.3.2.3

With

- AccessTime Overrides ReleaseTime in section 5.3.2.3

And replace parameter description of Table 12 *AccessDoor command*

This message contains:

- "Token": Token of the Door instance to control.
- "UseExtendedTime": Optional - Indicates that the configured extended time should be used.
- "AccessTime": Optional - overrides AccessTime if specified.
- "OpenTooLongTime": Optional - overrides OpenTooLongTime if specified (DOTL).
- "PreAlarmTime": Optional - overrides PreAlarmTime if specified.
- "Extension": Future extension.

With

This message contains:

- "Token": Token of the Door instance to control.
- "UseExtendedTime": Optional - Indicates that the configured extended time should be used.
- "AccessTime": Optional - overrides ReleaseTime if specified.
- "OpenTooLongTime": Optional - overrides OpenTime if specified.
- "PreAlarmTime": Optional - overrides PreAlarmTime if specified.
- "Extension": Future extension.

Replace annotations of Element AccessDoor/AccessTime and AccessDoor/OpenTooLongTime in doorcontrol.wsdl

```

<xs:element name="AccessTime" type="xs:duration" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Optional - overrides AccessTime if specified.</xs:documentation>
  </xs:annotation>

```

```

</xs:element>
<xs:element name="OpenTooLongTime" type="xs:duration" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Optional - overrides OpenTooLongTime if specified (DOTL).
    </xs:documentation>
  </xs:annotation>
</xs:element>

```

With

```

<xs:element name="AccessTime" type="xs:duration" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Optional - overrides ReleaseTime if specified.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="OpenTooLongTime" type="xs:duration" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Optional - overrides OpenTime if specified.
    </xs:documentation>
  </xs:annotation>
</xs:element>

```

## 2405 Update 'Normative references' section

Update whole section 2 *Normative references* in Export File Format specification.

From

2 Normative references

ONVIFTM Core Specification, Version 2.2, May, 2012

<<http://www.onvif.org/specs/core/ONVIF-Core-Specification.pdf>>

ISO/IEC 14496-12 Information technology — Coding of audiovisual objects – Part 12: ISO base media file format

ISO/IEC 23000-10 Information technology – Multimedia application format – Part 10: Surveillance application format

ISO/IEC 23000-10/Cor 2:2014 Information technology – Multimedia application format – Part 10: Surveillance application format - TechnicalCorrigendum 2

NIST FIPS 180-4 Secure Hash Standard

ISO/IEC 14888-2 Information technology – Security techniques – Digital signatures with appendix – Part 2: Integer factorization based mechanisms

PKCS#1, v2.1 RSA Cryptographic Standard

NIST FIPS 186 Digital Signature Standard (DSS)

IETF RFC 344 Public-Key Cryptography Standards (PKCS) #1: RSA Cryptography Specifications Version 2.1

ITU-T Recommendation X.690 (2008) | ISO/IEC 8825-1:2008, Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)

To

2 Normative references

ONVIF TM Core Specification

<<http://www.onvif.org/specs/core/ONVIF-Core-Specification.pdf>>

ISO/IEC 14496-12 Information technology — Coding of audiovisual objects – Part 12: ISO base media file format

<<https://www.iso.org/obp/ui/#iso:std:iso-iec:14496:-12:ed-5:v1:en>>

ISO/IEC 23000-10 Information technology – Multimedia application format – Part 10: Surveillance application format

<<https://www.iso.org/obp/ui/#iso:std:iso-iec:23000:-10:ed-2:v1:en>>

ISO/IEC 23000-10/Cor 2:2014 Information technology – Multimedia application format – Part 10: Surveillance application format - Technical Corrigendum 2

<<https://www.iso.org/obp/ui/#iso:std:iso-iec:23000:-10:ed-2:v1:cor:2:v1:en>>

NIST FIPS 180-4 Secure Hash Standard

<<https://csrc.nist.gov/publications/detail/fips/180/4/final>>

ISO/IEC 14888-2 Information technology – Security techniques – Digital signatures with appendix – Part 2: Integer factorization based mechanisms

<<https://www.iso.org/obp/ui/#iso:std:iso-iec:14888:-2:ed-2:v1:en>>

PKCS#1, v2.1 RSA Cryptographic Standard

NIST FIPS 186 Digital Signature Standard (DSS)

<<https://csrc.nist.gov/publications/detail/fips/186/4/final>>

IETF [RFC 3447](https://tools.ietf.org/rfc/rfc3447.txt) Public-Key Cryptography Standards (PKCS) #1: RSA Cryptography Specifications Version 2.1

<<https://tools.ietf.org/rfc/rfc3447.txt>>

ITU-T Recommendation X.690 (2008) | ISO/IEC 8825-1:2008, Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)

<<https://www.itu.int/rec/T-REC-X.690-200811-S>>

## 2417 Some services have not defined a Capabilities element within the namespace

Supplement missing “Capabilities” element definition for each ServiceCapabilities.

In accesscontrol.wsdl

```
<xs:element name="Capabilities" type="tac:ServiceCapabilities"/>
```

In accessrules.wsdl

```
<xs:element name="Capabilities" type="tar:ServiceCapabilities"/>
```

In authenticationbehavior.wSDL

```
<xs:element name="Capabilities" type="tab:ServiceCapabilities"/>
```

In credential.wSDL

```
<xs:element name="Capabilities" type="tcr:ServiceCapabilities"/>
```

In doorcontrol.wSDL

```
<xs:element name="Capabilities" type="tdc:ServiceCapabilities"/>
```

In provisioning.wSDL

```
<xs:element name="Capabilities" type="tpv:Capabilities"/>
```

In schedule.wSDL

```
<xs:element name="Capabilities" type="tsc:ServiceCapabilities"/>
```

## 2432 Unify config options

Replace element description "GetAnalyticsModuleOptionsResponse" in analytics.wSDL.

```
<xs:element name="GetAnalyticsModuleOptionsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Options" type="tan:AnalyticsModuleConfigOptions" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

With

```
<xs:element name="GetAnalyticsModuleOptionsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Options" type="tan:ConfigOptions" minOccurs="0"
maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

And add following attribute description into ConfigOptions as the last attribute.

```

<xs:attribute name="AnalyticsModule" type="xs:QName">
  <xs:annotation>
    <xs:documentation>
      Optional name of the analytics module this constraint applies to. This option is only
      necessary in cases where different constraints for elements with the same Name exist.
    </xs:documentation>
  </xs:annotation>
</xs:attribute>

```

And remove element description "AnalyticsModuleConfigOptions".

## 2436 Annotate deprecation to capabilities

Replace annotation about "GetCapabilities" operation description in devicemgmt.wsdl.

```

<wsdl:operation name="GetCapabilities">
  <wsdl:documentation>Any endpoint can ask for the capabilities of a device using the capability
  exchange request
  response operation. The device shall indicate all its ONVIF compliant capabilities through the
  GetCapabilities command.
  The capability list includes references to the addresses (XAddr) of the service implementing
  the interface operations in the category. Apart from the addresses, the
  capabilities only reflect optional functions.</wsdl:documentation>
  <wsdl:input message="tds:GetCapabilitiesRequest"/>
  <wsdl:output message="tds:GetCapabilitiesResponse"/>
</wsdl:operation>

```

With

```

wsdl:operation name="GetCapabilities">
  <wsdl:documentation>This method has been replaced by the more generic GetServices
  method.
  For capabilities of individual services refer to the GetServiceCapabilities
  methods.</wsdl:documentation>
  <wsdl:input message="tds:GetCapabilitiesRequest"/>
  <wsdl:output message="tds:GetCapabilitiesResponse"/>
</wsdl:operation>

```

## 2437 Clarify Polygon structure description

Replace following part of first paragraph in Annex C.1 Motion region detector in Analytics Service specification.

The region motion detector detects any motion against the specified motion region. The rule is configured for an area (region of interest on the image source) which can be armed or disarmed. The region is defined by a polygon structure.

With

The region motion detector detects any motion against the specified motion region. The rule is configured for an area (region of interest on the image source) which can be armed or disarmed. The region shall be defined by a Polygon structure. Omission of the Polygon element indicates an empty region and not a default region.