ONVIF™

ONVIF Specification Version 20.06
Release Notes

1. Summary

The ONVIF 20.06 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 adopts following features with passing through the IPR review.

2.1. Event transmission via MQTT

The extension defines a standardized way for forwarding ONVIF events to MQTT message broker.

2.2. Access controller feedback

Enables feedback from the controller to the access point.

2.3. Face and license plate recognition

Defines both the analytics configuration and the related events for human face and vehicle license plate recognition.

2.4. Object detection

Introduces analytics rule definition for object class type detection. Object classes are general types like. Humans and vehicles but applications may also differentiate more exact between cats and dogs.

3. Changes

Find below all errata from Version 19.12 to 20.06 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.

2666 Metadatastream.xsd: Two Any element in ClassDescriptorExtension

In metadatastream.xsd, replace the complex type definition of ClassDescriptorExtension of the following

```
<xs:complexType name="ClassDescriptorExtension">
 <xs:sequence>
        <xs:any namespace="##other" processContents="lax" minOccurs="0"
maxOccurs="unbounded"/>
        <xs:element name="OtherTypes" type="tt:OtherType" maxOccurs="unbounded"/>
        <xs:element name="Extension" type="tt:ClassDescriptorExtension2"
minOccurs="0"/>
        <xs:any namespace="##any" processContents="lax" minOccurs="0"
maxOccurs="unbounded"/>  <!-- reserved for ONVIF -->
 </xs:sequence>
</xs:complexType>
```

with

```
<xs:complexType name="ClassDescriptorExtension">
 <xs:sequence>
        <xs:any namespace="##other" processContents="lax" minOccurs="0"
maxOccurs="unbounded"/>
        <xs:element name="OtherTypes" type="tt:OtherType" maxOccurs="unbounded"/>
        <xs:element name="Extension" type="tt:ClassDescriptorExtension2"
minOccurs="0"/>
 </xs:sequence>
</xs:complexType>
```

2675 Clarify ImageSending capability

In analytics.wsdl, replace the following

```
<xs:complexType name="Capabilities">
...
  <xs:attribute name="ImageSendingType" type="xs:string"/>
```

with

```
<xs:complexType name="Capabilities">
...
  <xs:attribute name="ImageSendingType" type="tt:StringList"/>
```

2683 Options for modeling analytics modules and rules limitations

In ONVIF Schema (onvif.xsd), add the following attribute definition in tt:SupportedRules and
tt:SupportedAnalyticsModule complex type definition.

```
<xs:attribute name="Limit" type="xs:int">
 <xs:annotation>
```

```
            <xs:documentation>Maximum number of concurrent
instances.</xs:documentation>
   </xs:annotation>
 </xs:attribute>
```

2695 Add frame source attribute

In ONVIF Analytics Service specification, add the following paragraphs in section 5.1.2.1 Temporal Relation

Note that there is not necessarily a one to one relation between video and metadata frames. Typically an analytics module generates metadata at a lower frame rate. However when more than one analytics module generates metadata, multiple metadata frames may occur for the same video frame and also the temporal order may vary because different analytics modules may have differing computational delay.

When multiple analytics modules are streaming metadata in interleaved frames than the name of the originating analytics module shall be signaled via the Frame Source attribute.

and in metadatastream.xsd, add the following attribute in tt:Frame complex type definition.

```
<xs:attribute name="Source" type="xs:string">
  <xs:annotation>
    <xs:documentation>
      Optional name of the analytics module that generated this frame.
    </xs:documentation>
  </xs:annotation>
</xs:attribute>
```

2558 Event Handling in ONVIF_core

In ONVIF Core specification, remove the following sentence in chapter 9.

An ONVIF compliant device shall provide an event service as defined in [ONVIF Event WSDL].

2571 Efficient XML Interchange – Clarification

In ONVIF Media Service specification, remove the following sentences in section 5.10.1.

Schema based EXI encoding shall be used. The required schema may be obtained from a device using the GetWsdlUrl command

In ONVIF Media2 Service specification, remove the following sentences in Annex. A.

Schema based EXI encoding shall be used. The required schema can be obtained from any device using the GetWsdlUrl command

2604 Section 5.2.1 contains "state" requirement ...

In ONVIF Media2 Service specification, replace the following paragraph in section 5.2.1,

Certain configurations in a media profile are dependent on other configurations. In such cases, the required configuration shall be present before adding the dependent configuration. It shall also be possible to add both configurations in a single AddConfiguration request if they are compatible. Similarly, the required configuration shall not be removed unless the dependent configuration is removed first. Both configurations shall also be removable in a single RemoveConfiguration command. The dependencies are as follow:

with

Certain configurations in a media profile are dependent on other configurations. In such cases, a device should not allow adding the dependent configuration if the required configuration isn't present. Similarly, a device should not allow removing the required configuration unless the dependent configuration is removed first. Furthermore a device shall allow adding and removing both configurations in the same AddConfiguration respective RemoveConfiguration command. The dependencies are as follow:

2640 A device shall support creating an analytics module without parameters

In ONVIF Analytics Service specification, add the following paragraph in 5.4.3.3.

The device shall accept adding of analytics modules with an empty Parameter definition. Note that the resulted configuration may include a set of default parameter values.

2641 Clarify notion 'currently installed xxx'

In ONVIF Analytics Service specification, replace the following in section 5.3.3.2

A device signaling support for rules via the RuleSupport capability shall support this operation to retrieve the currently installed rules
...
List of installed rules for the specified configuration

with

A device signaling support for rules via the RuleSupport capability shall support this operation to retrieve the rules currently associated rules with a video analytics configuration.
...
List of rules associated with the specified configuration

Replace the following in section 5.3.3.3

Token of an existing analytics configuration.
…
List of rules to be installed for the specified configuration

with

Analytics configuration for which the rules should be created.

…

Rules to be added to the specified configuration.

Replace the following in section 5.4.3.2.

A device signaling support for analytics modules via the AnalyticsModuleSupport capability shall support this method to retrieve currently installed analytics modules for an analytics configuration.

...

List of installed modules for the specified configuration.

with

A device signaling support for analytics modules via the AnalyticsModuleSupport capability shall support this method to retrieve currently associated analytics modules for an analytics configuration.

...

List of modules associated with the specified configuration.

Replace the following in section 5.4.3.3.

List of modules to be installed for the specified configuration.

with

Modules to be added to the specified configuration.

2485 Control metadata generation

In ONVIF Schame (onvif.xsd), add the following attribute in the complex type definition of tt:MetadataConfiguration.

```
<xs:attribute name="ShapePolygon" type="xs:boolean">

 <xs:annotation>

        <xs:documentation>Optional parameter to configure if the generated

metadata stream should contain shape information as polygon.</xs:documentation>

  </xs:annotation>

</xs:attribute>
```

2669 Clarify GetSupportedMetadata without type constraint

In ONVIF Analytics Service specification, replace the following description of the optional Type request parameter in section 5.4.3.7

Optional module type for which the metatdata information shall be retrieved. If omitted, the response of this method shall signal the information for all currently installed analytics modules.

with

Optional module type for which the metatdata information shall be retrieved. If omitted, the

response of this method shall signal the information for all supported analytics modules.

2671 Fix type of SampleFrame

In ONVIF Analytics Service specification, replace the following data type indication of SampleFrame in section 5.4.3.7

```
SampleFrame [xs:string]
```

with

```
SampleFrame [tt:Frame]
```

2678 Fix reference for GetSupportedAnalyticsModules

In ONVIF Analytics Service specification, replace the following sentence in section 5.4.3.1

The description shall conform to the configuration description language as described in section 5.1.3.10.

with

The description shall conform to the configuration description language as described in section 5.2.

2682 Add error code creating fixed module

In ONVIF Analytics Service specification, add the following error code definition in section 5.4.3.3

env:Sender -ter:Action - ter:FixedModules

At least one of the requested modules is fixed and cannot be created.

2685 ModifyAnalyticsModules and ModifyRules shall not allow Type change

In ONVIF Analytics Service specification, add the following sentence in the first paragraph of section 5.3.3.4

A device may reject a request to change the rule type.

in conjunction with the following error code definition addition.

env:Receiver - ter:Action - ter:TypeChangeProhibited

The device cannot modify the rule configuration type without creating a conflicting configuration.

and add the following sentence in the first paragraph of section 5.4.3.4.

A device may reject a request to change the module type.

in conjunction with the following error code definition addition.

env:Receiver - ter:Action - ter:TypeChangeProhibited

The device cannot modify the analytics module type without creating a conflicting configuration.

2690 Update the class type example in analytics spec

In ONVIF Analytics Service specification, replace the metadata tt:Frame example in section 5.1.3.5

```
<tt:Frame UtcTime="2010-11-10T12:24:57.721">


<tt:Object ObjectId="22">
   <tt:Appearance>
    <tt:Shape>
      <tt:BoundingBox left="20.0" top="30.0" right="100.0" bottom="80.0"/>
      <tt:CenterOfGravity x="60.0" y="50.0"/>
    </tt:Shape>
    <tt:Class>
     <tt:ClassCandidate>
      <tt:Type>Vehicle</tt:Type>
      <tt:Likelihood>0.93</tt:Likelihood >
     </tt:ClassCandidate>
    </tt:Class>
   </tt:Appearance>
</tt:Object>
</tt:Frame>
```

with

```
<tt:Frame UtcTime="2010-11-10T12:24:57.721">


<tt:Object ObjectId="22">
   <tt:Appearance>
    <tt:Shape>
      <tt:BoundingBox left="20.0" top="30.0" right="100.0" bottom="80.0"/>
      <tt:CenterOfGravity x="60.0" y="50.0"/>
    </tt:Shape>
    <tt:Class>
      <tt:Type Likelihood="0.8">Vehicle</tt:Type>
    </tt:Class>
   </tt:Appearance>
</tt:Object>
</tt:Frame>
```

2696 Examples need Transformation element

In ONVIF Analytics Service specification, add the following Transformation element just after the tt:Frame entry in section 5.1.3.4 and 5.1.3.5

```
<tt:Transformation>

  <tt:Translate x="-1.0" y="-1.0"/>
```

```
    <tt:Scale x="0.003125" y="0.00416667"/>

</tt:Transformation>
```

2698 Wrong wording

In ONVIF Analytics Service specification, replace the following sentence in section 5.1.2.2

A coordinate system consists of a translational vector $t = \begin{pmatrix} t_x \\ t_y \end{pmatrix}$ and scaling $s = \begin{pmatrix} s_x \\ s_y \end{pmatrix}$.

with

A coordinate transformation consists of a translational vector $t = \begin{pmatrix} t_x \\ t_y \end{pmatrix}$ and scaling $s = \begin{pmatrix} s_x \\ s_y \end{pmatrix}$.

2686 Partial config updates

In ONVIF Analytics Service specification, add the following paragraph in section 5.3.3.4 and 5.4.3.4.

A device shall interpret parameters not present in the payload as unchanged. Note that this does not always result in unchanged values of such parameters, since some parameters may change due to dependency on others.