ONVIF
Driving IP-based physical security through global standardization

ONVIF™

ONVIF Specification Version 17.12
Release Notes

1. Summary

The ONVIF 17.12 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

2.1   View Mode

The view mode parameter has been added to the Media2 Service for device to declare the view mode through video source configuration.

2.2   OSD Image Upload

The OSD image upload definition has been added to clarify the procedure of uploading image file for on screen display.

2.3   Geo Move Positioning Space

Added informative annex to the ONVIF PTZ Service describing how a client can check whether a geo located point can be reached by a PTZ device.

3. Changes

Find below all errata from Version 17.06 to 17.12 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.

2024 Deprecate password derivation

Remove a whole section *5.12.3.1 Password derivation* in ONVIF Core specification.

Remove a normative reference to SHA.

> FIPS 180-2, SECURE HASH STANDARD
> <http://csrc.nist.gov/publications/fips/fips180-2/fips180-2.pdf>

Remove an abbreviation of SHA

SHA	Secure Hash Algorithm

Remove a part of phrase from following sentence in section *8.4.4 Create users*.

ONVIF compliant devices are recommended to support password length of at least 28 bytes, as clients may follow the password derivation mechanism which results in 'password equivalent' of length 28 bytes, as described in 5.12.3.1.

Replace sentences in section *8.4.7 Get remote user* and *8.4.8 Set remote user*.

The algorithm to use for deriving the password is described in section 5.12.3.1.

With

Password derivation is outside of the scope of this specification.

Remove in section 8.4.8 Set remote user

The user is only valid for the WS-UserToken profile or as a HTTP / RTSP user.
The password that is set shall always be the original (not derived) password.

If UseDerivedPassword is set password derivation shall be done by the device when connecting to a remote device.The algorithm to use for deriving the password is described in section 5.12.3.1.

2124 Clarity on the MaximumNumberOfProfiles / Create profile in Media2

Add an attribute parameter "*MaximumNumberOfProfiles*" as following into *VideoSourceConfigurationOptions* in onvif.xsd.

```
<xs:attribute name="MaximumNumberOfProfiles" type="xs:int">
 <xs:annotation>
  <xs:documentation>Maximum number of profiles.</xs:documentation>
 </xs:annotation>
</xs:attribute>
```

2143 Mismatch normative reference

Replace a reference at section *1.1 Normative references* in Schedule Service specification

• RFC 2445, Internet Calendaring and Scheduling Core Object Specification (iCalendar)
https://www.ietf.org/rfc/rfc2445.txt

with

• RFC 5545, Internet Calendaring and Scheduling Core Object Specification (iCalendar)
https://www.ietf.org/rfc/rfc5545.txt

2147 Incorrect fault code for non supported exemptions

Replace following specific fault code at section *4.2.6 CreateCredential command*, *4.2.7 ModifyCredential command* and *4.2.15 SetCredentialIdentifier command* in Credential Service specification.

env:Sender ter:<u>InvalidArgVal</u> ter:<u>ExemptFromAuthenticationSupported</u>	*Exempt from authentication is not supported by the device. See the SupportedExemptionType capability.*

With

env:Sender ter:<u>CapabilityViolated</u> ter:<u>SupportedExemptionType</u>	*Specified exemption type is not supported by the device. See the SupportedExemptionType capability.*

2149 Clarification of 'without any response'

Replace a description of section *4.2.16 DeleteCredentialIdentifier command* in Credential Service specification.

However, if the identifier type name doesn't exist in the device, it will be silently ignored <u>without any response</u>.

With

However, if the identifier type name doesn't exist in the device, it will be silently ignored <u>(no fault is generated)</u>.

Replace a description of section *4.2.19 DeleteCredentialAccessProfiles command*

However, if no matching credential access profiles are found, the corresponding access profile tokens are silently ignored <u>without any response</u>.

With

However, if no matching credential access profiles are found, the corresponding access profile tokens are silently ignored <u>(no fault is generated)</u>.

2152 Clarification required for "All" string input "tr2:ConfigurationEnumeration"

Insert a following sentence into description for *REQUEST : configuration* part at section *5.1.1 Create media profile* in Media2 Service Specification.

Optional list of configurations to be added to the new profile. <u>List entries with tr2:ConfigurationEnumeration value "All" shall be ignored.</u>

Insert a following sentence into description for *REQUEST : configuration* part at section *5.1.3 Add one or more configurations to a profile*.

> Optional list of configurations to be added to the profile. <u>List entries with tr2:ConfigurationEnumeration value "All" shall be ignored.</u>

Insert following sentences into the first description paragraph at section *5.1.4 Remove one or more configurations from a profile*.

> This operation removes one or more configurations from an existing media profile. <u>Tokens appearing in the configuration list shall be ignored. Presence of the "All" type shall result in an empty profile.</u> Removing a non-existing configuration shall be ignored and not result in an error. A device supporting the Media2 service shall support this command.

Replace the description of *ConfigurationsSupported* at section *5.11 Capabilities*.

> **ConfigurationsSupported:** <u>Enumerates</u> the configurations supported by the device as defined by tr2:ConfigurationEnumeration.

With

> **ConfigurationsSupported:** The configurations supported by the device as defined by tr2:ConfigurationEnumeration. <u>The enumeration value "All" shall not be included in this list. A device implementing this service shall provide this capability.</u>

And apply above changes into appropriate documentation parts of ver20/media/wsdl/media.wsdl.

2159 Typo: Namespace of VideoSourceMode

Correct a namespace prefix of RESPONSE: VideoSourceMode type at section *5.8.1 GetVideoSourceModes* in Media2 Service specification.

> • VideoSourceMode - unbounded [<u>tt</u>:VideoSourceMode]

With

> • VideoSourceMode - unbounded [<u>tr2</u>:VideoSourceMode]

2165 Need capability for AudiobackChannel Multicast

Add a following note on the end of section *5.3.3 Multicast Streaming* in Streaming specification.

> <u>Note that multicast streaming for Audio Backchannel is outside of the scope of this specification.</u>

2167 Missing space in Access rules spec

Non contextual, typographic change.

2168 Minor editorial fixes in Schedule spec

Replace a following sentence of description for *ExtendedRecurrenceSupported* at section *4.1.1.1 Service Capabilities* in Schedule Service specification.

> If ExtendedRecurrenceSupported = false, only weekly recurrence shall be supported for schedules (according to section 0) and no recurrence shall supported for special days.

With

> If ExtendedRecurrenceSupported = false, only weekly recurrence shall be supported for schedules (according to section 3.2.2) and no recurrence shall be supported for special days.

Insert a word *'than'* at section *4.2.5 GetScheduleList command*.

> The number of items returned shall not be greater than the Limit parameter.

Insert a word *'than'* at section *4.3.5 GetSpecialDayGroupList command*.

> The number of items returned shall not be greater than the Limit parameter

2169 Minor editorial fixes in Credential spec

Non contextual, typographic change.

2170 Tracking is turned on in Access Control Spec

Non contextual, typographic change.

2171 Changes in term definitions in Access Control spec

Revise several descriptions at section *3.1 Terms and definitions* in Access Control Service specification.

Remove the last word from the description of *Credential*.

> logical object holding related credential identifiers for a credential holder. E.g. if a PIN is associated with a specific credential number, then both of these identifiers are stored in one credential. Note that the PIN is normally not stored in the physical credential token.

Remove the last word from the description of *Credential Holder*.

A person holding a credential ~~token~~.

Replace the description of *Credential Identifier*.

Information either memorized or held within a <u>credential token</u>. Could be a credential number, PIN, biometric information, etc., that can be validated in an access point.

With

Information either memorized or held within a <u>physical credential</u>. Could be a credential number, PIN, biometric information, etc., that can be validated in an access point.

Replace the description of *Credential Number*.

A sequence of bytes uniquely identifying a <u>credential token</u> at an access point.

With

A sequence of bytes uniquely identifying a <u>physical credential</u> at an access point.

Remove the whole term definition of *Credential Token*.

~~Credential Token????~~	~~Portable device containing a readable unique credential number that can be associated with the credential holder's data and access rules stored within the electronic access control system.~~

2172 Minor (but many) editorial changes in Door Control spec

Non contextual, typographic change.

2173 Formatting of Terms and Definitions in Door Control spec differs from the other PACS specs

Non contextual, typographic change.

2176 Improve wording

Remove a following sentence at section *5.9.2 CreateOSD* in Media2 Service specification.

When creating a OSDTextConfiguration, if the IsPersistentText attribute is missing, device shall assume IsPersistentText attribute as true.

Add a following note after the command dedescription in same section.

> Note: an OSDTextConfiguration without the IsPersistentText attribute shall be interpreted by the device as persistent.

2177 Fix error code name

Replace a fault code name at section *5.3.3.6 GetAnalyticsModuleOptions* in Analytics Service specification.

> • env:Sender - ter:InvalidArgVal - ter:<u>Rule</u>NotExistent

With

> • env:Sender - ter:InvalidArgVal - ter:<u>Type</u>NotExistent

2178 Minor updates to the 2061 and 2063 fixes

Remove a sentence from section *5.21 ExportRecordedData* in Recording Control Service specification.

> The device shall implement ExportRecordedData command when the optional SupportedExportFileFormats capability returns a list of supported export file formats.

Replace the description of RESPONSE: FileNames

> List of exported file names. <u>The device</u> can also use AsyncronousOperationStatus event to monitor the progress of ExportRecordedData operation.

With

> List of exported file names. <u>A client</u> can also use AsyncronousOperationStatus event to monitor the progress of ExportRecordedData operation.

2179 5.4 CreateRecording - Strange part

Remove following sentence from first paragraph of section *5.4 CreateRecording* in Recording Control Service specification.

> The new recording shall be created with a track for each supported TrackType see section 5.21.

2180 Wrong reference

Replace a following sentence at section *6.5 Initiating Playback* in Streaming specification.

The ReversePlayback capability defined in the ONVIF <u>Streaming</u> Specification signals if a device<u>s</u> supports reverse playback.

With

The ReversePlayback capability defined in the ONVIF <u>Replay Control Service</u> Specification signals if a device supports reverse playback.

2181 Clarify Range header requirement

Replace a following paragraph at section *6.5.1 Range header field* in Streaming specification

<u>The Range field shall be expressed using absolute times only; the other formats defined by [RFC 2326] shall NOT be used by ONVIF replay clients. Servers may choose to support other formats also.</u> Absolute times are expressed using the utc-range from [RFC 2326].

With

<u>A device shall support the Range field expressed using absolute times as defined by [RFC 2326].</u> Absolute times are expressed using the utc-range from [RFC 2326].

2185 Remove requirement to create three tracks

Replace a sentence which is just after the command definition at section *5.4 CreateRecording* in Recording Control Service specification.

When successfully completed, <u>CreateRecording</u> shall have created <u>three</u> tracks with the following configurations

With

When successfully completed, <u>the device</u> shall have created <u>one or more</u> tracks with the following configurations

2187 Name mismatch : WebSocket capabiity

Replace a capability name about WebSocket streaming at section *5.11 Capabilities* in Media2 Service specification.

RTSPOverWebSocket:

With

RTSPWebSocketUri:

2193 Remove duplicate token from mask

Replace an annotation of *ConfigurationToken* element that is a apart of *Mask* complex type in

ver20/media/wsdl/media.wsdl.

```
<xs:element name="ConfigurationToken" type="tt:ReferenceToken">
  <xs:annotation>
    <xs:documentation>Unique identifier of this mask configuration.</xs:documentation>
  </xs:annotation>
</xs:element>
```
With
```
<xs:element name="ConfigurationToken" type="tt:ReferenceToken">
  <xs:annotation>
    <xs:documentation>Token of the VideoSourceConfiguration the Mask is associated
with.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Remove an attribute *VideoSourceConfiguration* that is a part of *Mask* complex type.

```
<xs:attribute name="VideoSourceConfiguration" type="tt:ReferenceToken">
  <xs:annotation>
    <xs:documentation>Token of the VideoSourceConfiguration the Mask is associated
with.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

2194 Correct annotation for Entity in LocationEntity

Replace an annotation of *Entity* attribute that is a apart of *LocationEntity* complex type in onvif.xsd.

```
<xs:attribute name="Entity" type="xs:string">
  <xs:annotation><xs:documentation>Entity type the entry refers to as defined in
tds:Entity.</xs:documentation></xs:annotation>
</xs:attribute>
```
With
```
<xs:attribute name="Entity" type="xs:string">
  <xs:annotation><xs:documentation>Entity type the entry refers to, use a value from the tt:Entity
enumeration.</xs:documentation></xs:annotation>
</xs:attribute>
```

2196 Improve property event definition

Sections 9.4 and 9.5 of the ONVIF Core Specification have been consolidated into section 9.4.
By first describing the notification structure and then introducing the property event this part of the specification should be easier to read. The editorial update intends no functional or semantic changes.

2197 Fix typo in Media2 service specification

Replace the following paragraph at section *5.3.5 GetVideoEncoderInstances* in Media2 Service specification.

The total sum of video encoder instances over all <u>video sources</u> of a device shall not exceed the value signaled via MaximumNumberOfProfiles.

With

The total sum of video encoder instances over all <u>video source configurations</u> of a device shall not exceed the value signaled via MaximumNumberOfProfiles.

2202 Ambiguity in media2 getprofiles

Replace documentation for parameter conditions of GetProfiles operation in ver20/media/wsdl/media.wsdl.

<wsdl:operation name="GetProfiles">
  <wsdl:documentation>Retrieve the profile with the specified token or all defined media profiles.

      <u>
If no configuration types are defined only the profile names and token are returned.
</u>
      <u>
In case of provided configuration types all information regarding these types is returned.
</u>
      <u>
If no Type is provided the response shall contain all available configurations. Otherwise only matching configurations shall be returned.
</u>

With

<wsdl:operation name="GetProfiles">
  <wsdl:documentation>Retrieve the profile with the specified token or all defined media profiles.

      <u>
If no Type is provided the returned profiles shall contain no configuration information.
</u>
      <u>
If a single Type with value 'All' is provided the returned profiles shall include all associated configurations.
</u>
      <u>
Otherwise the requested list of configurations shall for each profile include the configurations present as Type.
</u>

2203 Media2 Specification clarification required for add/remove dependent entities to media profile

Remove following paragraphs from section *5.1.4 Remove one or more configurations from a profile* in Media2 Service specification.

> A device shall return an error if a client attempts to remove VideoSourceConfiguration from the Profile when a VideoEncoderConfiguration is present. To avoid this error condition, a client may first remove the VideoEncoderConfiguration, or may remove the VideoSourceConfiguration and VideoEncoderConfiguration together in a single RemoveConfiguration command.
> A device shall return an error if a client attempts to remove AudioSourceConfiguration from the Profile when an AudioEncoderConfiguration is present. To avoid this error condition, a client may first remove the AudioEncoderConfiguration, or may remove the AudioSourceConfiguration and AudioEncoderConfiguration together in a single RemoveConfiguration command.

Add following paragraphs in the end of section *5.2.1 General* instead.

> 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:
>
> * VideoEncoderConfiguration depends on VideoSourceConfiguration
> * AudioEncoderConfiguration depends on AudioSourceConfiguration
> * PTZConfiguration depends on VideoSourceConfiguration
> * AudioDecoderConfiguration depends on AudioOutputConfiguration
>
> If a dependency is violated in an AddConfiguration or RemoveConfiguration request, a ter:ConfigurationConflict fault should be returned in the response.

2204 Fix radiometry publication error

Add an item of namespace definition "ttr" for Radiometry at section *3.3 Namespaces* in Analytics Service specification.

| ttr | http://www.onvif.org/ver20/analytics/radiometry | XML schema descriptions for Radiometry |

Add a description for radiometry schema file as a last part of section *4 Overview*.

Radiometry types, modules and rules are defined in the RADIOMETRY Schema file
http://www.onvif.org/ver20/analytics/radiometry.xsd.

Update *Annex D. Radiometry* with the brand-new document.

2206 Improve misleading description

Replace sentences described relation reference at section *5.1.1.3 RTP/RTSP/TCP* in Streaming
specifiction

This protocol shall conform to [RFC 2326] Section 10.12.

With

This protocol shall conform to [RFC 2326] Section 10.12 (Embedded [Interleaved] Binary Data).

And section *5.1.1.4 RTP/RTSP/HTTP/TCP*

This protocol shall conform to [RFC 2326] (RTSP Section 5.2.1.1: Embedded [Interleaved] Binary
Data).

With

This protocol shall conform to [RFC 2326] Section 10.12.

2207 Re-add command names to Media2 Service Specification sections

In the Media2 Service Specification, make the following changes:

In Section 5.1.1, replace title Create media profile with CreateProfile

In Section 5.1.2, replace title Get media profiles with GetProfiles

In Section 5.1.3, replace title Add one or more configurations to a profile with AddConfiguration

In Section 5.1.4, replace title Remove one or more configurations from a profile with
RemoveConfiguration

In Section 5.1.5, replace title Delete media profile with DeleteProfile

In Section 5.3.2, replace title Get configurations with Get<entity>Configuration

In Section 5.3.3, replace title Modify a configuration with Set<entity>Configuration

In Section 5.3.4, replace title Get configuration options with Get<entity>ConfigurationOptions

In Section 5.4.1, replace title Request stream URI with GetStreamUri

In Section 5.5.1, replace title Request snapshot URI with GetSnapshotUri

In Section 5.6.1, replace title Start multicast streaming with StartMulticastStreaming

In Section 5.6.2, replace title Stop multicast streaming with StopMulticastStreaming

In Section 5.7.1, replace title Set synchronization point with SetSynchronizationPoint

In Section 5.10.2, replace title Create Mask with CreateMask

In Section 5.10.3, replace title Delete Mask with DeleteMask

In Section 5.11, replace title Capabilities with GetServiceCapabilities

2210 NTP timestamps for B-Frames

Replace whole paragraph of section *6.3.1 NTP Timestamps* in Streaming specification

The NTP timestamps in the RTP extension header shall <u>increase monotonically over successive packets within a single RTP stream. They should</u> correspond to wallclock time as measured at the original <u>transmitter</u> of the stream<u>, adjusted if necessary to preserve monotonicity</u>.

With

The NTP timestamps in the RTP extension header shall correspond to <u>the</u> wallclock time as measured at the original <u>frame grabber before encoding</u> of the stream.
<u>For forward playback of I and P frames the NTP timestamps in the RTP extension header shall increase monotonically over successive packets within a single RTP stream.</u>

2212 Clarify new state for DigitalInputs

Replace a description about digital input logical state at section *5.10.1 DigitalInput State Change* in Device IO Service specification

Digital Input LogicalState can be either set at "true" to represent the circuit in the closed state or set at "false" to represent the circuit in the open state.

With

<u>If a device supports SetDigitalInputConfigurations, the Digital Input LogicalState can be either set at "true" to represent the input in the active state or set at "false" to represent the input in the idle state.</u>
<u>If a device does not support SetDigitalInputConfigurations, the</u> Digital Input LogicalState can be either set at "true" to represent the circuit in the closed state or set at "false" to represent the circuit in the open state.

2213 Typo: DigitalInputOptions type name

Replace type name of DigitalInputOptions at section *5.7.2 GetDigitalInputConfigurationOptions* in Device IO Service specification

• DigitalInputOptions - optional, unbounded [tt:DigitalInputOptions]

With

• DigitalInputOptions - optional, unbounded [tt:DigitalInput<u>Configuration</u>Options]

And at deviceio.wsdl

```
        <xs:complexType name="DigitalInputConfigurationInputOptions">
```
With
```
        <xs:complexType name="DigitalInputConfigurationOptions">
```

And
```
        <xs:element name="GetDigitalInputConfigurationOptionsResponse">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="DigitalInputOptions"
    type="tmd:DigitalInputConfigurationInputOptions"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
```
With
```
        <xs:element name="GetDigitalInputConfigurationOptionsResponse">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="DigitalInputOptions" type="tmd:DigitalInputConfigurationOptions"/>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
```

2228 Mandatory extension in GeoLocation

Replace incomplete extension points of GeoLocation members in onvif.xsd

```
        <xs:any minOccurs="0" maxOccurs="unbounded"/>
```

with

```
        <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
```