

ONVIF™

ONVIF Specification Version 17.06 Release Notes

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1. Summary

The ONVIF 17.06 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

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

Radiometry enhancements include new APIs for the Thermal Service as well as Analytics rules for the configuration of radiometric measurements.

Geolocation for PTZ defines a new PTZ API to move a camera such that it looks at a defined geo coordination location.

Geolocation Events defines a mechanism to track the position of a camera.

Temporary OSD extension allows frequent OSD updates without persistent storage requirement.

3. Changes

Find below all errata from Version 16.12 to 17.06 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.

1954 Terminal replay header extension

Add an item 'T' bit at section *6.2 RTP header extension* in Streaming Specification with a following description.

T: 1 bit. Indicates that this is the terminal frame on playback of a track. A device should signal this flag in both forward and reverse playback whenever no more data is available for a track. and indicate the location in RTP header as *Table 3: RTP packet layout*.

1984 Signal add/remove for analytics modules and rules

Add following two attributes into "*ConfigDescription*" ComplexType in onvif.xsd.

```

<xs:attribute name="fixed" type="xs:boolean">
  <xs:annotation>
    <xs:documentation>The fixed attribute signals that it is not allowed to add or remove this type
of configuration.</xs:documentation>
  </xs:annotation>
</xs:attribute>
<xs:attribute name="maxInstances" type="xs:integer">
  <xs:annotation>
    <xs:documentation>The maxInstances attribute signals the maximum number of instances
per configuration.</xs:documentation>
  </xs:annotation>
</xs:attribute>

```

And add an fault code “FixedRules” for section 5.2.3.5 DeleteRules.

- env:Sender - ter:Action - ter:FixedRules

At least one of the requested rules is fixed which cannot be deleted.

And add an fault code “FixedModules” for section 5.3.3.5 DeleteAnalytics Modules.

- env:Sender - ter:Action - ter:FixedModules

At least one of the requested modules is fixed which cannot be deleted.

1993 Media 2.0 : "Token" element of "tr2:ConfigurationRef" needs to be mandatory

Add annotation sentences to ConfigurationRef.Token in ver20/media/wsd/mediawsd.

Change from

```

<xs:element name="Token" type="tt:ReferenceToken" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Reference token of an existing configuration. </xs:documentation>
  </xs:annotation>
</xs:element>

```

To

```

<xs:element name="Token" type="tt:ReferenceToken" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Reference token of an existing configuration.
Token shall be included in the AddConfiguration request along with the type.
Token shall be included in the CreateProfile request when Configuration elements are
included and type is selected.
Token is optional for RemoveConfiguration request. If no token is provided in
RemoveConfiguration request, device shall

```

```
    remove the configuration of the type included in the profile.</xs:documentation>
  </xs:annotation>
</xs:element>
```

1997 Remove TLS version dependency

Add normative reference at section 2 *Normative references* in Streaming Specification

IETF RFC 2818, HTTP over TLS

<<http://www.ietf.org/rfc/rfc2818.txt>>

Remove the specific version numbers of TLS at section 5.1.1.4 *RTP/RTSP/HTTP/TCP*

And if a device supports TLS1.0, the data stream shall be sent or received via HTTPS to traverse a firewall, and a device shall support media transfer using RTP/RTSP/HTTPS/TCP.

With

And if a device supports TLS, the data stream shall be sent or received via HTTPS to traverse a firewall, and a device shall support media transfer using RTP/RTSP/HTTPS/TCP.

And also at section 5.1.1.5 *RTP/RTSP/TCP/WebSocket*

If a device support TLS1.0, then it shall support tunnelling WebSocket connections over TLS [RFC 2818] and the port number shall be same as the HTTPS port number.

With

If a device support TLS, then it shall support tunnelling WebSocket connections over TLS [RFC 2818] and the port number shall be same as the HTTPS port number.

2001 Correct PTZ Status capabilities

Correct typo at 5.10 *GetServiceCapabilities* in PTZ Service Specification

MoveStatus Indicates that the PTZVector includes MoveStatus information.

StatusPosition Indicates that the PTZVector includes Position information.

was replaced with

MoveStatus Indicates that the PTZStatus includes MoveStatus information.

StatusPosition Indicates that the PTZStatus includes Position information.

And corresponding annotation at ptz.wsdl

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

```
  <xs:annotation>
```

```
    <xs:documentation>Indicates that the PTZVector includes MoveStatus
information.</xs:documentation>
```

```
  </xs:annotation>
```

```
</xs:attribute>
```

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

```

<xs:annotation>
  <xs:documentation>Indicates that the PTZVector includes Position
information.</xs:documentation>
</xs:annotation>
</xs:attribute>

```

was replaced with

```

<xs:attribute name="MoveStatus" type="xs:boolean">
  <xs:annotation>
    <xs:documentation>Indicates that the PTZStatus includes MoveStatus
information.</xs:documentation>
  </xs:annotation>
</xs:attribute>
<xs:attribute name="StatusPosition" type="xs:boolean">
  <xs:annotation>
    <xs:documentation>Indicates that the PTZStatus includes Position
information.</xs:documentation>
  </xs:annotation>
</xs:attribute>

```

2008 Wrong parameter name in Special Days examples

Correct XML examples for SpecialDay expression in Schedule service specification.
 Replace *Schedule.SpecialDaysSchedule* elements in *A.6 Special Days example 1*

```

<SpecialDaysSchedule>
  <SpecialDaysToken>8765</SpecialDaysToken>
  <!-- No time period indicates no access on referred special days -->
</SpecialDaysSchedule>

```

With

```

<SpecialDaysSchedule>
  <GroupToken>8765</GroupToken>
  <TimeRange></TimeRange>
  <!-- No time period indicates no access on referred special days -->
</SpecialDaysSchedule>

```

Replace *Schedule.SpecialDaysSchedule* elements in *A.7 Special Days example 2*

```

<SpecialDaysSchedule>
  <SpecialDaysToken>8765</SpecialDaysToken>
  <StartTime>00:00:00</StartTime>
</SpecialDaysSchedule>

```

With

```
<SpecialDaysSchedule>  
  <GroupToken>8765</GroupToken>  
  <TimeRange>  
    <From>00:00:00</From>  
  </TimeRange>  
</SpecialDaysSchedule>
```

2009 Wrong DTEND in schedule example

Correct a DTEND value of an example at Annex A.4 Access on Weekdays from 8 AM to 5 PM for employees in Schedule Service Specification.

```
<Schedule token="402">  
  <Name>Access on weekdays from 8 AM to 5 PM for employees</Name>  
  <Standard>  
    BEGIN:VCALENDAR  
    BEGIN:VEVENT  
    SUMMARY:Access on weekdays from 8 AM to 5 PM for employees  
    DTSTART:19700101T080000  
    DTEND:19700102T170000  
    RRULE:FREQ=WEEKLY;BYDAY=MO,TU,WE,TH,FR  
    END:VEVENT  
    END:VCALENDAR  
  </Standard>  
</Schedule>
```

was replaced with

```
<Schedule token="402">  
  <Name>Access on weekdays from 8 AM to 5 PM for employees</Name>  
  <Standard>  
    BEGIN:VCALENDAR  
    BEGIN:VEVENT  
    SUMMARY:Access on weekdays from 8 AM to 5 PM for employees  
    DTSTART:19700101T080000  
    DTEND:19700101T170000  
    RRULE:FREQ=WEEKLY;BYDAY=MO,TU,WE,TH,FR  
    END:VEVENT  
    END:VCALENDAR  
  </Standard>  
</Schedule>
```

2018 RTPMulticast: Indication of support of UDP multicasting as described in sections 5.4.

Replace a description for StartMulticastStreaming and StopMulticastStreaming at section 5.6 *Multicast* in Media2 Service Specification.

A device that signals support for multicast streaming by the RTPMulticast capability shall support the methods defined in this chapter.

With

A device that signals support for non-RTSP controlled multicast streaming by the AutoStartMulticast capability shall support the methods defined in this chapter.

Add a description for the capability AutoStartMulticast as

AutoStartMulticast: Indicates support for non-RTSP controlled multicast streaming.

Remove a reference to section 5.6 of the description for RTPMulticast at section 5.11 *Capabilities*. As replace

RTPMulticast: Indication of support of UDP multicasting as described in sections 5.4 and 5.6.

With

RTPMulticast: Indication of support of UDP multicasting as described in sections 5.4.

2025 Remove special authentication methods

Replace a description at section 5.12.1 *Authentication* in ONVIF Core Specification.

The services defined in this standard shall be protected using either digest authentication according to [RFC 2617] or the WS-Security framework, depending on the security policy. The WS-Security specification defines a standard set of SOAP extensions that can be used to provide Web Services message integrity and confidentiality. The framework allows several different security models using tokens. The following tokens are currently defined:

- User name token profile [WS-UsernameToken]
- X.509 security token profile [WS-X.509Token]
- SAML token profile [WS-SAMLToken]
- Kerberos token profile [WS-KerberosToken]
- Rights Expression Language (REL) Token Profile [WS-RELTOKEN]

With

The services defined in this standard shall be protected using digest authentication according to [RFC 2617] with the exception of legacy devices supporting [WS-UsernameToken].

2026 Update requirements on old GetCapabilities command

Replace the description of *Annex A. Capability List of GetCapabilities*.

This normative annex describes the capabilities as defined with the 2.0 specification. Devices must provide the appropriate set of elements to ensure backward compatibility.

With

This annex describes a legacy interface to signal capabilities for a certain service or function using the GetCapabilities method.

2030 Simplify SetPreset Name requirements

Replace a description about PresetName at section *5.4.1 SetPreset* in PTZ service specification.

If the PresetName is included in a SetPresetRequest call, then the device may require the PresetName to be unique. If a device rejects a SetPresetRequest because the device requires the PresetName to be unique, then it shall respond with the error message ter:PresetExist.

With

Devices may require unique preset names and reject a request that contains an already existing PresetName by responding with the error message ter:PresetExist.

2031 Various typos

Replace following descriptions in PTZ Service Specification to correct typos:

At section *5.4.1 SetPreset*

If the PresetName is included in a SetPresetRequests call, then the device may require the PresetName to be unique. If a device rejects a SetPresetRequests because the device requires the PresetName to be unique, then it shall respond with the error message ter:PresetExist.

With

If the PresetName is included in a SetPresetRequest call, then the device may require the PresetName to be unique. If a device rejects a SetPresetRequest because the device requires the PresetName to be unique, then it shall respond with the error message ter:PresetExist.

At section *5.7.1.2 Spherical Pan/Tilt Position Space in Degrees*

W hen starting from the initial direction and increasing the tilt angle, objects which have been previously in the middle of the image move towards the bottom of the image.

with

When starting from the initial direction and increasing the tilt angle, objects which have been previously in the middle of the image move towards the bottom of the image.

At section *5.13 Service specific fault codes*

Table 2: PTZspecific fault codes

With

Table 2: PTZ Service specific fault codes

Subcode of some fault codes In the *Table 2*

Ter:MovingPTZ

Ter:TooManyPresets

Ter:PTZNotSupported

Ter:OptionalActionNotSupported

With

ter:MovingPTZ

ter:TooManyPresets

ter:PTZNotSupported

ter:OptionalActionNotSupported

Remove a redundant word for description of ter:NoProfile in the Table 2

The requested profile token ProfileToken does not exist

With

The requested profile token does not exist.

At Annex A.3.1 *Spherical Pan/Tilt Translation Space in Degrees*

If a client wants to pan the camera by 5 degrees, it can use this relative spherical space and set the X coordinate of the direction to 5 and the Y coordinate to 0.

With

If a client wants to pan the camera by 5 degrees, it can use this relative spherical space and set the X coordinate of the direction to 5 and the Y coordinate to 0.

At Annex A.3.2 *Pan/Tilt Translation Space in FOV*

The Relative Pan/Tilt Translation Space In FOV is introduced to simplify the navigation with dome cameras in graphical user interfaces. When the user wants to centre the camera on a certain position in the current camera Cview, the user requests a movement with respect to the current FOV.

With

The Relative Pan/Tilt Translation Space in FOV is introduced to simplify the navigation with dome cameras in graphical user interfaces. When the user wants to center the camera on a certain position in the current camera view, the user requests a movement with respect to the current FOV.

At Annex A.4.2 *Zoom Velocity Space In Millimeter Per Second*

The Zoom Velocity Space In Millimeter Per Second derives from the Zoom Translation Space In Millimeter in section A.3.4and specifies the change per second of the focal length. The Zoom

Velocity Space in Millimeter Per Second space is defined as follows:

With

The Zoom Velocity Space In Millimeter Per Second derives from the Zoom Translation Space In Millimeter in section [A.3.4 and](#) specifies the change per second of the focal length. The Zoom Velocity Space in Millimeter Per Second space is defined as follows:

And correct Figure sequence numbers and the references.

2033 Last paragraph of section 5.12.1 of the core spec about digest can cause misunderstandings

Replace a description for authentication at section *5.12.1 Authentication*

An ONVIF compliant device shall when authenticating RTSP and HTTP methods use user / credentials from the same set of users / credentials that are used for the WS part. For user defined with the user name token profile, digest authentication [RFC 2617] shall be used for RTSP and HTTP.

With

When authenticating RTSP or HTTP methods, an ONVIF compliant device shall use digest authentication [RFC 2617]. The credentials shall be managed with the GetUsers, CreateUsers, DeleteUsers and SetUser methods. If the device also supports WS-Security, the same set of credentials shall be used.

2035 Remove irlampon command from explanation

Replace a following sentence about specific command parameter in section *5.6.1*

SendAuxiliaryCommand in PTZ Service specification.

If the PTZ node lists the irlampon command, then the AuxiliaryCommand argument would be irlampon.

With

If the PTZ node lists the tt:IRLamp command, then the parameter of AuxiliaryCommand command shall conform to the syntax specified in Section 8.6 Auxiliary operation of ONVIF Core Specification.

2037 VideoSourceConfiguration

Replace a description for video source rotation at section *5.2.2 Video source configuration* in Media2 service specification.

The Rotate option specifies an optional rotation of the Video.

With

The Rotate option specifies an optional rotation of the area defined by the Bounds parameters. Note that in case of e.g. a 90 degree rotation the width parameter corresponds to the height of the Video and vice versa.

And clarify the applying order of coordination, as replace

All coordinate systems (e.g. Privacy Masks in the Media2 Service and Motion Regions in the Analytics service) that apply to a video source configuration are based on the resulting image after applying the Bounds and Rotate to the source image.

With

All coordinate systems (e.g. Privacy Masks in the Media2 Service and Motion Regions in the Analytics service) that apply to a video source configuration are based on the resulting image after applying the Bounds and then Rotate to the source image.

2042 Strange error code for ModifyRules and ModifyModules

Remove an useless fault code from section 5.2.3.4 *ModifyRules* in Analytics service specification.

- env:Receiver - ter:Action - ter:TooManyRules

There is not enough space in the device to apply the rules to the configuration.

Remove a fault code from section 5.3.3.4 *ModifyAnalyticsModules*

- env:Receiver - ter:Action - ter:TooManyModules

There is not enough space in the device to add the analytics modules to the configuration.

2043 Remove error code PTZNotSupported

Remove a following fault code from section 5.1.2 *GetNode* in PTZ service specification.

- env:Receiver - ter:ActionNotSupported - ter:PTZNotSupported

PTZ is not supported by the device.

2044 Mark ForcePersistence as obsolete

Replace a description for an obsolete parameter "*ForcePersistence*" at section 5.2.4 *SetConfiguration* in PTZ service specification.

The ForcePersistence element determines if the configuration changes shall be stored and remain after reboot. If true, changes shall be persistent. If false, changes MAY revert to previous

values after reboot.

With

Deprecated modifier for temporary settings if supported by the device.

2046 Missing token in SendReceiveSerialCommand

Add an optional 'Token' to *SendReceiveSerialCommand* for DeviceIO service.

Add request parameter 'Token' at section 5.8.5 *Send ReceiveSerialCommand*.

- Token - optional [tt:ReferenceToken]

The physical serial port reference to be used when this request is invoked.

Change *SendReceiveSerialCommand* part of deviceio.wsdl from

```
<xs:element name="SendReceiveSerialCommand">
  <xs:annotation>
    <xs:documentation>Transmitting arbitrary data to the connected serial device and then
receiving its response data.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="SerialData" type="tmd:SerialData" minOccurs="0">
```

.....

to

```
<xs:element name="SendReceiveSerialCommand">
  <xs:annotation>
    <xs:documentation>Transmitting arbitrary data to the connected serial device and then
receiving its response data.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Token" type="tt:ReferenceToken" minOccurs="0">
  <xs:annotation>
    <xs:documentation>The physical serial port reference to be used when this
request is invoked.</xs:documentation>
  </xs:annotation>
</xs:element>
      <xs:element name="SerialData" type="tmd:SerialData" minOccurs="0">
```

.....

2050 Clarify GetMediaAttributes

Replace a description for *RecordingTokens* at 5.6 *GetMediaAttributes* in Recording search service specification.

A list of references to the recordings to query.

With

A list of references to the recordings to query. If no recording tokens is provided all recordings should be queried.

And remove a fault code “*env:Sender - ter:InvalidArgVal - ter:NoRecording*”.

2052 Motion Region Detector Event is not a property event

Revise motion region detector event example to make it as property event at Annex C.1 *Motion Region Detector* in Analytics service specification. Replace

```
<tt:RuleDescription Name="tt:MotionRegionDetector">
  <tt:Parameters>
    <tt:ElementItemDescription Name="MotionRegion" Type="axt:MotionRegionConfig"/>
  </tt:Parameters>
  <tt:MessageDescription>
    <tt:Source>
      :
      :
```

With

```
<tt:RuleDescription Name="tt:MotionRegionDetector">
  <tt:Parameters>
    <tt:ElementItemDescription Name="MotionRegion" Type="axt:MotionRegionConfig"/>
  </tt:Parameters>
  <tt:MessageDescription IsProperty="true">
    <tt:Source>
      :
      :
```

2053 Clarify GetEventSearchResults - MinResult argument

Insert a sentence into *MinResults* parameter description at section 5.10 *GetEventSearchResults* in Recording search service specification.

If the total number of remaining event is lower than *MinResults* in a completed search, all remaining events should be returned.

At section 5.12 *GetPTZPositionSearchResults* and 5.14 *GetMetadataSearchResults*.

If the total number of results is lower than *MinResults* in a completed search, all results should be returned.

2054 ReplayConfiguration documented twice

Replace the whole description at section 5.2 *ReplayConfiguration* in *Replay Service* specification.

The *ReplayConfiguration* structure contains the configuration of the replay service. The fields in the *ReplayConfiguration* structure are:

SessionTimeout: An RTSP session has a keep-alive time. It shall be refreshed regularly to prevent the session from timing out. If the session times out, it shall be torn down. The session timeout for replay follows the same rules as applies for live streaming using the media service and as discussed in chapter “Real-time streaming”

With

The *ReplayConfiguration* provides optional configuration information. Currently it only contains the deprecated RTSP *SessionTimeout* which can be controlled via the RTSP layer.

2055 GetSearchState - Move deprecated method to annex

Remove a section 5.15 *GetSearchState* because of the deprecated function in *Recording Search* service specification. And add Annex A and A.1 *Method for returning search status* in order to declare the function was deprecated.

2056 AutoGeo flag in GetServiceCapabilities

Replace *AutoGeo* attribute declaration of *SystemCapabilities* in *devicemgmt.wsdl*

```
<xs:attribute name="AutoGeo" type="xs:string">
  <xs:annotation>
    <xs:documentation>Signals support for automatic retrieval of geo location.</xs:documentation>
```

With

```
<xs:attribute name="AutoGeo" type="tt:StringAttrList">
  <xs:annotation>
    <xs:documentation>List of supported automatic GeoLocation adjustment supported by the device. Valid items are defined by tds:AutoGeoMode.</xs:documentation>
```

And add *AutoGeoMode* simple type as following

```

<xs:simpleType name="AutoGeoModes">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Location">
      <xs:annotation>
        <xs:documentation>Automatic adjustment of the device location.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Heading">
      <xs:annotation>
        <xs:documentation>Automatic adjustment of the device orientation relative to the compass
also called yaw.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Leveling">
      <xs:annotation>
        <xs:documentation>Automatic adjustment of the deviation from the horizon also called pitch
and roll.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>

```

Replace the clarification about *AutoGeo* at section 8.3.21 *Set geo location information* in ONVIF Core specification.

If the *AutoGeo* attribute is set to true then the device shall ignore the *GeoLocation* and/or *GeoOrientation* information provided in the request. Beyond this a device shall return in a subsequent *GetGeoLocation* command all entity elements as passed to *SetGeoLocation*.

With

If the *AutoGeo* attribute is set to true and the device is signaling support for **Location** in the *AutoGeo* capability then the device shall ignore the *GeoLocation* information provided in the request. If the *AutoGeo* attribute is set to true and the device is signaling support for **Heading** in the *AutoGeo* capability then the device shall ignore the *GeoOrientation.yaw* information provided in the request. If the *AutoGeo* attribute is set to true and the device is signaling support for **Leveling** in the *AutoGeo* capability then the device shall ignore the *GeoOrientation.roll* and *GeoOrientation.pitch* information provided in the request. Beyond this a device shall return in a subsequent *GetGeoLocation* command all entity elements as passed to *SetGeoLocation*.

2057 incorrect replay.wSDL 16.12 attribute default causes gsoap soapcpp2 failure

Replace *ReversePlayback* attribute line in `wSDL/ver10/replay.wSDL`

```
<xs:attribute name="ReversePlayback" type="xs:boolean" default="0">
```

With

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

2058 Thermal service : Read-only should be added to annotation of LowTemperature and HighTemperature

Add annotation 'Read-only' to *LowTemperature* and *HighTemperature* attribute of NUC table for Thermal service.

Change the schema example at section 5.2.4 *NUCTable* In Thermal service specification as,

```
<xs:attribute name="LowTemperature" type="xs:float">
  <xs:annotation>
    <xs:documentation>Low Temperature limit for application of NUC Table, in Kelvin. Read-only.</xs:documentation>
  </xs:annotation>
</xs:attribute>
<xs:attribute name="HighTemperature" type="xs:float">
  <xs:annotation>
    <xs:documentation>High Temperature limit for application of NUC Table, in Kelvin. Read-only.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

And the parameter description as,

- LowTemperature
Low Temperature limit for application of NUC Table, in Kelvin. This parameter is Read-only.
- HighTemperature
High Temperature limit for application of NUC Table, in Kelvin. This parameter is Read-only.

And the schema `thermal.wSDL` as,

```
<xs:attribute name="LowTemperature" type="xs:float">
  <xs:annotation>
    <xs:documentation>Low Temperature limit for application of NUC Table, in Kelvin. Read-only.</xs:documentation>
  </xs:annotation>
```

```

</xs:attribute>
<xs:attribute name="HighTemperature" type="xs:float">
  <xs:annotation>
    <xs:documentation>High Temperature limit for application of NUC Table, in Kelvin. Read-
only.</xs:documentation>
  </xs:annotation>
</xs:attribute>

```

2060 StopExportRecordedData and GetExportRecordedDataState missing connection to capability

Add following sentence into section 5.22 *StopExportRecordedData* and 5.23 *GetExportRecordedDataState* in Recording Control service specification.

A device that indicates a capability of SupportedExportFileFormats shall support this command.

2061 ExportRecordedData - Simplify paragraph.

Replace a description of device restriction at 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. The FileFormat parameter shall use a value listed in the SupportedExportFileFormats capability.

With

The device shall implement ExportRecordedData command when the optional SupportedExportFileFormats capability returns a list of supported export file formats. A device that indicates a capability of SupportedExportFileFormats shall support this command. For the parameter FileFormat it shall accept any format that it advertises via the SupportedExportFileFormats capability.

2062 ExportRecordedData - Parameter arguments

Remove parameter clarifications in general description at 5.21 *ExportRecordedData* in Recording Control service specification.

The input parameters contains the search scope, file format, and storage destination. The search scope parameter indicates the selection criterion on the existing recordings. The file format parameter indicates which export file format to be used. The device shall select the configuration defined in the ONVIF Export File Format Specification when this parameter

is omitted. The storage destination parameter indicating the target storage and relative directory path.

Add the substitute clarifications into request part of parameter table as following.

- **SearchScope [tt:SearchScope]**

Defines the selection criterion for the existing recordings.

- **FileFormat [xs:string]**

Indicates which export file format to be used.

- **StorageDestination [tt:StorageReferencePath]**

Indicates the target storage and relative directory path.

2063 ExportRecordedData - Clarify meaning of FileNames

Add a following clarification paragraph to section 5.21 *ExportRecordedData* in Recording Control service specification.

A device should return the resulting list of file names in the response. In cases where the retrieval of the file names is a longer lasting operation these file names may be reported only via the *AsynchronousOperationStatus*.

And replace the description for *FileNames*

- *FileNames* - optional, unbounded [xs:string]

List of exported file names. The device can also use *AsynchronousOperationStatus* event to publish this list.

With

- *FileNames* - optional, unbounded [xs:string]

List of exported file names. The device can also use *AsynchronousOperationStatus* event to monitor the progress of *ExportRecordedData* operation.

2064 Media2 typos/grammar

Replace a description about encoder instance limitation at section 5.3.5 *GetVideoEncoderInstances* in Media2 Service specification.

A device shall guarantee to be able to instantiate the signalled amount of instances concurrently. If a device limits the number of instances for respective Video Codecs the response contains shall also contain information per video encoding.

With

A device shall guarantee to instantiate the indicated number of instances concurrently. If a device limits the number of instances of each particular video encoding type, the response shall contain information per video codec.

2065 ONVIF no abbreviation

Remove whole 3.2 *Abbreviations* section from Device IO service, Recording Control service, Recording Search service, Replay Control service, and Video Analytics Device service specification.

Remove “ONVIF” abbreviation from section 3.2 *Abbreviations* in ONVIF Core specification, and Export File Format specification.

2068 Clarify purpose of ExemptedFromAuthentication flag

Enrich description of ExemptedFromAuthentication at section 4.2.1.3 *CredentialIdentifier* in Credential service specification.

- ExemptedFromAuthentication

If set to true, this credential identifier is not considered for authentication. For example if the access point requests Card plus PIN, and the credential identifier of type PIN is exempted from authentication, then the access point will not prompt for the PIN.

2069 SetCredentialIdentifier command will not produce all listed faults

Remove two specific fault codes from section 4.2.15 *SetCredentialIdentifier* command in credential service.

env:Sender ter:InvalidArgVal ter:DuplicatedIdentifierType	<i>The same identifier type was used more than once.</i>
---	--

env:Sender ter:InvalidArgVal ter:DuplicatedIdentifierValue	<i>The same combination of identifier type, format and value was used more than once (some devices may not support duplicate identifier values).</i>
--	--

2070 Clarify dependencies between Schedule Service capabilities

Add clarifications of supporting condition for Special day at section 4.1.1.1 *Service Capabilities* in Schedule service specification. And change order of *SpecialDaysSupported* description.

The change is from

- MaxSpecialDayGroups

Indicates the maximum number of special day group entities the device supports. The device shall support at least one 'SpecialDayGroup' entity.

- MaxDaysInSpecialDayGroup

Indicates the maximum number of days per 'SpecialDayGroup' entity the device supports. The device shall support at least one day per 'SpecialDayGroup' entity.

- MaxSpecialDaysSchedules

Indicates the maximum number of 'SpecialDaysSchedule' entities referred by a schedule that the device supports.

- SpecialDaysSupported

If this capability is supported, then the device shall support special days.

To

- SpecialDaysSupported

If this capability is supported, then the device shall support special days.

- MaxSpecialDayGroups

Indicates the maximum number of special day group entities the device supports. The device shall support at least one 'SpecialDayGroup' entity if SpecialDaysSupported is set to true. This value is ignored if SpecialDaysSupported is set to false.

- MaxDaysInSpecialDayGroup

Indicates the maximum number of days per 'SpecialDayGroup' entity the device supports. The device shall support at least one day per 'SpecialDayGroup' entity if SpecialDaysSupported is set to true. This value is ignored if SpecialDaysSupported is set to false.

- MaxSpecialDaysSchedules

Indicates the maximum number of 'SpecialDaysSchedule' entities referred by a schedule that the device supports. This value is ignored if SpecialDaysSupported is set to false.

2071 Unclear purpose of ClientUpdated field in credential events

Add a following description for ClientUpdated parameter at section 5.2.1 *Credential* in Credential service specification.

ClientUpdated is set to true if the state change was initiated by the client. ClientUpdated is set to false if the device initiated the state change (e.g. because the wrong PIN was entered three times in a row).

2072 Wrong namespace for MotionRegionConfigOptions in C.1 Motion Region Detector

Replace wrong namespace prefixes at section 5.2.3.6 Get Rule Options in Analytics service specification.

`tt:ConfigOptions RuleOptions [0][unbounded]`

with

- RuleOptions - optional, unbounded `[tan:ConfigOptions]`

And at annex C.1 *Motion Region Detector*,

Calling the GetRuleOptions operation with the `tt:MotionRegionDetector` type will return a `tt:MotionRegionConfigOptions`.

With

Calling the GetRuleOptions operation with the `tt:MotionRegionDetector` type will return a `axt:MotionRegionConfigOptions`.

2073 Need clarification regarding BoundsRange for VideoSource cropped streaming

Replace an annotation about *BoundsRange* of *VideoSourceConfigurationOptions* in *onvif.xsd*.

```
<xs:documentation>Supported range for the capturing area.</xs:documentation>
```

With

```
<xs:documentation>
```

Supported range for the capturing area.

Device that does not support cropped streaming shall express BoundsRange option as mentioned below

BoundsRange->XRange and BoundsRange->YRange with same Min/Max values HeightRange and WidthRange Min/Max values same as VideoSource Height and Width Limits.

```
</xs:documentation>
```

2074 Bug in the provisioning.wSDL file, unable to compile

Replace wrong reference to *onvif.xsd* in *provisioning.wSDL*

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

With

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

2075 Clarify that special days supports time part when extended recurrence is supported

Insert following descriptions and figure for schedule at section 4.2.1.3 *SpecialDaysSchedule*, and Annex A.8 *Special Days example 3* in Schedule service specification.

At section 4.2.1.3

If a special day is defined as part of a day (requires `ExtendedRecurrenceSupported = true`), then access shall only be granted when the time range and the part of the special day overlaps. Consider the example depicted in the figure below. Assume a standard schedule giving access on weekdays 6 AM to 6 PM (marked in green in Figure 6), but not on weekends. Then assume a special day starting on Friday, June 10, at 2 PM and ending on Saturday, June 11, at 10 AM (marked in yellow in Figure 6). If the special days' schedule defines a time range of 8 AM to 4 PM (marked by dashed red lines in Figure 6), then access will be granted from 6 AM to 4 PM on Friday, June 10, and from 8 AM to 10 AM on Saturday, June 11. See detailed example in section A.8.

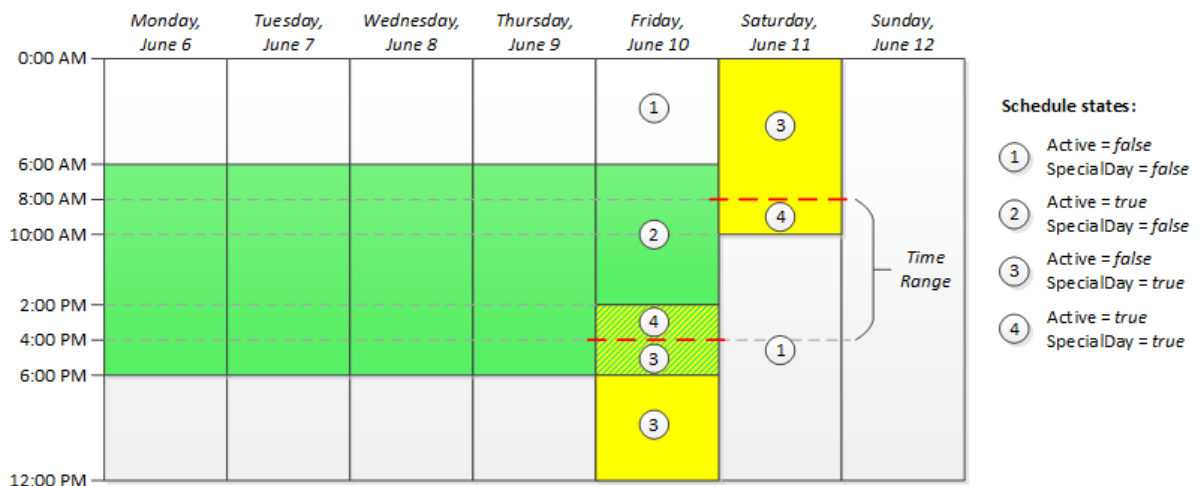


Figure 1: Example of special day with time part

Annex A.8

A.8 Special Days example 3

A standard schedule gives access on weekdays 7 AM to 6 PM, but not on weekends. A special day starts on Friday, June 10, at 2 PM and ends on Saturday, June 11, at 10 AM. The special days' schedule defines a time range of 8 AM to 4 PM.

```
<SpecialDayGroup token="7312">
  <Name>Team building days</Name>
  <Days>
    BEGIN:VCALENDAR
    PRODID:VERSION:2.0
    BEGIN:VEVENT
    SUMMARY:Boot camp
    DTSTART:20160610T140000
    DTEND:20160611T100000
    UID:TeamBuilding@ONVIF.com
    END:VEVENT
    END:VCALENDAR
  </Days>
</SpecialDayGroup>
```

```

<Schedule token="245">
  <Name>Employee schedule 2016</Name>
  <Description>Access on weekdays from 7 AM to 6 PM.
    Access from 8 AM to 4 PM on Team building days</Description>
  <Standard>
    BEGIN:VCALENDAR
    PRODID:VERSION:2.0
    BEGIN:VEVENT
    SUMMARY:Access on weekdays from 7 AM to 6 PM
    DTSTART:20160101T070000
    DTEND:20161231T180000
    RRULE:FREQ=WEEKLY;BYDAY=MO,TU,WE,TH,FR
    UID:Workhours@ONVIF.com
    END:VEVENT
    END:VCALENDAR
  </Standard>
  <SpecialDaysSchedule>
    <GroupToken>7312</GroupToken>
    <StartTime>08:00:00</StartTime>
    <Until>16:00:00</Until>
  </SpecialDaysSchedule>
</Schedule>

```

2076 Clarify the behavior when special day schedules overlap

Insert a following clarification sentence at *4.2.1.3 SpecialDaysSchedule* in Schedule service specification.

If multiple *SpecialDaysSchedule* structures contain conflicting time ranges for the same special day, it will result in a union of the time periods.

2078 Clarify how schedule states work

Insert example description and figure for *ScheduleState* at section *4.4.1.1 ScheduleState* in Schedule service specification.

Example:

Consider a schedule defining a standard schedule that is active from 9 AM to 5 PM during week days. There are two different special day groups; one defining half working days, and one defining bank holidays. The special days schedule defines a time period from 9 AM to 1 PM on half working days.

Figure 7 depicts when the four different states occur:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Half-working days	Bank holidays
0:00 AM	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false			Active = false SpecialDay = true	
9:00 AM	Active = true SpecialDay = false	Active = true SpecialDay = false	Active = true SpecialDay = false	Active = true SpecialDay = false	Active = true SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = true SpecialDay = true	Active = false SpecialDay = true
5:00 PM	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false	Active = false SpecialDay = false			Active = false SpecialDay = true	
12:00 PM									

Standard schedule
SpecialDay-Group 1
SpecialDay-Group 2

Figure 7 : Schedule states

2079 Wrong access classes in credential spec (READ_SYSTEM --> READ_SYSTEM_SECRET)

Change default access class from "READ_SYSTEM" to "READ_SYSTEM_SECRET" for following commands of Credential service.

- 4.2.4 GetCredentials command
- 4.2.5 GetCredentialList command
- 4.2.14 GetCredentialIdentifiers command

2080 Wrong access class in credential spec (READ_SYSTEM --> READ_SYSTEM_SENSITIVE)

Change default access class from "READ_SYSTEM" to "READ_SYSTEM_SENSITIVE" for following command of Credential service.

- 4.2.9 GetCredentialState command

2081 Wrong access classes in credential spec (WRITE_SYSTEM --> ACTUATE)

Change default access class from "WRITE_SYSTEM" to "ACTUATE" for following commands of Credential service.

- 4.2.10 EnableCredential command
- 4.2.11 DisableCredential command
- 4.2.12 ResetAntipassbackViolation command
- 4.2.18 SetCredentialAccessProfiles command

4.2.19 DeleteCredentialAccessProfiles command

2082 Specify ProfileCapabilities.MaximumNumberOfProfiles as mandatory

Replace a description for the MaximumNumberOfProfiles parameter at section 5.11 *Capabilities* in Media2 service specification.

MaximumNumberOfProfiles: The sum of fixed and dynamic MediaProfiles supported by the device.

With

MaximumNumberOfProfiles: The sum of fixed and dynamic MediaProfiles supported by the device. A device implementing this service shall provide this capability.

2083 Editorial changes for Schedule Service Spec

Change followings in Schedule service specification.

- Added new normative reference (referred to from new section 3.2.1):
 - RFC 5234, Augmented BNF for Syntax Specifications: ABNF
- Editorial changes in section "3 Overview":
 - Restructured and clarified schedules and special days into new sub section "3.1 General"
 - Restructured and clarified recurrence into a new sub section "3.2 Recurrence":
 - ✧ Added sub section "3.2.1 General"
 - ✧ Added sub section "3.2.2 Weekly recurrence"
 - ✧ Added sub section "3.2.3 Extended recurrence"
 - Renamed section "3.1 Schedules" to "3.3 Standard schedule recurrence"
 - Renamed section "3.2 Special Days" to "3.4 Special day recurrence"
 - Simplified and moved "Figure 3: Extended Recurrence supported matrix" to "Figure 2: Recurrence support matrix"
- Editorial changes in section "4.1.1.1 Service Capabilities":
 - Moved capability SpecialDaysSupported to before the other special days-related capabilities (MaxSpecialDayGroups, MaxDaysInSpecialDayGroup, and MaxSpecialDaysSchedules)
 - Clarified definition of capability MaxSpecialDayGroups:
 - ✧ from: "Indicates the maximum number of special day group entities the device supports. The device shall support at least one SpecialDayGroup entity."
 - ✧ to: "Indicates the maximum number of special day group entities the device supports. The device shall support at least one SpecialDayGroup entity"

if `SpecialDaysSupported` is set to true. This value is ignored if `SpecialDaysSupported` is set to false."

- Clarified definition of capability `MaxDaysInSpecialDayGroup`:
 - ✧ from: "Indicates the maximum number of days per `SpecialDayGroup` entity the device supports. The device shall support at least one day per `SpecialDayGroup` entity."
 - ✧ to: "Indicates the maximum number of days per `SpecialDayGroup` entity the device supports. The device shall support at least one day per `SpecialDayGroup` entity if `SpecialDaysSupported` is set to true. This value is ignored if `SpecialDaysSupported` is set to false."
- Clarified definition of capability `MaxSpecialDaysSchedules`:
 - ✧ from: "Indicates the maximum number of `SpecialDaysSchedule` entities referred by a schedule that the device supports."
 - ✧ to: "Indicates the maximum number of `SpecialDaysSchedule` entities referred by a schedule that the device supports. This value is ignored if `SpecialDaysSupported` is set to false."
- Simplified description for capability `ExtendedRecurrenceSupported`

2084 Playback section

Insert a headline *6.1 RTSP usage*, and upgrade a section for *RTSP describe* from [6.1.1](#) to [6.2](#).

2085 Wrong figure referenced

Correct a wrong reference to figure 9 at section *6.5.1 Packet transmission order*. From

Figure 1
To
Figure 9

2098 Exempt from authentication support indicated by new cabability

Add an optional parameter *SupportedExemptionType* into section *4.1.1.1 Service Capabilities* in Credential service specification.

- `SupportedExemptionType`

A list of exemptions that the device supports. Supported exemptions starting with the prefix `pt:` are reserved to define PACS specific exemption types and these reserved exemption types shall all share "`pt:<Name>`" syntax.

- `pt:ExemptFromAuthentication` Supports `ExemptFromAuthentication` in section 4.2.1.3.

And add the specific fault code as following at section 4.2.6 *CreateCredential* command, 4.2.7 *ModifyCredential* command and 4.2.15 *SetCredentialIdentifier* command.

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

And insert the parameter definition into *ServiceCapabilitiesExtension* in *Credential.wsdl* as replace

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

With

```
<xs:complexType name="ServiceCapabilitiesExtension">
  <xs:sequence>
    <xs:element name="SupportedExemptionType" type="pt:Name" minOccurs="0"
maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>
          A list of exemptions that the device supports. Supported exemptions starting
with the
          prefix pt: are reserved to define PACS specific exemption types and these
reserved
          exemption types shall all share "pt:&lt;Name&gt;" syntax.
        </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:any namespace="##any" processContents="lax" minOccurs="0"
maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```

2102 Remove Client Renew requirement

Remove a sentence about *Renew* requirement at section 9.1.1 *Create pull point subscription* in ONVIF Core specification.

If a client wants to control the pull point lifetime via Renew calls it shall use the optional parameter InitialTerminationTime.

Replace a phrase specifying the *Renew* as mandatory at section 9.1.3 *Renew*.

The device shall provide the following Renew command for all SubscriptionManager endpoints returned by the CreatePullPointSubscription command.

With

An ONVIF compliant device shall support this command if it signals support for [WS-Base Notification] via the MaxNotificationProducers capability.

2105 Clarification for the Get configuration options of Media2 service specification

Replace the whole command description at section 5.3.4 *Get configuration options* in Media2 specifications, with

The Get<entity>ConfigurationOptions operation returns the available parameters and their valid ranges to the client. Any combination of the parameters obtained using a given media profile and configuration shall be a valid input for the corresponding set configuration command.

If a configuration token is provided, the device shall return the options compatible with that configuration. If a media profile token is specified, the device shall return the options compatible with that media profile. If both a media profile token and a configuration token are specified, the device shall return the options compatible with both that media profile and that configuration. If no tokens are specified, the options shall be considered generic for the device.

Replace the whole command description about *Get<Entity>ConfigurationOptions* command in Media service specification, with

This operation returns the available parameters and their valid ranges to the client. Any combination of the parameters obtained using a given media profile and <Entity> configuration shall be a valid input for the Set<Entity>Configuration command. The device shall support the Get<Entity>ConfigurationOptions command.

If a <Entity> configuration token is provided, the device shall return the options compatible with that configuration. If a media profile token is specified, the device shall return the options compatible with that media profile. If both a media profile token and a <Entity> configuration token are specified, the device shall return the options compatible with both that media profile and that configuration. If no tokens are specified, the options shall be considered generic for the device.

The <Entity>s above are

- **VideoSource** for section 5.4.4 *Get video source configuration options*
- **VideoEncoder** for section 5.5.4 *Get video encoder configuration options*
- **AudioSource** for section 5.7.4 *Get audio source configuration options*
- **AudioEncoder** for section 5.8.4 *Get audio encoder configuration options*
- **Metadata** for section 5.10.5 *Get metadata configuration options*
- **AudioOutput** for section 5.12.4 *Get audio output configuration options*
- **AudioDecoder** for section 5.13.4 *Get audio decoder configuration options*

And replace the request command parameter description in table for the sections above, with

This message may contain a media profile or <Entity> configuration token, or both.

The tables are

- Table 28 *GetVideoSourceConfigurationOptions command*
- Table 33 *GetVideoEncoderConfigurationOptions command*
- Table 40 *GetAudioSourceConfigurationOptions command*
- Table 45 *GetAudioEncoderConfigurationOptions command*
- Table 56 *GetMetadataConfigurationOptions command*
- Table 62 *GetAudioOutputConfigurationOptions command*
- Table 67 *GetAudioDecoderConfigurationOptions command*

2107 extend StorageType enum

Add an enumeration *FTP* into *StorageType* in *devicemgmt.wsdl*.

```
<xs:simpleType name="StorageType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="NFS">
      <xs:annotation>
        <xs:documentation>NFS protocol</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="CIFS">
      <xs:annotation>
        <xs:documentation>CIFS protocol</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="CDMI">
      <xs:annotation>
        <xs:documentation>CDMI protocol</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

```

    </xs:enumeration>
  <xs:enumeration value="FTP">
    <xs:annotation>
      <xs:documentation>FTP protocol</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
</xs:restriction>
</xs:simpleType>

```

2108 add capability which storage types a device supports

Add a capability *StorageTypesSupported* into *tds:SystemCapabilities*.

Insert following row in System category at section 8.1.2.3 *GetServiceCapabilities*, Table 12 in ONVIF Core specification.

StorageTypesSupported	Enumerates the supported StorageTypes.
-----------------------	--

Insert *StorageTypesSupported* attribute at *SystemCapabilities* ComplexType definition in *devicemgmt.wsdl*.

```

<xs:complexType name="SystemCapabilities">
  .
  .
  <xs:attribute name="StorageTypesSupported" type="tt:StringAttrList">
    <xs:annotation>
      <xs:documentation>Enumerates the supported StorageTypes, see
      <a href="#">tds:StorageType.</a></xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute processContents="lax"/>
</xs:complexType>

```

2109 ExportRecordedData: start and endPoint of the export are missing

Add *StartPoint* and *EndPoint* optional parameters for *ExportRecordedData* command in Recording Control service. Insert following parameter description at section 5.21 *ExportRecordedData* in Recording Control service specification.

REQUEST:

- StartPoint – optional [xs:dateTime]
Specifies start time for the exporting.
- EndPoint – optional [xs:dateTime]
Specifies end time for the exporting.
- SearchScope [tt:SearchScope]
Defines the selection criterion for the existing recordings.
- FileFormat [xs:string]
Indicates which export file format to be used.
- StorageDestination [tt:StorageReferencePath]
Indicates the target storage and relative directory path.

And insert these into recording.wSDL.

```

<xs:element name="ExportRecordedData">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="StartPoint" type="xs:dateTime" minOccurs="0">
        <xs:annotation>
          <xs:documentation>Optional parameter that specifies start time for the
exporting.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="EndPoint" type="xs:dateTime" minOccurs="0">
        <xs:annotation>
          <xs:documentation>Optional parameter that specifies end time for the
exporting.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="SearchScope" type="tt:SearchScope">

```

2110 Media2 Discrepancy in GetAudioDecoderConfigurationOptionsResponse

Add an annotation line into onvif.xsd that declares AudioEncoder2ConfigurationOptions complexType is used as Audio**Decoder**2ConfigurationOptions, as well.

```

<!-- Options used for both Audio encoder and decoder -->
<xs:complexType name="AudioEncoder2ConfigurationOptions">

```


2111 Wrong error code for CreateCredential

Correct a following wrong fault code at section 4.2.6 *CreateCredential* command in Credential Service specification.

env:Sender ter:CapabilityViolated ter:MaxCredentials	<i>There is not enough space to create a new credential, see the MaxCredentials capability</i>
--	--

With

env:Receiver ter:CapabilityViolated ter:MaxCredentials	<i>There is not enough space to create a new credential, see the MaxCredentials capability</i>
--	--

2112 Multiple descriptions singular instead of plural

Correct typos being singular to change into plural in Credential service specification.

At section 4.2.13 *GetSupportedFormatTypes*

"FormatTypeInfo": Identifier format types

At section 4.2.14 *GetCredentialIdentifiers*

"CredentialIdentifier": Identifiers of the credential

At section 4.2.18 *SetCredentialAccessProfiles*

"CredentialAccessProfile": Access Profiles of the credential

At section 4.2.19 *DeleteCredentialAccessProfiles*

"AccessProfileToken": Tokens of Access Profiles

And change corresponding annotations in credential.wsdl.

2113 Strange description for DeleteCredentialAccessProfiles

Correct wrong description at section 4.2.19 *DeleteCredentialAccessProfiles* command in Credential service specification, as replacing

This method deletes all the credential access profiles for the specified token.

With

This method deletes credential access profiles for the specified credential token.

And change corresponding annotations in credential.wsdl.

2114 "RuleOptionsSupported" capability missing in Analytics Service Spec

Add following description into section 5.4 *Capabilities* in Analytics service specification.

RuleOptionsSupported:

Indication that the device supports the GetRuleOptions operation on the rules interface.

2115 Typo: wrong table title at Thermal service specification

Remove the whole section 5.4 *Service specific fault codes* in Thermal service specification.

2117 Incorrect extension type for CredentialState

Correct wrong parameter type name for extension of *CredentialState*, as replace

```
<xs:complexType name="CredentialState">
    .
    .
    <xs:element name="Extension" type="tcr:CredentialExtension" minOccurs="0"/>
</xs:sequence>
    <xs:anyAttribute processContents="lax"/>
</xs:complexType>
```

With

```
<xs:complexType name="CredentialState">
    .
    .
    <xs:element name="Extension" type="tcr:CredentialStateExtension"
minOccurs="0"/>
</xs:sequence>
    <xs:anyAttribute processContents="lax"/>
</xs:complexType>
```

2125 Correct requirement for supported transport protocol in receiver service

Correct a following typo at the third paragraph of section 5 *Service* in Receiver Service specification.

A device shall support RTP transfer via RTP and RTP transfer via RTSP/HTTP/TCP, see ONVIF Streaming Specification.

With

A device shall support RTP transfer via UDP and RTP transfer via RTSP/HTTP/TCP, see ONVIF Streaming Specification.

2126 Receiver service: move section 4.1.1

Move a section 4.1.1 *Synchronization Points* to a new section inserting between section 5.3 and 5.4.

2128 Correct reference

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

as defined in [RFC2326bis](#).

With

as defined in [\[RFC2326\]](#).

2137 Typo in the Motion Region Detector Rule Description in ANNEX C

Correct a following element name in the message example at annex C.1 *Motion Region Detector* in Analytics Service specification.

```
<tt:RuleDescription Name="tt:MotionRegionDetector">
  <tt:Parameters>
    <tt:ElementItemDescription Name="MotionRegion" Type="axt:MotionRegionConfig"/>
  </tt:Parameters>
  <tt:MessageDescription IsProperty="true">
    :
    :
  </tt:MessageDescription>
</tt:RuleDescription>
```

With

```
<tt:RuleDescription Name="tt:MotionRegionDetector">
  <tt:Parameters>
    <tt:ElementItemDescription Name="MotionRegion" Type="axt:MotionRegionConfig"/>
  </tt:Parameters>
  <tt:Messages IsProperty="true">
    :
    :
  </tt:Messages>
```

2138 Add RuleType to analytics GetRuleOptions

In analytics.wSDL change

```
<xs:complexType name="ConfigOptions">
  <xs:sequence>
    <xs:any namespace="##any" />
  </xs:sequence>
  <xs:attribute name="Name" type="xs:string" use="required" />
  <xs:attribute name="Type" type="xs:QName" use="required" />
  <xs:anyAttribute processContents="lax" />
</xs:complexType>
```

Change To

```
<xs:complexType name="ConfigOptions">
  <xs:sequence>
    <xs:any namespace="##any" />
  </xs:sequence>
```

```

<xs:attribute name="RuleType" type="xs:QName">
  <xs:annotation>
    <xs:documentation>
      The RuleType the ConfigOptions applies to if the Name attribute is
ambiguous.
    </xs:documentation>
  </xs:annotation>
</xs:attribute>
<xs:attribute name="Name" type="xs:string" use="required" />
<xs:attribute name="Type" type="xs:QName" use="required" />
<xs:anyAttribute processContents="lax"/>
</xs:complexType>

```

Change from

```

<xs:element name="GetRuleOptionsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="RuleOptions" type="tan:ConfigOptions" minOccurs="0"
maxOccurs="unbounded" />

```

to

```

<xs:element name="GetRuleOptionsResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="RuleOptions" type="tan:ConfigOptions" minOccurs="0"
maxOccurs="unbounded" />
      <xs:annotation>
        <xs:documentation>Device shall provide respective ConfigOptions.RuleType for
each RuleOption if the request does not specify RuleType.</xs:documentation>
      </xs:annotation>

```

2141 ForcePersistence in Thermal service spec

Remove a parameter *ForcePersistence* and its description from section 5.1.2 *Set Configuration, table 3 SetConfiguration command* in Thermal Service specification, as replace

This message shall contain a reference to the VideoSource and to the Configuration that shall be set.

The **ForcePersistence** element determines if the configuration changes shall be stored and remain after reboot. If true, changes shall be persistent. If false, changes MAY revert to previous values after reboot.

tt:ReferenceToken **VideoSourceToken**[1][1]
tth:Configuration **Configuration** [1][1]
xs:boolean **ForcePersistence** [0][1]

with

This message shall contain a reference to the VideoSource and to the Configuration that shall be set.

tt:ReferenceToken **VideoSourceToken**[1][1]

tth:Configuration **Configuration** [1][1]

2142 Missing abbreviations

Add following abbreviations into section 3.2 *Abbreviations* in ONVIF Core specification.

DAS	Direct Attached Storage
NAS	Network Attached Storage