Driving IP-based physical security through global standardization

ONVIF™

Recording Control Test Specification

Version 14.12

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Driving IP-based physical security through global standardization

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Revision History

Ver.	Date	Description
12.12	20th/Dec, 2012	First issue of Replay Control Test Specification
13.06	Jun, 2013	The following test cases were updated or added: RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON MEDIA PROFILE) RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON RECEIVER) SET RECORDINGS CONFIGURATION (MAXIMUM LENGTH OF RECORDING SOURCE INFORMATION) DYNAMIC RECORDINGS CONFIGURATION (MAXIMUM LENGTH OF RECORDING SOURCE INFORMATION) RECORDING CONTROL – JOB STATE EVENT RECORDING CONTROL – JOB STATE CHANGE EVENT RECORDING CONTROL – RECORDING CONFIGURATION EVENT RECORDING CONTROL – TRACK CONFIGURATION EVENT RECORDING CONTROL – RECORDING JOB CONFIGURATION EVENT RECORDING CONTROL – CREATE RECORDING EVENT RECORDING CONTROL – DELETE RECORDING EVENT RECORDING CONTROL – CREATE TRACK EVENT RECORDING CONTROL – DELETE TRACK EVENT RECORDING CONTROL – CREATE TRACK EVENT (CREATE RECORDING) RECORDING CONTROL – DELETE TRACK EVENT (DELETE RECORDING) RECORDING CONTROL – CREATE TRACK EVENT (CREATE TRACK) RECORDING CONTROL – DELETE TRACK EVENT (DELETE TRACK) RECORDING CONTROL – DELETE TRACK DATA

		EVENT
13.12	Dec, 2013	The following test cases were updated or added: RECORDING-2-1-1 START RECORDING USING A MEDIA PROFILE was replaced with RECORDING-2-1-10 START RECORDING ON MEDIA PROFILE RECORDING-2-1-2 START RECORDING ON RECEIVER was replaced with RECORDING-2-1-11 START RECORDING ON RECEIVER RECORDING-2-1-3 STOP RECORDING USING A MEDIA PROFILE - PUT JOB IN IDLE STATE was replaced with RECORDING-2-1-12 STOP RECORDING ON MEDIA PROFILE - PUT JOB IN IDLE STATE RECORDING-2-1-4 STOP RECORDING ON RECEIVER - PUT JOB IN IDLE STATE was replaced with RECORDING-2-1-13 STOP RECORDING ON RECEIVER - PUT JOB IN IDLE STATE RECORDING-2-1-5 STOP RECORDING ON RECEIVER - NEVER CONNECTED MODE was replaced with RECORDING-2-1-14 STOP RECORDING ON RECEIVER - NEVER CONNECTED MODE RECORDING-2-1-6 STOP RECORDING USING A MEDIA PROFILE - DELETE JOB was replaced with RECORDING-2-1-15 STOP RECORDING ON MEDIA PROFILE - DELETE JOB RECORDING-2-1-7 STOP RECORDING ON RECEIVER - DELETE JOB was replaced with RECORDING-2-1-16 STOP RECORDING ON RECEIVER - DELETE JOB RECORDING-2-1-8 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - MEDIA PROFILE was replaced with RECORDING-2-1-17 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - MEDIA PROFILE RECORDING-2-1-9 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - RECEIVER was replaced with RECORDING-2-1-18 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - RECEIVER RECORDING-3-1-2 DYNAMIC TRACKS CONFIGURATION was replaced with RECORDING-3-1-7 DYNAMIC TRACKS CONFIGURATION RECORDING-3-1-5 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON MEDIA PROFILE) was replaced with RECORDING-3-1-8 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON MEDIA PROFILE) RECORDING-3-1-6 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON

		RECEIVER) was replaced with RECORDING-3-1-9 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON RECEIVER) RECORDING-4-1-6 GET RECORDING JOB CONFIGURATION WITH INVALID TOKEN was replaced with RECORDING-4-1-13 GET RECORDING JOB CONFIGURATION WITH INVALID TOKEN RECORDING-4-1-8 GET RECORDING JOB STATE WITH INVALID TOKEN was replaced with RECORDING-4-1-14 GET RECORDING JOB STATE WITH INVALID TOKEN RECORDING-5-1-1 RECORDING CONTROL – JOB STATE EVENT was replaced with RECORDING-5-1-18 RECORDING CONTROL – JOB STATE EVENT RECORDING-5-1-2 RECORDING CONTROL – JOB STATE CHANGE EVENT was replaced with RECORDING-5-1-19 RECORDING CONTROL – JOB STATE CHANGE EVENT RECORDING-5-1-5 RECORDING CONTROL – RECORDING JOB CONFIGURATION EVENT was replaced with RECORDING-5-1-20 RECORDING CONTROL – RECORDING JOB CONFIGURATION EVENT RECORDING-5-1-7 RECORDING CONTROL – DELETE RECORDING EVENT was replaced with RECORDING-5-1-17 RECORDING CONTROL – DELETE RECORDING EVENT RECORDING-5-1-12 RECORDING CONTROL – CREATE TRACK EVENT (CREATE TRACK) was replaced with RECORDING-5-1-15 RECORDING CONTROL – CREATE TRACK EVENT (CREATE TRACK) RECORDING-5-1-13 RECORDING CONTROL – DELETE TRACK EVENT (DELETE TRACK) was replaced with RECORDING-5-1-16 RECORDING CONTROL – DELETE TRACK EVENT (DELETE TRACK) The following annexes were updated or added: Annex A.6 was replaced with A.12 Selection or Creation of Recording for recording job creation Annex A.9 was replaced with A.13 Auto Creation of Receiver Annex A.14 Selection of Recording for track creation was added Annex A.15 Selection or Creation of Recording for

		recording job creation on a Media profile was added Annex A.5 was removed.
14.06	Feb, 2014	The following tests were updated with increasing of tests IDs: START RECORDING ON MEDIA PROFILE START RECORDING ON RECEIVER STOP RECORDING ON MEDIA PROFILE - PUT JOB IN IDLE STATE STOP RECORDING ON RECEIVER - PUT JOB IN IDLE STATE STOP RECORDING ON RECEIVER - NEVER CONNECTED MODE STOP RECORDING ON MEDIA PROFILE - DELETE JOB STOP RECORDING ON RECEIVER - DELETE JOB MODIFY MEDIA ATTRIBUTE WHILE RECORDING - MEDIA PROFILE MODIFY MEDIA ATTRIBUTE WHILE RECORDING – RECEIVER DYNAMIC RECORDINGS CONFIGURATION RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON MEDIA PROFILE) RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON RECEIVER) GET SERVICES AND GET RECORDING CONTROL SERVICE CAPABILITIES CONSISTENCY
14.12	Dec, 2014	The following annexes were updated: A.16 PullMessages algorithm for check Recording Job State initializing The following tests were updated with increasing of tests IDs: START RECORDING ON MEDIA PROFILE STOP RECORDING ON MEDIA PROFILE - PUT JOB IN IDLE STATE STOP RECORDING ON MEDIA PROFILE - DELETE JOB MODIFY MEDIA ATTRIBUTE WHILE RECORDING -

		MEDIA PROFILE

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Table of Contents

1 Introduction

The goal of the ONVIF test specification set is to make it possible to realize fully interoperable IP physical security implementation from different vendors. The set of ONVIF test specification describes the test cases need to verify the [ONVIF Network Interface Specs] and [ONVIF Conformance] requirements. Also, the test cases are to be basic inputs for some Profile specification requirements. It also describes the test framework, test setup, pre-requisites, test policies needed for the execution of the described test cases.

This ONVIF Recording Control Test Specification acts as a supplementary document to the [ONVIF Network Interface Specs], illustrating test cases need to be executed and passed. Also, this specification acts as an input document to the development of test tool which will be used to test the ONVIF device implementation conformance towards ONVIF standard. This test tool is referred as ONVIF Client hereafter.

1.1 Scope

This ONVIF Recording Control Test Specification defines and regulates the conformance testing procedure for the ONVIF conformant devices. Conformance testing is meant to be functional black-box testing. The objective of this specification is to provide the test cases to test individual requirements of ONVIF devices according to ONVIF core services which are defined in [ONVIF Network Interface Specs].

The principal intended purposes are:

- To provide self-assessment tool for implementations.
- To provide comprehensive test suite coverage for [ONVIF Network Interface Specs].

This specification does not address the following.

- Product use cases and non-functional (performance and regression) testing.
- SOAP Implementation Interoperability test i.e. Web Services Interoperability Basic Profile version 2.0 (WS-I BP2.0).
- Network protocol implementation Conformance test for HTTPS, HTTP, RTP and RTSP protocols.
- Wi-Fi Conformance test

The set of ONVIF Test Specification will not cover the complete set of requirements as defined in [ONVIF Network Interface Specs]; instead it would cover its subset.

This ONVIF Recording Control Test Specification covers ONVIF Recording Control service which is a functional block of [ONVIF Network Interface Specs]. The following sections describe the brief overview and scope of each functional block.

1.1.1 Capabilities

Capabilities test cases are covered for verification to get Recording Control Service capabilities. It means that GetServices and GetServiceCapabilities commands are covered by this test case.

1.1.2 Recording

Recording covers the test cases needed for the verification of recording process as mentioned in [ONVIF Network Interface Specs]. Recording section defines different recording control tests for starting and stopping recording.

1.1.3 Configuration

Configuration covers the test cases needed for the verification of recording configuration features as mentioned in [ONVIF Network Interface Specs]. Configuration section defines different recording, track and recording job configuration features.

1.1.4 General

General covers the test cases needed for the verification of recording control features as mentioned in [ONVIF Network Interface Specs]. General section defines different recording control for getting information about current configuration.

2 Terms and Definitions

2.1 Definitions

This section defines terms that are specific to the ONVIF Recording Control Service and tests. For the list of applicable general terms and definitions, please see [ONVIF Base Test].

Metadata	All streaming data except video and audio, including video analytics results, PTZ position data and other metadata (such as textual data from POS applications).
Recording	A container for a set of audio, video and metadata tracks. A recording can hold one or more tracks. A track is viewed as an infinite timeline that holds data at certain times.
Recording Event	An event associated with a Recording, represented by a notification message in the APIs
Recording Job	A job performs the transfer of data from a data source to a particular recording using a particular configuration
Track	An individual data channel consisting of video, audio, or metadata. This definition is consistent with the definition of track in [RFC 2326]
Video Analytics	Algorithms or programs used to analyze video data and to generate data describing object location and behavior.

2.2 Abbreviations

This section describes abbreviations used in this document.

DUT	Device Under Test
HTTP	Hyper Text Transport Protocol
RTCP	RTP Control Protocol
RTSP	Real Time Streaming Protocol
RTP	Real-time Transport Protocol
SDP	Session Description Protocol
TCP	Transport Control Protocol
UTC	Coordinated Universal Time
UDP	User Datagram Protocol
URI	Uniform Resource Identifier
WSDL	Web Services Description Language
WS-I BP 2.0	Web Services Interoperability Basic Profile version 2.0
XML	eXtensible Markup Language

3 Test Overview

This section describes the test setup and prerequisites needed, and the test policies that should be followed for test case execution.

3.1 Test Setup

3.1.1 Network Configuration for device under test

The generic test configuration for the execution of test cases defined in this document is as shown below (Figure 1)

Based on the individual test case requirements, some of the entities in the below setup may not be needed for the execution of those corresponding test cases.

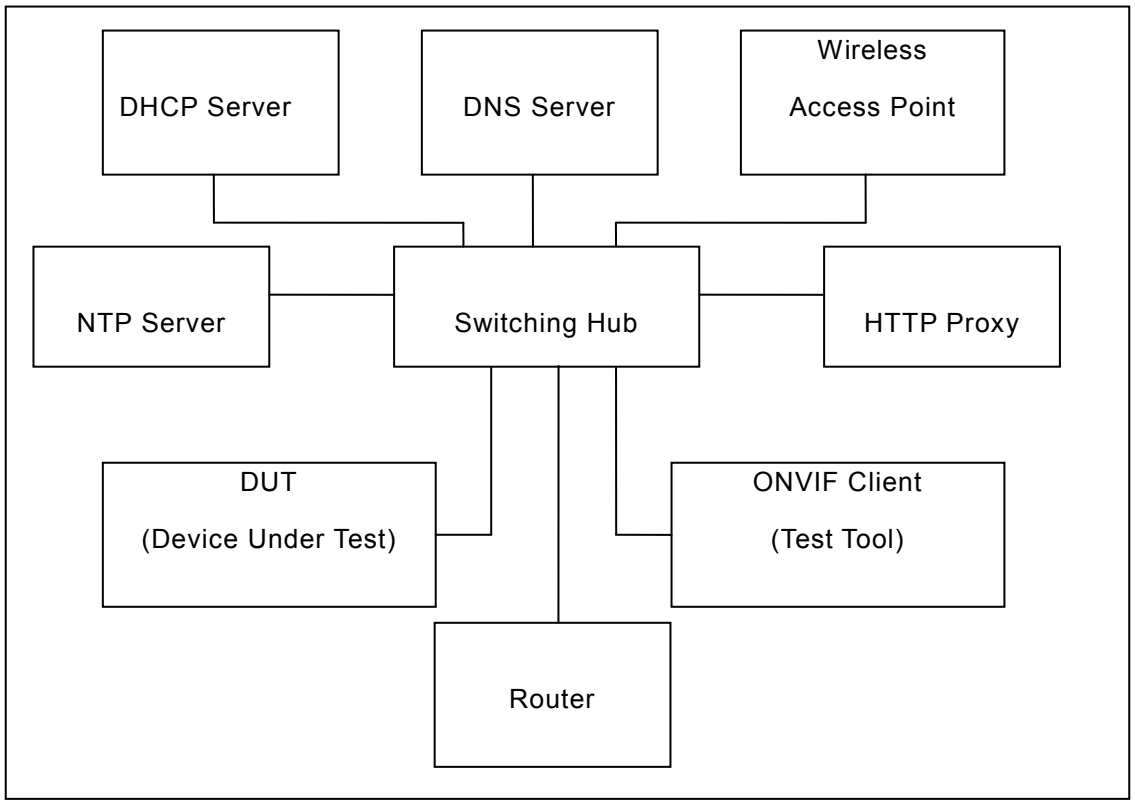


Figure 1: Test Configuration for DUT

DUT: ONVIF device to be tested. Hereafter, this is referred to as DUT (Device Under Test).

ONVIF Client (Test Tool): Tests are executed by this system and it controls the behaviour of the DUT. It handles both expected and unexpected behaviour.

HTTP Proxy: provides facilitation in case of RTP and RTSP tunnelling over HTTP.

Wireless Access Point: provides wireless connectivity to the devices that support wireless connection.

DNS Server: provides DNS related information to the connected devices.

DHCP Server: provides IPv4 Address to the connected devices.

NTP Server: provides time synchronization between ONVIF Client and DUT.

Switching Hub: provides network connectivity among all the test equipments in the test environment. All devices should be connected to the Switching Hub.

Router: provides router advertisements for IPv6 configuration.

3.2 Prerequisites

The pre-requisites for executing the test cases described in this Test Specification are

- The DUT shall be configured with an IPv4 address.
- The DUT shall be IP reachable [in the test configuration].
- The DUT shall be able to be discovered by the ONVIF Client Test Tool.
- The DUT shall be configured with the time i.e. manual configuration of UTC time and if NTP is supported by DUT then NTP time shall be synchronized with NTP Server.
- The DUT time and client Test tool time shall be synchronized with each other either manually or by common NTP server.

3.3 Test Policy

This section describes the test policies specific to the test case execution of each functional block.

The DUT shall adhere to the test policies defined in this section.

3.3.1 Capabilities

The device under test shall demonstrate recording control service capability in GetServices and GetServiceCapabilities responses. A DUT that does not display recording control service capability constitutes failure of test procedure.

Please refer to Section 4.1 for Capabilities Test Cases.

3.3.2 Recording

The DUT shall give the Recording Control Service entry point by GetServices command.

Please refer to Section 4.2 for Recording Test Cases.

3.3.3 Configuration

The DUT shall give the Recording Control Service entry point by GetServices command.

Please refer to Section 4.3 for Configuration Test Cases.

3.3.4 General

The DUT shall give the Recording Control Service entry point by GetServices command.

Please refer to Section 4.4 for Recording Test Cases.

3.3.5 Authentication method selection as a testing framework

According to later version of [ONVIF Network Interface Specs], it requires ONVIF client to support both HTTP digest and WS-UsernameToken functionality as authentication functionality. Therefore, ONVIF Client (ONVIF Device Test Tool in this context) as a testing framework shall properly select authentication method between the two based on the response from DUT toward specific request. The following is the deterministic procedure on which authentication method is to be selected.

Procedure:

1. ONVIF Client invokes a specific command which is under testing without any user credentials (no WS-UsernameToken, no HTTP digest authentication header).
2. If the DUT returns a correct response, then ONVIF Client determines that the DUT does not require any user authentication toward the command according to the configured security policy.
3. If the DUT returns HTTP 401 Unauthorized error along with WWW-Authentication: Digest header, then ONVIF Client determines that the DUT supports HTTP digest authentication. ONVIF Client shall provide with the proper level of user credential to continue the test procedure.
4. If the DUT returns SOAP fault (Sender/NotAuthorized) message, then ONVIF Client determines that WS-UsernameToken is supported by the DUT. ONVIF Client shall provide with the proper level of user credential to continue the test procedure.

4 Recording control Test Cases

4.1 Capabilities

4.1.1 RECORDING CONTROL SERVICE CAPABILITIES

Test Label: Recording Control Capabilities Verification.

Test Case ID: RECORDING-1-1-1

ONVIF Core Specification Coverage: Capability exchange (ONVIF Core Specification), GetServiceCapabilities (ONVIF Recording Control Service Specification)

Command under test: GetServiceCapabilities (for Recording Control Service)

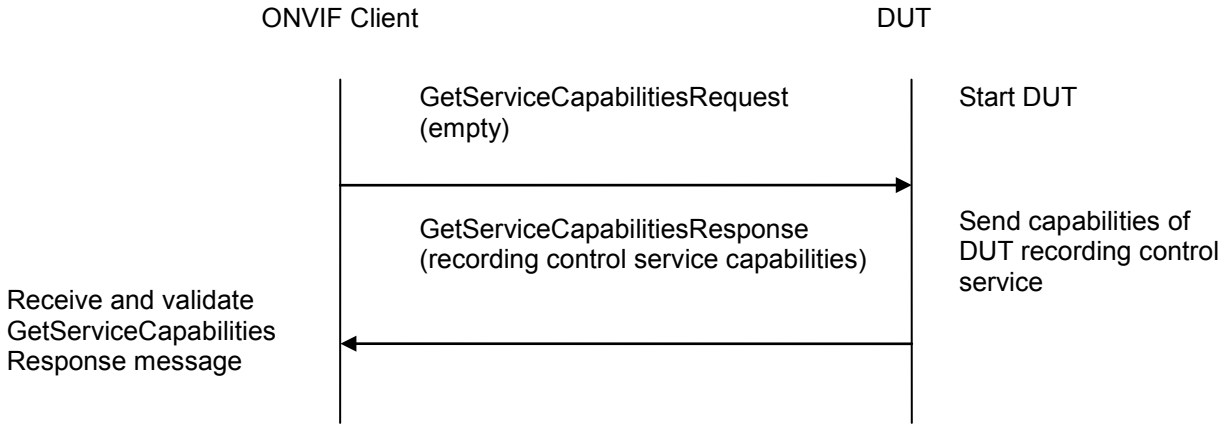
WSDL Reference: recording.wsdl

Test Purpose: To verify Recording Control Service Capabilities of the DUT.

Pre-Requisite: ONVIF Client gets the Recording Control Service entry point by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetServiceCapabilitiesRequest message to retrieve recording control service capabilities of the DUT.
4. Verify the GetServiceCapabilitiesResponse from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetServiceCapabilitiesResponse.

The DUT sent Capabilities.MaxRate zero or less.

The DUT sent Capabilities.MaxTotalRate zero or less.

The DUT sent Capabilities.MaxRecordings less than 1.

The DUT sent an empty Capabilities.Encoding list.

4.1.2 GET SERVICES AND GET RECORDING CONTROL SERVICE CAPABILITIES CONSISTENCY

Test Label: Get Services and Recording Control Service Capabilities Consistency Verification.

Test Case ID: RECORDING-1-1-3

ONVIF Core Specification Coverage: Capability exchange (ONVIF Core Specification), GetServiceCapabilities (ONVIF Recording Control Service Specification)

Command under test: GetServices, GetServiceCapabilities (for Recording Control Service)

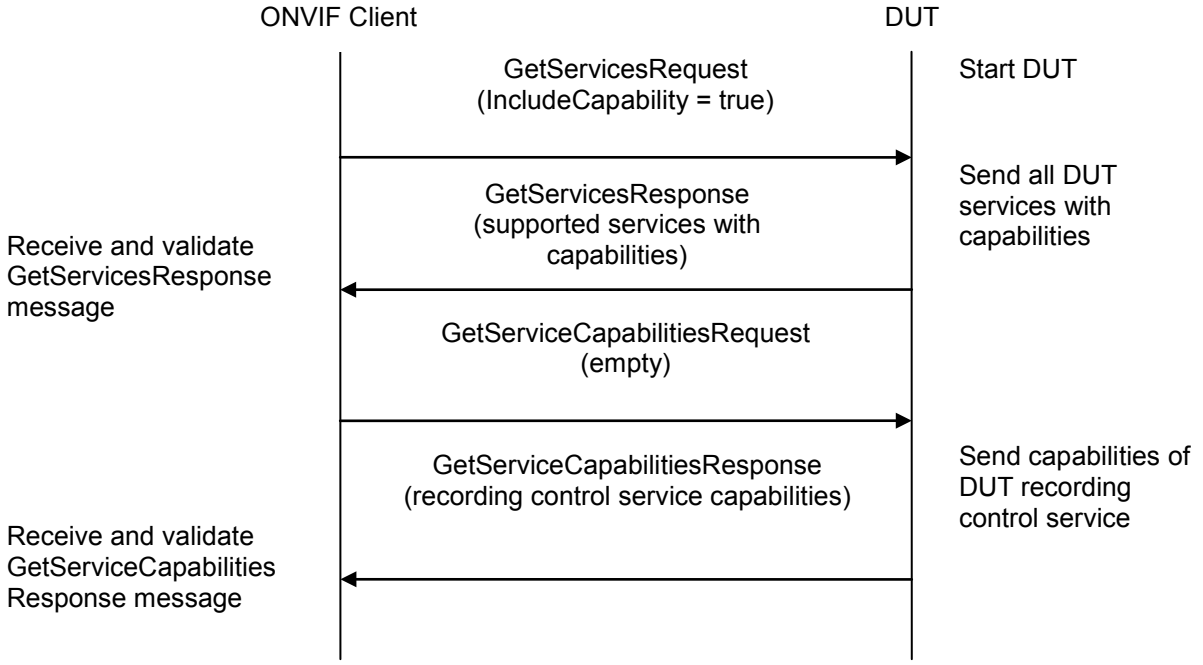
WSDL Reference: devicemgmt.wsdl, recording.wsdl

Test Purpose: To verify Get Services and Recording Control Service Capabilities consistency.

Pre-Requisite: None.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetServicesRequest message (IncludeCapability = true) to retrieve all services of the DUT with service capabilities.
4. Verify the GetServicesResponse message from the DUT.
5. ONVIF Client will invoke GetServiceCapabilitiesRequest message to retrieve Recording Control service capabilities of the DUT.
6. Verify the GetServiceCapabilitiesResponse message from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetServicesResponse message.

The DUT did not send a valid GetServiceCapabilitiesResponse message.

The DUT sent different Capabilities in GetServicesResponse message and in GetServiceCapabilitiesResponse message.

Note: Service will be defined as Recording Control service if it has Namespace element that is equal to “http://www.onvif.org/ver10/recording/wsdl”.

Note: Capabilities in GetServicesResponse message and in GetServiceCapabilitiesResponse message will be assumed as different in the following cases:

DynamicRecordings attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

DynamicRecordings attribute values are different.

DynamicTracks attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

DynamicTracks attribute values are different.

Encoding attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

Encoding attribute values are different.

MaxRate attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

MaxRate attribute values are different.

MaxTotalRate attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

MaxTotalRate attribute values are different.

MaxRecordings attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

MaxRecordings attribute values are different.

MetadataRecording attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

MetadataRecording attribute values are different.

Options attribute is skipped only for GetServicesResponse message or only for GetServiceCapabilitiesResponse message.

Options attribute values are different.

4.2 Recording

4.2.1 START RECORDING ON RECEIVER

Test Label: Start Recording on Receiver Verification.

Test Case ID: RECORDING-2-1-20

ONVIF Core Specification Coverage: Creation of Recording Job with Active mode on receiver. Event generation when the state field of the RecordingJobStateInformation structure is changing (ONVIF Recording Control Service Specification)

Command under test: CreateRecordingJob

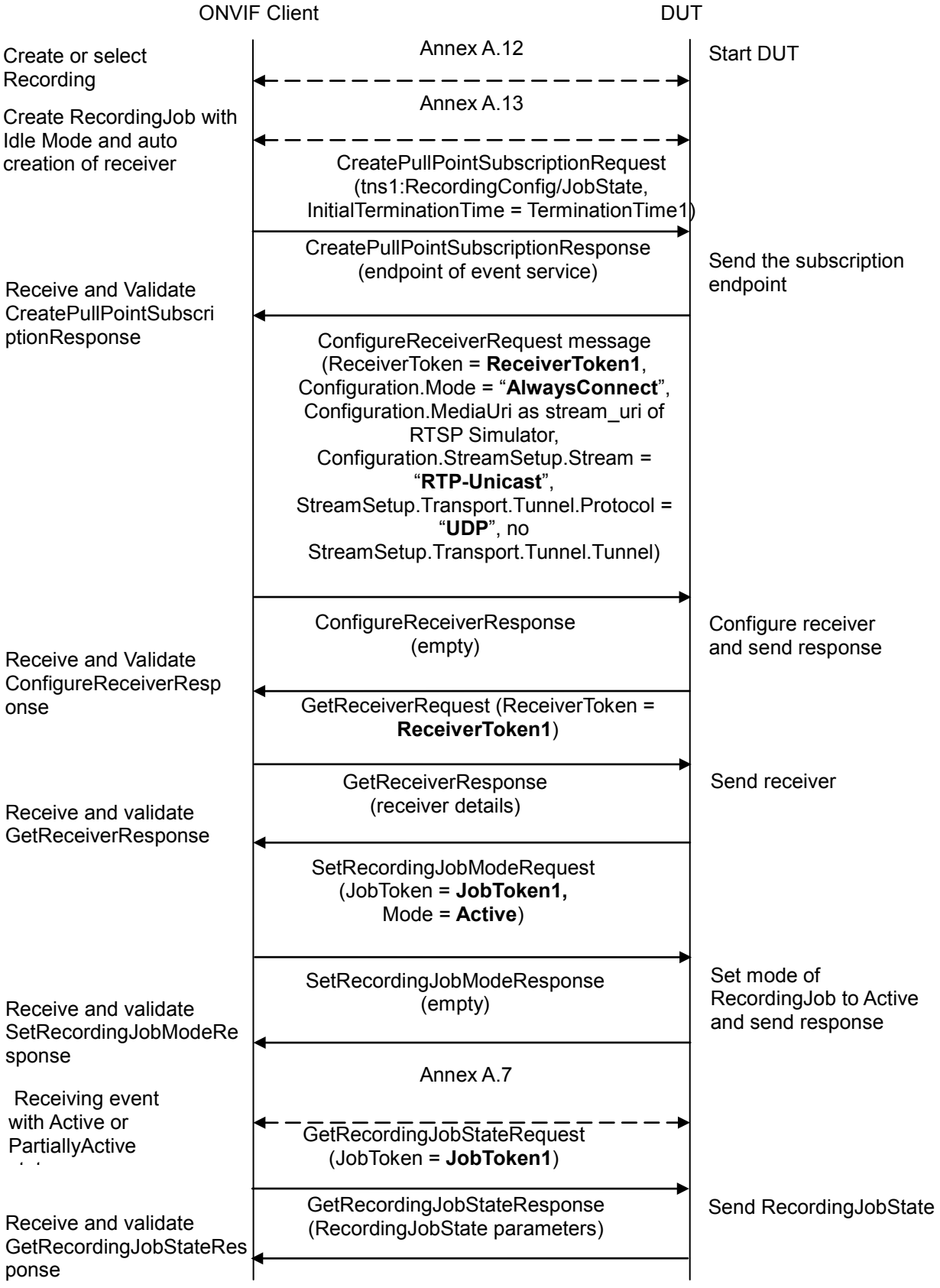
WSDL Reference: recording.wsdl, receiver.wsdl, event.wsdl

Test Purpose: To verify Start Recording on Receiver.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Receiver Service by GetServices command. All recording jobs were stopped. Options are supported by DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.12
Start DUT
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel)
ConfigureReceiverResponse (empty)
Configure receiver and send response
Receive and Validate ConfigureReceiverResponse
GetReceiverRequest (ReceiverToken = **ReceiverToken1**)
GetReceiverResponse (receiver details)
Send receiver
Receive and validate GetReceiverResponse
SetRecordingJobModeRequest (JobToken = **JobToken1,** Mode = **Active**)
SetRecordingJobModeResponse (empty)
Set mode of RecordingJob to Active and send response
Receive and validate SetRecordingJobModeResponse
Annex A.7
Receiving event with Active or PartiallyActive
GetRecordingJobStateRequest (JobToken = **JobToken1**)
GetRecordingJobStateResponse (RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobStateResponse

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
4. Execute Annex A.13 for auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
6. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
7. ONVIF Client will invoke ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel) to configure the receiver to receive media from RTSP Simulator.
8. Verify ConfigureReceiverResponse message from the DUT.
9. ONVIF Client will invoke GetReceiverRequest message with ReceiverToken = **ReceiverToken1**.
10. Verify GetReceiverResponse message from the DUT. Check that GetReceiverResponse message contains the same parameters values as the ones changed in ConfigureReceiverRequest message.
11. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = "**JobToken1**", Mode = "**Active**") to start recording.
12. Verify SetRecordingJobModeResponse message from the DUT. Mark time of CreateRecordingJobResponse as T1.
13. Execute Annex A.7 for receiving event with "Active" or "PartiallyActive" Recording job state.
14. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = "**JobToken1** ".
15. Verify the GetRecordingJobStateResponse message from the DUT.
16. Check that State.State is equal to "Active" or "PartiallyActive".
17. Check that State.Sources.State is equal to "Active".
18. Check that State.State value in the GetRecordingJobStateResponse message equals to State.State value in the notification message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetReceiverResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT sent GetReceiverResponse message with parameters values differ from sent in ConfigureReceiverRequest message.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Active” or “PartiallyActive”.

The DUT sent GetRecordingJobStateResponse message with State.Sources.State parameter value not equal to “Active”.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

The DUT sent different values for State.State in the notification message and in GetRecordingJobStateResponse message.

4.2.2 STOP RECORDING ON RECEIVER - PUT JOB IN IDLE STATE

Test Label: Stop Recording on Receiver by Putting It in Idle State Verification.

Test Case ID: RECORDING-2-1-22

ONVIF Core Specification Coverage: SetRecordingJobMode, event generation when the state field of the RecordingJobStateInformation structure is changing (ONVIF Recording Control Service Specification).

Command under test: SetRecordingJobMode

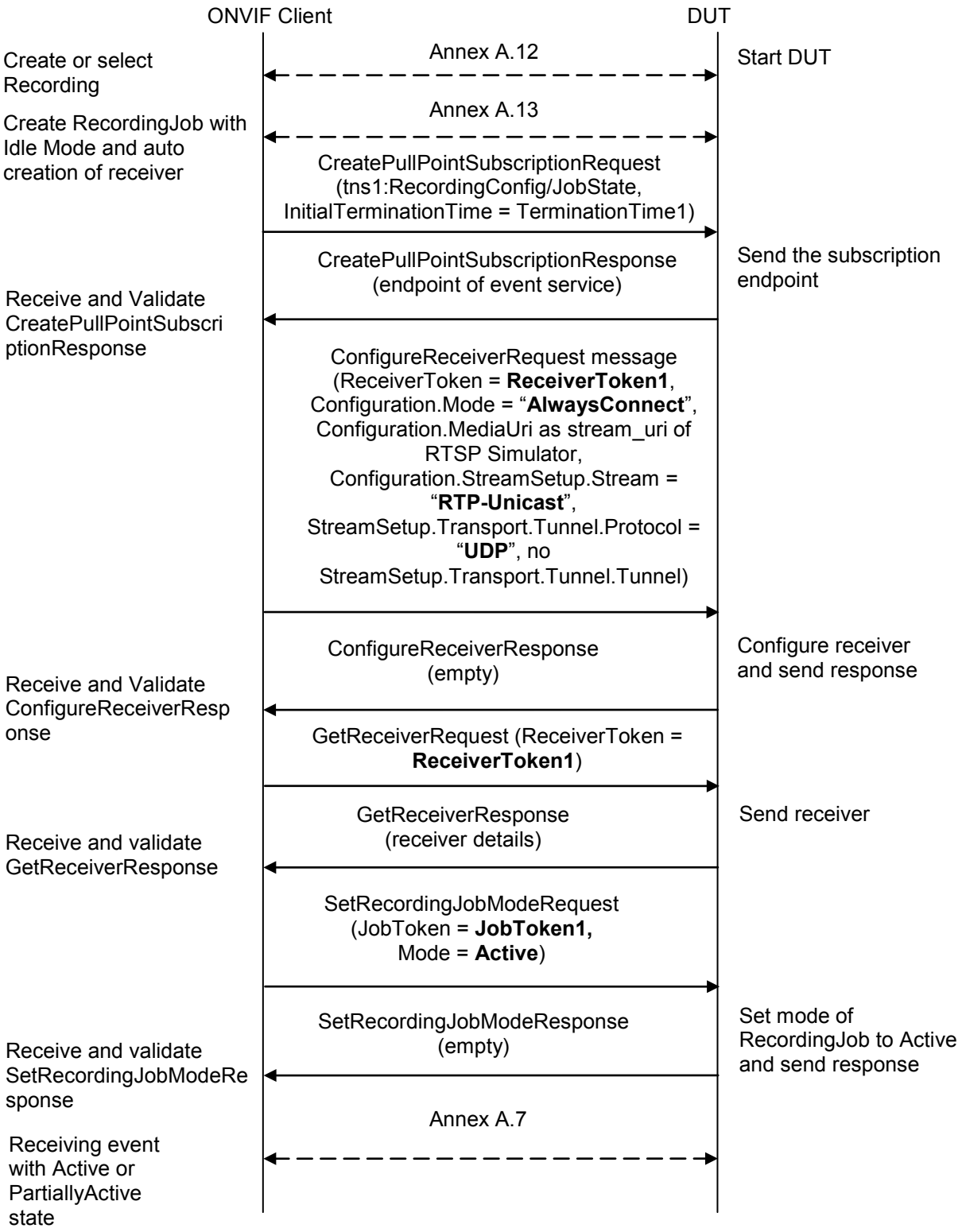
WSDL Reference: recording.wsdl, receiver.wsdl, event.wsdl

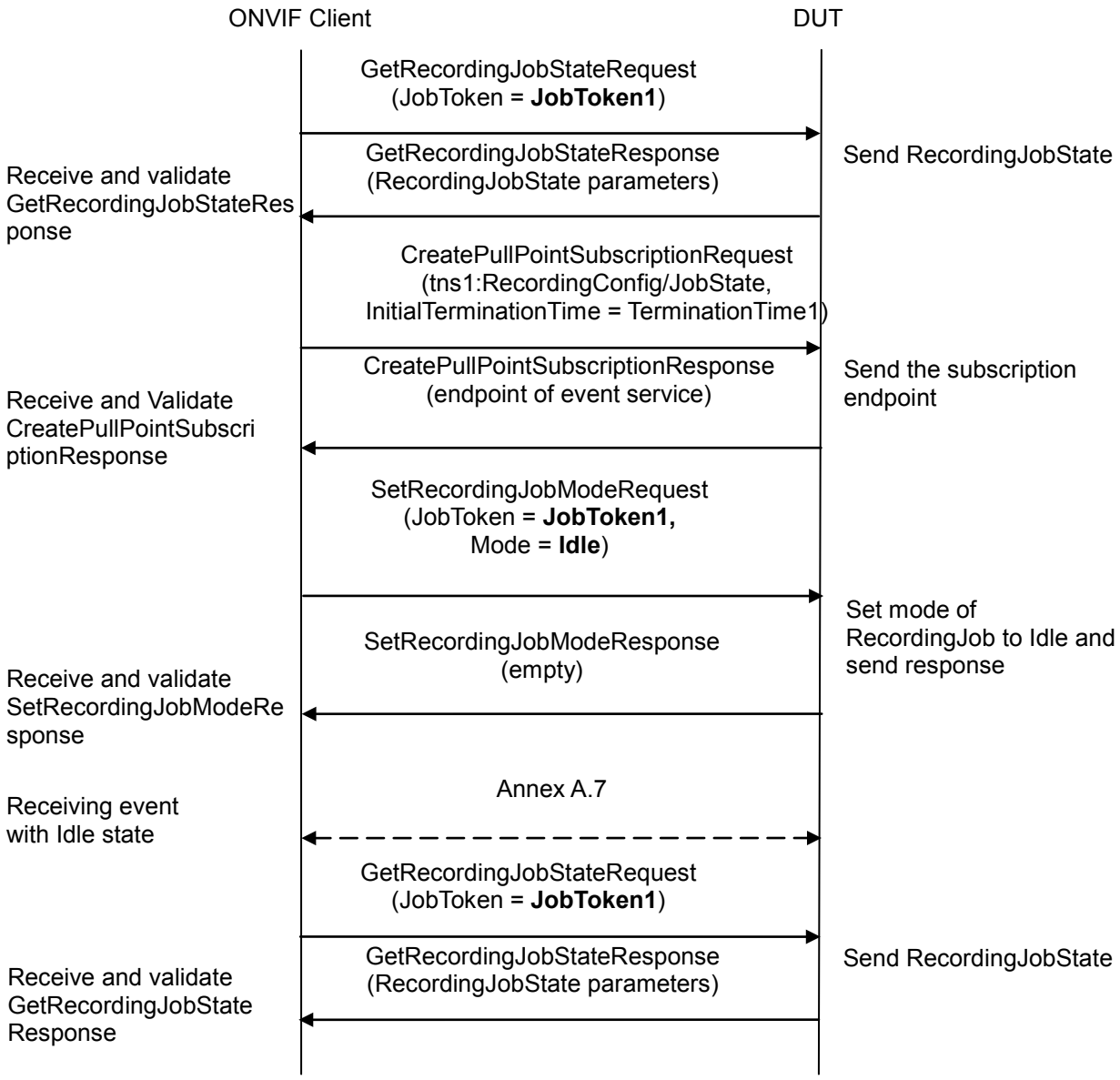
Test Purpose: To verify Stop Recording on Receiver by Putting It in Idle State.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Receiver Service by GetServices command. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.12
Start DUT
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel)
ConfigureReceiverResponse (empty)
Configure receiver and send response
Receive and Validate ConfigureReceiverResponse
GetReceiverRequest (ReceiverToken = **ReceiverToken1**)
GetReceiverResponse (receiver details)
Send receiver
Receive and validate GetReceiverResponse
SetRecordingJobModeRequest (JobToken = **JobToken1,** Mode = **Active**)
SetRecordingJobModeResponse (empty)
Set mode of RecordingJob to Active and send response
Receive and validate SetRecordingJobModeResponse
Annex A.7
Receiving event with Active or PartiallyActive state



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
4. Execute Annex A.13 for Auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
6. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.

7. ONVIF Client will invoke ConfigureReceiverRequest message (ReceiverToken = ReceiverToken1, Configuration.Mode = “AlwaysConnect”, Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = “RTP-Unicast”, StreamSetup.Transport.Tunnel.Protocol = “UDP”, no StreamSetup.Transport.Tunnel.Tunnel) to configure the receiver to receive media from RTSP Simulator.
8. Verify ConfigureReceiverResponse message from the DUT.
9. ONVIF Client will invoke GetReceiverRequest message with ReceiverToken = ReceiverToken1.
10. Verify GetReceiverResponse message from the DUT. Check that GetReceiverResponse message contains the same parameters values as were changed in ConfigureReceiverRequest message.
11. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “JobToken1”, Mode = “Active”) to start recording.
12. Verify SetRecordingJobModeResponse message from the DUT. Mark time of CreateRecordingJobResponse as T1.
13. Execute Annex A.7 for receiving event with “Active” or “PartiallyActive” Recording job state.
14. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1 “.
15. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State = “Active” or “PartiallyActive”.
16. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
17. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
18. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “**JobToken1**”, Mode = “**Idle**”) to stop recording.
19. Verify SetRecordingJobModeResponse message from the DUT. Remark T1 as time of SetRecordingJobModeResponse message.
20. Execute Annex A.7 for receiving event with Idle state.
21. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “**JobToken1** “.
22. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State and State.Sources.State parameter values are equal to “Idle”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetReceiverResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid DeleteRecordingJobResponse message.

The DUT sent GetReceiverResponse message with parameters values differerent from sent in ConfigureReceiverRequest message.

The DUT returned GetRecordingJobStateResponse State.State different from “Active” or “PartailActive” at step 15.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Idle” at step 22.

The DUT sent GetRecordingJobStateResponse message with State.Sources.State parameter value not equal to “Idle” at step 22.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

4.2.3 STOP RECORDING ON RECEIVER - NEVER CONNECTED MODE

Test Label: Stop Recording on Receiver by Putting Receiver in NeverConnect Mode Verification.

Test Case ID: RECORDING-2-1-23

ONVIF Core Specification Coverage: Event generation when the receiver state is changing (ONVIF Receiver Service Specification).

Command under test: None

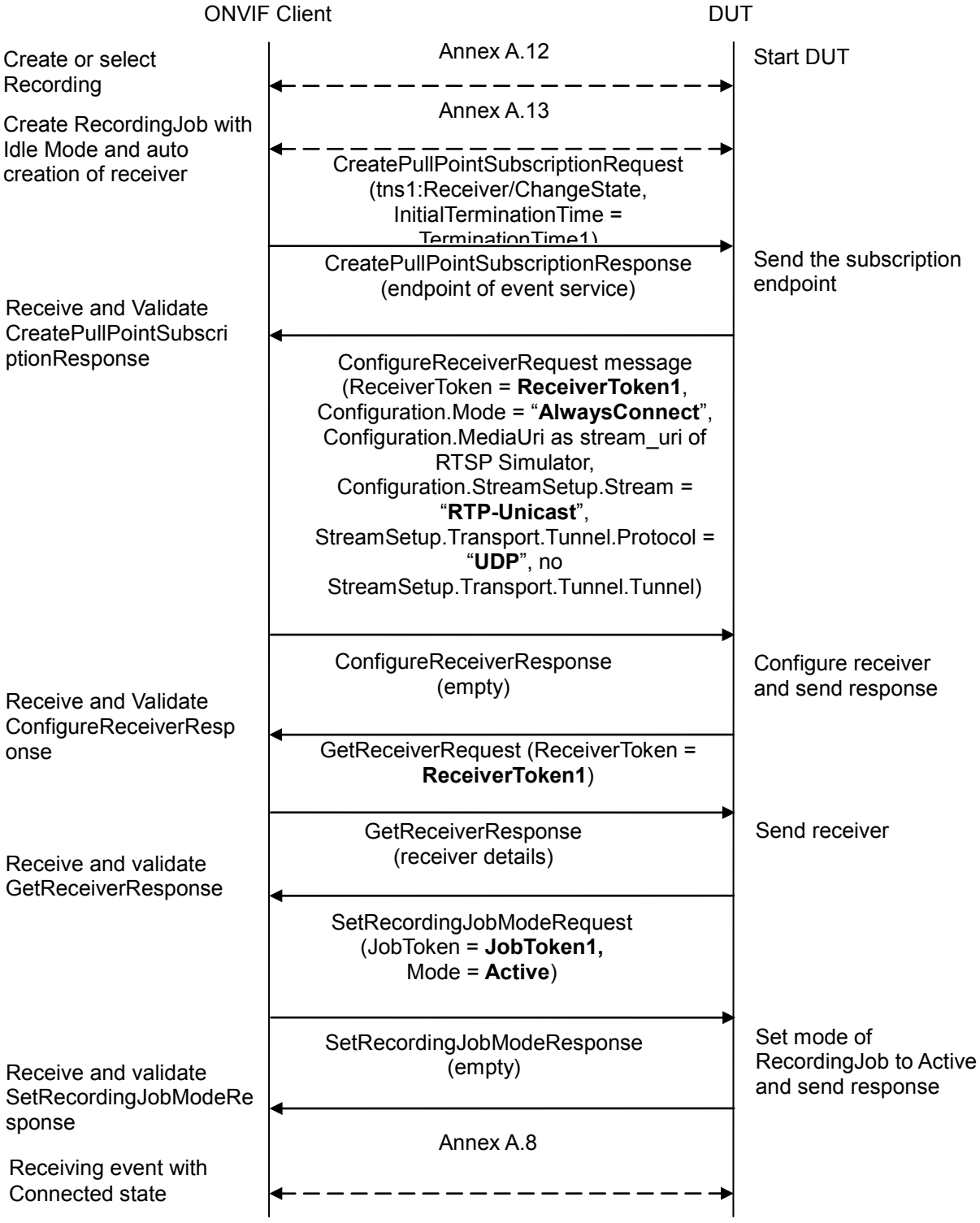
WSDL Reference: recording.wsdl, receiver.wsdl, event.wsdl

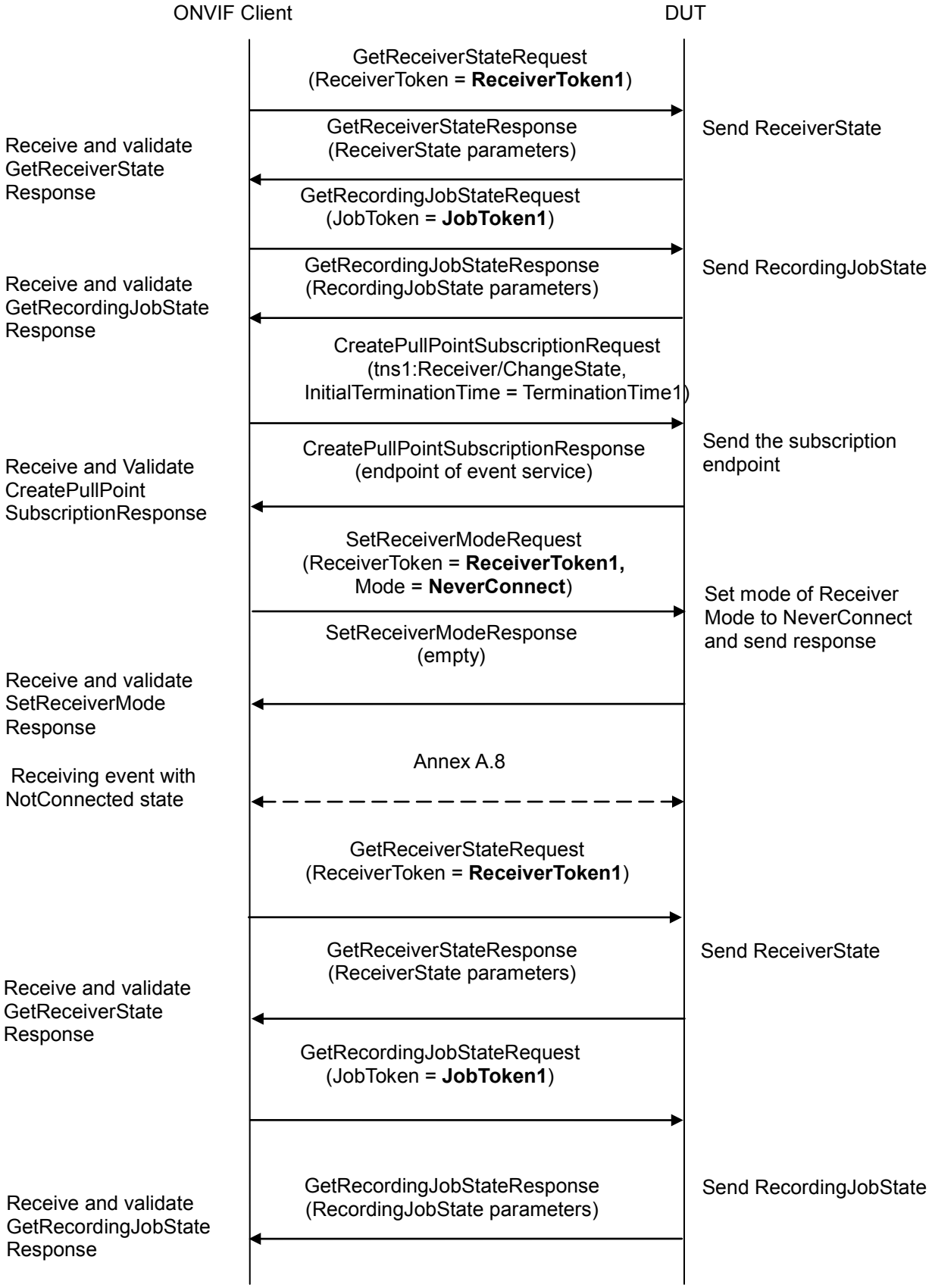
Test Purpose: To verify Stop Recording on Receiver by Putting Receiver in NeverConnect Mode.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Receiver Service by GetServices command. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.12
Start DUT
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
CreatePullPointSubscriptionRequest (tns1:Receiver/ChangeState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel)
ConfigureReceiverResponse (empty)
Configure receiver and send response
Receive and Validate ConfigureReceiverResponse
GetReceiverRequest (ReceiverToken = **ReceiverToken1**)
GetReceiverResponse (receiver details)
Send receiver
Receive and validate GetReceiverResponse
SetRecordingJobModeRequest (JobToken = **JobToken1,** Mode = **Active**)
SetRecordingJobModeResponse (empty)
Set mode of RecordingJob to Active and send response
Receive and validate SetRecordingJobModeResponse
Annex A.8
Receiving event with Connected state


ONVIF Client
DUT
GetReceiverStateRequest
(ReceiverToken = **ReceiverToken1**)
GetReceiverStateResponse
(ReceiverState parameters)
Send ReceiverState
Receive and validate GetReceiverState Response
GetRecordingJobStateRequest
(JobToken = **JobToken1**)
GetRecordingJobStateResponse
(RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobState Response
CreatePullPointSubscriptionRequest
(tns1:Receiver/ChangeState,
InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse
(endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPoint SubscriptionResponse
SetReceiverModeRequest
(ReceiverToken = **ReceiverToken1,**
Mode = **NeverConnect**)
SetReceiverModeResponse
(empty)
Set mode of Receiver Mode to NeverConnect and send response
Receive and validate SetReceiverMode Response
Annex A.8
Receiving event with NotConnected state
GetReceiverStateRequest
(ReceiverToken = **ReceiverToken1**)
GetReceiverStateResponse
(ReceiverState parameters)
Send ReceiverState
Receive and validate GetReceiverState Response
GetRecordingJobStateRequest
(JobToken = **JobToken1**)
GetRecordingJobStateResponse
(RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobState Response

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
4. Execute Annex A.13 for Auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:Receiver/ChangeState Topic as Filter and an InitialTerminationTime = Time1 to check Receiver state.
6. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
7. ONVIF Client will invoke ConfigureReceiverRequest message with ReceiverToken = ReceiverToken1 (Configuration.Mode = “AlwaysConnect”, Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = “RTP-Unicast”, StreamSetup.Transport.Tunnel.Protocol = “UDP”, no StreamSetup.Transport.Tunnel.Tunnel) to configure the receiver to receive media from RTSP Simulator.
8. Verify ConfigureReceiverResponse message from the DUT.
9. ONVIF Client will invoke GetReceiverRequest message with ReceiverToken = ReceiverToken1.
10. Verify GetReceiverResponse message from the DUT. Check that GetReceiverResponse message contains the same parameters values as were changed in ConfigureReceiverRequest message.
11. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “JobToken1”, Mode = “Active”) to start the recording.
12. Verify SetRecordingJobModeResponse message from the DUT. Mark the time of SetRecordingJobModeRequest message as T1.
13. Execute Annex A.8 for receiving event with Connected state of the receiver.
14. ONVIF Client will invoke GetReceiverStateRequest message to check Receiver State.
15. Verify GetReceiverStateResponse message from the DUT. Check that ReceiverState.State = “Connected”.
16. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1 “.
17. Verify the GetRecordingJobStateResponse message from the DUT.
18. Check that State.State is equal to “Active” or “PartiallyActive”.
19. Check that State.Sources.State is equal to “Active”.
20. Check that State.State value in the GetRecordingJobStateResponse message equals to State.State value in the notification message.
21. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:Receiver/ChangeState Topic as Filter and an InitialTerminationTime = Time1 to check Receiver state.

22. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
23. ONVIF Client will invoke SetReceiverModeRequest message (ReceiverToken = “ReceiverToken1”, Mode = “NeverConnect”) to stop recording.
24. Verify SetReceiverModeResponse message from the DUT.
25. Execute Annex A.8 for receiving event with NotConnected state of the receiver.
26. ONVIF Client will invoke GetReceiverStateRequest message to check Receiver State.
27. Verify GetReceiverStateResponse message from the DUT. Check that ReceiverState.State = “NotConnected”.
28. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1”.
29. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State and State.Sources.State parameter values are equal to “Idle”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetReceiverResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetReceiverStateResponse message.

The DUT did not send a valid SetReceiverModeResponse message.

The DUT sent GetReceiverResponse message with parameters values differ from sent in ConfigureReceiverRequest message.

The DUT sent GetReceiverStateResponse with ReceiverState.State not equal to “Connected” at step 15.

The DUT returned GetRecordingJobStateResponse State.State different from “Active” or “PartailActive” at step 18.

The DUT sent GetRecordingJobStateResponse message with State.Sources.State parameter value not equal to “Active” at step 19.

The DUT sent GetReceiverStateResponse with ReceiverState.State not equal to “NotConnected” at step 27.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

The DUT sent GetRecordingJobStateResponse message with State.State and State.Sources.State parameters values not equal to “Idle” at step 29.

4.2.4 STOP RECORDING ON RECEIVER - DELETE JOB

Test Label: Stop Recording on Receiver by Job Deletion Verification.

Test Case ID: RECORDING-2-1-25

ONVIF Core Specification Coverage: DeleteRecordingJob (ONVIF Recording Control Service Specification)

Command under test: DeleteRecordingJob

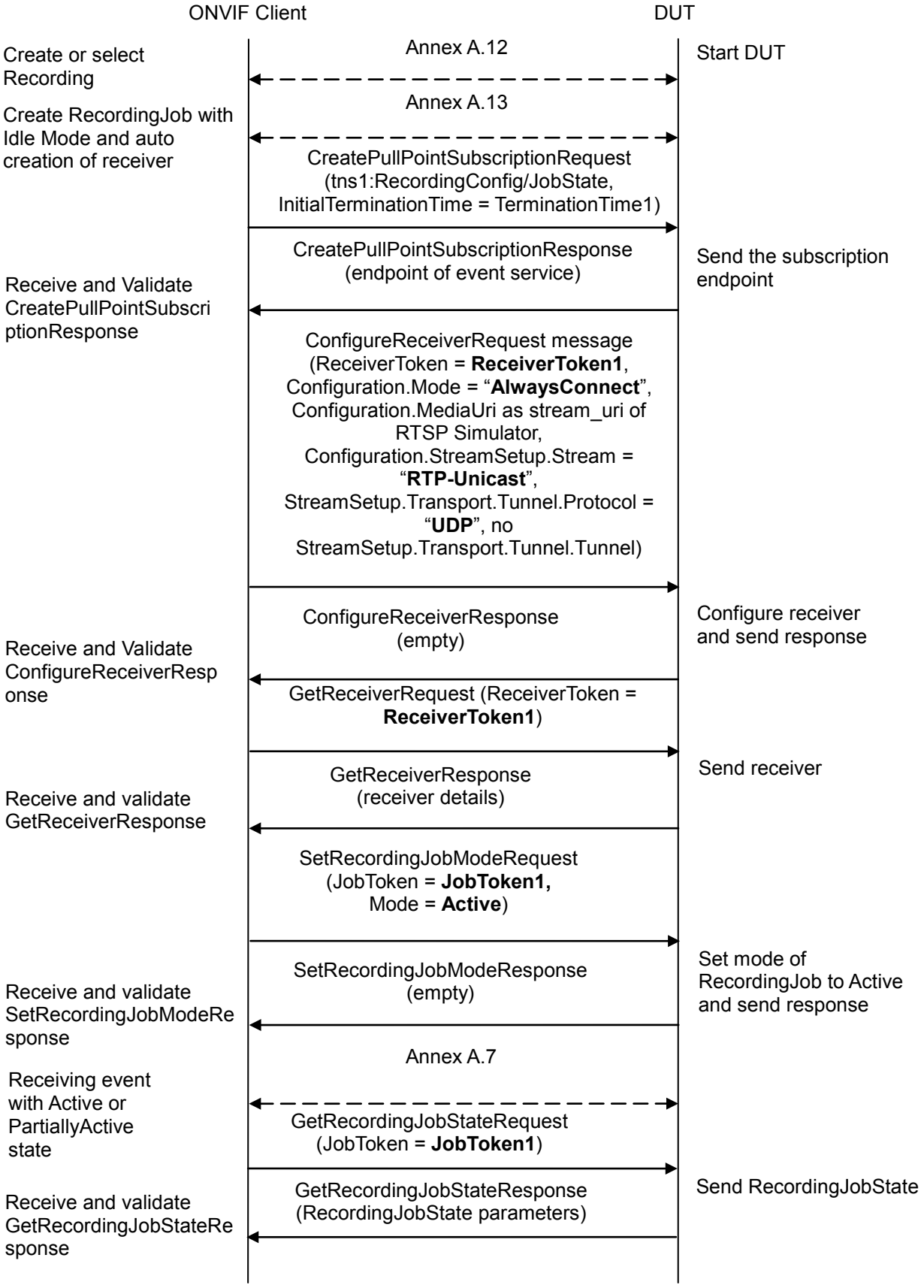
WSDL Reference: recording.wsdl, receiver.wsdl, event.wsdl

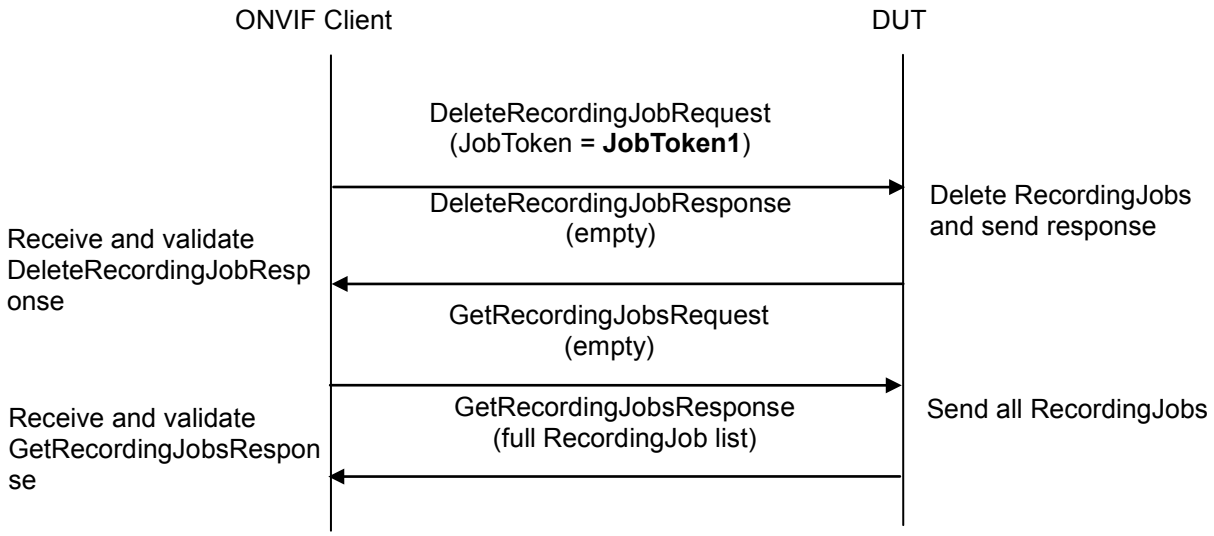
Test Purpose: To verify Stop Recording on Receiver by Job Deletion.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Receiver Service by GetServices command. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.12
Start DUT
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel)
ConfigureReceiverResponse (empty)
Configure receiver and send response
Receive and Validate ConfigureReceiverResponse
GetReceiverRequest (ReceiverToken = **ReceiverToken1**)
GetReceiverResponse (receiver details)
Send receiver
Receive and validate GetReceiverResponse
SetRecordingJobModeRequest (JobToken = **JobToken1,** Mode = **Active**)
SetRecordingJobModeResponse (empty)
Set mode of RecordingJob to Active and send response
Receive and validate SetRecordingJobModeResponse
Annex A.7
Receiving event with Active or PartiallyActive state
GetRecordingJobStateRequest (JobToken = **JobToken1**)
GetRecordingJobStateResponse (RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobStateResponse



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
4. Execute Annex A.13 for auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
6. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
7. ONVIF Client will invoke ConfigureReceiverRequest message (ReceiverToken = ReceiverToken1, Configuration.Mode = “AlwaysConnect”, Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = “RTP-Unicast”, StreamSetup.Transport.Tunnel.Protocol = “UDP”, no StreamSetup.Transport.Tunnel.Tunnel) to configure the receiver to receive media from RTSP Simulator.
8. Verify ConfigureReceiverResponse message from the DUT.
9. ONVIF Client will invoke GetReceiverRequest message with ReceiverToken = ReceiverToken1.
10. Verify GetReceiverResponse message from the DUT. Check that GetReceiverResponse message contains the same parameters values as were changed in ConfigureReceiverRequest message.
11. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “JobToken1”, Mode = “Active”) to start recording.
12. Verify SetRecordingJobModeResponse message from the DUT. Mark time of CreateRecordingJobResponse as T1.
13. Execute Annex A.7 for receiving event with “Active” or “PartiallyActive” Recording job state.

14. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1 “.
15. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State = “Active” or “PartiallyActive”.
16. ONVIF Client will invoke DeleteRecordingJobRequest with JobToken = JobToken1 to delete recording job.
17. Verify DeleteRecordingJobResponse from the DUT.
18. ONVIF Client will invoke GetRecordingJobsRequest to get full list of the recording jobs.
19. Verify the GetRecordingJobsResponse from the DUT.
20. Check that there is no JobItem with JobToken1 in the GetRecordingJobsResponse.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetReceiverResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid DeleteRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT sent GetReceiverResponse message with parameters values different from the ones sent in ConfigureReceiverRequest message.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Active” or “PartiallyActive” at step 15.

The DUT returned the JobToken1 in GetRecordingJobsResponse message after deleting.

4.2.5 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - RECEIVER

Test Label: Media Attributes Modification for Remote Recordings while Recording Verification.

Test Case ID: RECORDING-2-1-27

ONVIF Core Specification Coverage: Event generation when the receiver state is changing (ONVIF Receiver Service Specification).

Command under test: None

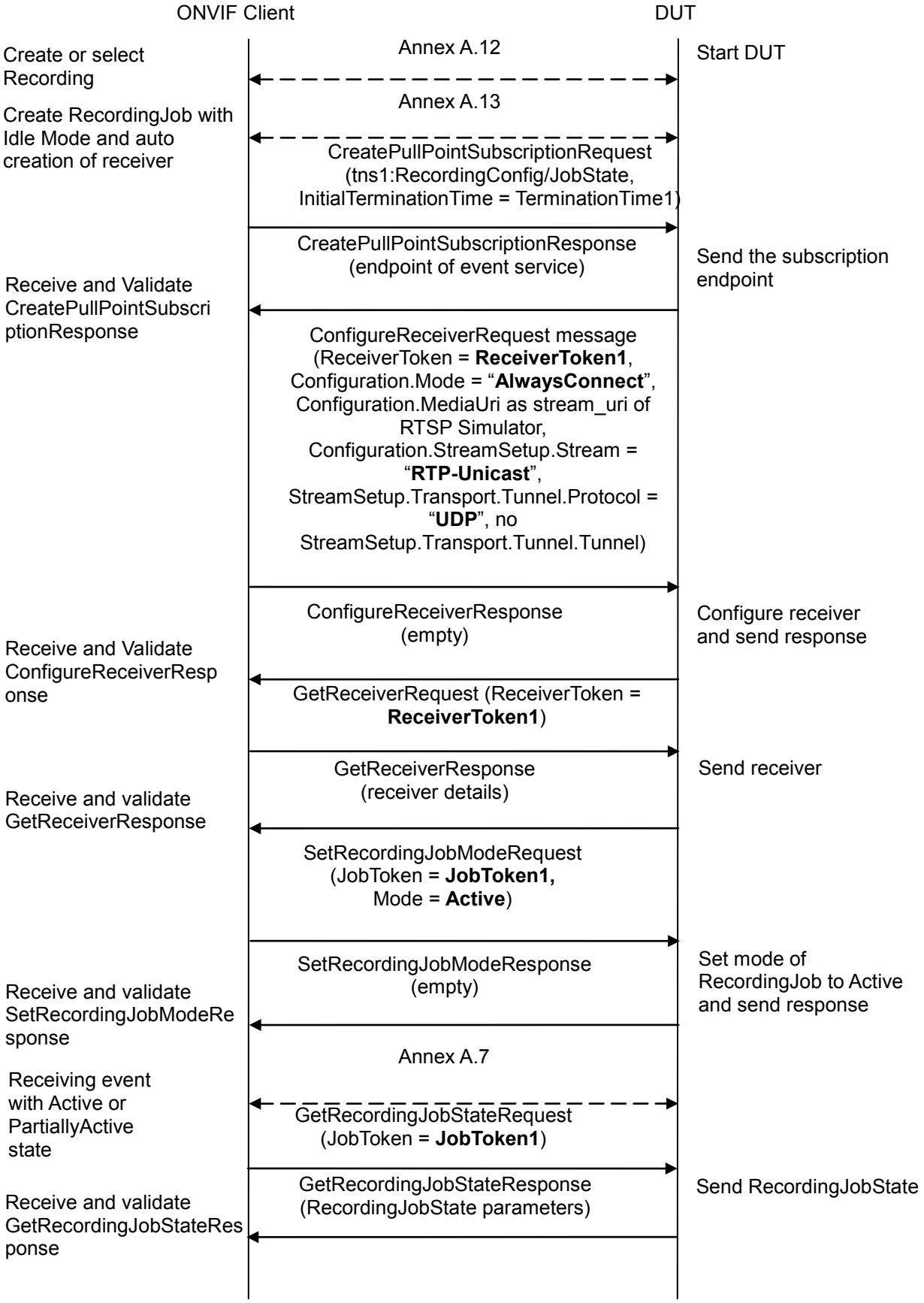
WSDL Reference: recording.wsdl, receiver.wsdl, event.wsdl

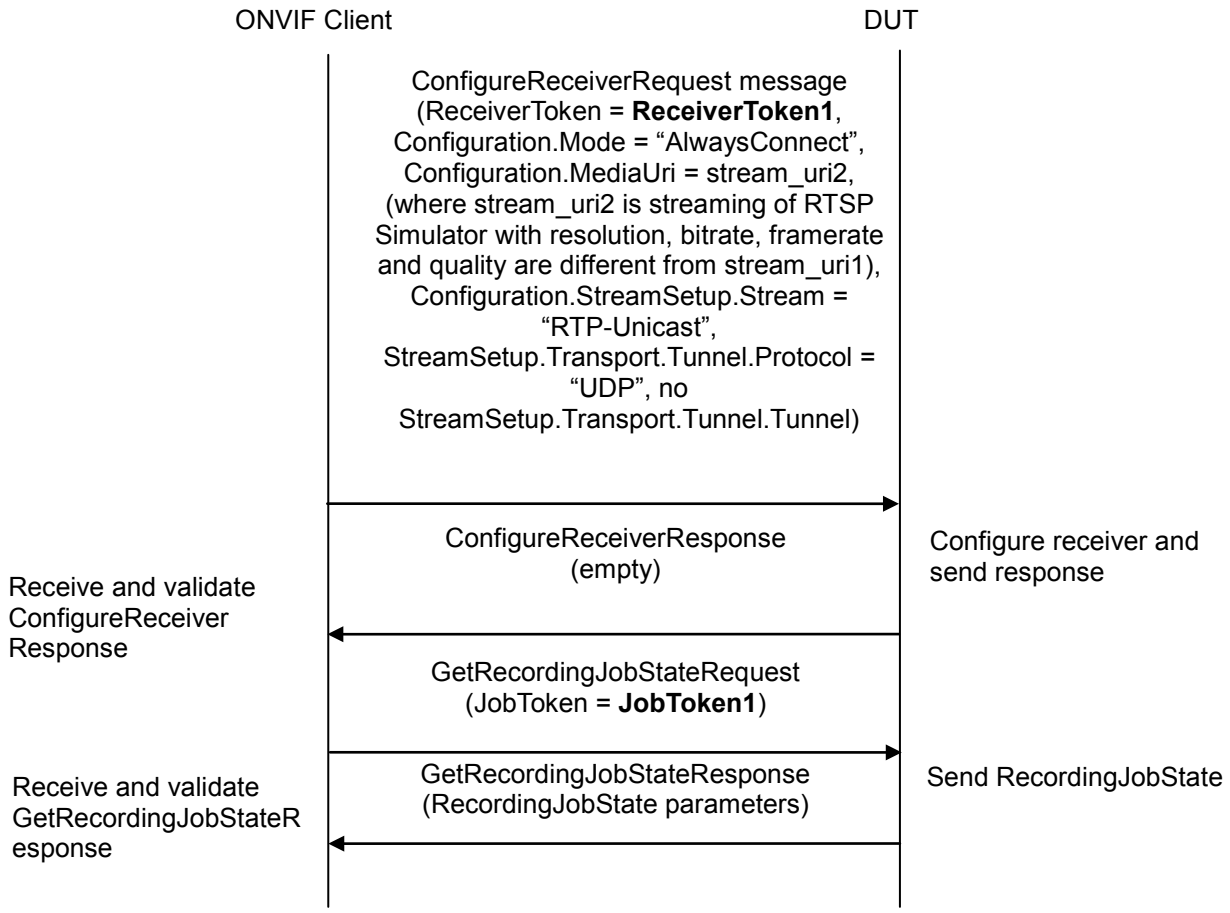
Test Purpose: To verify Media Attributes Modification for Remote Recordings while Recording.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Receiver Service by GetServices command. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.12
Start DUT
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
ConfigureReceiverRequest message (ReceiverToken = **ReceiverToken1**, Configuration.Mode = "**AlwaysConnect**", Configuration.MediaUri as stream_uri of RTSP Simulator, Configuration.StreamSetup.Stream = "**RTP-Unicast**", StreamSetup.Transport.Tunnel.Protocol = "**UDP**", no StreamSetup.Transport.Tunnel.Tunnel)
ConfigureReceiverResponse (empty)
Configure receiver and send response
Receive and Validate ConfigureReceiverResponse
GetReceiverRequest (ReceiverToken = **ReceiverToken1**)
GetReceiverResponse (receiver details)
Send receiver
Receive and validate GetReceiverResponse
SetRecordingJobModeRequest (JobToken = **JobToken1,** Mode = **Active**)
SetRecordingJobModeResponse (empty)
Set mode of RecordingJob to Active and send response
Receive and validate SetRecordingJobModeResponse
Annex A.7
Receiving event with Active or PartiallyActive state
GetRecordingJobStateRequest (JobToken = **JobToken1**)
GetRecordingJobStateResponse (RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobStateResponse



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
4. Execute Annex A.13 for auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
6. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
7. ONVIF Client will invoke ConfigureReceiverRequest message (ReceiverToken = ReceiverToken1, Configuration.Mode = "AlwaysConnect", Configuration.MediaUri = stream_uri1, (stream_uri1 from RTSP Simulator), Configuration.StreamSetup.Stream = "RTP-Unicast", StreamSetup.Transport.Tunnel.Protocol = "UDP", no StreamSetup.Transport.Tunnel.Tunnel) to configure the receiver to receive media from RTSP Simulator.

8. Verify ConfigureReceiverResponse message from the DUT.
9. ONVIF Client will invoke GetReceiverRequest message with ReceiverToken = ReceiverToken1.
10. Verify GetReceiverResponse message from the DUT. Check that GetReceiverResponse message contains the same parameters values as were changed in ConfigureReceiverRequest message.
11. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “JobToken1”, Mode = “Active”) to start recording.
12. Verify SetRecordingJobModeResponse message from the DUT. Mark time of CreateRecordingJobResponse as T1.
13. Execute Annex A.7 for receiving event with “Active” or “PartiallyActive” Recording job state.
14. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1 “.
15. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State = “Active” or “PartiallyActive”.
16. ONVIF Client will invoke ConfigureReceiverRequest message (ReceiverToken = ReceiverToken1, Configuration.Mode = “AlwaysConnect”, Configuration.MediaUri = stream_uri2, (where stream_uri2 is streaming of RTSP Simulator with resolution, bitrate, framerate and quality are different from stream_uri1), Configuration.StreamSetup.Stream = “RTP-Unicast”, StreamSetup.Transport.Tunnel.Protocol = “UDP”, no StreamSetup.Transport.Tunnel.Tunnel) to modify stream settings of the RTSP simulator.
17. Verify ConfigureReceiverResponse message from the DUT.
18. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1”.
19. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State = “Active” or “PartiallyActive”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetReceiverResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT returned Recording parameters in GetRecordingsResponse message that differ from specified during Recording changing.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Active” or “PartiallyActive” at step 15 or 19.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

4.2.6 START RECORDING ON MEDIA PROFILE

Test Label: Start Recording Using Media Profile Verification.

Test Case ID: DRAFT-RECORDING-2-1-28

ONVIF Core Specification Coverage: Creation of a Recording Job with Active mode on local storage. Event generation when the state field of the RecordingJobStateInformation structure is changing (ONVIF Recording Control Service Specification).

Command under test: CreateRecordingJob

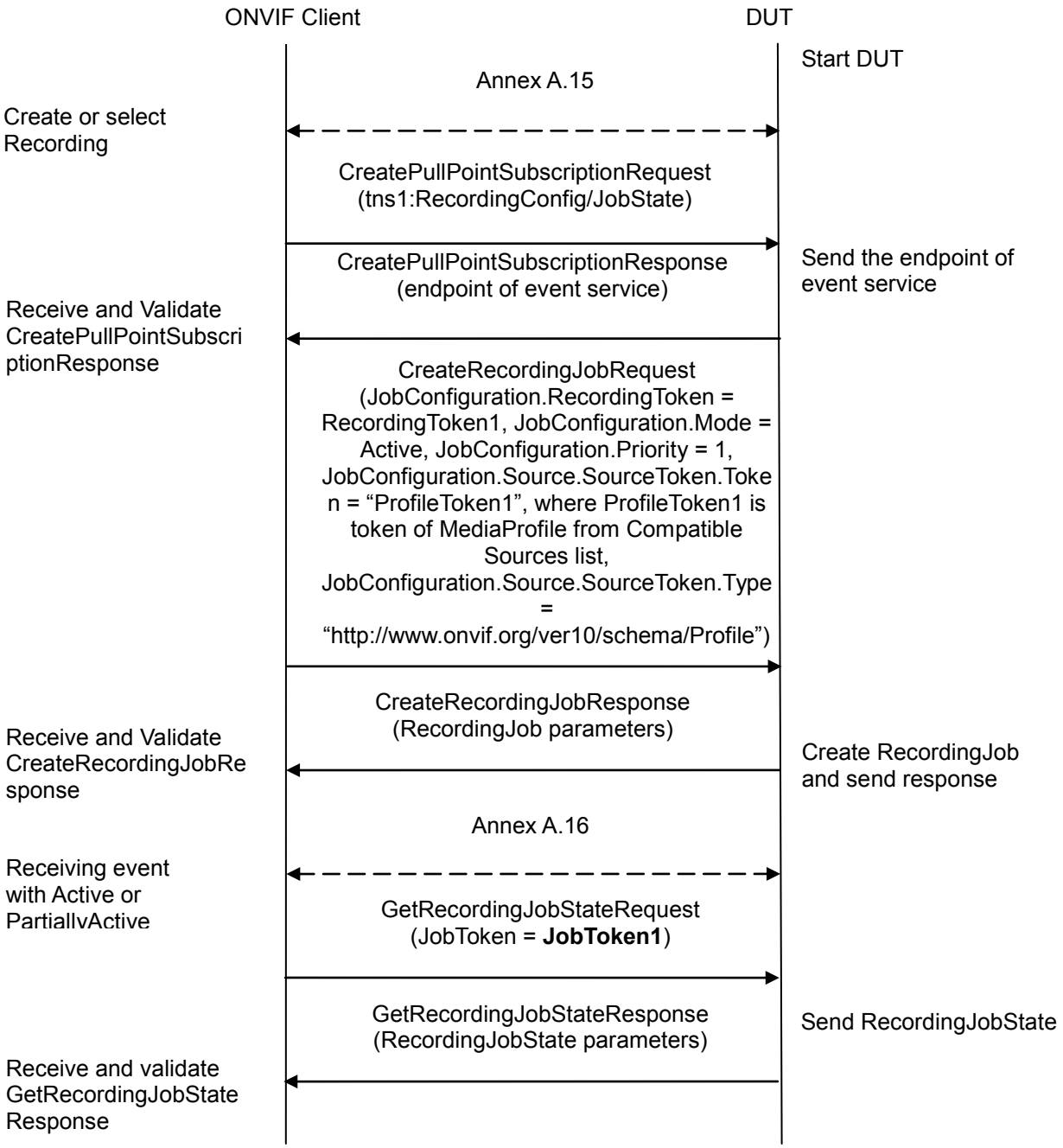
WSDL Reference: recording.wsdl, media.wsdl, event.wsdl

Test Purpose: To verify Start Recording using a Media Profile.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Media Service by GetServices command. At least one media profile compatible with at least one existing or created recording exists on the DUT. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.

4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = ”http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job for configured recording with Active mode.
7. Verify the CreateRecordingJobResponse message (JobToken = JobToken1).
8. Verify that JobConfiguration in CreateRecordingJobResponse message contains the same parameters values as was sent in CreateRecordingJobRequest message.
9. Execute Annex A.16 for receiving Initialized event with “Active” or “PartiallyActive” Recording job state.
10. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1”.
11. Verify the GetRecordingJobStateResponse message from the DUT.
12. Check that State.State is equal to “Active” or “PartiallyActive”.
13. Check that State.Sources.State is equal to “Active”.
14. Check that State.State value in the GetRecordingJobStateResponse message equals to State.State value in the notification message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT sent CreateRecordingJobResponse message with JobConfiguration parameters values differ from sent in CreateRecordingJobRequest message.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Active” or “PartiallyActive”.

The DUT sent GetRecordingJobStateResponse message with State.Sources.State parameter value not equal to “Active”.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

The DUT sent different values for State.State in the notification message and in GetRecordingJobStateResponse message.

4.2.7 STOP RECORDING ON MEDIA PROFILE - PUT JOB IN IDLE STATE

Test Label: Stop Recording Using a Media Profile by Putting It in Idle State Verification.

Test Case ID: DRAFT-RECORDING-2-1-29

ONVIF Core Specification Coverage: SetRecordingJobMode, event generation when the state field of the RecordingJobStateInformation structure is changing (ONVIF Recording Control Service Specification).

Command under test: SetRecordingJobMode

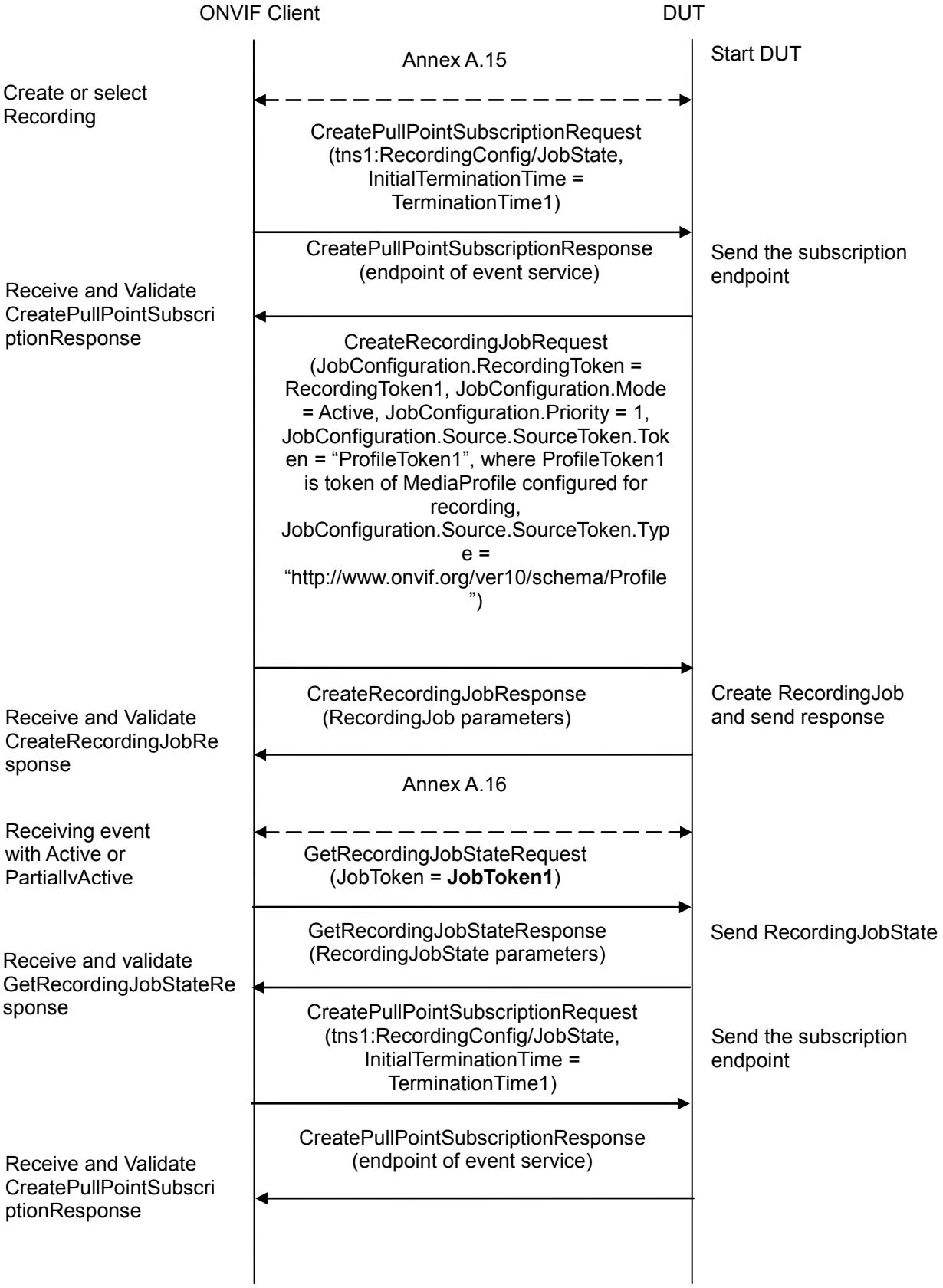
WSDL Reference: recording.wsdl, media.wsdl, event.wsdl

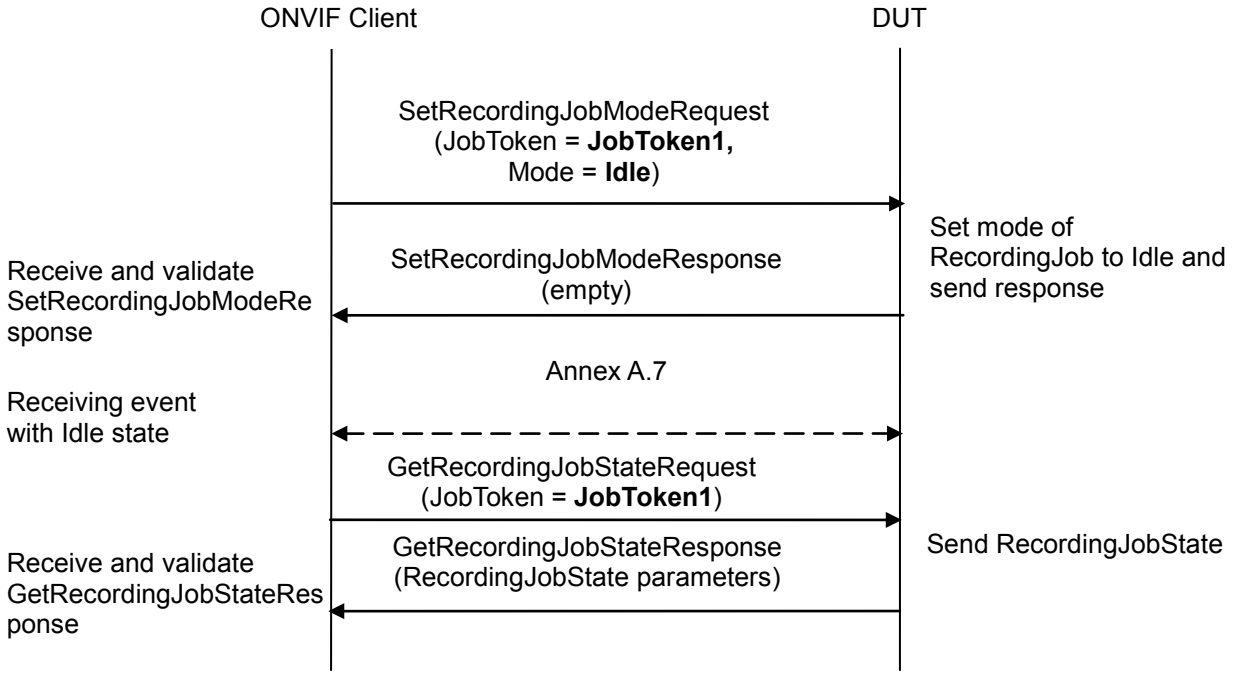
Test Purpose: To verify Stop Recording using a Media Profile by Putting It in Idle State.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Media Service by GetServices command. At least one media profileis compatible with at least one existing or created recording exists on the DUT. All recording jobs were stopped. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Annex A.15
Start DUT
Create or select Recording
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the subscription endpoint
Receive and Validate CreatePullPointSubscriptionResponse
CreateRecordingJobRequest (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile configured for recording, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”)
CreateRecordingJobResponse (RecordingJob parameters)
Create RecordingJob and send response
Receive and Validate CreateRecordingJobResponse
Annex A.16
Receiving event with Active or PartialIvActive
GetRecordingJobStateRequest (JobToken = JobToken1)
GetRecordingJobStateResponse (RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobStateResponse
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState, InitialTerminationTime = TerminationTime1)
Send the subscription endpoint
CreatePullPointSubscriptionResponse (endpoint of event service)
Receive and Validate CreatePullPointSubscriptionResponse



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job for configured recording with Active mode.
7. Verify the CreateRecordingJobResponse message (JobToken = JobToken1).
8. Verify that JobConfiguration in CreateRecordingJobResponse message contains the same parameters values as was sent in CreateRecordingJobRequest message.
9. Execute Annex A.16 for receiving Initialized event with “Active” or “PartiallyActive” Recording job state.

10. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1 “.
11. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State parameter value is equal to “Active” or “PartiallyActive”.
12. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
13. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
14. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = “JobToken1”, Mode = “Idle”) to stop recording.
15. Verify SetRecordingJobModeResponse message from the DUT. Remark Time1 as time of receiving of SetRecordingJobModeResponse message
16. Execute Annex A.7 for receiving changed event with “Idle” Recording job state.
17. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “**JobToken1** “.
18. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State and State.Sources.State parameter values are equal to “Idle”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid SetRecordingJobModeResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message

The DUT returned JobConfiguration parameters in CreateRecordingJobResponse message that differs from specified during RecordingJob creation.

The DUT returned GetRecordingJobStateResponse State.State differs from “Active” or “PartiallyActive” at step 11.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Idle” at step 18.

The DUT sent GetRecordingJobStateResponse message with State.Sources.State parameter value not equal to “Idle” at the step 18.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to “RecordingToken1”.

4.2.8 STOP RECORDING ON MEDIA PROFILE - DELETE JOB

Test Label: Stop Recording Using a Media Profile by Job Deletion Verification.

Test Case ID: DRAFT-RECORDING-2-1-30

ONVIF Core Specification Coverage: DeleteRecordingJob (ONVIF Recording Control Service Specification)

Command under test: DeleteRecordingJob

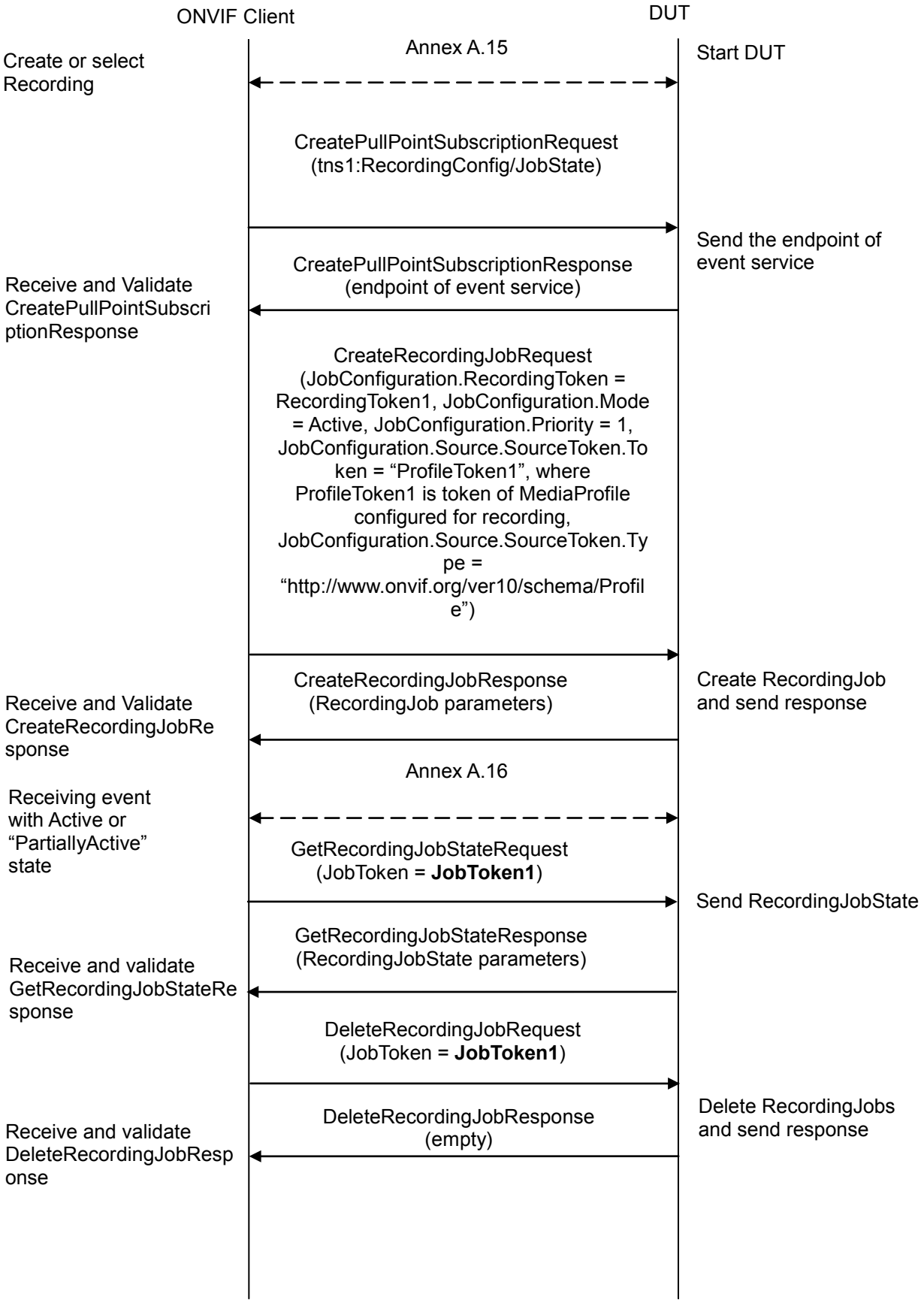
WSDL Reference: recording.wsdl, media.wsdl, event.wsdl

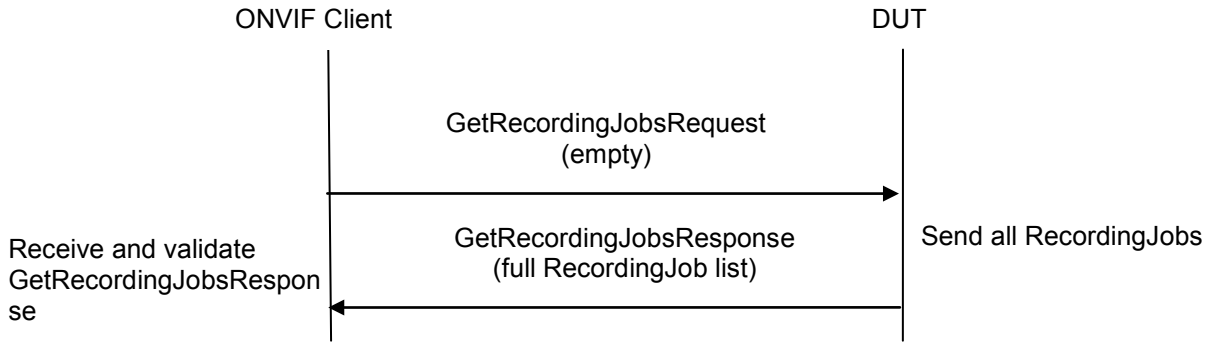
Test Purpose: To verify Stop Recording using a Media Profile by Job Deletion.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Media Service by GetServices command. All recording jobs were stopped. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.15
Start DUT
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState)
Send the endpoint of event service
CreatePullPointSubscriptionResponse (endpoint of event service)
Receive and Validate CreatePullPointSubscriptionResponse
CreateRecordingJobRequest (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile configured for recording, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”)
CreateRecordingJobResponse (RecordingJob parameters)
Create RecordingJob and send response
Receive and Validate CreateRecordingJobResponse
Annex A.16
Receiving event with Active or “PartiallyActive” state
GetRecordingJobStateRequest (JobToken = JobToken1)
Send RecordingJobState
GetRecordingJobStateResponse (RecordingJobState parameters)
Receive and validate GetRecordingJobStateResponse
DeleteRecordingJobRequest (JobToken = JobToken1)
DeleteRecordingJobResponse (empty)
Delete RecordingJobs and send response
Receive and validate DeleteRecordingJobResponse



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.
5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job for configured recording with Active mode.
7. Verify the CreateRecordingJobResponse message (JobToken = JobToken1).
8. Verify that JobConfiguration in CreateRecordingJobResponse message contains the same parameters values as was sent in CreateRecordingJobRequest message.
9. Execute Annex A.16 for receiving Initialized event with “Active” or “PartiallyActive” Recording job state.
10. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “JobToken1”.
11. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State and State.Sources.State parameter values are equal to “Active” or “PartiallyActive”.
12. ONVIF Client will invoke DeleteRecordingJobRequest message (JobToken = JobToken1) to delete Recording Job.
13. Verify the DeleteRecordingJobResponse message from the DUT.
14. ONVIF Client will invoke GetRecordingJobsRequest to get full list of the recording jobs.

15. Verify the GetRecordingJobsResponse from the DUT.
16. Check that there is no JobItem with JobToken1 in the GetRecordingJobsResponse.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT sent CreateRecordingJobResponse message with JobConfiguration parameters values different from sent in CreateRecordingJobRequest message.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to “Active” or “PartiallyActive.

The DUT returned the JobToken1 in GetRecordingJobsResponse message after deleting.

4.2.9 MODIFY MEDIA ATTRIBUTE WHILE RECORDING - MEDIA PROFILE

Test Label: Media Attributes Modification for Local Recordings while Recording Verification.

Test Case ID: DRAFT-RECORDING-2-1-31

ONVIF Core Specification Coverage: Event generation when the state field of the RecordingJobStateInformation structure is changing (ONVIF Recording Control Service Specification).

Command under test: None

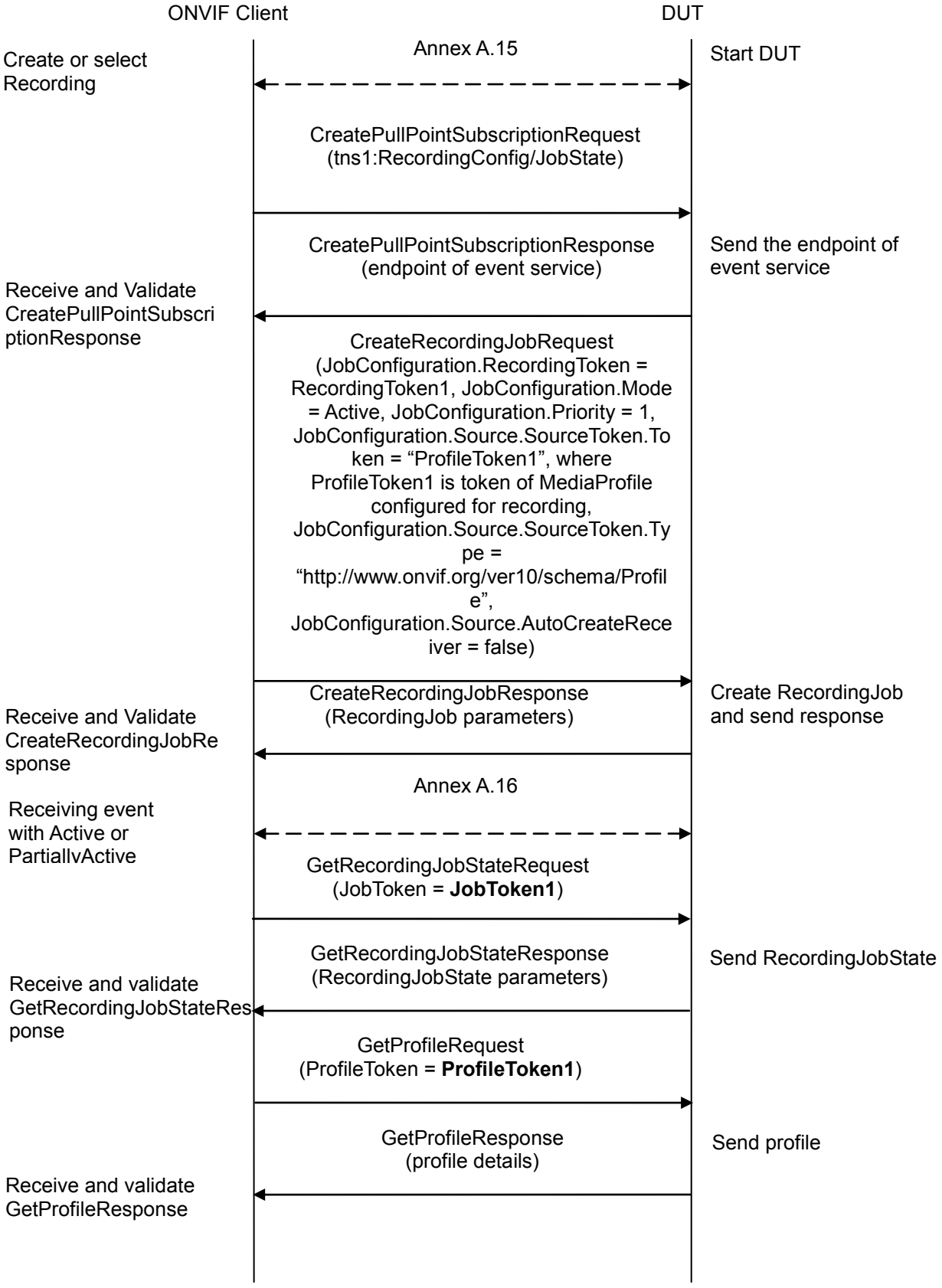
WSDL Reference: recording.wsdl, media.wsdl, event.wsdl

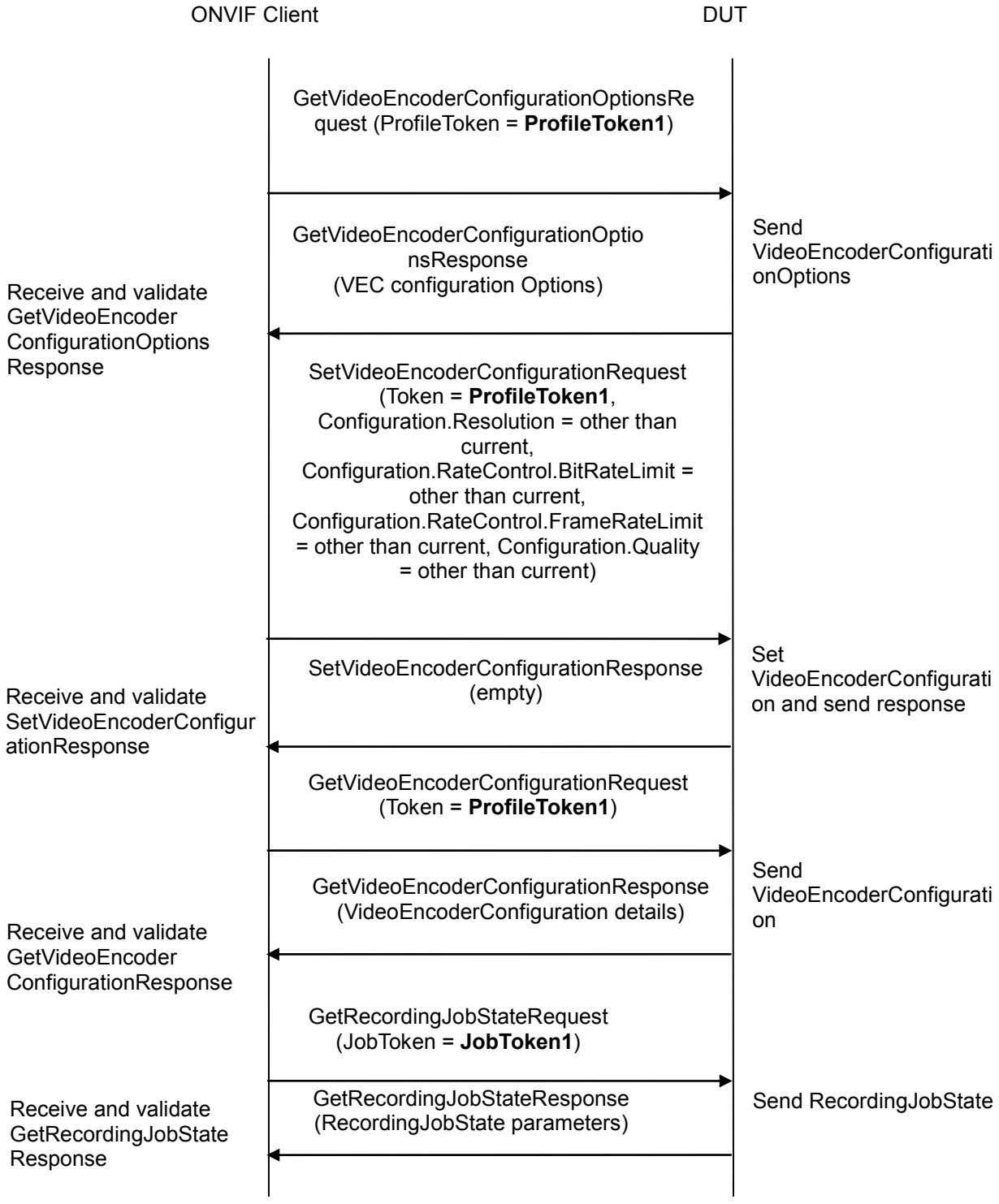
Test Purpose: To verify Media Attributes Modification for Local Recordings while Recording.

Pre-Requisite: ONVIF Client gets the entry points for Recording Control Service and Media Service by GetServices command. All recording jobs were stopped. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Create or select Recording
Annex A.15
Start DUT
CreatePullPointSubscriptionRequest (tns1:RecordingConfig/JobState)
CreatePullPointSubscriptionResponse (endpoint of event service)
Send the endpoint of event service
Receive and Validate CreatePullPointSubscriptionResponse
CreateRecordingJobRequest (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile configured for recording, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver = false)
CreateRecordingJobResponse (RecordingJob parameters)
Create RecordingJob and send response
Receive and Validate CreateRecordingJobResponse
Annex A.16
Receiving event with Active or PartiallvActive
GetRecordingJobStateRequest (JobToken = JobToken1)
GetRecordingJobStateResponse (RecordingJobState parameters)
Send RecordingJobState
Receive and validate GetRecordingJobStateResponse
GetProfileRequest (ProfileToken = ProfileToken1)
GetProfileResponse (profile details)
Send profile
Receive and validate GetProfileResponse



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. Execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.

4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime = TerminationTime1 to check Recording Job State changing.

5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.

6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver = false) to create a recording job for configured recording with Active mode.

7. Verify the CreateRecordingJobResponse message (JobToken = JobToken1).

8. Verify that JobConfiguration in CreateRecordingJobResponse message contains the same parameters values as was sent in CreateRecordingJobRequest message.

9. Execute Annex A.16 for receiving Initialized event with “Active” or “PartiallyActive” Recording job state.

10. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = “**JobToken1**”.

11. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State and State.Sources.State parameter values are equal to “**Active**” or “**PartiallyActive**”.

12. ONVIF Client invokes GetProfileRequest message (ProfileToken = ProfileToken1) to retrieve Video Encoder Configuration.

13. Verify GetProfileResponse message. Verify VideoEncoderConfiguration.Resolution, VideoEncoderConfiguration.Quality, VideoEncoderConfiguration.RateControl.FrameRateLimit, VideoEncoderConfiguration .RateControl.BitrateLimit.

14. ONVIF Client invokes GetVideoEncoderConfigurationOptionsRequest message (ProfileToken = Profile Token1) to retrieve possible media attributes values for used Media Profile.

15. Verify GetVideoEncoderConfigurationOptionsResponse message. Verify Options. QualityRange, Options.<Encoding>.ResolutionsAvailable, Options. <Encoding>.FrameRateRange, Options.Extension. <Encoding>.FrameRateRange.

16. ONVIF Client invokes SetVideoEncoderConfigurationRequest with token as VEC token from GetProfileResponse message, (Configuration.Resolution = other than current, Configuration.RateControl.BitRateLimit = other than current, Configuration.RateControl.FrameRateLimit = other than current, Configuration.Quality = other than current) message to set parameters for video encoder configuration.

17. Verify SetVideoEncoderConfigurationResponse message.

18. ONVIF Client invokes GetVideoEncoderConfigurationRequest with token as VEC token from GetProfileResponse message to retrieve video encoder configuration parameters.

19. The DUT sends GetVideoEncoderConfigurationResponse message.
20. Verify the GetVideoEncoderConfigurationResponse message from the DUT. Check that Configuration.Resolution changing is applied.
21. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = "**JobToken1**".
22. Verify the GetRecordingJobStateResponse message from the DUT.
23. Check State.State parameter value. If State.State parameter value is equal to "**Active**" or "**PartiallyActive**" then skip steps 24-28.
24. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1 to find NotificationMessage containing event with JobState equals to "Active" or "PartiallyActive" for JobToken = JobToken1.
25. Verify PullMessagesResponse from the DUT.
26. Repeat steps 24-25 until Notification for JobToken = JobToken1 with Data.SimpleItem item with Name = "State" and Value is equal to **"Active"** or **"PartiallyActive"** is received or operation dely time is expired.
27. ONVIF Client will invoke GetRecordingJobStateRequest message with JobToken = "**JobToken1**".
28. Verify the GetRecordingJobStateResponse message from the DUT. Check that State.State parameter value is equal to "**Active**" or "**PartiallyActive**".

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreatePullPointSubscriptionRequest message

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid GetProfileResponse message.

The DUT did not send a valid GetVideoEncoderConfigurationOptionsResponse message.

The DUT did not send a valid SetVideoEncoderConfigurationResponse message.

The DUT sent CreateRecordingJobResponse message with JobConfiguration parameters values different from sent in CreateRecordingJobRequest message.

The DUT sent GetRecordingJobStateResponse message with State.State parameter value not equal to "Active" or "PartiallyActive" at step 11.

The DUT sent GetRecordingJobStateResponse message with State.RecordingToken parameter value not equal to "RecordingToken1".

The DUT sent GetVideoEncoderConfigurationResponse with not modified Configuration.Resolution parameter.

The DUT did not send notification message with Source.SimpleItemDescription item with Name = “RecordingJobToken” and Value is equal to “JobToken1”, Data.SimpleItemDescription item with Name = “State” and Value is equal to “Active” or “PartiallyActive” during operation delay time at step 26.

The DUT did not send GetRecordingJobStateResponse with State.State parameter value equal to “Active” or “PartiallyActive” at step 23 or at step 28.

4.3 Configuration

4.3.1 DYNAMIC TRACKS CONFIGURATION

Test Label: Dynamic Tracks Configuration Verification.

Test Case ID: RECORDING-3-1-7

ONVIF Core Specification Coverage: CreateTrack, DeleteTrack (ONVIF Recording Control Service Specification).

Command under test: CreateTrack, DeleteTrack

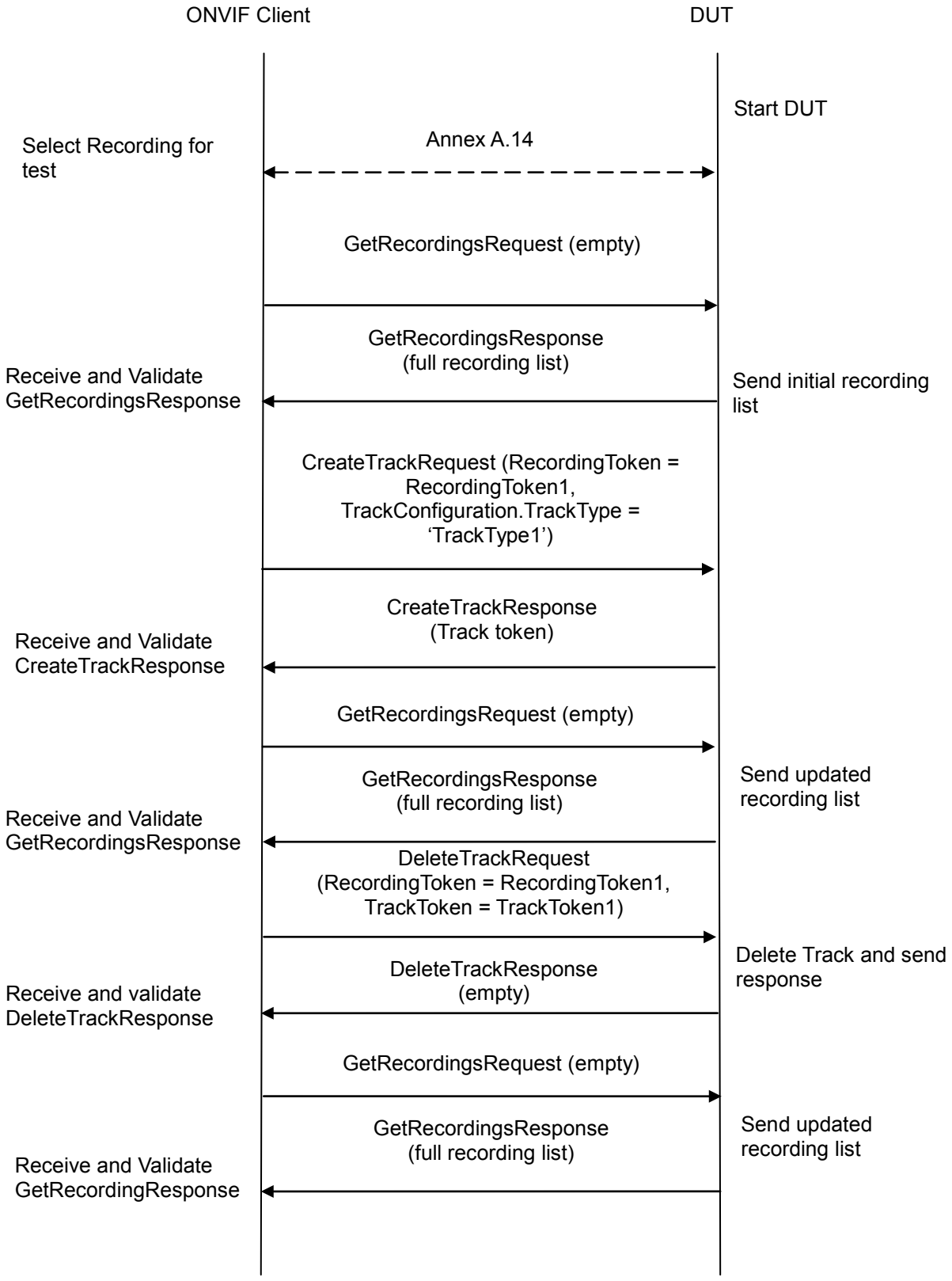
WSDL Reference: recording.wsdl

Test Purpose: To verify creation and deletion of tracks.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Dynamic Tracks functionality is supported by the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.14 for selection of recording to make sure that track creation procedure will be possible.
4. ONVIF Client will invoke GetRecordingsRequest message to retrieve initial track list of the recordings.
5. Verify the GetRecordingsResponse message from the DUT.
6. ONVIF Client will invoke CreateTrackRequest message (RecordingToken=RecordingToken1 where RecordingToken1 is RecordingToken from Annex A.14, TrackConfiguration.TrackType as track type from Annex A.14, TrackConfiguration.Description = 'New Track') to create a new track in the recording.
7. Verify the CreateTrackResponse message (TrackToken = TrackToken1) from the DUT.
8. Check that TrackToken = TrackToken1 from CreateTrackResponse message was not presented in Recording with token RecordingToken1 in initial track list in GetRecordingsResponse message at step 5.
9. ONVIF Client will invoke GetRecordingsRequest message to retrieve updated track list of the recordings.
10. Verify the GetRecordingsResponse message from the DUT.
11. Check that new track (TrackToken = TrackToken1) is presented in updated track list for RecordingToken = RecordingToken1. Check that all parameter values are the same as were sent in CreateTrackRequest message.
12. Check that all other tracks for RecordingToken = RecordingToken1 in GetRecordingsResponse message at step 10 have the same parameters as were in GetRecordingsResponse message at step 5. Check that all other recordings have the same parameters value as were in GetRecordingsResponse message at step 5.
13. ONVIF Client will invoke DeleteTrackRequest message (RecordingToken = RecordingToken1, TrackToken = TrackToken1) to delete the track.
14. Verify the DeleteTrackResponse message from the DUT.
15. ONVIF Client will invoke GetRecordingsRequest message to retrieve updated track list.
16. Verify the GetRecordingsResponse message from the DUT. Check that track (TrackToken = TrackToken1) for RecordingToken = RecordingToken1 is no longer present on track list.
17. Check that all other tracks in GetRecordingResponse message at step 16 have the same parameters as were in GetRecordingsResponse message at step 5. Check that all other recordings have the same parameters value as were in GetRecordingsResponse message at step 5.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid CreateTrackResponse message.

The DUT did not send a valid DeleteTrackResponse message.

The DUT returned TrackToken value in the CreateTrackResponse not unique with Track Tokens for Recording with RecordingToken = RecordingToken1 in initial GetRecordingsResponse message at step 5.

The DUT did not return TrackToken = TrackToken1 for Recording with RecordingToken = RecordingToken1 in GetRecordingsResponse message after track creation.

The parameter values of the TrackToken = TrackToken1 for recording (RecordingToken = RecordingToken1) in updated recordings list at step 10 differ from values in CreateTrackRequest message.

The DUT returned TrackToken = TrackToken1 for Recording with RecordingToken = RecordingToken1 in GetRecordingsResponse message after recording deletion.

Any changes were applied to tracks of other recordings from initial GetRecordingsResponse message list during the test process.

Any changes were applied to other tracks of recordings with RecordingToken = RecordingToken1 from initial GetRecordingsResponse message list during the test process.

The DUT did not send Recording with RecordingToken = RecordingToken1 in updated RecordingList

The DUT will not allow creating new Track for selected Recording

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

Note: DUT shall provide Recording with Options.Track.SpareTotal>0 to avoid track's data deletion.

4.3.2 DYNAMIC RECORDINGS CONFIGURATION

Test Label: Dynamic Recordings Configuration Verification.

Test Case ID: RECORDING-3-1-10

ONVIF Core Specification Coverage: CreateRecording, DeleteRecording

Command under test: CreateRecording, DeleteRecording (ONVIF Recording Control Service Specification)

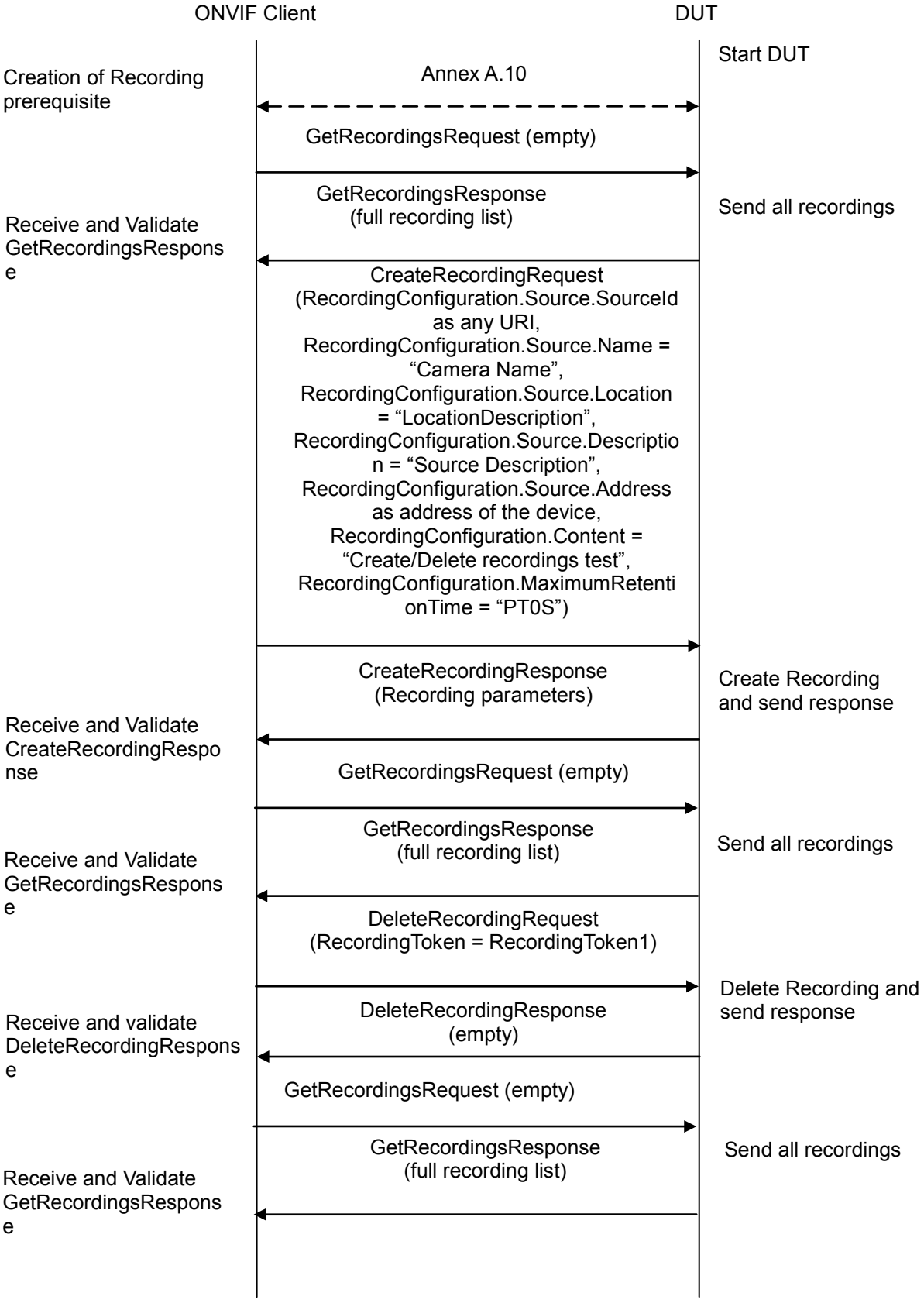
WSDL Reference: recording.wsdl

Test Purpose: To verify creation and deletion of recordings.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Creation of Recording prerequisite
Annex A.10
GetRecordingsRequest (empty)
GetRecordingsResponse (full recording list)
Send all recordings
Receive and Validate GetRecordingsResponse
CreateRecordingRequest (RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “Camera Name”, RecordingConfiguration.Source.Location = “LocationDescription”, RecordingConfiguration.Source.Description = “Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = “Create/Delete recordings test”, RecordingConfiguration.MaximumRetentionTime = “PT0S”)
CreateRecordingResponse (Recording parameters)
Create Recording and send response
Receive and Validate CreateRecordingResponse
GetRecordingsRequest (empty)
GetRecordingsResponse (full recording list)
Send all recordings
Receive and Validate GetRecordingsResponse
DeleteRecordingRequest (RecordingToken = RecordingToken1)
Delete Recording and send response
DeleteRecordingResponse (empty)
Receive and validate DeleteRecordingResponse
GetRecordingsRequest (empty)
GetRecordingsResponse (full recording list)
Send all recordings
Receive and Validate GetRecordingsResponse

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.10 for possibility to create a new recording.
4. ONVIF Client will invoke GetServiceCapabilitiesRequest message to retrieve Encoding list and MetadtaRecording capabilities of the Recording service of the DUT.
5. Verify GetServiceCapabilitiesResponse message from the DUT.
6. ONVIF Client will invoke GetRecordingsRequest message to retrieve initial complete recordings list.
7. Verify the GetRecordingsResponse message from the DUT.
8. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “CameraName”, RecordingConfiguration.Source.Location = “LocationDescription”, RecordingConfiguration.Source.Description = “Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = ”Create/Delete recordings test”, RecordingConfiguration.MaximumRetentionTime = ”PT0S” to create a new recording.
9. Verify the CreateRecordingResponse message from the DUT (RecordingToken = RecordingToken1).
10. Check that RecordingToken = RecordingToken1 from CreateRecordingResponse message was not presented in initial recordings list in the GetRecordingsResponse message.
11. ONVIF Client will invoke GetRecordingsRequest message to retrieve updated recordings list.
12. Verify the GetRecordingsResponse message from the DUT.
13. Check that created recording (RecordingToken = RecordingToken1) is present on the updated recordings list. Check that all parameter values are the same as were sent in CreateRecordingRequest message.
14. If Capabilities.Encoding in GetServiceCapabilitiesResponse message received from the DUT at step 5 contains at least one enumeration value of tt:VideoEncoding, then ONVIF Client checks that created recording contains at least one track with track type equals to Video.
15. If Capabilities.Encoding in GetServiceCapabilitiesResponse message received from the DUT at step 5 contains at least one enumeration value of tt:AudioEncoding, then ONVIF Client checks that created recording contains at least one track with track type equals to Audio.
16. If MetadaRecording is supported by the DUT, check that created recording contains track with track type equals to Metadata.
17. Check that all other recordings in GetRecordingsResponse message at step 12 have the same settings as were in GetRecordingsResponse message at step 7.
18. ONVIF Client will invoke DeleteRecordingRequest message (RecordingToken = RecordingToken1) to delete recording.
19. Verify the DeleteRecordingResponse message from the DUT.

20. ONVIF Client will invoke GetRecordingsRequest message to retrieve updated recordings list.
21. Verify the GetRecordingsResponse message from the DUT. Check that recording (RecordingToken = RecordingToken1) is no longer present on recordings list.
22. Check that all other recordings in GetRecordingsResponse message at step 20 have the same settings as the ones in GetRecordingsResponse message at step 7.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send a valid DeleteRecordingResponse message.

The DUT did not send a valid GetServiceCapabilitiesResponse message.

The DUT returned RecordingToken value in the CreateRecordingResponse not unique with Recording Tokens in initial GetRecordingsResponse message at step 7.

The DUT did not return Recording with RecordingToken = RecordingToken1 in GetRecordingsResponse message after recording creation at step 12.

The parameter values of recording (RecordingToken = RecordingToken1) on the updated recordings list at step 12 differ from values in CreateRecordingRequest message.

Recording (RecordingToken = RecordingToken1) in updated recordings list at step 12 did not contain track with track type equal to ‘Video’ if encoding list contained at least one enumeration value of tt:VideoEncoding.

Recording (RecordingToken = RecordingToken1) on the updated recordings list at step 12 did not contain track with track type equal to ‘Audio’ if encoding list contained at least one enumeration value of tt:AudioEncoding.

Recording (RecordingToken = RecordingToken1) on the updated recordings list at step 12 did not contain track with track type equals to Metadata if MetadataRecording is supported.

The DUT returned Recording with RecordingToken = RecordingToken1 in GetRecordingsResponse message after recording deletion at step 20

Any changes were applied to other recordings from initial GetRecordingsResponse message list during the test process – at step 12 and 21.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.3.3 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON MEDIA PROFILE)

Test Label: Create recording jobs with different priorities Verification.

Test Case ID: RECORDING-3-1-11

ONVIF Core Specification Coverage: Priority scheme for recording jobs (ONVIF Recording Control Service Specification).

Command under test: None

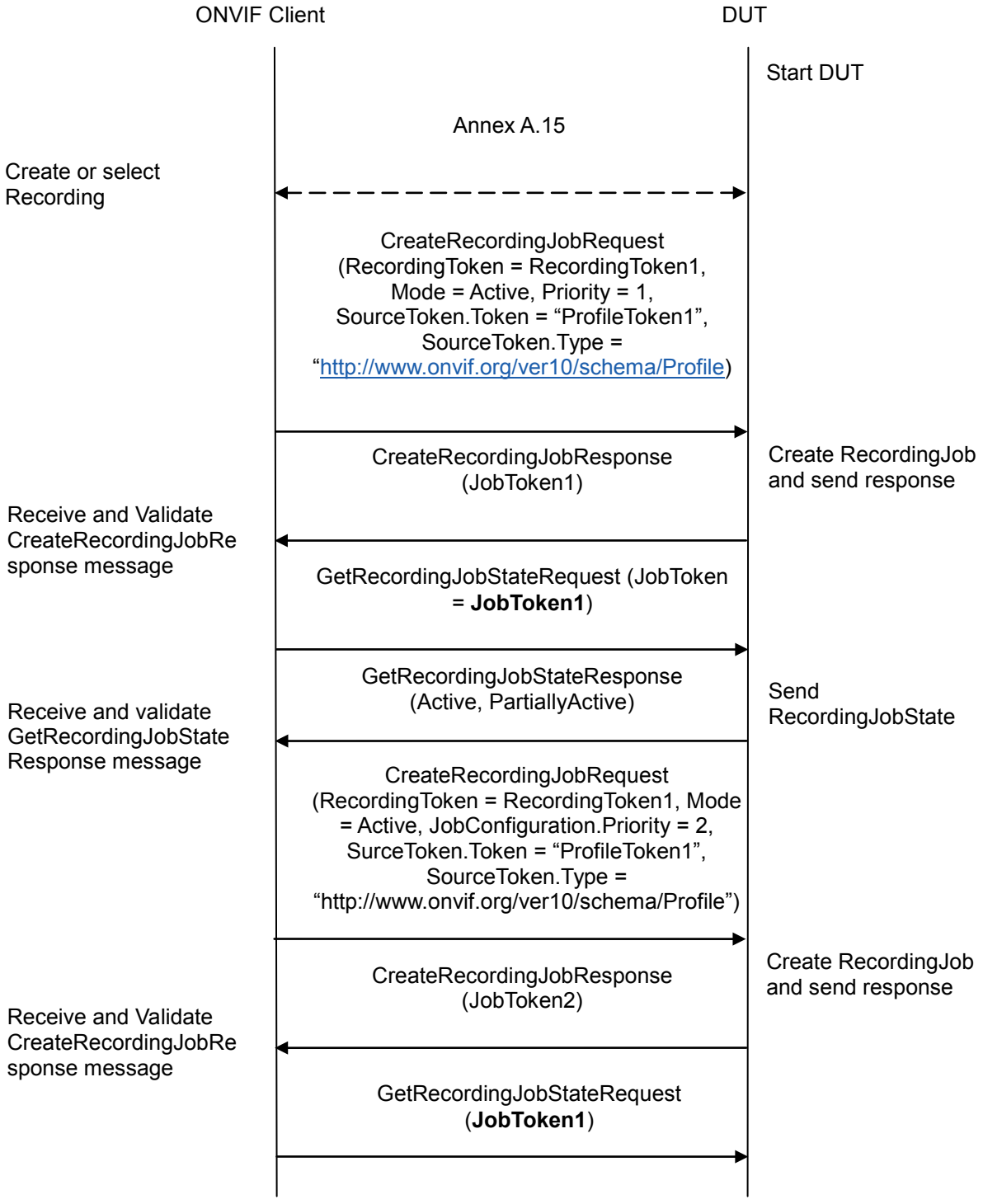
WSDL Reference: recording.wsdl

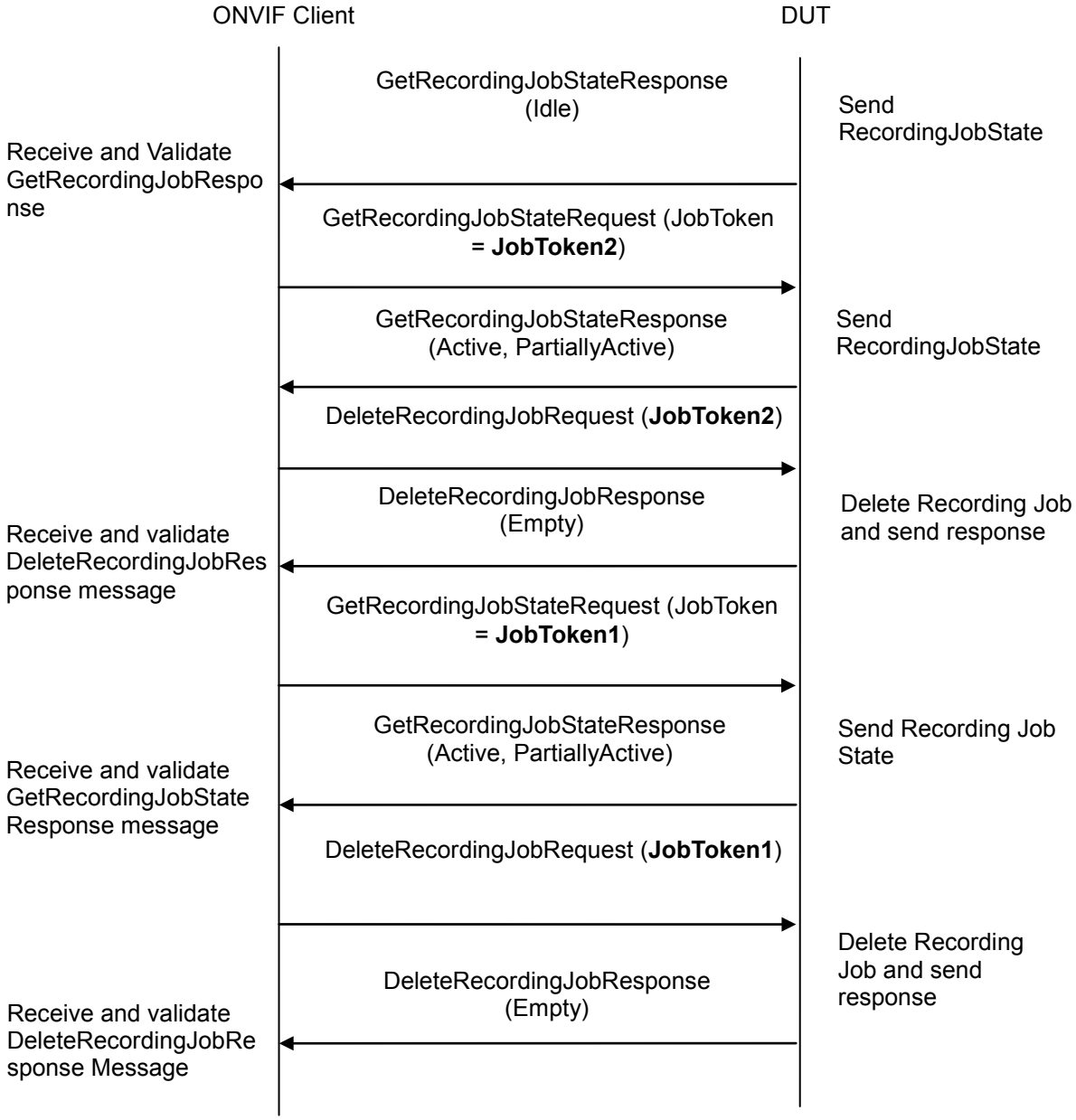
Test Purpose: To verify creation of recording jobs with different priorities.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. No active recording jobs. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Annex A.15
Create or select Recording
CreateRecordingJobRequest (RecordingToken = RecordingToken1, Mode = Active, Priority = 1, SourceToken.Token = “ProfileToken1”, SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile)
CreateRecordingJobResponse (JobToken1)
Create RecordingJob and send response
Receive and Validate CreateRecordingJobResponse message
GetRecordingJobStateRequest (JobToken = JobToken1)
GetRecordingJobStateResponse (Active, PartiallyActive)
Send RecordingJobState
Receive and validate GetRecordingJobState Response message
CreateRecordingJobRequest (RecordingToken = RecordingToken1, Mode = Active, JobConfiguration.Priority = 2, SurceToken.Token = “ProfileToken1”, SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”)
CreateRecordingJobResponse (JobToken2)
Create RecordingJob and send response
Receive and Validate CreateRecordingJobResponse message
GetRecordingJobStateRequest (JobToken1)



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.15 with RequiredSpareJobs=1 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 2 recording jobs can be created and to get the compatible media profile tokens list.
4. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”,

JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job for configured recording with Active mode.

5. Verify the CreateRecordingJobResponse message (JobToken = JobToken1).
6. Wait for JobState to get changed (use Operation Delay Time).
7. ONVIF Client will invoke GetRecordingJobStateRequest message (JobToken = JobToken1) to get actual recording job state.
8. Verify the GetRecordingJobStateResponse message from the DUT.
9. Check that State.State parameter value is “Active” or “PartiallyActive”.
10. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Active, JobConfiguration.Priority = 2, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile configured for recording, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a new recording job for configured recording with Active mode and higher priority.
11. Verify the CreateRecordingJobResponse message (JobToken = JobToken2).
12. Wait for JobState to get changed (use Operation Delay Time).
13. ONVIF Client will invoke GetRecordingJobStateRequest message (JobToken = JobToken1) to get actual recording job state.
14. Verify the GetRecordingJobStateResponse message from the DUT.
15. Check that State.State parameter value is “Idle”.
16. ONVIF Client will invoke GetRecordingJobStateRequest message (JobToken = JobToken2) to get actual recording job state.
17. Verify the GetRecordingJobStateResponse message from the DUT.
18. Check that State.State parameter value is “Active” or “PartiallyActive”.
19. ONVIF Client will invoke DeleteRecordingJobRequest message (JobToken = JobToken2) to delete Recording Job.
20. Verify the DeleteRecordingJobResponse message from the DUT.
21. Wait for JobState to get changed (use Operation Delay Time).
22. ONVIF Client will invoke GetRecordingJobStateRequest message (JobToken = JobToken1) to get actual recording job state.
23. Verify the GetRecordingJobStateResponse message.
24. Check that State.State parameter value is “Active” or “PartiallyActive”. Check that State.State value equals to State.State value at step 8.
25. ONVIF Client will invoke DeleteRecordingJobRequest message (JobToken = JobToken1) to delete Recording Job.
26. Verify the DeleteRecordingJobResponse message from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingOptionsResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid DeleteRecordingJobResponse message.

The DUT returned RecordingJob parameters in CreateRecordingJobResponse message that differ from specified during RecordingJob creation.

The DUT returned incorrect RecordingJobState in GetRecordingJobStateResponse message at steps 8, 14, 17 or 23.

The DUT sent GetRecordingJobStateResponse at step 23 with State.State value different from State.State value at step 8.

4.3.4 RECORDING JOB CONFIGURATION - DIFFERENT PRIORITIES (ON RECEIVER)

Test Label: Create recording jobs with different priorities Verification.

Test Case ID: RECORDING-3-1-12

ONVIF Core Specification Coverage: Priority scheme for recording jobs (ONVIF Recording Control Service Specification).

Command under test: None

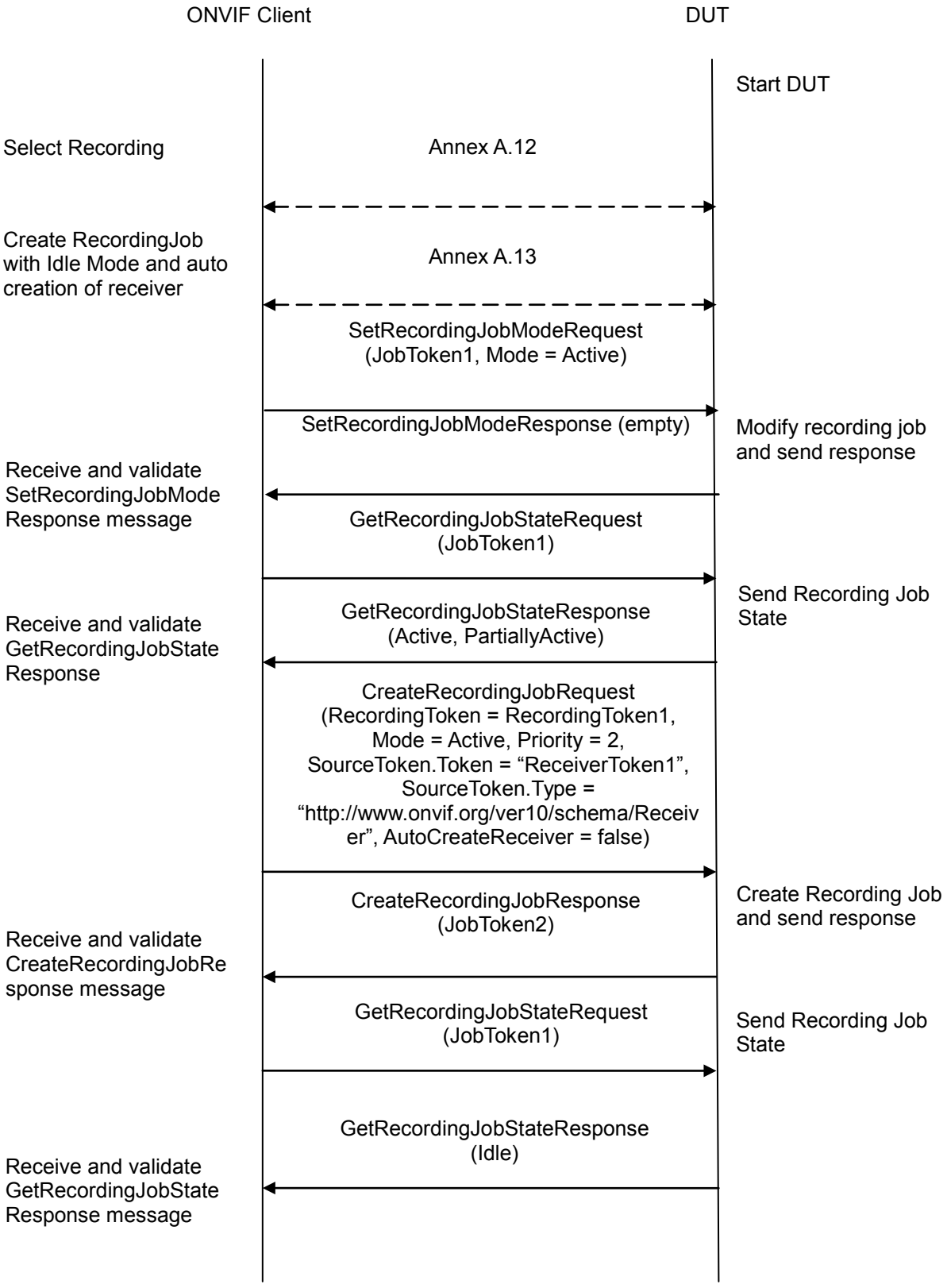
WSDL Reference: recording.wsdl

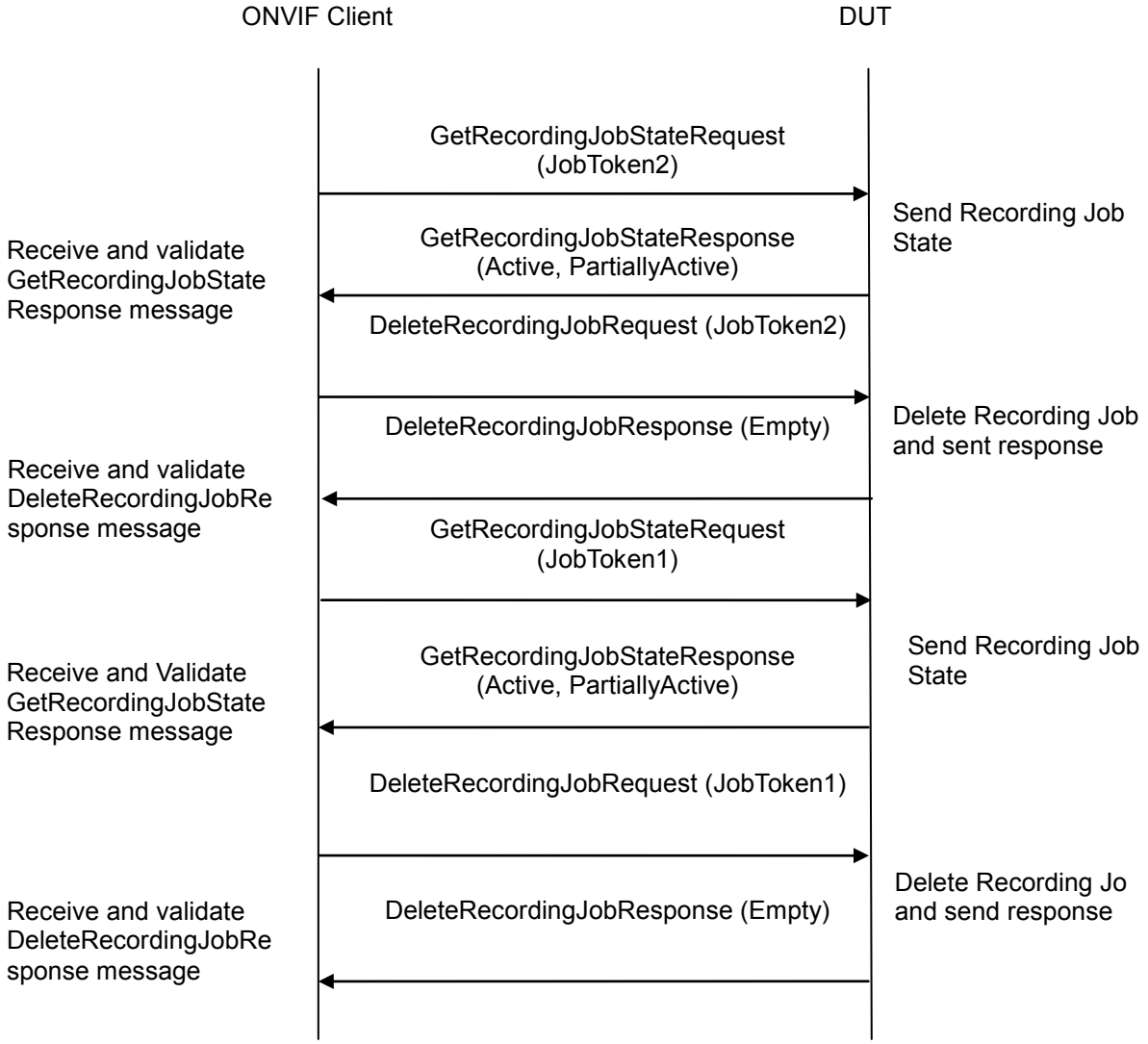
Test Purpose: To verify creation of recording jobs with different priorities.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. There are no active recording jobs. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Select Recording
Annex A.12
Create RecordingJob with Idle Mode and auto creation of receiver
Annex A.13
SetRecordingJobModeRequest (JobToken1, Mode = Active)
SetRecordingJobModeResponse (empty)
Modify recording job and send response
Receive and validate SetRecordingJobMode Response message
GetRecordingJobStateRequest (JobToken1)
Send Recording Job State
GetRecordingJobStateResponse (Active, PartiallyActive)
Receive and validate GetRecordingJobState Response
CreateRecordingJobRequest (RecordingToken = RecordingToken1, Mode = Active, Priority = 2, SourceToken.Token = “ReceiverToken1”, SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, AutoCreateReceiver = false)
CreateRecordingJobResponse (JobToken2)
Create Recording Job and send response
Receive and validate CreateRecordingJobResponse message
GetRecordingJobStateRequest (JobToken1)
Send Recording Job State
GetRecordingJobStateResponse (Idle)
Receive and validate GetRecordingJobState Response message



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.12 with RequiredSpareJobs=1 to create or select Recording to make sure that 2 recording jobs can be created.
4. Execute Annex A.13 for auto creation of receiver by create recording job with Idle mode.
5. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = "**JobToken1**", Mode = "**Active**") to start recording.
6. Verify SetRecordingJobModeResponse message from the DUT.
7. Wait for JobState to get changed (use Operation Delay Time).

8. ONVIF Client will invoke GetRecordingJobStateRequest (JobToken = "**JobToken1**") request message to retrieve recording job state.
9. Verify the GetRecordingJobStateResponse from the DUT.
10. Check that State.State parameter value is equal to "Active" or "PartiallyActive".
11. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = "**RecordingToken1**", JobConfiguration.Mode = "**Active**", JobConfiguration.Priority = 2, JobConfiguration.Source.SourceToken.Token = "**ReceiverToken1**", JobConfiguration.Source.SourceToken.Type = "**http://www.onvif.org/ver10/schema/Receiver**", JobConfiguration.Source.AutoCreateReceiver = **false**) to create a recording job for the same receiver with higher priority.
12. Verify the CreateRecordingJobResponse message (JobToken = **JobToken2**).
13. Wait for JobState to get changed (use Operation Delay Time).
14. ONVIF Client will invoke GetRecordingJobStateRequest (JobToken = **JobToken1**) request message to retrieve recording job state.
15. Verify the GetRecordingJobStateResponse from the DUT.
16. Check that State.State parameter value is equal to "Idle".
17. ONVIF Client will invoke GetRecordingJobStateRequest (JobToken = **JobToken2**) request message to retrieve recording job state.
18. Verify the GetRecordingJobStateResponse from the DUT.
19. Check that State.State parameter value is equal to "Active" or "PartiallyActive".
20. ONVIF Client will invoke DeleteRecordingJobRequest message (JobToken = **JobToken2**) to delete Recording Job.
21. Verify the DeleteRecordingJobResponse message from the DUT.
22. Wait for JobState to get changed (use Operation Delay Time).
23. ONVIF Client will invoke GetRecordingJobStateRequest (JobToken = **JobToken1**) request message to retrieve recording job state.
24. Verify the GetRecordingJobStateResponse from the DUT.
27. Check that State.State parameter value is equal to "Active" or "PartiallyActive". Check that State.State value equals to State.State value at step 9.
25. ONVIF Client will invoke DeleteRecordingJobRequest message (JobToken = **JobToken1**) to delete Recording Job.
26. Verify the DeleteRecordingJobResponse message from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid ConfigureReceiverResponse message.

The DUT did not send a valid GetRecordingOptionsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT did not send a valid DeleteRecordingJobResponse message.

The DUT returned incorrect RecordingJobState in GetRecordingJobStateResponse message at steps 9, 15, 18, 24.

The DUT sent GetRecordingJobStateResponse at step 23 with State.State value different from State.State value at step 9.

4.4 General

4.4.1 GET RECORDINGS

Test Label: Get Recordings Verification.

Test Case ID: RECORDING-4-1-1

ONVIF Core Specification Coverage: GetRecordings (ONVIF Recording Control Service Specification)

Command under test: GetRecordings

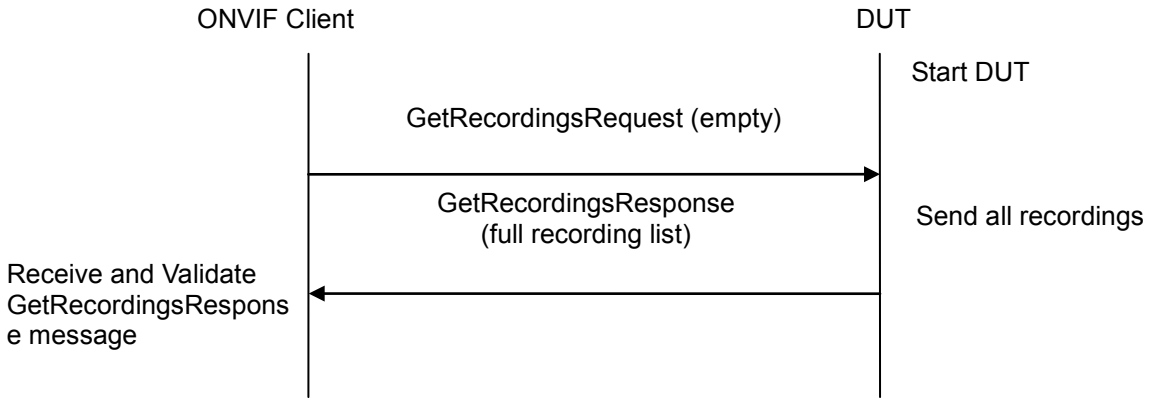
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recordings.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. At least one recording exists for the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT sent at least two Recordings with the same RecordingToken in the GetRecordingsResponse message.

4.4.2 GET RECORDING CONFIGURATION

Test Label: Get Recording Configuration Verification.

Test Case ID: RECORDING-4-1-2

ONVIF Core Specification Coverage: GetRecordingConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetRecordingConfiguration

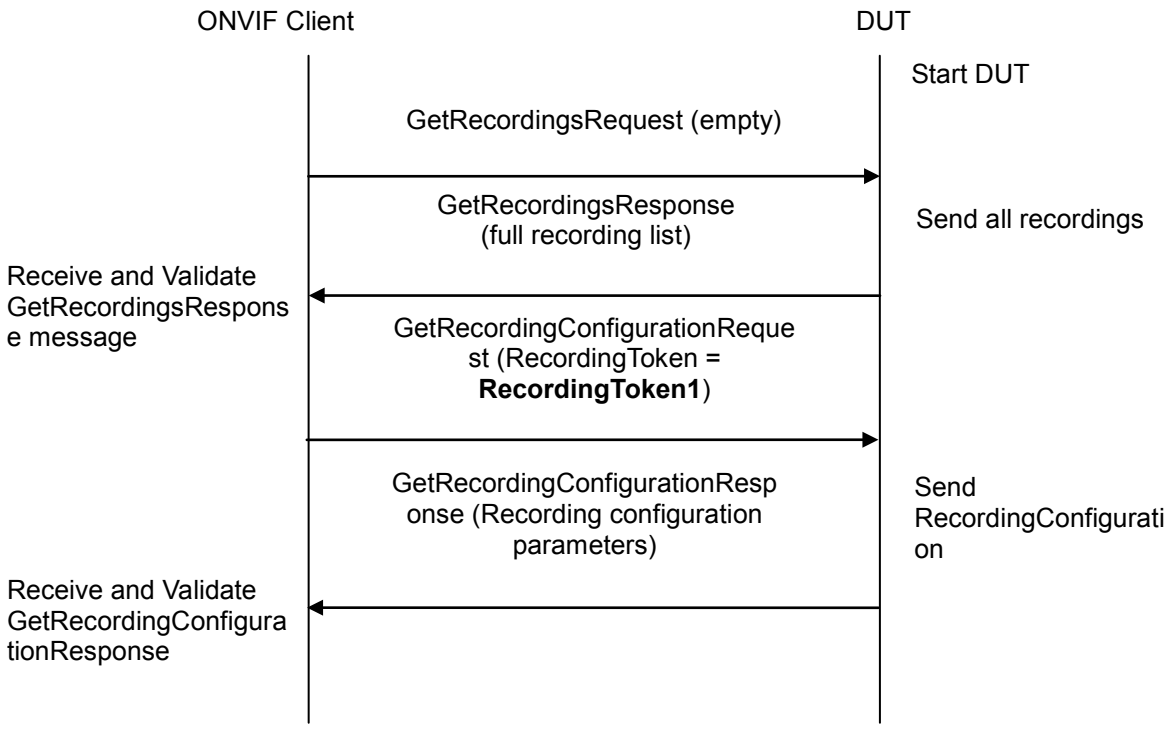
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Configuration.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.
5. ONVIF Client will invoke GetRecordingConfigurationRequest message (RecordingToken = “Token1”, where Token1 is the first RecordingItem.RecordingToken from the GetRecordingsResponse message) to retrieve recording configuration.
6. Verify the GetRecordingConfigurationResponse message from the DUT.
7. Repeat steps 5-6 for all other recordings from the GetRecordingsResponse message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingConfigurationResponse message.

The DUT returned different parameter values for the same recording in GetRecordingsResponse message and in GetRecordingConfigurationResponse message (see A.1).

Note: If the DUT does not return any recordings in GetRecordingsResponse message, skip steps 5-7 and go to the next test.

Note: Two recordings are supposed to be the same, if they have equal tokens.

4.4.3 GET RECORDING CONFIGURATION WITH INVALID TOKEN

Test Label: Get Recording Configuration Verification with Invalid Token.

Test Case ID: RECORDING-4-1-3

ONVIF Core Specification Coverage: GetRecordingConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetRecordingConfiguration

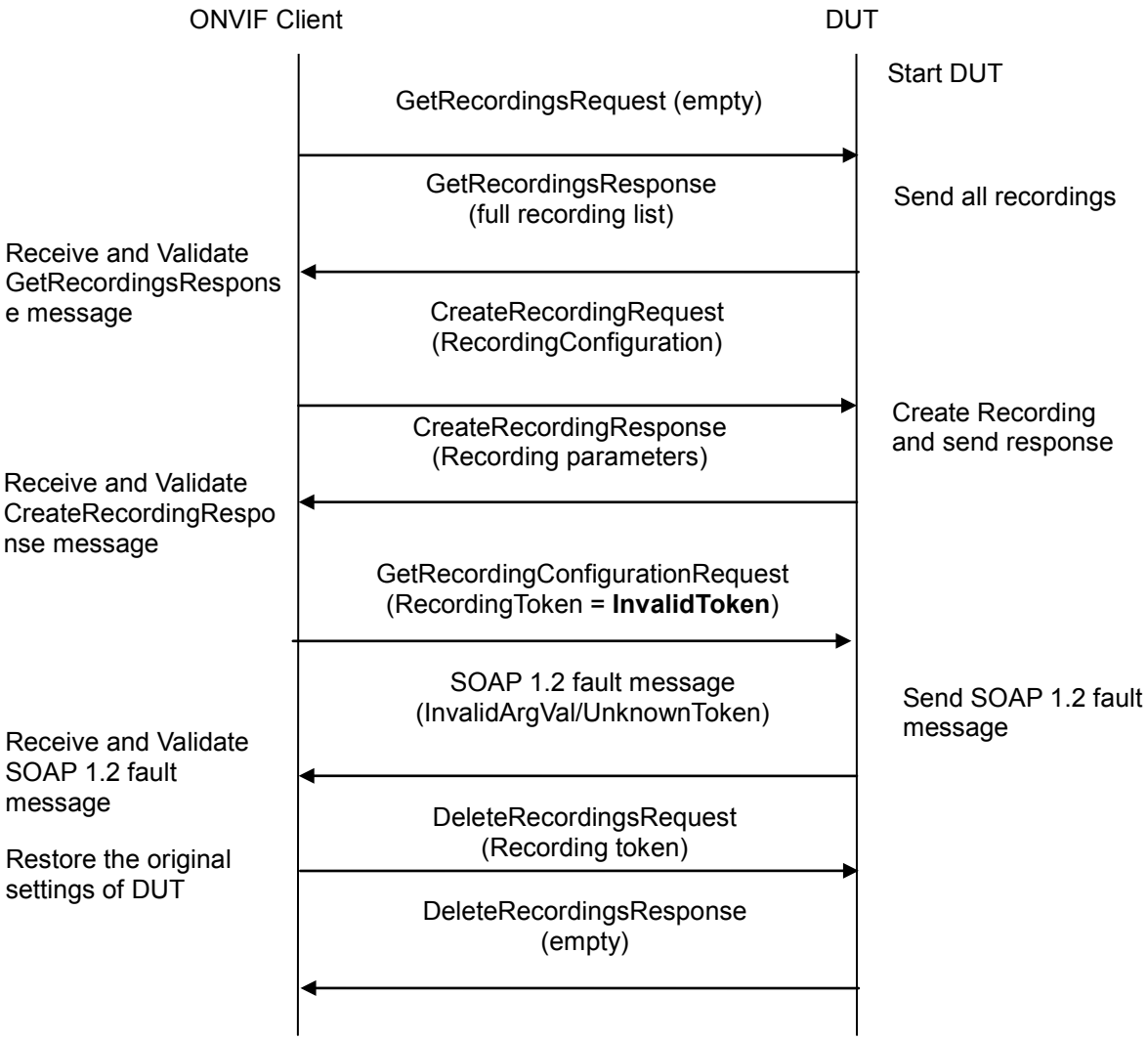
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Configuration with invalid Token.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify that the GetRecordingsResponse message contains at least one Recording.
5. If there is at least one Recording, then skip steps 6-7 and go to the step 8.
6. ONVIF Client will invoke CreateRecordingRequest message to create new Recording.
7. Verify the CreateRecordingResponse message from the DUT.
8. ONVIF Client will invoke GetRecordingConfigurationRequest message **(invalid RecordingToken**).
9. The DUT will generate SOAP 1.2 fault message (**InvalidArgVal/NoRecording**).

10. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send SOAP 1.2 fault message.

The DUT sent incorrect SOAP 1.2 fault message (fault code, namespace, etc.).

Note: Other faults than specified in the test are acceptable, though the specified are preferable.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.4.4 GET RECORDING JOBS

Test Label: Get Recordings Jobs Verification.

Test Case ID: RECORDING-4-1-4

ONVIF Core Specification Coverage: GetRecordingJobs (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobs

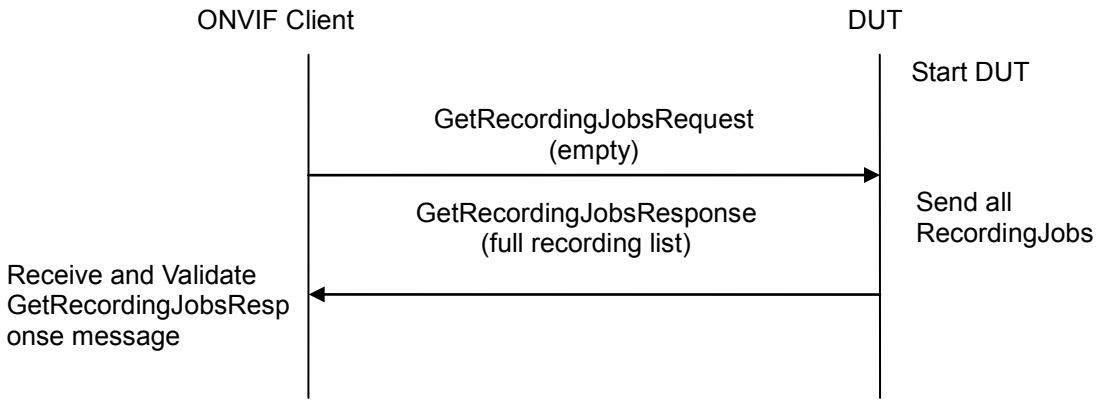
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Jobs.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. Verify the GetRecordingJobsResponse message from the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT sent at least two Recording Jobs with the same token in the GetRecordingJobsResponse message.

4.4.5 GET RECORDING JOB CONFIGURATION

Test Label: Get Recording Job Configuration Verification.

Test Case ID: RECORDING-4-1-5

ONVIF Core Specification Coverage: GetRecordingJobConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobConfiguration

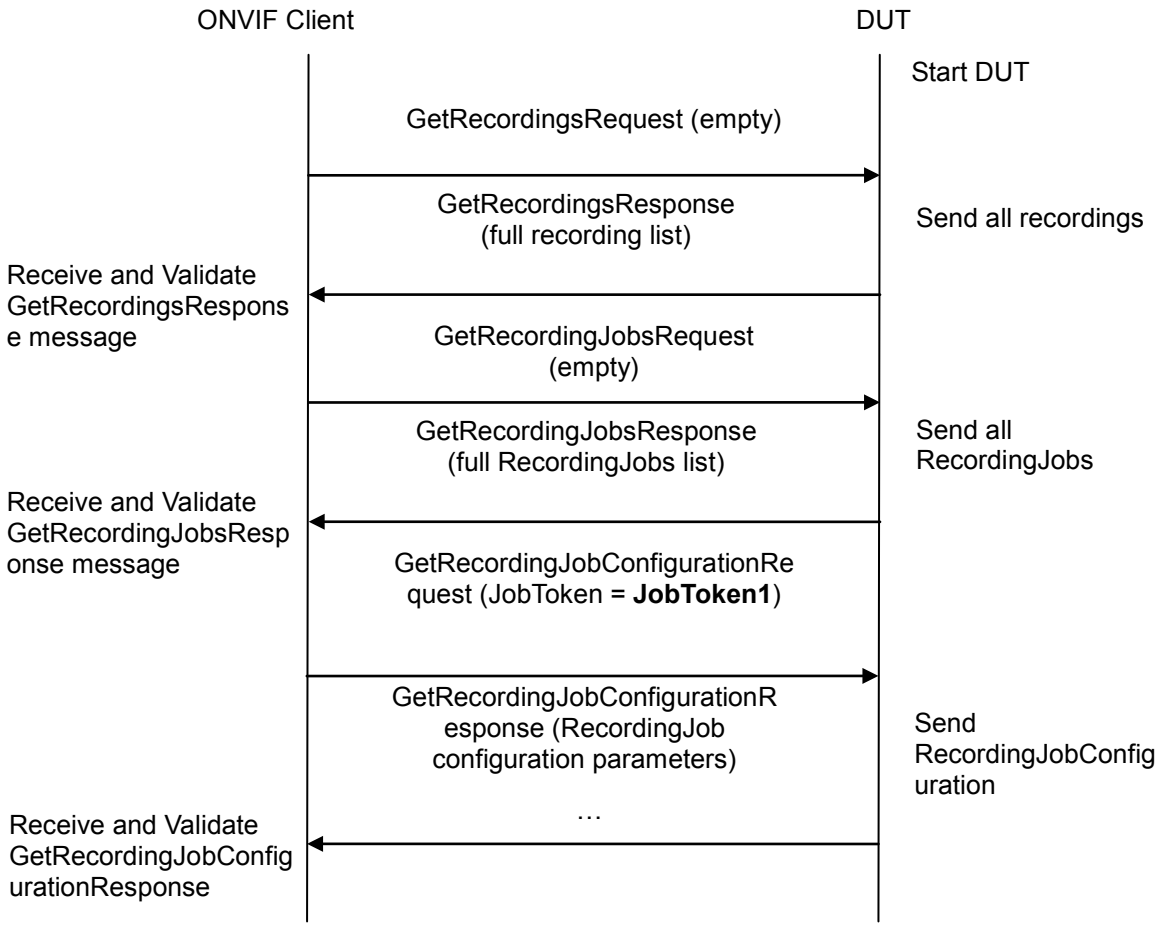
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Job Configuration.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.
5. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
6. Verify the GetRecordingJobsResponse message from the DUT.
7. ONVIF Client will invoke GetRecordingJobConfigurationRequest message (JobToken = “Token1”, where Token1 is the first JobItem.JobToken from the GetRecordingJobsResponse message) to retrieve recording job configuration.
8. Verify the GetRecordingJobConfigurationResponse message from the DUT.
9. Repeat steps 7-8 for all other recording jobs from the GetRecordingJobsResponse message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid GetRecordingJobConfigurationResponse message.

The DUT returned different parameter values for the same recording job in GetRecordingJobsResponse message and in GetRecordingJobConfigurationResponse message (see A.2).

The DUT returned JobItem.JobConfiguration.RecordingToken that does not exist in GetRecordingsResponse message.

Note: If the DUT does not return any recording in GetRecordingsResponse message, skip steps 5-9 and go to the next test.

Note: If the DUT does not return any recording job in GetRecordingJobsResponse message, skip steps 7-9 and go to the next test.

Note: Two recording jobs supposed to be the same, if they have equal tokens.

4.4.6 GET RECORDING JOB STATE

Test Label: Get Recording Job State Verification.

Test Case ID: RECORDING-4-1-7

ONVIF Core Specification Coverage: GetRecordingJobState (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobState

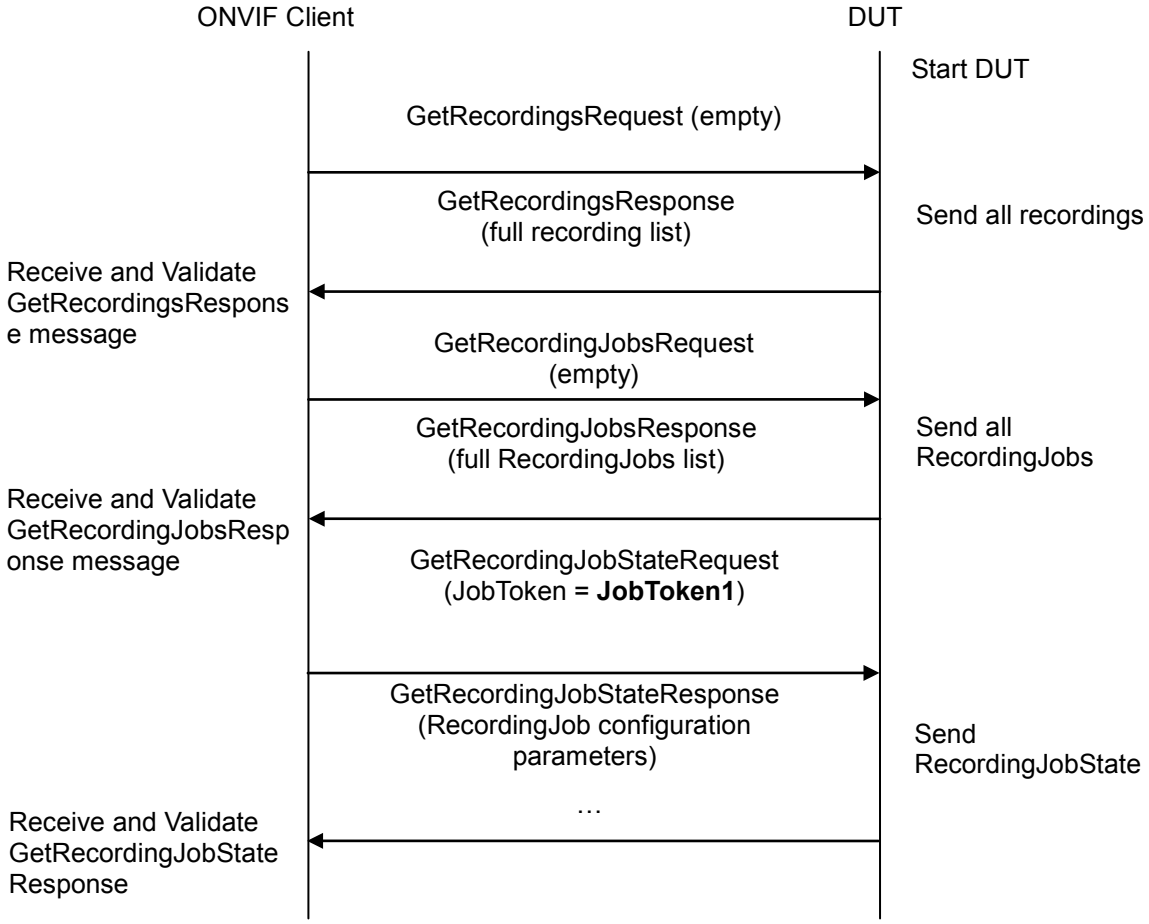
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Job State.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.
5. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
6. Verify the GetRecordingJobsResponse message from the DUT.
7. ONVIF Client will invoke GetRecordingJobStateRequest message (JobToken = “Token1”, where Token1 is the first JobItem.JobToken from the GetRecordingJobsResponse message) to retrieve recording job state.
8. Verify the GetRecordingJobStateResponse message from the DUT.
9. Repeat steps 7-8 for all other recording jobs from the GetRecordingJobsResponse message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message.

The DUT returned different parameter values for the same recording job in GetRecordingJobsResponse message and in GetRecordingJobStateResponse message (see A.3).

The DUT returned JobItem.JobConfiguration.RecordingToken that does not exist in GetRecordingsResponse message.

Note: If the DUT does not return any recording in GetRecordingsResponse message, skip steps 5-9 and go to the next test.

Note: If the DUT does not return any recording job in GetRecordingJobsResponse message, skip steps 7-9 and go to the next test.

Note: Two recording jobs supposed to be the same, if they have equal tokens.

4.4.7 GET TRACK CONFIGURATION

Test Label: Get Track Configuration Verification.

Test Case ID: RECORDING-4-1-9

ONVIF Core Specification Coverage: GetTrackConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetTrackConfiguration

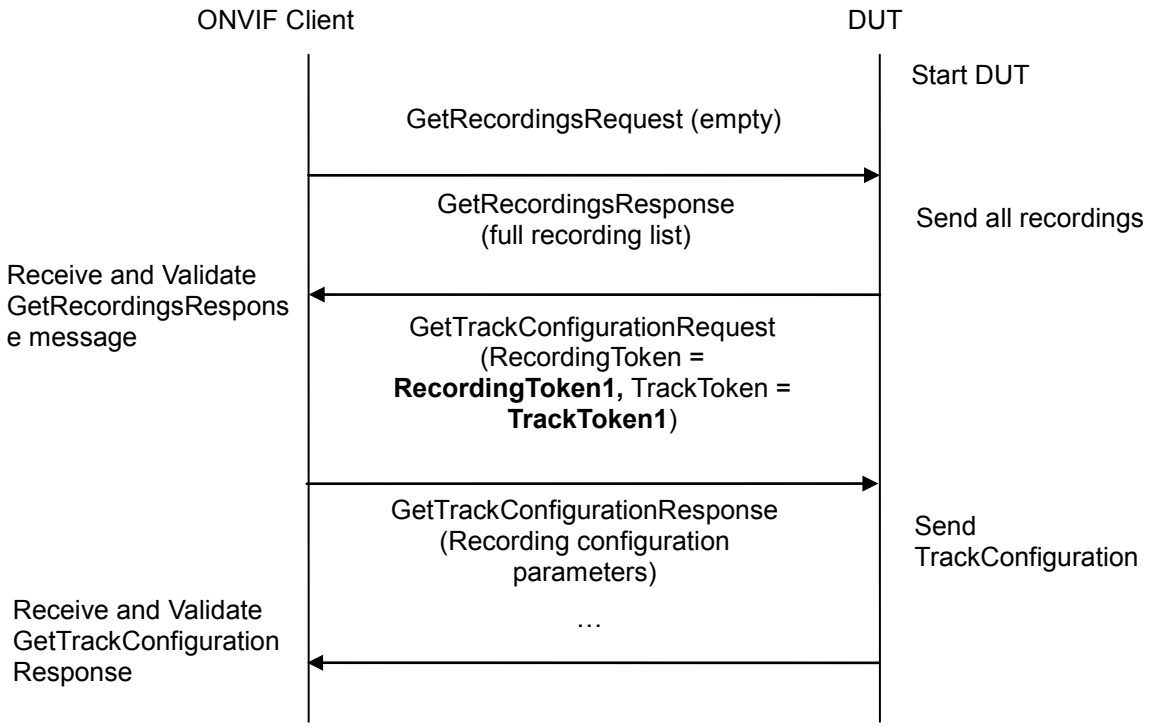
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Track Configuration.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.
5. ONVIF Client will invoke GetTrackConfigurationRequest message (RecordingToken = “RecordingToken1”, where RecordingToken1 is the first RecordingItem.RecordingToken from the GetRecordingsResponse message; TrackToken = “TrackToken1”, where TrackToken1 is the first RecordingItem.Tracks.Track.TrackToken for this RecordingItem from the GetRecordingsResponse message) to retrieve the configuration for a specific track.
6. Verify the GetTrackConfigurationResponse message from the DUT.
7. Repeat steps 5-6 for all other recording tracks from the GetRecordingsResponse message for RecordingToken1
8. Repeat steps 5-7 for all other recording tokens from the GetRecordingsResponse message

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetTrackConfigurationResponse message.

The DUT returned different parameter values for the same track in GetTrackConfigurationResponse message and in GetRecordingsResponse message (see A.4).

Note: If the DUT does not return any tracks in GetRecordingsResponse message, skip steps 5-8 and go to the next test.

Note: If the DUT does not return any recording in GetRecordingsResponse message, skip steps 5-8 and go to the next test.

Note: Two tracks supposed to be the same, if they have equal tokens and placed in one recording.

4.4.8 GET TRACK CONFIGURATION WITH INVALID TOKEN

Test Label: Get Track Configuration Verification with Invalid Token.

Test Case ID: RECORDING-4-1-10

ONVIF Core Specification Coverage: GetTrackConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetTrackConfiguration

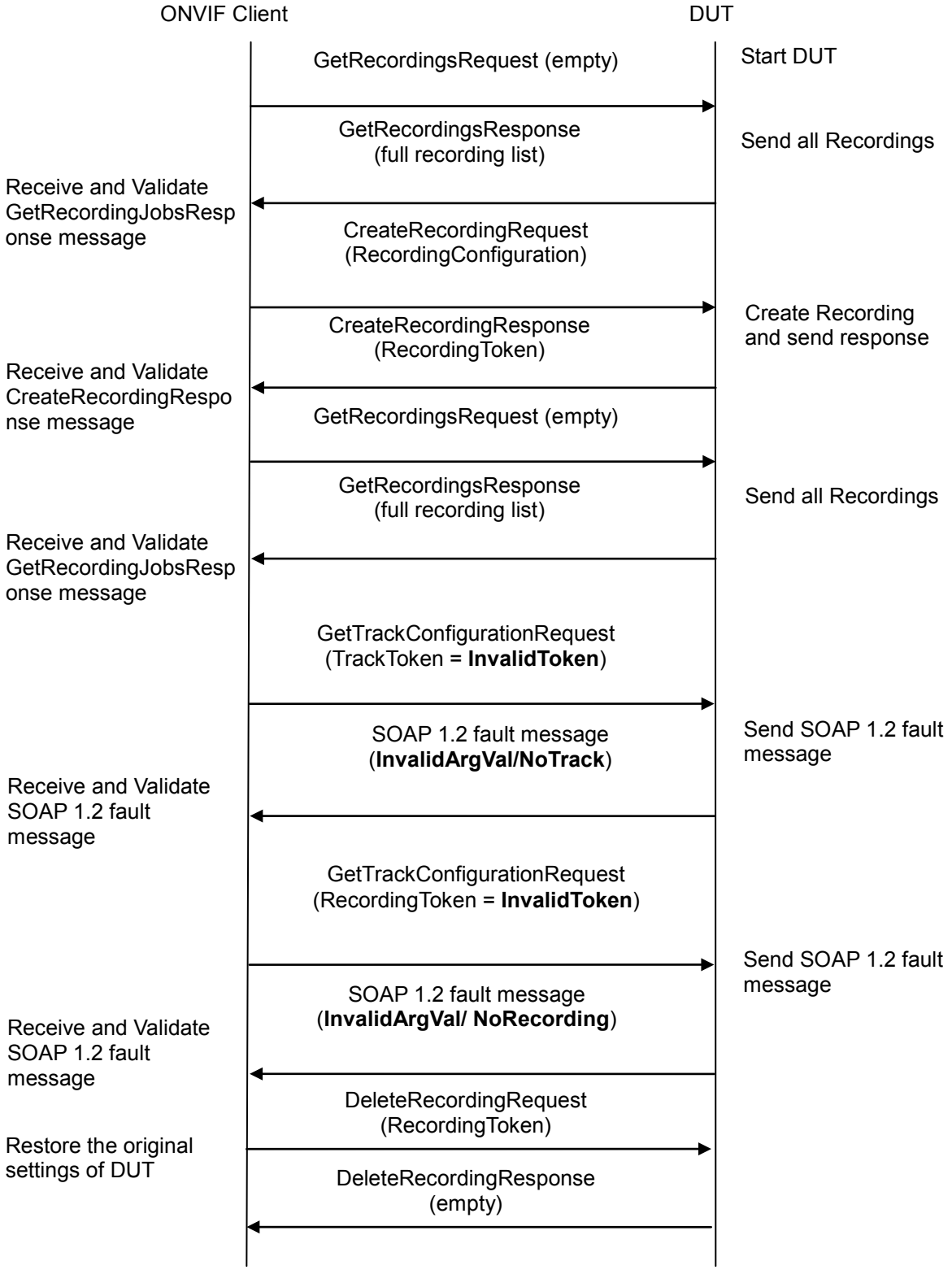
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Track Configuration with invalid Token.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.

2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify that the GetRecordingsResponse message contains at least one Recording.
5. If there is at least one Recording, then skip steps 6-9 and go to the step 10.
6. ONVIF Client will invoke CreateRecordingRequest message to create new Recording.
7. Verify the CreateRecordingResponse message from the DUT.
8. ONVIF Client will invoke GetRecordingsRequest message to retrieve TrackToken of created recording.
9. Verify GetRecordingsResponse message from the DUT (TrackToken = TrackToken1).
10. ONVIF Client will invoke GetTrackConfiguration Request message (invalid TrackToken).
11. The DUT will generate SOAP 1.2 fault message (InvalidArgVal/ NoTrack).
12. ONVIF Client will invoke GetTrackConfigurationRequest message (invalid RecordingToken).
13. The DUT will generate SOAP 1.2 fault message (InvalidArgVal/ NoRecording).
14. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send SOAP 1.2 fault message.

The DUT sent an incorrect SOAP 1.2 fault message (fault code, namespace, etc.).

Note: Other faults than specified in the test are acceptable, though the specified are preferable.

Note: Skip the test in case of fault in CreateRecordingResponse message.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.4.9 SET RECORDINGS CONFIGURATION (MAXIMUM LENGTH OF RECORDING SOURCE INFORMATION)

Test Label: Set Recordings Configuration (Maximum Length of Recording Source Information)

Test Case ID: RECORDING-4-1-11

Driving IP-based physical security through global standardization

ONVIF Core Specification Coverage: Recording Source Information & wsdl (ONVIF Recording Control Service Specification)

Command under test: GetRecordingConfiguration, SetRecordingConfiguration

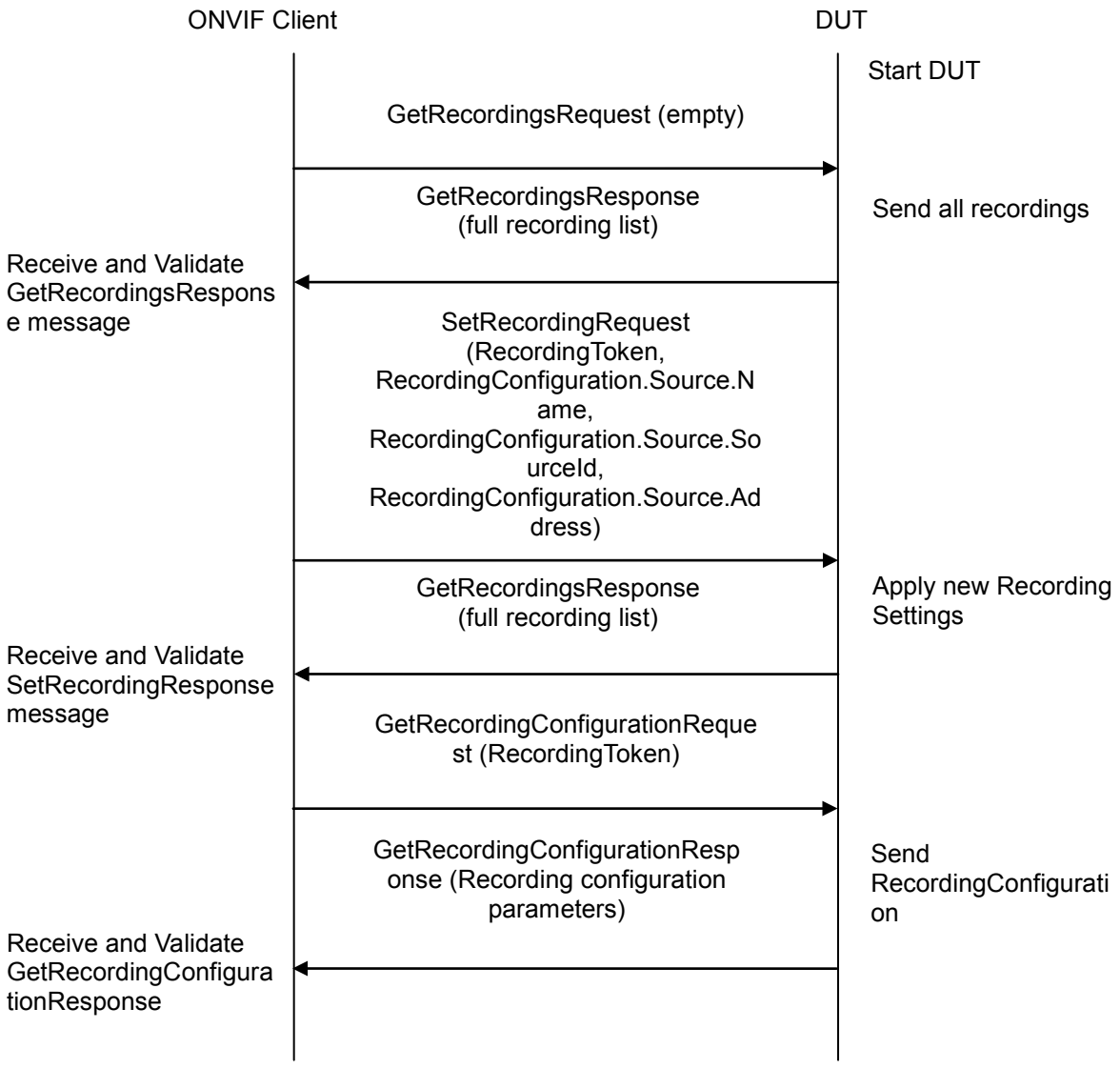
WSDL Reference: recording.wsdl

Test Purpose: To verify applying of recording source information (Name, Address, SourceId) with maximum length by the DUT.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. At least one recording exists for a DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT. Select one of the recordings to use it in the further steps.
5. ONVIF Client will invoke SetRecordingConfigurationRequest message (RecordingToken = [selected recording], RecordingConfiguration.Source.Name = [string with length 20 characters, which contains only readable characters and begins with letter], RecordingConfiguration.Source.SourceId = [valid URI with length 128 characters], RecordingConfiguration.Source.Address = [valid URI with length 128 characters], other Recording Configuration parameters without change) to configure Recording.
6. Verify the SetRecordingConfigurationResponse message from the DUT.
7. ONVIF Client will invoke GetRecordingConfigurationRequest message for selected Recording.
8. Verify the GetRecordingConfigurationResponse messages from the DUT. Verify that RecordingConfiguration.Source.Name, RecordingConfiguration.Source.SourceId, RecordingConfiguration.Source.Address settings were applied.
9. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid SetRecordingConfigurationResponse message.

The DUT did not send a valid GetRecordingConfigurationResponse message.

The DUT did not apply RecordingConfiguration.Source.Name, RecordingConfiguration.Source.SourceId, RecordingConfiguration.Source.Address settings.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.4.10 DYNAMIC RECORDINGS CONFIGURATION (MAXIMUM LENGTH OF RECORDING SOURCE INFORMATION)

Test Label: Dynamic Recordings Configuration (Maximum Length of Recording Source Information)

Test Case ID: RECORDING-4-1-12

ONVIF Core Specification Coverage: Recording Source Information & wsdl (ONVIF Recording Control Service Specification)

Command under test: CreateRecordingConfiguration, GetRecordingConfiguration

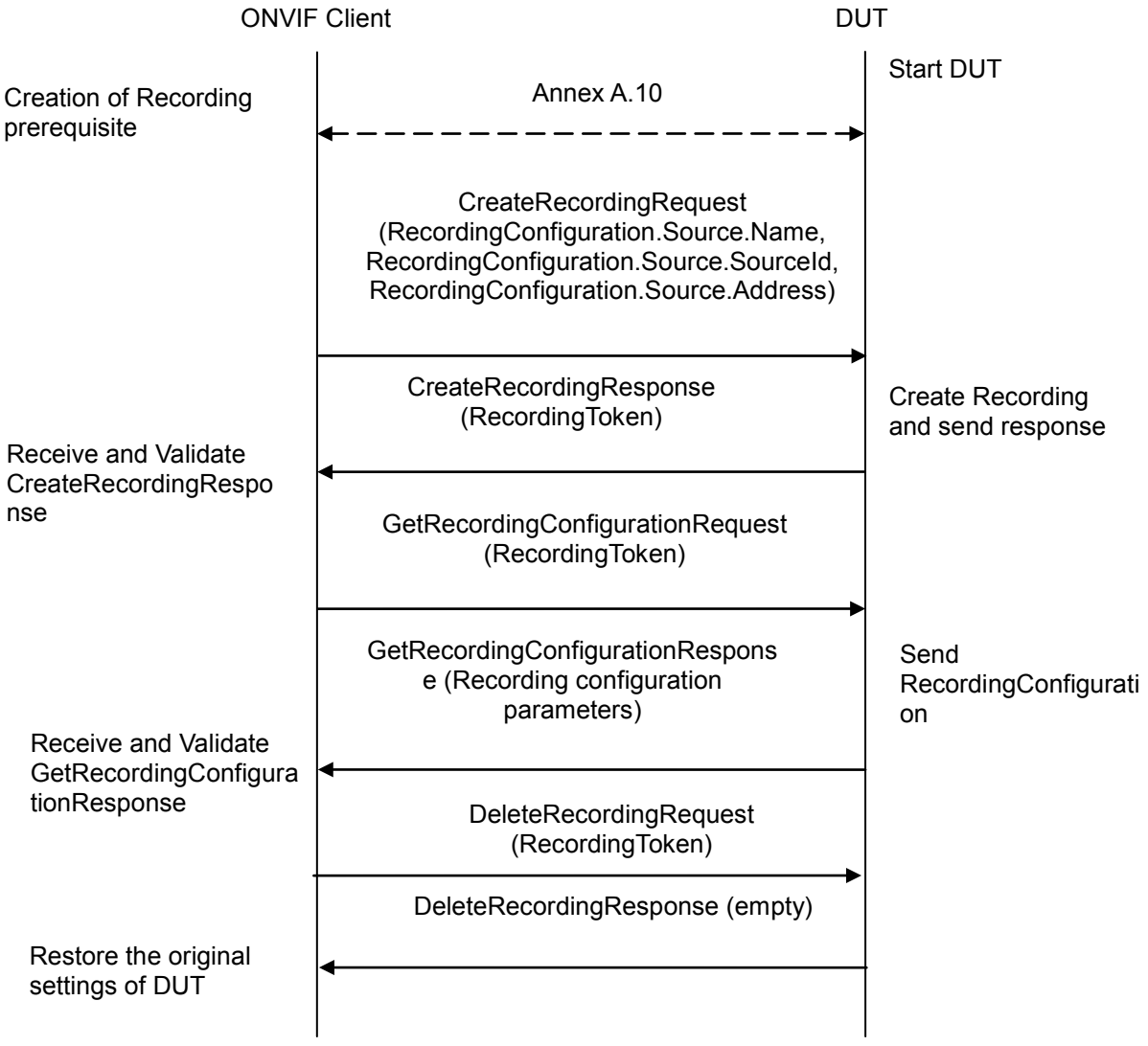
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify applying of recording source information (Name, Address, SourceId) with maximum length by the DUT during Recording creation.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.10 for possibility to create a new recording.

4. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.Address = [valid URI with length 128 characters], RecordingConfiguration.Source.Name = [string with length 20 characters, which contains only readable characters and begins with letter], RecordingConfiguration.Source.Location = ”LocationDescription”, RecordingConfiguration.Source.Description = ”Source Description”, RecordingConfiguration.Source.SourceId = [valid URI with length 128 characters], RecordingConfiguration.Content = ”Create recording event test”, RecordingConfiguration.MaximumRetentionTime = [acceptable MaximumRetentionTime] to create a new recording.
5. Verify the CreateRecordingResponse message from the DUT (RecordingToken = RecordingToken1).
6. ONVIF Client will invoke GetRecordingConfigurationRequest message (RecordingToken = RecordingToken1) to get Recording configuration.
7. Verify the GetRecordingConfigurationResponse messages from the DUT. Verify that RecordingConfiguration.Source.Name, RecordingConfiguration.Source.SourceId, RecordingConfiguration.Source.Address settings were applied.
8. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send a valid GetRecordingConfigurationResponse message.

The DUT did not apply RecordingConfiguration.Source.Name, RecordingConfiguration.Source.SourceId, RecordingConfiguration.Source.Address settings.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.4.11 GET RECORDING JOB CONFIGURATION WITH INVALID TOKEN

Test Label: Get Recording Job Configuration Verification with Invalid Token.

Test Case ID: RECORDING-4-1-13

ONVIF Core Specification Coverage: GetRecordingJobConfiguration (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobConfiguration

WSDL Reference: recording.wsdl

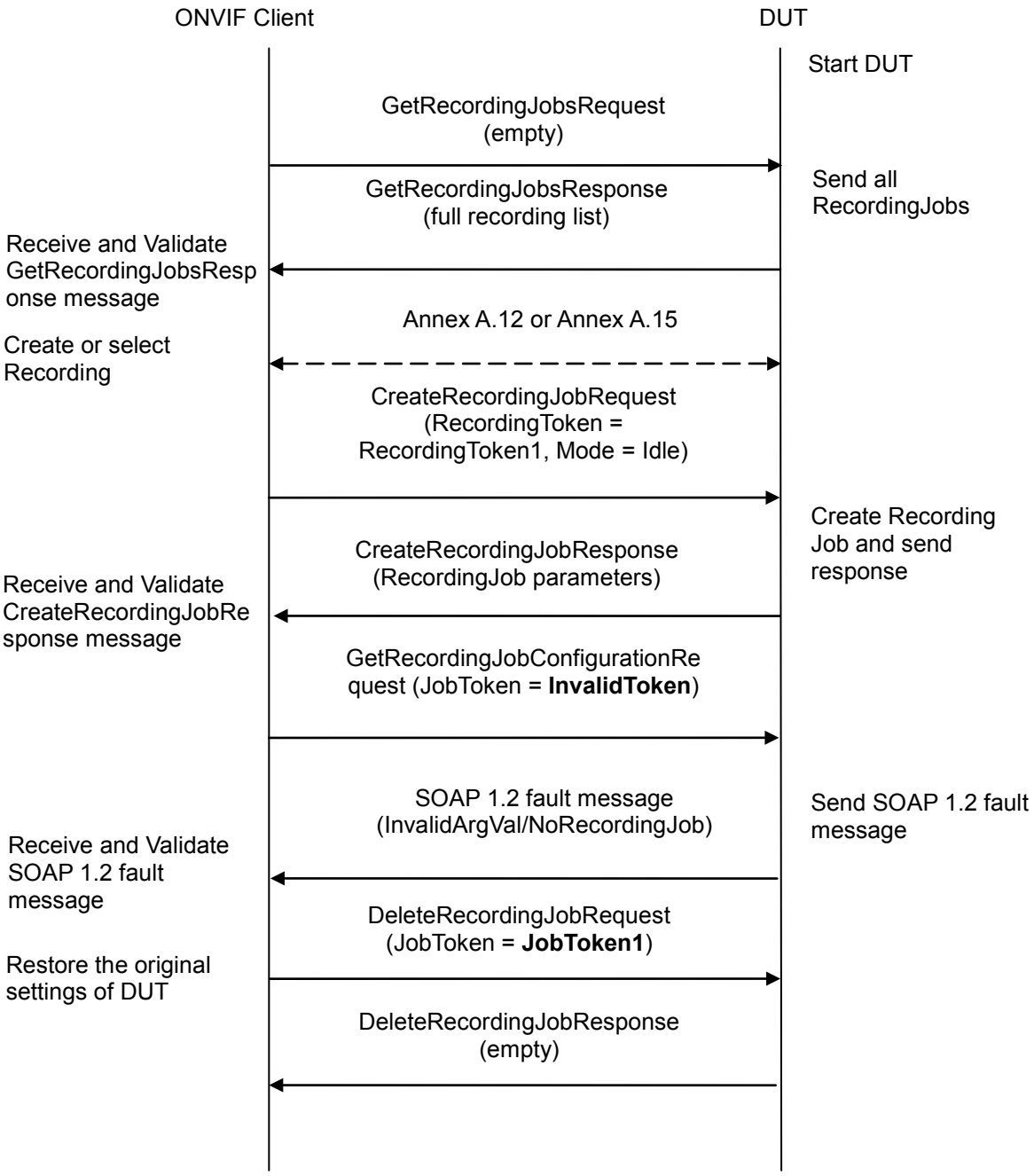
Test Purpose: To verify Get Recording Job Configuration with invalid Token.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Media Service or Receiver Service was received from the DUT. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Driving IP-based physical security through global standardization

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. If there is at least one RecordingJob, then skip steps 5-16 and go to the step 11.
5. If Receiver service is supported, then ONVIF Client execute A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = “RecordingToken1”, JobConfiguration.Mode = “Idle”, JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, JobConfiguration.Source.AutoCreateReceiver = true) to create a recording job and auto create receiver.
7. Verify CreateRecordingJobResponse from the DUT and go to step 10.
8. If Receiver service is not supported ONVIF Client execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
9. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Idle, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job with Idle mode.
10. Verify the CreateRecordingJobResponse message from the DUT.
11. ONVIF Client will invoke GetRecordingJobConfigurationRequest message (invalid JobToken).
12. The DUT will generate SOAP 1.2 fault message (InvalidArgVal/NoRecordingJob).
13. ONVIF Client restores recording jobs if they were changed in step 9.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send SOAP 1.2 fault message at step 11.

The DUT sent an incorrect SOAP 1.2 fault message (fault code, namespace, etc.) at step 11.

Note: Other faults than specified in the test are acceptable, though the specified are preferable.

4.4.12 GET RECORDING JOB STATE WITH INVALID TOKEN

Test Label: Get Recording Job State Verification with Invalid Token.

Test Case ID: RECORDING-4-1-14

ONVIF Core Specification Coverage: GetRecordingJobState (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobState

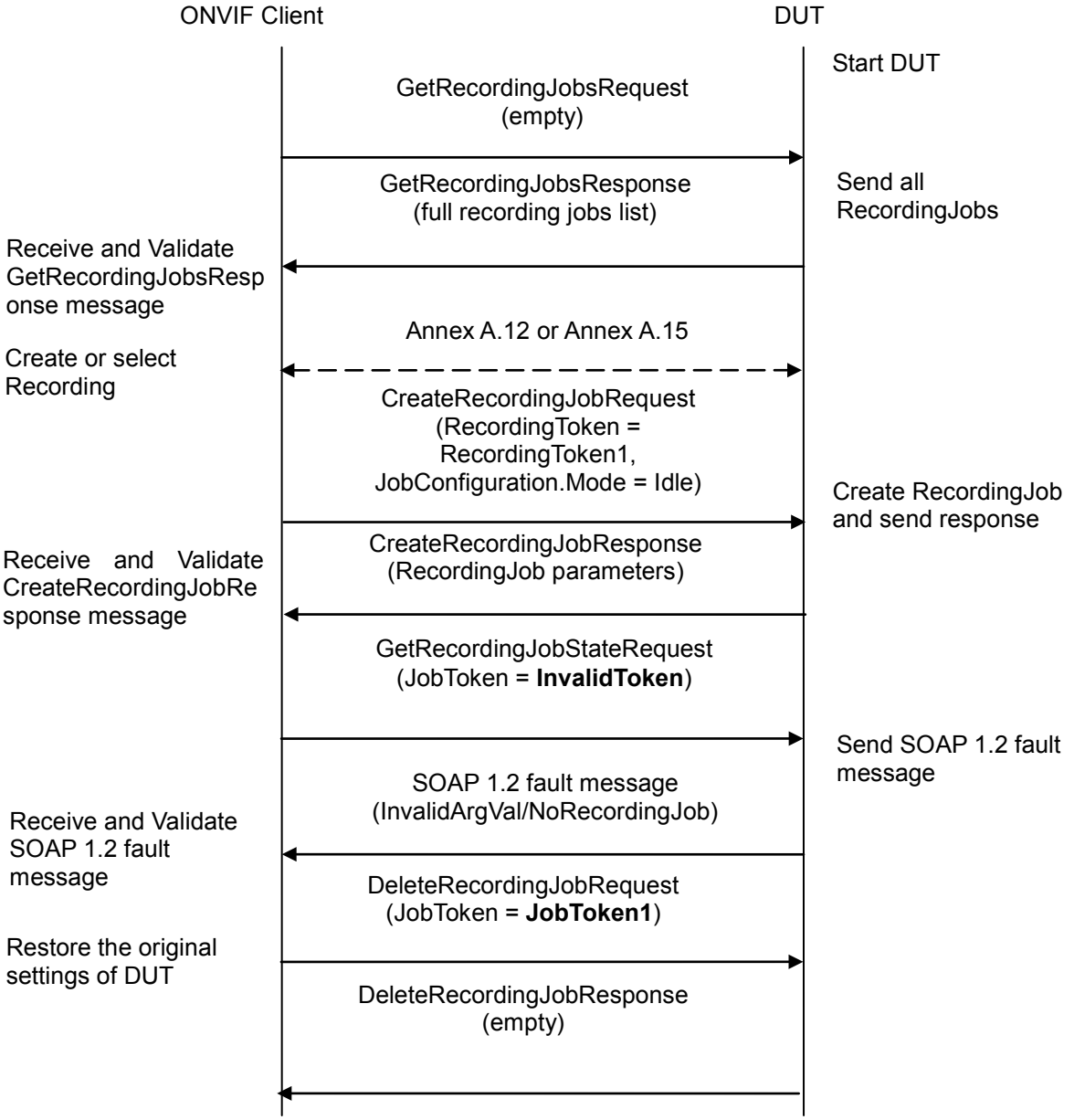
WSDL Reference: recording.wsdl

Test Purpose: To verify Get Recording Job Sate with invalid Token.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. If there is at least one RecordingJob, then skip steps 5-10 and go to the step 11.
5. If Receiver service is supported, then ONVIF Client execute A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.

6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = “RecordingToken1”, JobConfiguration.Mode = “Idle”, JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, JobConfiguration.Source.AutoCreateReceiver = true) to create a recording job and auto create receiver.
7. Verify CreateRecordingJobResponse from the DUT and go to step 11.
8. If Receiver service is not supported ONVIF Client execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
9. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Idle, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job with Idle mode.
10. Verify the CreateRecordingJobResponse message from the DUT.
11. ONVIF Client will invoke GetRecordingJobStateRequest message (invalid JobToken).
12. The DUT will generate SOAP 1.2 fault message (InvalidArgVal/NoRecordingJob).
13. ONVIF Client restores recording jobs if they were changed in step 9.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message

The DUT did not send SOAP 1.2 fault message.

The DUT sent an incorrect SOAP 1.2 fault message (fault code, namespace, etc.).

Note: Other faults than specified in the test are acceptable, though the specified are preferable.

4.5 Events

4.5.1 RECORDING CONTROL – RECORDING CONFIGURATION EVENT

Test Label: Recording Control Service Events Check (Recording Configuration Change).

Test Case ID: RECORDING-5-1-3

ONVIF Core Specification Coverage: Configuration changes (ONVIF Recording Control Service Specification)

Command under test: GetRecordingConfiguration, SetRecordingConfiguration

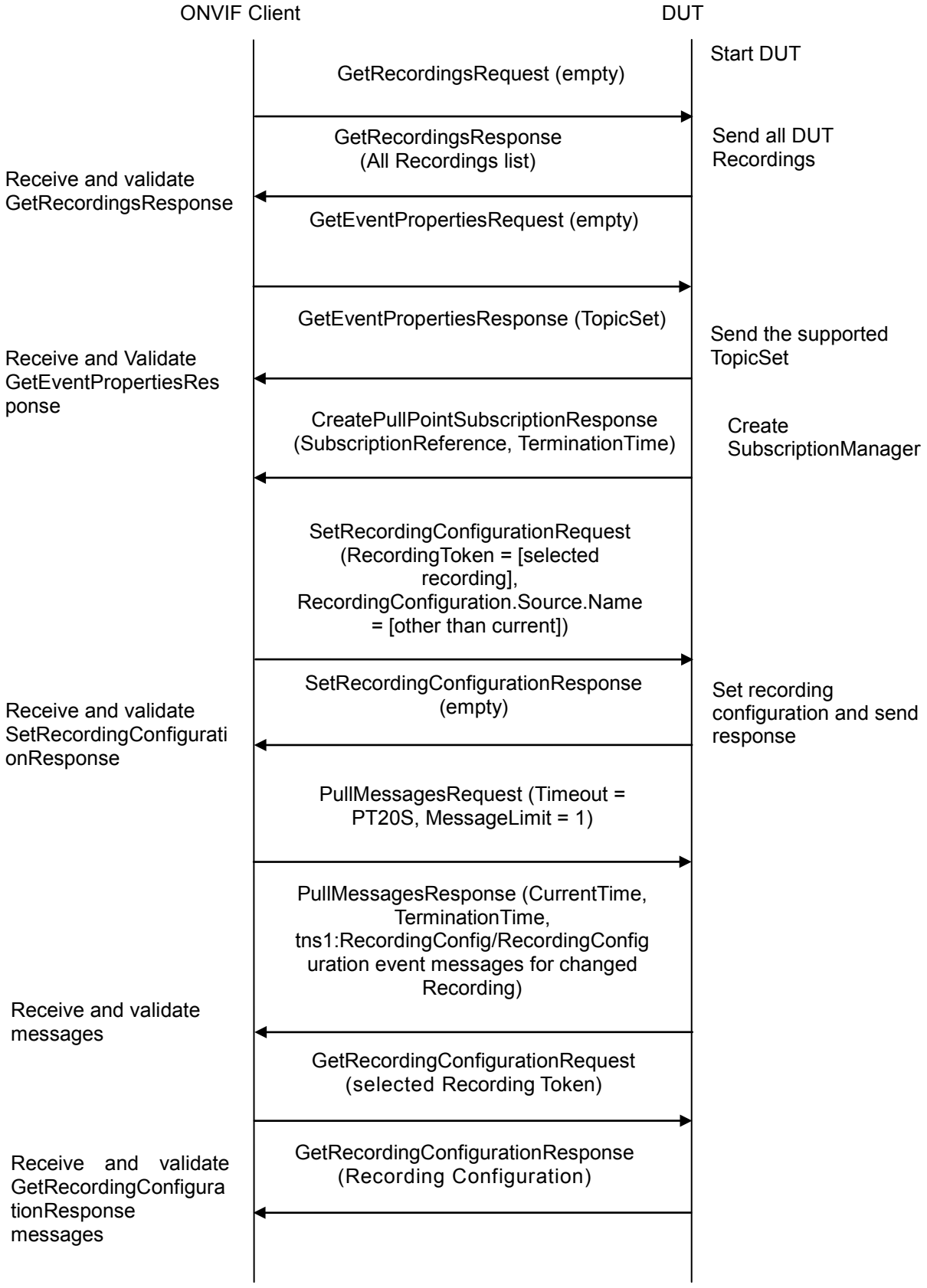
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/RecordingConfiguration event generation after recording configuration change, to verify tns1:RecordingConfig/RecordingConfiguration event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. At least one recording exists for a DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
GetRecordingsRequest (empty)
GetRecordingsResponse
(All Recordings list)
Send all DUT Recordings
Receive and validate GetRecordingsResponse
GetEventPropertiesRequest (empty)
GetEventPropertiesResponse (TopicSet)
Send the supported TopicSet
Receive and Validate GetEventPropertiesResponse
CreatePullPointSubscriptionResponse
(SubscriptionReference, TerminationTime)
Create SubscriptionManager
SetRecordingConfigurationRequest
(RecordingToken = [selected recording],
RecordingConfiguration.Source.Name = [other than current])
SetRecordingConfigurationResponse
(empty)
Set recording configuration and send response
Receive and validate SetRecordingConfigurationResponse
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime,
tns1:RecordingConfig/RecordingConfiguration event messages for changed Recording)
Receive and validate messages
GetRecordingConfigurationRequest
(selected Recording Token)
GetRecordingConfigurationResponse
(Recording Configuration)
Receive and validate GetRecordingConfigurationResponse messages

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT. Select one of the recordings to use it in the further steps.
5. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
6. Verify the GetEventPropertiesResponse message from the DUT.
7. Check if there is an event with Topic tns1:RecordingConfig/RecordingConfiguration. If there is no event with such Topic skip other steps, fail the test and go to the next test.
8. Check that this event is not a Property event (MessageDescription.IsProperty = false).
9. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
10. Check that this event contains Data.ElementItemDescription item with Name = “Configuration” and Type = “tt:RecordingConfiguration”.
11. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/RecordingConfiguration Topic as Filter and an InitialTerminationTime of timeout1.
12. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
13. ONVIF Client will invoke SetRecordingConfigurationRequest message (RecordingToken = [selected recording], RecordingConfiguration.Source.Name = [other than current], other Recording Configuration parameters without change) to configure Recording.
14. Verify the SetRecordingConfigurationResponse message from the DUT.
15. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1.
16. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 15 until Notification for selected Recording is received.
17. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
18. Verify that TopicExpression is equal to tns1:RecordingConfig/RecordingConfiguration for received Notify message.
19. Verify that notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to selected Recording Token.
20. Verify that each notification contains Data.ElementItem item with Name = “Configuration” and Value with type is equal to tt:RecordingConfiguration (validation with XML Schema complex type).

21. ONVIF Client will invoke GetRecordingConfigurationRequest message for selected Recording.
22. Verify the GetRecordingConfigurationResponse messages from the DUT. Verify that Data.ElementItem item with Name = “Configuration” from Notification message has the same value with RecordingConfiguration element from GetRecordingConfigurationResponse messages for selected Recording.
23. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid SetRecordingConfigurationResponse message.

The DUT did not send a valid GetRecordingConfigurationResponse message.

The DUT did not send a valid GetRecordingsResponse message with at least one recording.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/RecordingConfiguration for selected Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, or Data.ElementItem wrong type of Value fields, invalid RecordingToken or Configuration values).

The DUT does not return valid tns1:RecordingConfig/RecordingConfiguration Topic in GetEventPropertiesResponse.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 16 will wait for Notification message until notification for selected Recording is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.5.2 RECORDING CONTROL – TRACK CONFIGURATION EVENT

Test Label: Recording Control Service Events Check (Track Configuration Change).

Test Case ID: RECORDING-5-1-4

ONVIF Core Specification Coverage: Configuration changes (ONVIF Recording Control Service Specification)

Command under test: GetTrackConfiguration, SetTrackConfiguration

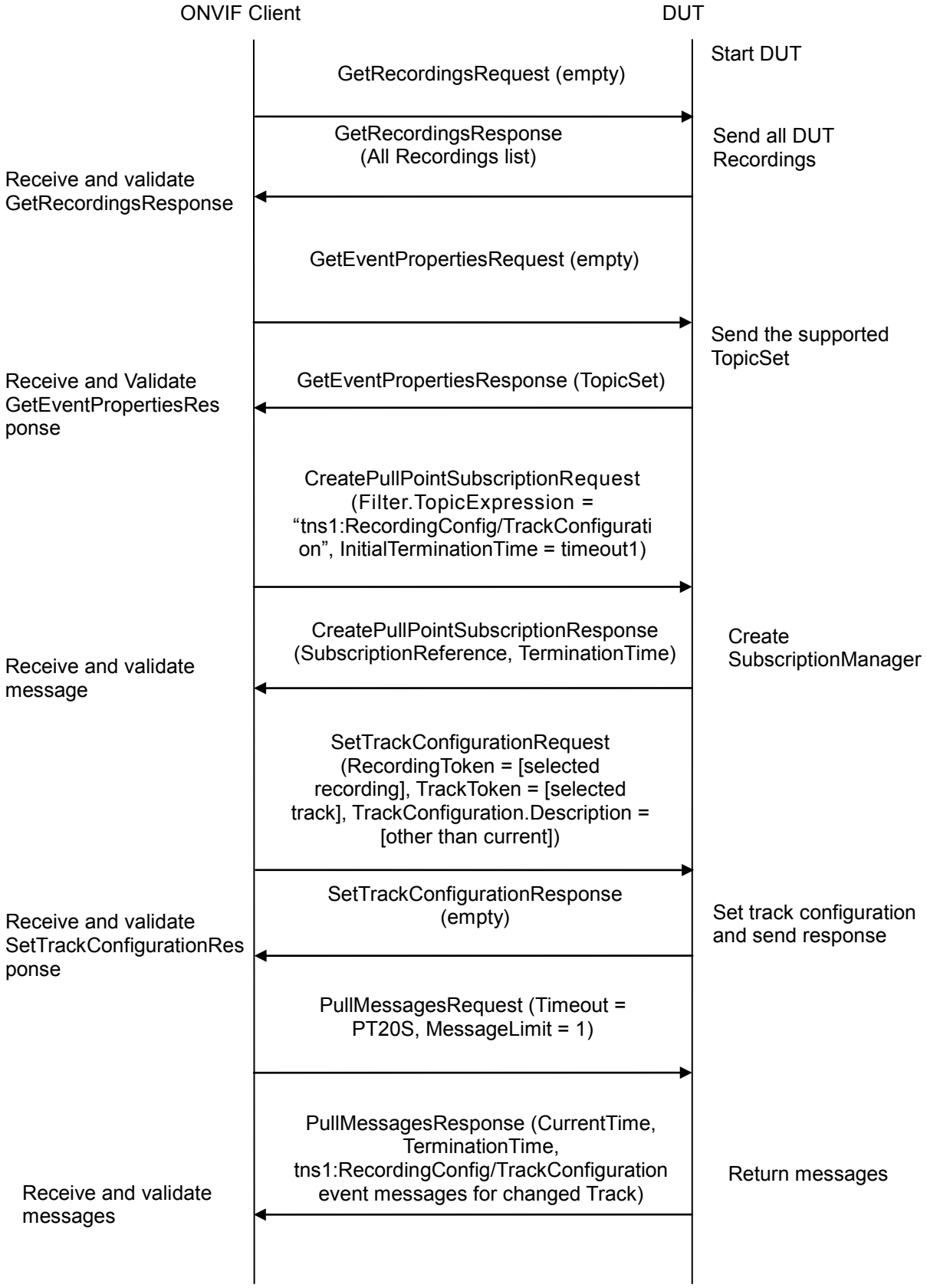
WSDL Reference: recording.wsdl, event.wsdl

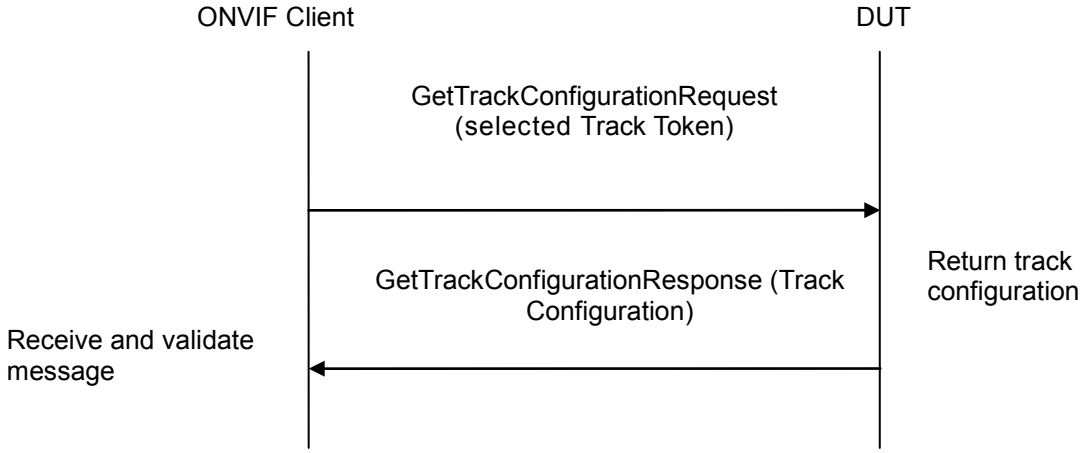
Test Purpose: To verify tns1:RecordingConfig/TrackConfiguration event generation after track configuration change, to verify tns1:RecordingConfig/TrackConfiguration event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. At least one recording with track exists for the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
GetRecordingsRequest (empty)
GetRecordingsResponse
(All Recordings list)
Send all DUT
Recordings
Receive and validate
GetRecordingsResponse
GetEventPropertiesRequest (empty)
Send the supported
TopicSet
Receive and Validate
GetEventPropertiesRes
ponse
GetEventPropertiesResponse (TopicSet)
CreatePullPointSubscriptionRequest
(Filter.TopicExpression =
“tns1:RecordingConfig/TrackConfigurati
on”, InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse
(SubscriptionReference, TerminationTime)
Create
SubscriptionManager
Receive and validate
message
SetTrackConfigurationRequest
(RecordingToken = [selected
recording], TrackToken = [selected
track], TrackConfiguration.Description =
[other than current])
SetTrackConfigurationResponse
(empty)
Set track configuration
and send response
Receive and validate
SetTrackConfigurationRes
ponse
PullMessagesRequest (Timeout =
PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime,
TerminationTime,
tns1:RecordingConfig/TrackConfiguration
event messages for changed Track)
Return messages
Receive and validate
messages



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT. Select one of the recording tracks to use it in the further steps.
5. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
6. Verify the GetEventPropertiesResponse message from the DUT.
7. Check if there is an event with Topic tns1:RecordingConfig/TrackConfiguration. If there is no event with such Topic, skip other steps, fail the test and go to the next test.
8. Check that this event is not a Property event (MessageDescription.IsProperty = false).
9. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
10. Check that this event contains Source.SimpleItemDescription item with Name = “TrackToken” and Type = “tt:TrackReference”.
11. Check that this event contains Data.ElementItemDescription item with Name = “Configuration” and Type = “tt:TrackConfiguration”.
12. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/TrackConfiguration Topic as Filter and an InitialTerminationTime of timeout1.
13. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
14. ONVIF Client will invoke SetTrackConfigurationRequest message (RecordingToken = [selected recording], TrackToken = [selected track], TrackConfiguration.Description = [other than current], other Recording Configuration parameters without change) to configure Track.

15. Verify the SetTrackConfigurationResponse message from the DUT.
16. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1.
17. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 16 until Notification for selected Track is received.
18. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
19. Verify that TopicExpression is equal to tns1:RecordingConfig/TrackConfiguration for received Notify message.
20. Verify that notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to selected Recording Token.
21. Verify that notification contains Source.SimpleItem item with Name = “TrackToken” and Value is equal to selected Track Token.
22. Verify that each notification contains Data.ElementItem item with Name = “Configuration” and Value with type is equal to tt:TrackConfiguration (validation with XML Schema complex type).
23. ONVIF Client will invoke GetTrackConfigurationRequest message for selected Track and corresponding Recording.
24. Verify the GetTrackConfigurationResponse messages from the DUT. Verify that Data.ElementItem item with Name = “Configuration” from Notification message has the same value with TrackConfiguration element from GetTrackConfigurationResponse messages for selected Track.
25. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid SetTrackConfigurationResponse message.

The DUT did not send a valid GetTrackConfigurationResponse message.

The DUT did not send a valid GetRecordingsResponse message with at least one recording with track.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/TrackConfiguration for selected Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, or Data.ElementItem wrong type of Value fields, invalid RecordingToken, TrackToken, or Configuration values).

The DUT does not return valid tns1:RecordingConfig/TrackConfiguration Topic in GetEventPropertiesResponse.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 17 will wait for Notification message until notification for selected Track is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, re-send Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

4.5.3 RECORDING CONTROL – CREATE RECORDING EVENT

Test Label: Recording Control Service Events Check (Create Recording).

Test Case ID: RECORDING-5-1-6

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: CreateRecordingConfiguration

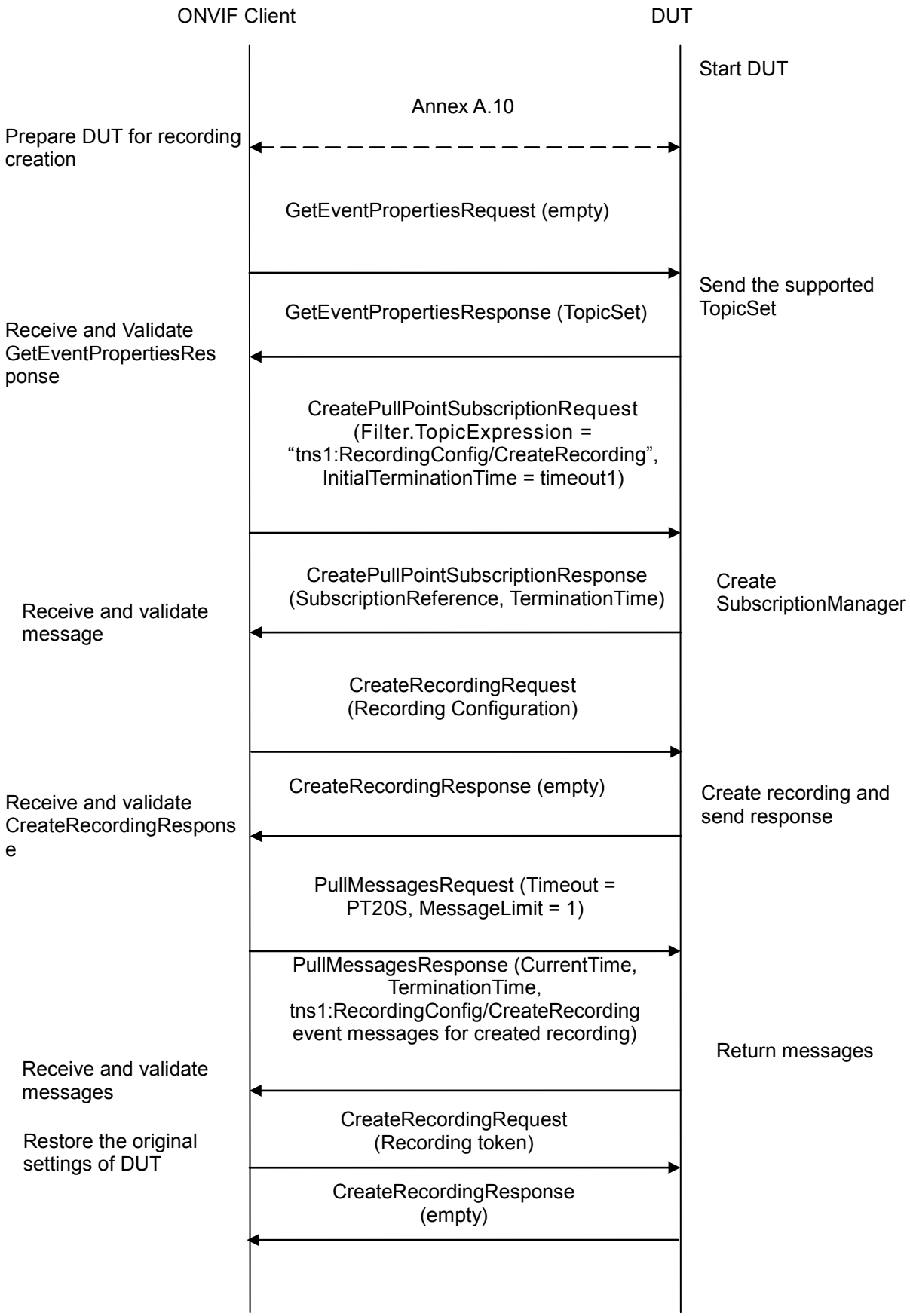
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/CreateRecording event generation after recording creation, to verify tns1:RecordingConfig/CreateRecording event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Annex A.10
Prepare DUT for recording creation
GetEventPropertiesRequest (empty)
Send the supported TopicSet
GetEventPropertiesResponse (TopicSet)
Receive and Validate GetEventPropertiesResponse
CreatePullPointSubscriptionRequest (Filter.TopicExpression = “tns1:RecordingConfig/CreateRecording”, InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse (SubscriptionReference, TerminationTime)
Create SubscriptionManager
Receive and validate message
CreateRecordingRequest (Recording Configuration)
CreateRecordingResponse (empty)
Create recording and send response
Receive and validate CreateRecordingResponse
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/CreateRecording event messages for created recording)
Return messages
Receive and validate messages
CreateRecordingRequest (Recording token)
Restore the original settings of DUT
CreateRecordingResponse (empty)

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.10 for possibility to create a new recording.
4. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
5. Verify the GetEventPropertiesResponse message from the DUT.
6. Check if there is an event with Topic tns1:RecordingConfig/CreateRecording. If there is no event with such Topic, skip other steps, fail the test and go to the next test.
7. Check that this event is not a Property event (MessageDescription.IsProperty = false).
8. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
9. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/CreateRecording Topic as Filter and an InitialTerminationTime of timeout1.
10. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
11. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = ”CameraName”, RecordingConfiguration.Source.Location = ”LocationDescription”, RecordingConfiguration.Source.Description = ”Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = ”Create recording event test”, RecordingConfiguration.MaximumRetentionTime = [acceptable MaximumRetentionTime] to create a new recording.
12. Verify the CreateRecordingResponse message from the DUT (RecordingToken = RecordingToken1).
13. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1.
14. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 13 until Notification for created Recording is received.
15. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
16. Verify that TopicExpression is equal to tns1:RecordingConfig/CreateRecording for received Notify message.
17. Verify that notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to created Recording Token.
18. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/CreateRecording for created Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, wrong type of Value fields, invalid RecordingToken).

The DUT does not return a valid tns1:RecordingConfig/CreateRecording Topic in GetEventPropertiesResponse.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 14 will wait for Notification message until notification for created Recording is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.5.4 RECORDING CONTROL – CREATE TRACK EVENT

Test Label: Recording Control Service Events Check (Create Track Event).

Test Case ID: RECORDING-5-1-8

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: None

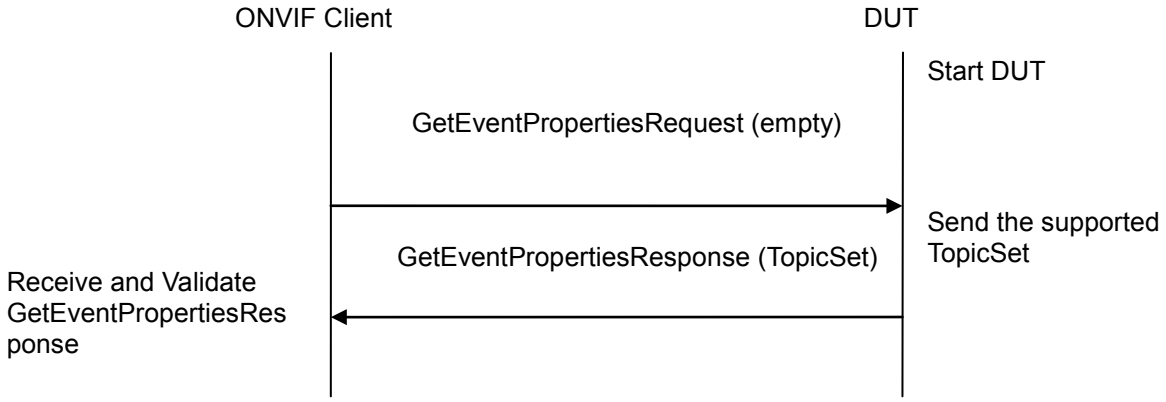
WSDL Reference: event.wsdl

Test Purpose: To verify tns1:RecordingConfig/CreateTrack event format in TopicSet.

Pre-Requisite: Event Service was received from the DUT. Dynamic Recording or dynamic track functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
4. Verify the GetEventPropertiesResponse message from the DUT.
5. Check if there is an event with Topic tns1:RecordingConfig/CreateTrack. If there is no event with such Topic, skip other steps, fail the test and go to the next test.
6. Check that this event is not a Property event (MessageDescription.IsProperty = false).
7. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
8. Check that this event contains Source.SimpleItemDescription item with Name = “TrackToken” and Type = “tt:TrackReference”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT does not return valid tns1:RecordingConfig/CreateTrack Topic in GetEventPropertiesResponse.

4.5.5 RECORDING CONTROL – DELETE TRACK EVENT

Test Label: Recording Control Service Events Check (Delete Track Event).

Test Case ID: RECORDING-5-1-9

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: None

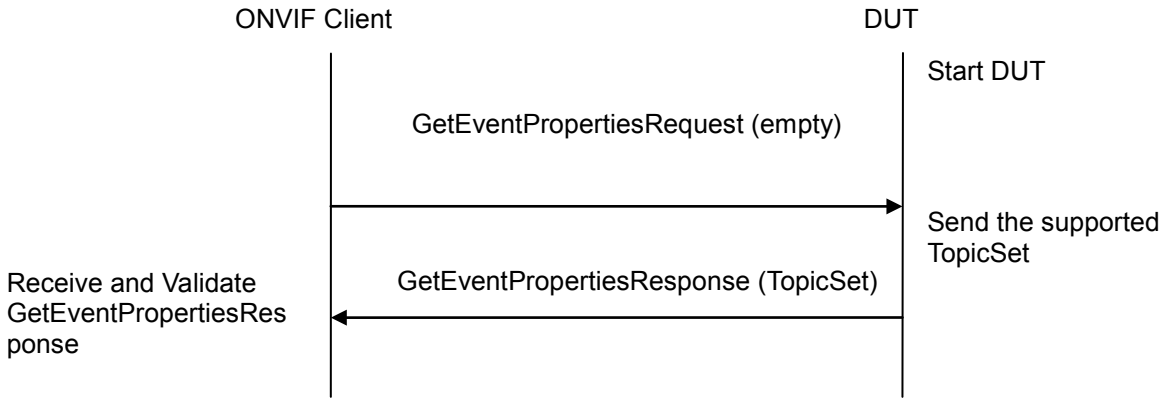
WSDL Reference: event.wsdl

Test Purpose: To verify tns1:RecordingConfig/DeleteTrack event format in TopicSet.

Pre-Requisite: Event Service was received from the DUT. Dynamic Recording or dynamic track functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
4. Verify the GetEventPropertiesResponse message from the DUT.
5. Check if there is an event with Topic tns1:RecordingConfig/DeleteTrack. If there is no event with such Topic skip other steps, fail the test and go to the next test.
6. Check that this event is not a Property event (MessageDescription.IsProperty = false).
7. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
8. Check that this event contains Source.SimpleItemDescription item with Name = “TrackToken” and Type = “tt:TrackReference”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT does not return a valid tns1:RecordingConfig/DeleteTrack Topic in GetEventPropertiesResponse.

4.5.6 RECORDING CONTROL – CREATE TRACK EVENT (CREATE RECORDING)

Test Label: Recording Control Service Events Check (Create Track events After Create Recording).

Test Case ID: RECORDING-5-1-10

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: CreateRecording

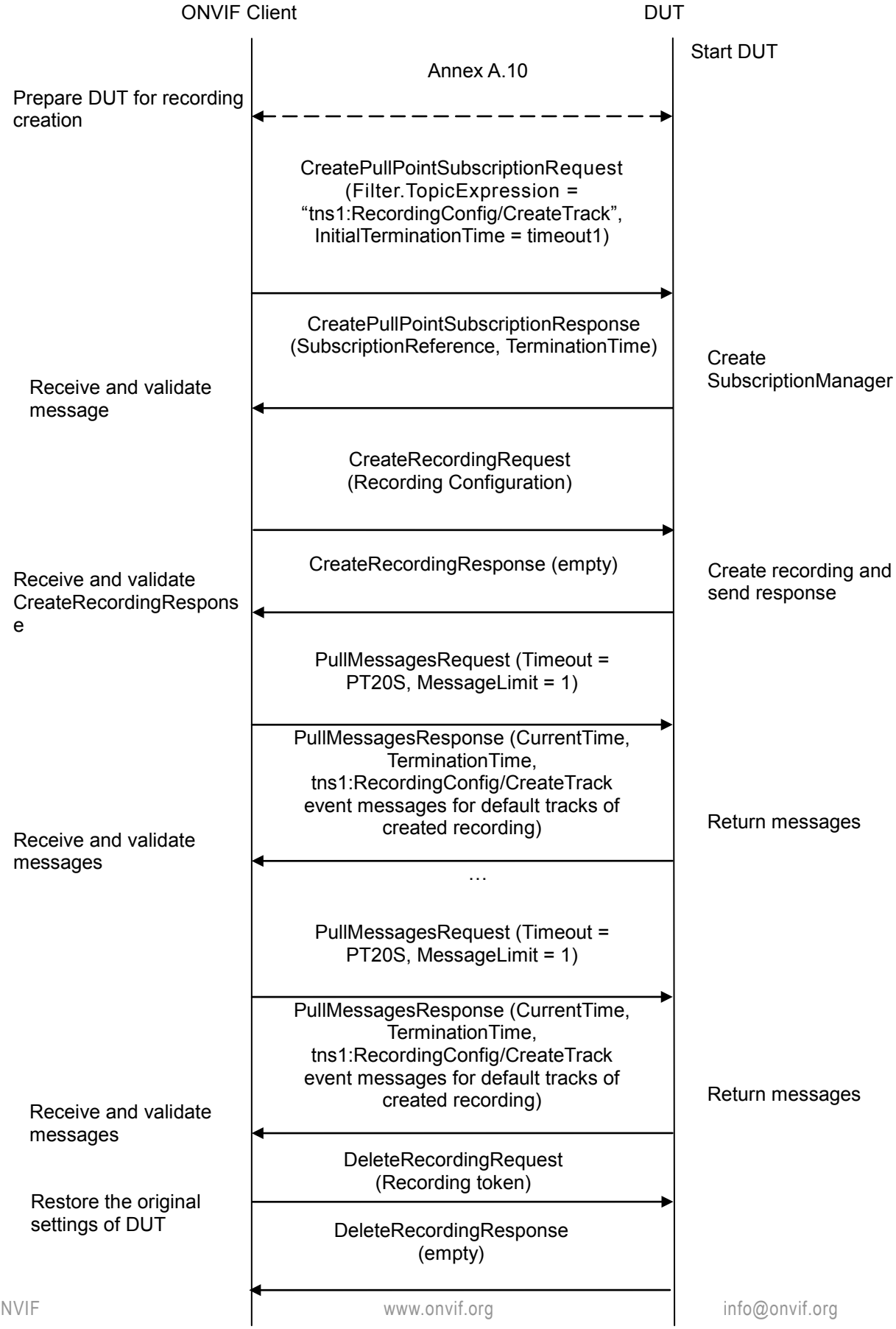
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/CreateTrack event generation after recording creation, to verify tns1:RecordingConfig/CreateTrack event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Annex A.10
Prepare DUT for recording creation
CreatePullPointSubscriptionRequest (Filter.TopicExpression = “tns1:RecordingConfig/CreateTrack”, InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse (SubscriptionReference, TerminationTime)
Create SubscriptionManager
Receive and validate message
CreateRecordingRequest (Recording Configuration)
CreateRecordingResponse (empty)
Create recording and send response
Receive and validate CreateRecordingRespons e
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/CreateTrack event messages for default tracks of created recording)
Return messages
Receive and validate messages
…
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/CreateTrack event messages for default tracks of created recording)
Return messages
Receive and validate messages
DeleteRecordingRequest (Recording token)
Restore the original settings of DUT
DeleteRecordingResponse (empty)

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.10 for possibility to create a new recording.
4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/CreateTrack Topic as Filter and an InitialTerminationTime of timeout1.
5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
6. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “CameraName”, RecordingConfiguration.Source.Location = ”LocationDescription”, RecordingConfiguration.Source.Description = ”Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = ”Create recording event test”, RecordingConfiguration.MaximumRetentionTime = [acceptable MaximumRetentionTime] to create a new recording with default tracks.
7. Verify the CreateRecordingResponse message from the DUT (RecordingToken = RecordingToken1).
8. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.
9. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 8 until Notifications for all default tracks for created Recording are received.
10. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
11. Verify that TopicExpression is equal to tns1:RecordingConfig/CreateTrack for all received Notify messages.
12. Verify that each notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to created Recording Token.
13. Verify that there is one notification for each default tracks of created recording (notification contains Source.SimpleItem item with Name = “TrackToken” with Value is equal to each Track Token).
14. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/CreateTrack for at least one Track from created Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, wrong type of Value fields, invalid TrackToken or RecordingToken).

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 9 will wait for Notification message until all notifications for each track for created Recording is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.5.7 RECORDING CONTROL – DELETE TRACK EVENT (DELETE RECORDING)

Test Label: Recording Control Service Events Check (Delete Track Events After Delete Recording).

Test Case ID: RECORDING-5-1-11

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: DeleteRecording

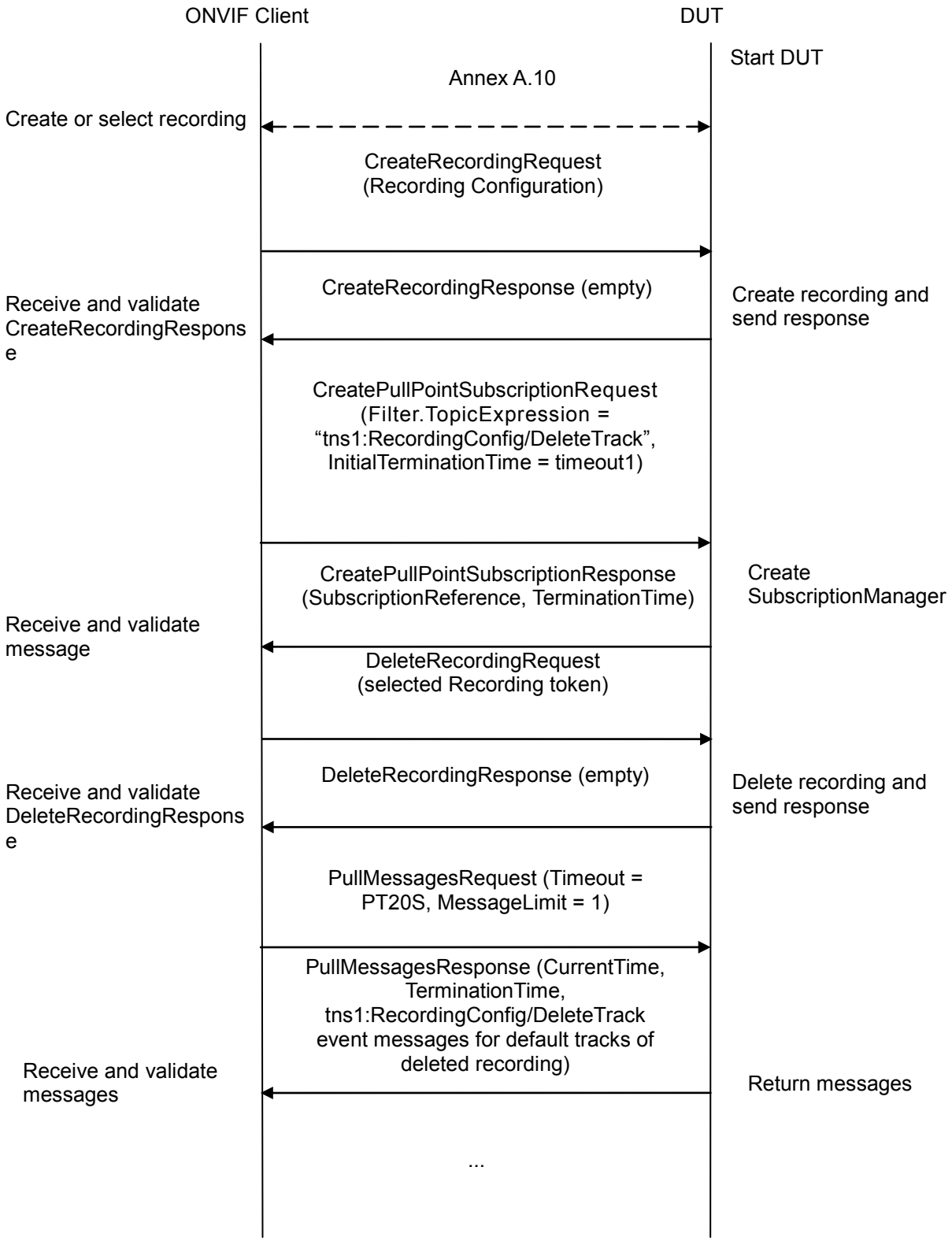
WSDL Reference: recording.wsdl, event.wsdl

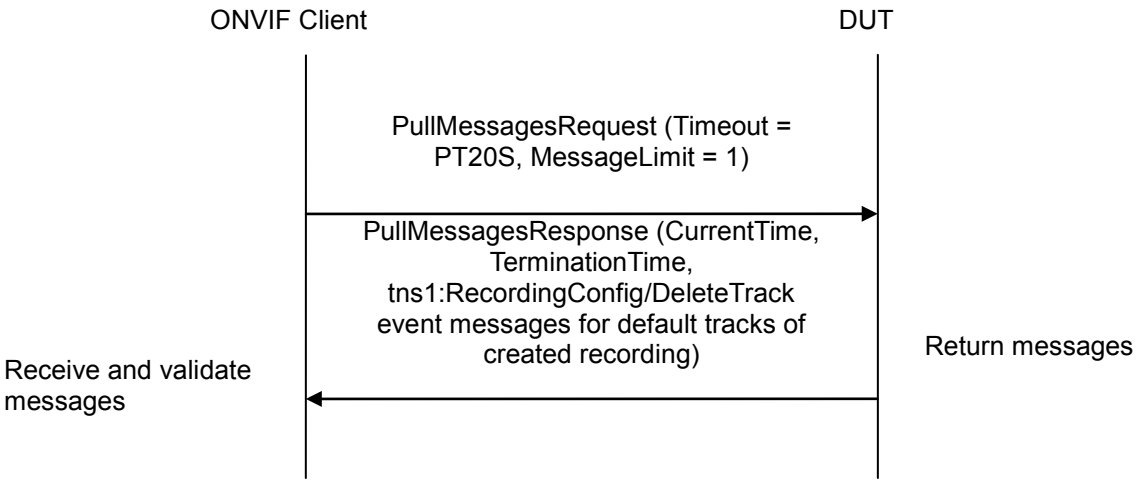
Test Purpose: To verify tns1:RecordingConfig/DeleteTrack event generation after recording deletion, to verify tns1:RecordingConfig/DeleteTrack event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
Annex A.10
Create or select recording
CreateRecordingRequest
(Recording Configuration)
CreateRecordingResponse (empty)
Receive and validate CreateRecordingResponse
Create recording and send response
CreatePullPointSubscriptionRequest
(Filter.TopicExpression =
“tns1:RecordingConfig/DeleteTrack”,
InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse
(SubscriptionReference, TerminationTime)
Create SubscriptionManager
Receive and validate message
DeleteRecordingRequest
(selected Recording token)
DeleteRecordingResponse (empty)
Receive and validate DeleteRecordingResponse
Delete recording and send response
PullMessagesRequest (Timeout =
PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime,
TerminationTime,
tns1:RecordingConfig/DeleteTrack
event messages for default tracks of
deleted recording)
Receive and validate messages
Return messages
...



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Execute Annex A.10 for possibility to create a new recording.
4. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = ”CameraName”, RecordingConfiguration.Source.Location = ”LocationDescription”, RecordingConfiguration.Source.Description = ”Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = ”Create recording event test”, RecordingConfiguration.MaximumRetentionTime = [acceptable MaximumRetentionTime] to create a new recording with default tracks.
5. Verify the CreateRecordingResponse message from the DUT (RecordingToken = RecordingToken1).
6. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/DeleteTrack Topic as Filter and an InitialTerminationTime of timeout1.
7. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
8. ONVIF Client will invoke DeleteRecordingRequest message (RecordingToken = RecordingToken1) to delete the created recording with default tracks.
9. Verify the DeleteRecordingResponse message from the DUT.
10. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.
11. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 10 until Notifications for all default tracks for created Recording are received.
12. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
13. Verify that TopicExpression is equal to tns1:RecordingConfig/DeleteTrack for all received Notify messages.

14. Verify that each notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to created Recording Token.
15. Verify that there is one notification for each default tracks of deleted recording (notification contains Source.SimpleItem item with Name = “TrackToken” with Value is equal to each Track Token).
16. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid CreateRecordingResponse message.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/CreateTrack for at least one Track from created Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, and wrong type of Value fields, invalid TrackToken or RecordingToken).

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 11 will wait for Notification message until all notifications for each track for deleted Recording is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

4.5.8 RECORDING CONTROL – DELETE TRACK DATA EVENT

Test Label: Recording Control Service Events Check (Delete Track Data Event).

Test Case ID: RECORDING-5-1-14

ONVIF Core Specification Coverage: Data deletion (ONVIF Recording Control Service Specification)

Command under test: None

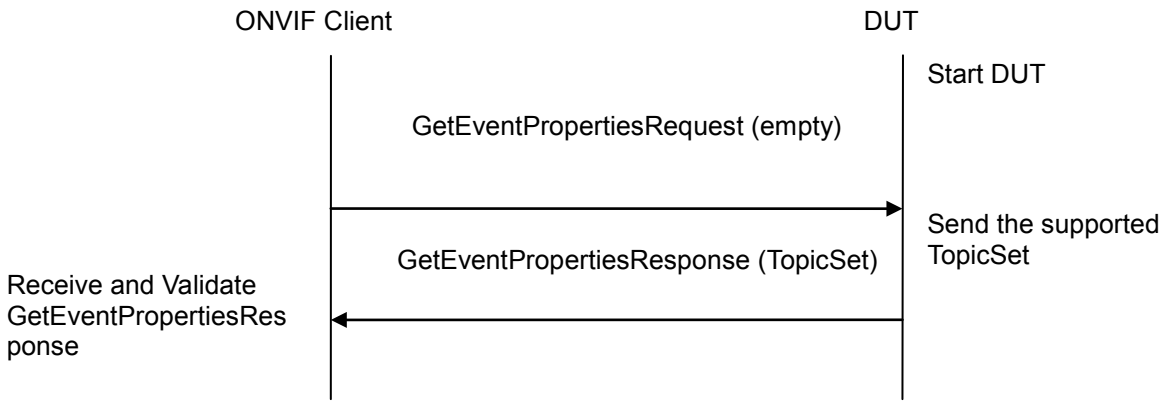
WSDL Reference: event.wsdl

Test Purpose: To verify tns1:RecordingConfig/DeleteTrackData event format in TopicSet.

Pre-Requisite: Event Service was received from the DUT. Dynamic Recording or dynamic track functionality is supported by the DUT. tns1:RecordingConfig/DeleteTrackData event is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
4. Verify the GetEventPropertiesResponse message from the DUT.
5. Check if there is an event with Topic tns1:RecordingConfig/DeleteTrackData. If there is no event with such Topic, skip other steps, fail the test and go to the next test.
6. Check that this event is not a Property event (MessageDescription.IsProperty = false).
7. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
8. Check that this event contains Source.SimpleItemDescription item with Name = “TrackToken” and Type = “tt:TrackReference”.
9. Check that this event contains Data.SimpleItemDescription item with Name = “StartTime” and Type = “xs:dateTime”.
10. Check that this event contains Data.SimpleItemDescription item with Name = “EndTime” and Type = “xs:dateTime”.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT does not return a valid tns1:RecordingConfig/DeleteTrackData Topic in GetEventPropertiesResponse.

4.5.9 RECORDING CONTROL – CREATE TRACK EVENT (CREATE TRACK)

Test Label: Recording Control Service Events Check (Create Track).

Test Case ID: RECORDING-5-1-15

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: CreateTrack

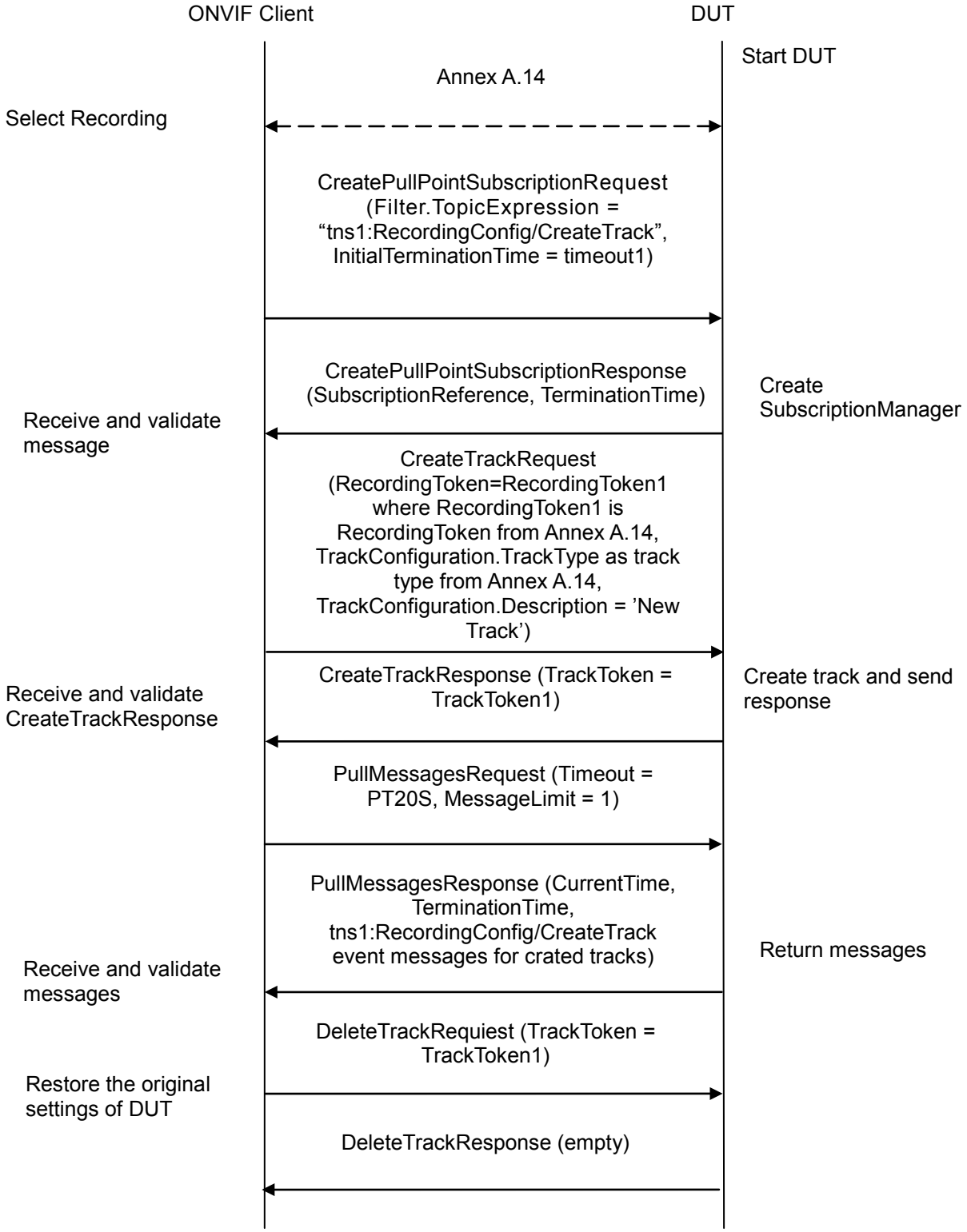
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/CreateTrack event generation after track creation, to verify tns1:RecordingConfig/CreateTrack event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Dynamic Track functionality is supported by the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. Execute Annex A.14 to create or select Recording to make sure that track creation procedure will be possible.
4. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/CreateTrack Topic as Filter and an InitialTerminationTime of timeout1.
5. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
6. ONVIF Client will invoke CreateTrackRequest message (RecordingToken=RecordingToken1 where RecordingToken1 is RecordingToken from Annex A.14, TrackConfiguration.TrackType as track type from Annex A.14, TrackConfiguration.Description = 'New Track') to create a new track in the recording.
7. Verify the CreateTrackResponse message (TrackToken = TrackToken1) from the DUT.
8. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.
9. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 8 until Notification for created Track is received.
10. Verify received Notify message (correct value for UTC time, TopicExpression and wsnt:Message).
11. Verify that TopicExpression is equal to tns1:RecordingConfig/CreateTrack for received Notify message.
12. Verify that notification contains Source.SimpleItem item with Name = "RecordingToken" and Value is equal to selected Recording Token.
13. Verify that notification contains Source.SimpleItem item with Name = "TrackToken" and Value is equal to created Track Token.
14. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid CreateTrackResponse message

The DUT will not allow creating new Track for selected Recording

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/CreateTrack for created Track.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, wrong type of Value fields, invalid TrackToken or RecordingToken).

Note: The Subscription Manager has to be deleted at the end of the test either by calling

unsubscribe or through a timeout.

Note: ONVIF Client at step 9 will wait for Notification message until Notification for created Track is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime. expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: DUT shall provide Recording with Options.Track.SpareTotal>0 to avoid track's data deletion.

4.5.10 RECORDING CONTROL – DELETE TRACK EVENT (DELETE TRACK)

Test Label: Recording Control Service Events Check (Delete Track).

Test Case ID: RECORDING-5-1-16

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: DeleteTrack

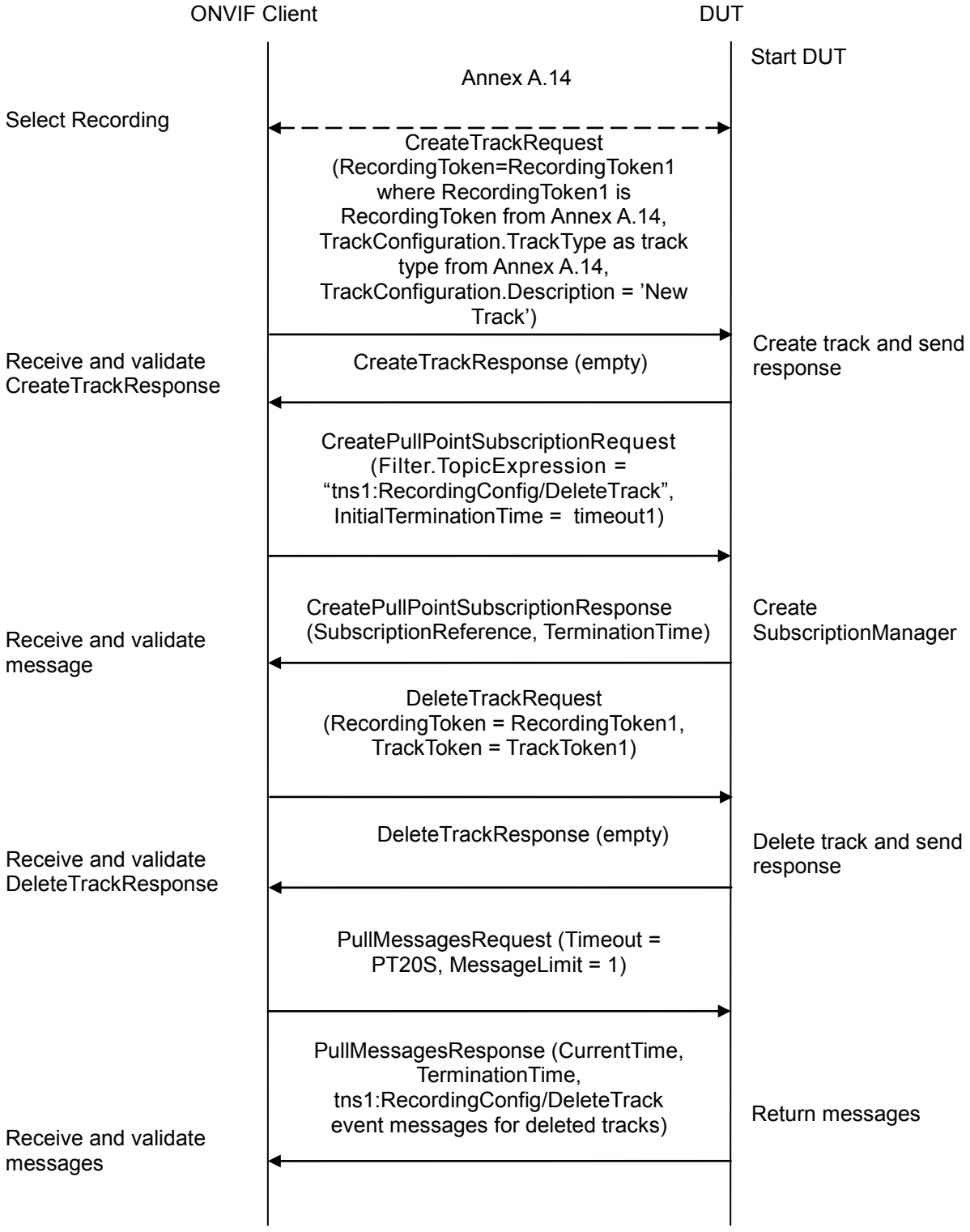
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/DeleteTrack event generation after track creation, to verify tns1:RecordingConfig/DeleteTrack event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Dynamic Track functionality is supported by the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. Execute Annex A.14 to create or select Recording to make sure that track creation procedure will be possible.
4. ONVIF Client will invoke CreateTrackRequest message (RecordingToken=RecordingToken1 where RecordingToken1 is RecordingToken from Annex A.14, TrackConfiguration.TrackType as track type from Annex A.14, TrackConfiguration.Description = 'New Track') to create a new track in the recording.
5. Verify the CreateTrackResponse message (TrackToken = TrackToken1) from the DUT.
6. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/DeleteTrack Topic as Filter and an InitialTerminationTime of timeout1.
7. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
8. ONVIF Client will invoke DeleteTrackRequest message (RecordingToken = RecordingToken1, TrackToken = TrackToken1.
9. Verify the DeleteTrackResponse message from the DUT. In case SOAP 1.2 fault message repeat steps 7-8 for the next track. If there is no other tracks to be deleted fail the test and skip other steps.
10. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.
11. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 10 until Notification for created Track is received.
12. Verify received Notify message (correct value for UTC time, TopicExpression and wsnt:Message).
13. Verify that TopicExpression is equal to tns1:RecordingConfig/DeleteTrack for received Notify message.
14. Verify that notification contains Source.SimpleItem item with Name = "RecordingToken" and Value is equal to selected Recording Token.
15. Verify that notification contains Source.SimpleItem item with Name = "TrackToken" and Value is equal to deleted Track Token.
16. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send valid SubscriptionReference.

The DUT did not send valid CreateTrackResponse message or corresponding SOAP 1.2 fault if it is not possible.

The DUT will not allow deleting the Track for selected Recording.

The DUT did not send valid DeleteTrackResponse message or corresponding SOAP 1.2 fault if it is not possible.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/DeleteTrack for created Track.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, wrong type of Value fields, invalid TrackToken or RecordingToken).

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 11 will wait for Notification message until notification for deleted track is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: DUT shall provide Recording with Options.Track.SpareTotal>0 to avoid track's data deletion.

4.5.11 RECORDING CONTROL – DELETE RECORDING EVENT

Test Label: Recording Control Service Events Check (Delete Recording).

Test Case ID: RECORDING-5-1-17

ONVIF Core Specification Coverage: Recording and track creation and deletion (ONVIF Recording Control Service Specification)

Command under test: DeleteRecordingConfiguration

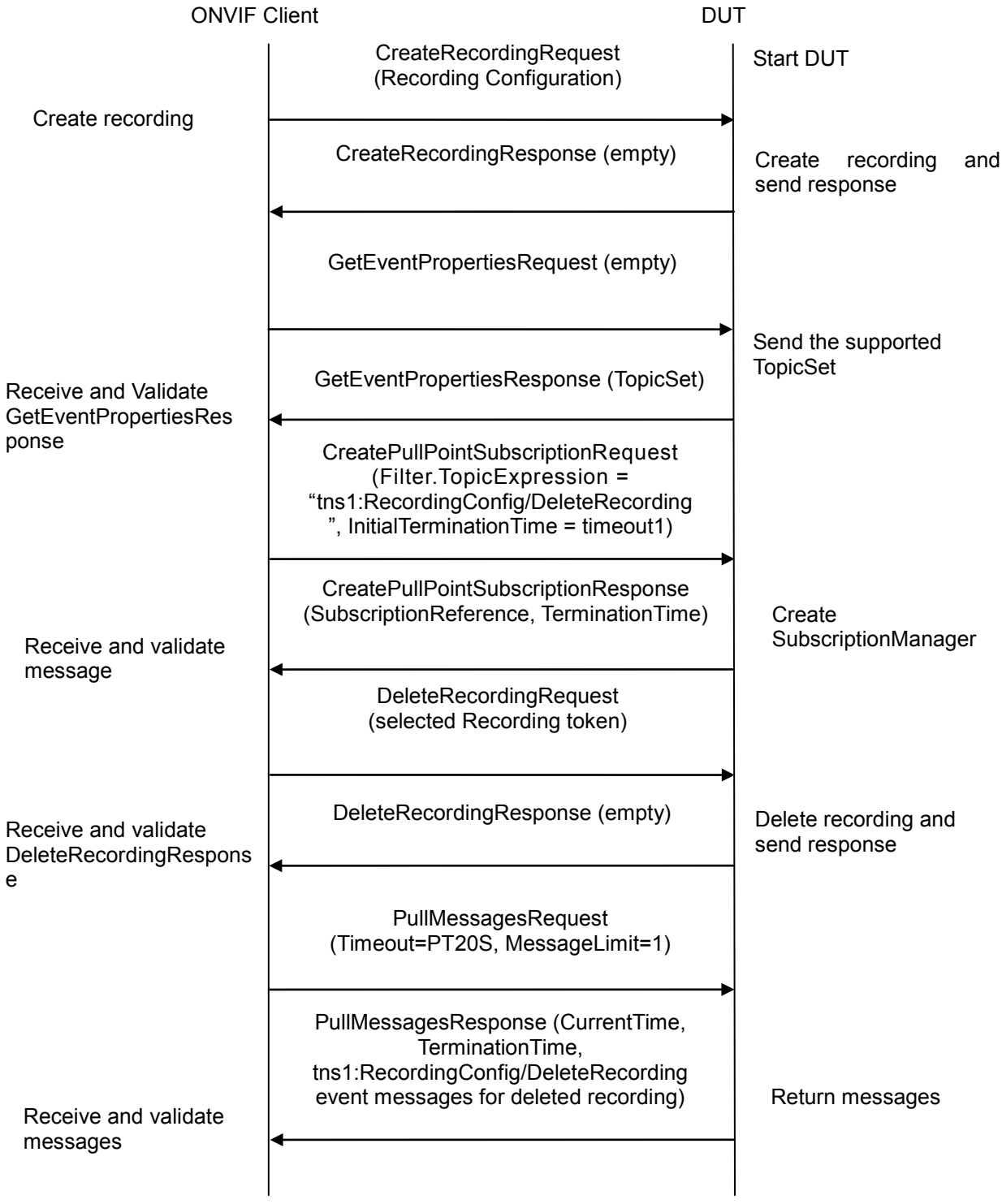
WSDL Reference: recording.wsdl, event.wsdl

Test Purpose: To verify tns1:RecordingConfig/DeleteRecording event generation after recording deletion, to verify tns1:RecordingConfig/DeleteRecording event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices/GetCapabilities command. Dynamic Recording functionality is supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.

3. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “CameraName”, RecordingConfiguration.Source.Location = “LocationDescription”, RecordingConfiguration.Source.Description = “Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = “Recording from device”, RecordingConfiguration.MaximumRetentionTime = “PT0S” to create a new recording.
4. Verify the CreateRecordingResponse message or SOAP 1.2 fault message from the DUT. If DUT returns CreateRecordingResponse message go to 7 step and use created recording.
5. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
6. Verify the GetRecordingsResponse message from the DUT. ONVIF Client selects the first recording from the GetRecordingsResponse message.
7. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
8. Verify the GetEventPropertiesResponse message from the DUT.
9. Check if there is an event with Topic tns1:RecordingConfig/DeleteRecording. If there is no event with such Topic, skip other steps, fail the test and go to the next test.
10. Check that this event is not a Property event (MessageDescription.IsProperty = false).
11. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingToken” and Type = “tt:RecordingReference”.
12. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/DeleteRecording Topic as Filter and an InitialTerminationTime of timeout1.
13. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
14. ONVIF Client will invoke DeleteRecordingRequest for selected Recoding.
15. Verify the DeleteRecordingResponse message from the DUT.
16. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1.
17. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 16 until Notification for created Recording is received.
18. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
19. Verify that TopicExpression is equal to tns1:RecordingConfig/DeleteRecording for received Notify message.
20. Verify that notification contains Source.SimpleItem item with Name = “RecordingToken” and Value is equal to deleted Recording Token.
21. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid DeleteRecordingResponse message.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/DeleteRecording for deleted Recording.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, wrong type of Value fields, invalid RecordingToken).

The DUT does not return valid tns1:RecordingConfig/DeleteRecording Topic in GetEventPropertiesResponse.

The DUT sends empty recording list at the step 6.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 17 will wait for Notification message until notification for created Recording is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

4.5.12 RECORDING CONTROL – JOB STATE EVENT

Test Label: Recording Control Service Property Events Check (Job State).

Test Case ID: RECORDING-5-1-18

ONVIF Core Specification Coverage: Recording job state changes (ONVIF Recording Control Service Specification), Properties (ONVIF Core Specification)

Command under test: GetRecordingJobState

WSDL Reference: event.wsdl, recording.wsdl

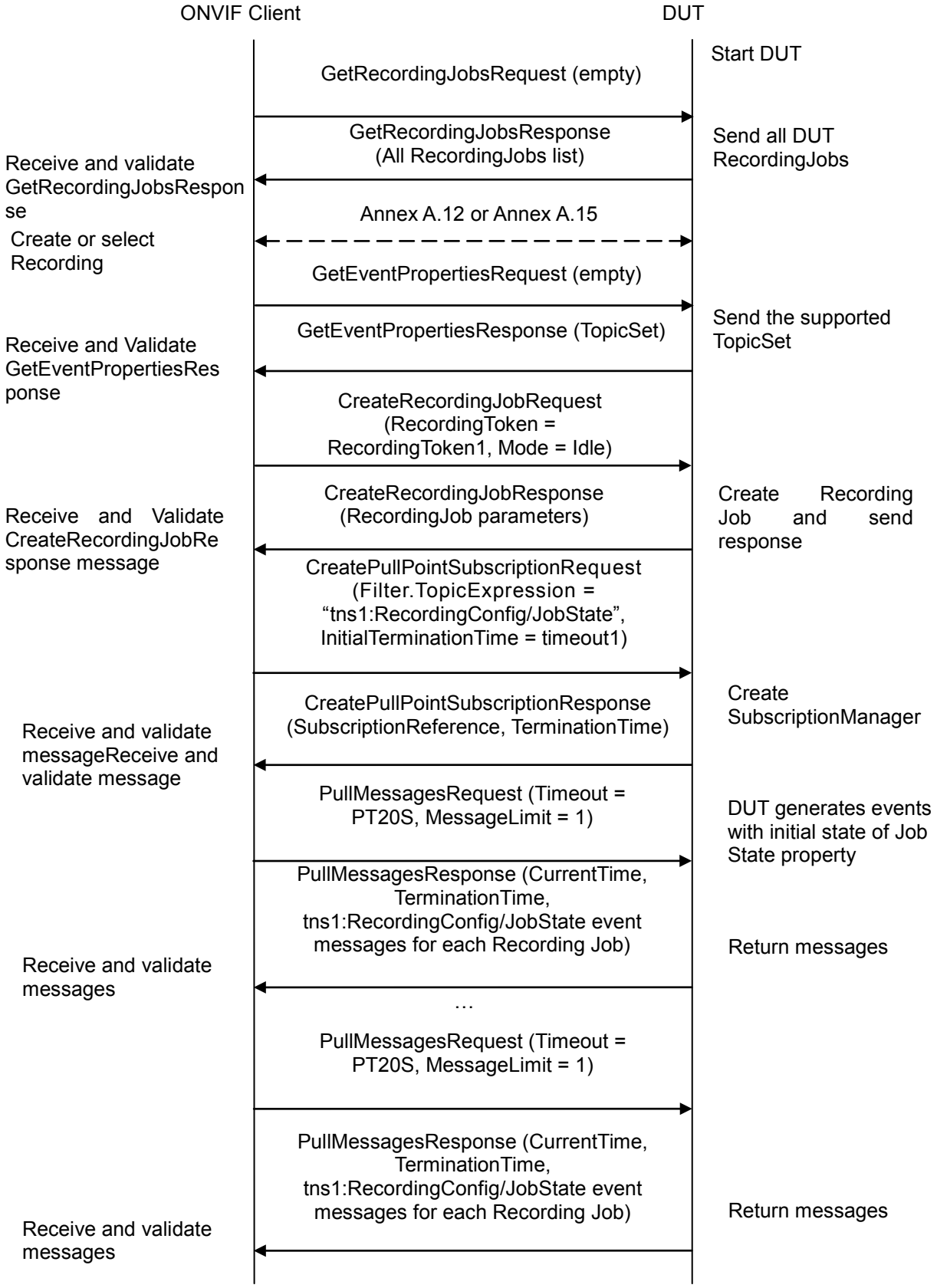
Test Purpose: To verify tns1:RecordingConfig/JobState event generation after subscription and to verify tns1:RecordingConfig/JobState event format.

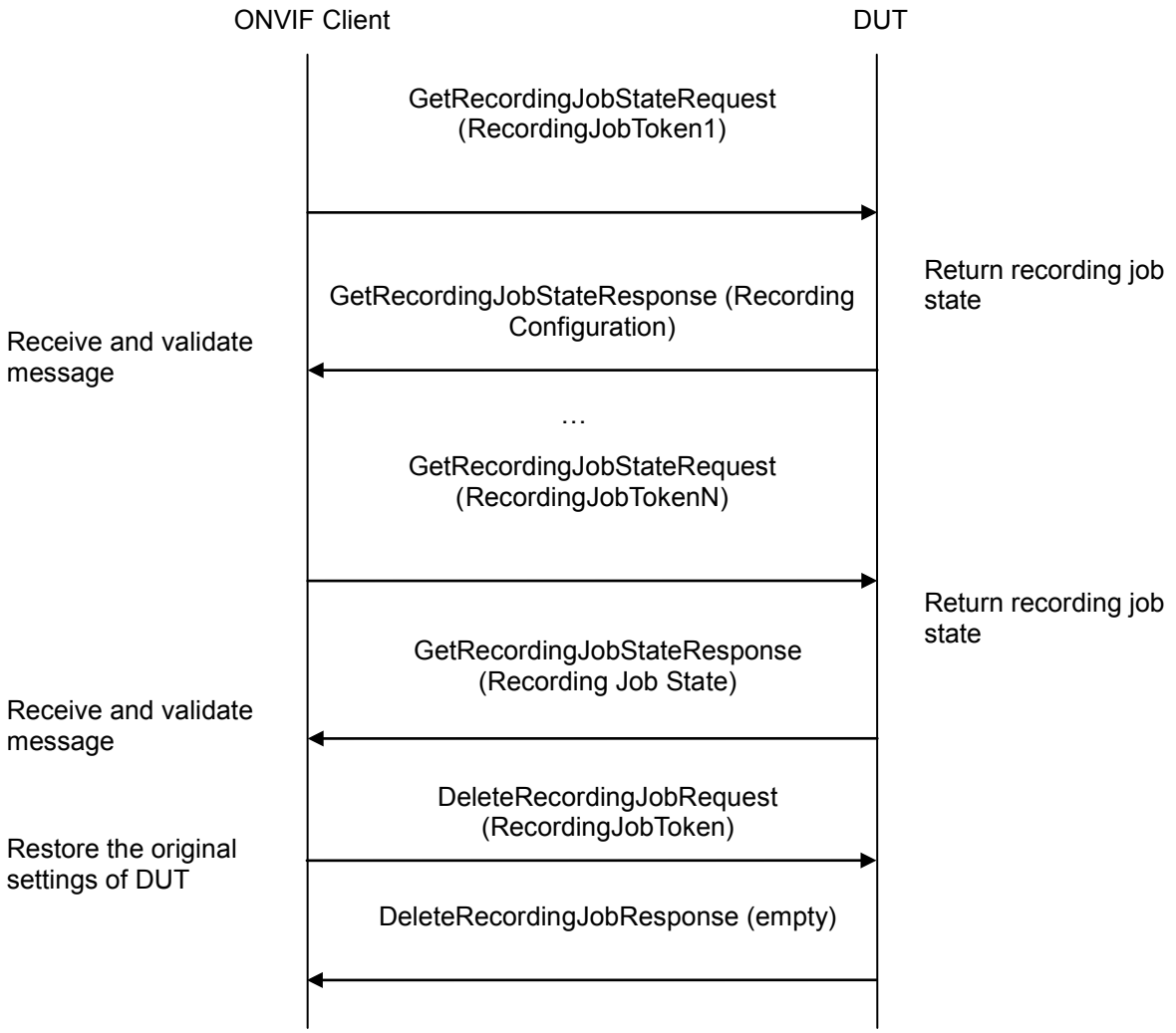
Pre-Requisite: Event Service was received from the DUT. ONVIF Client gets the entry point for Recording Control Service by GetServices. Media Service or Receiver Service was received from the DUT. At least one recording exists. All recording jobs were stopped. At least one media profile

compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
GetRecordingJobsRequest (empty)
GetRecordingJobsResponse (All RecordingJobs list)
Send all DUT RecordingJobs
Receive and validate GetRecordingJobsResponse
Annex A.12 or Annex A.15
Create or select Recording
GetEventPropertiesRequest (empty)
GetEventPropertiesResponse (TopicSet)
Send the supported TopicSet
Receive and Validate GetEventPropertiesResponse
CreateRecordingJobRequest (RecordingToken = RecordingToken1, Mode = Idle)
CreateRecordingJobResponse (RecordingJob parameters)
Create Recording Job and send response
Receive and Validate CreateRecordingJobResponse message
CreatePullPointSubscriptionRequest (Filter.TopicExpression = “tns1:RecordingConfig/JobState”, InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse (SubscriptionReference, TerminationTime)
Create SubscriptionManager
Receive and validate messageReceive and validate message
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
DUT generates events with initial state of Job State property
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/JobState event messages for each Recording Job)
Return messages
Receive and validate messages
…
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/JobState event messages for each Recording Job)
Return messages
Receive and validate messages



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. If there is at least one RecordingJob, then skip steps 5-10 and go to the step 11.
5. If Receiver service is supported, then ONVIF Client execute A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = “RecordingToken1”, JobConfiguration.Mode = “Idle”, JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, JobConfiguration.Source.AutoCreateReceiver = true) to create a recording job and auto create receiver.

7. Verify CreateRecordingJobResponse from the DUT and go to step 11.
8. If Receiver service is not supported, ONVIF Client execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
9. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Idle, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job with Idle mode.
10. Verify the CreateRecordingJobResponse message from the DUT.
11. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
12. Verify the GetEventPropertiesResponse message from the DUT.
13. Check if there is an event with Topic tns1:RecordingConfig/JobState. If there is no event with such Topic skip other steps, fail the test and go to the next test.
14. Check that this event is a Property event (MessageDescription.IsProperty = true).
15. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingJobToken” and Type = “tt:RecordingJobReference”.
16. Check that this event contains Data.SimpleItemDescription item with Name = “State” and Type = “xs:string”.
17. Check that this event contains Data.ElementItemDescription item with Name = “Information” and Type = “tt:RecordingJobStateInformation”.
18. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime of timeout1.
19. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
20. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.
21. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 20 until Notifications for all Jobs are received.
22. Verify received Notification messages (correct value for UTC time, TopicExpression and wsnt:Message).
23. Verify that TopicExpression is equal to tns1:RecordingConfig/JobState for all received Notify messages.
24. Verify that each notification contains Source.SimpleItem item with Name = “RecordingJobToken” and Value is equal to one of existing Recording Job Tokens (e.g. complete list of Recording Jobs contains Recording Job with the same token). Verify that there are Notification messages for each Recording Job.

25. Verify that each notification contains Data.SimpleItem item with Name = “State” and Value with type is equal to xs:string.
26. Verify that each notification contains Data.ElementItem item with Name = “Information” and Value with type is equal to tt:RecordingJobStateInformation (validation with XML Schema complex type).
27. Verify that Notify PropertyOperation = “Initialized”.
28. ONVIF Client will invoke GetRecordingJobStateRequest message for each Recording Job with corresponding tokens.
29. Verify the GetRecordingJobStateResponse messages from the DUT. Verify that Data.ElementItem item with Name = “Information” from Notification message has the same value with State element from corresponding GetRecordingJobStateResponse messages for each Recording Job. Verify that Data.SimpleItem item with Name = “State” from Notification message has the same value with State.State element from corresponding GetRecordingJobStateResponse messages for each Recording Job.
30. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message

The DUT did not send a Notification message that contains a property event tns1:RecordingConfig/JobState at least for one Recording Job.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, or Data.ElementItem wrong type of Value fields, invalid RecordingJobToken, State, or Information values, PropertyOperation is not equal to “Initialized”).

The DUT does not return valid tns1:RecordingConfig/JobState Topic in GetEventPropertiesResponse.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 20 will wait for Notification messages until notification for all Recording Job is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during the test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

4.5.13 RECORDING CONTROL – JOB STATE CHANGE EVENT

Test Label: Recording Control Service Property Change Events Check (Job State).

Test Case ID: RECORDING-5-1-19

ONVIF Core Specification Coverage: Recording job state changes (ONVIF Recording Control Service Specification), Properties (ONVIF Core Specification)

Command under test: GetRecordingJobState

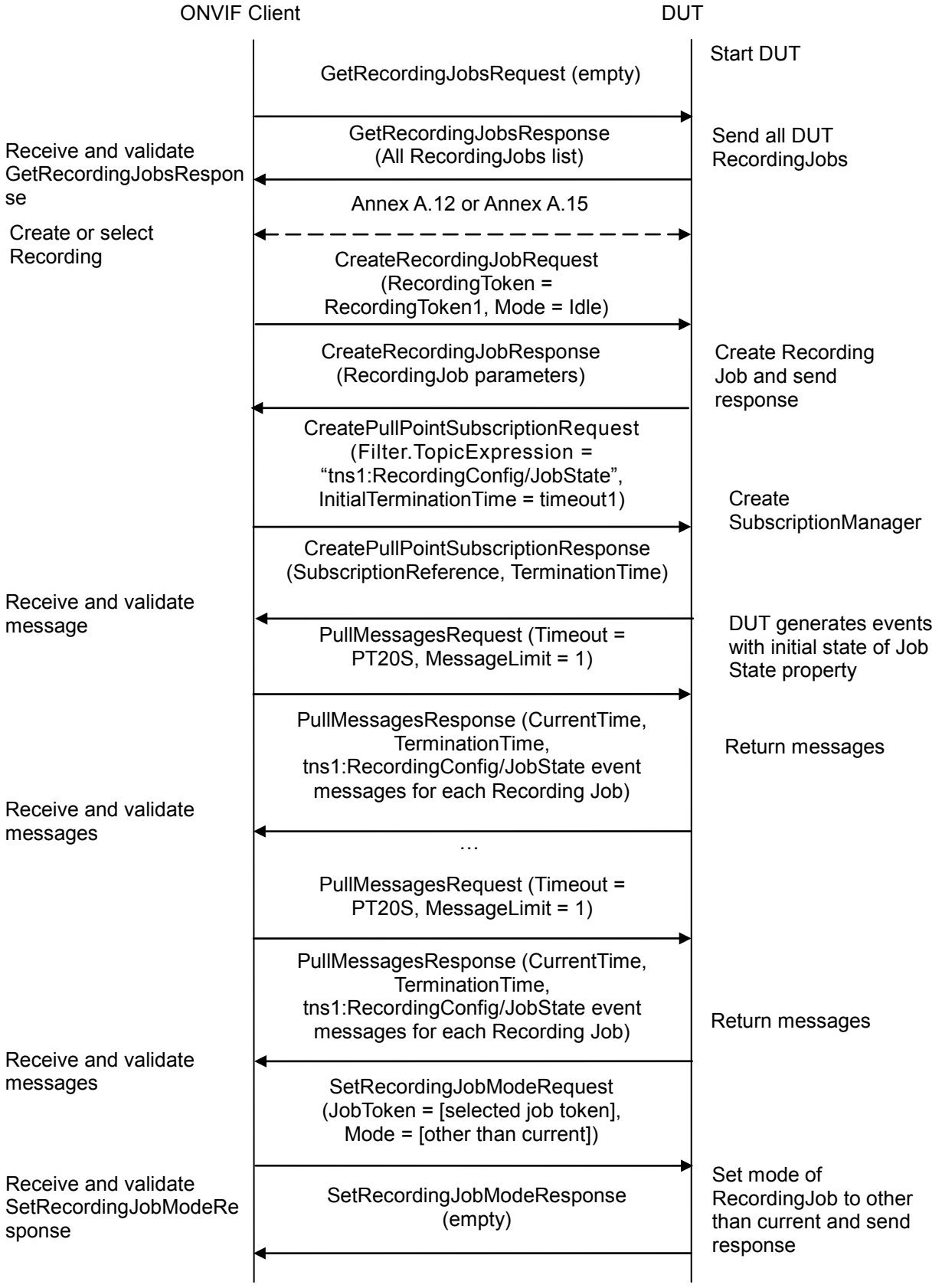
WSDL Reference: event.wsdl, recording.wsdl

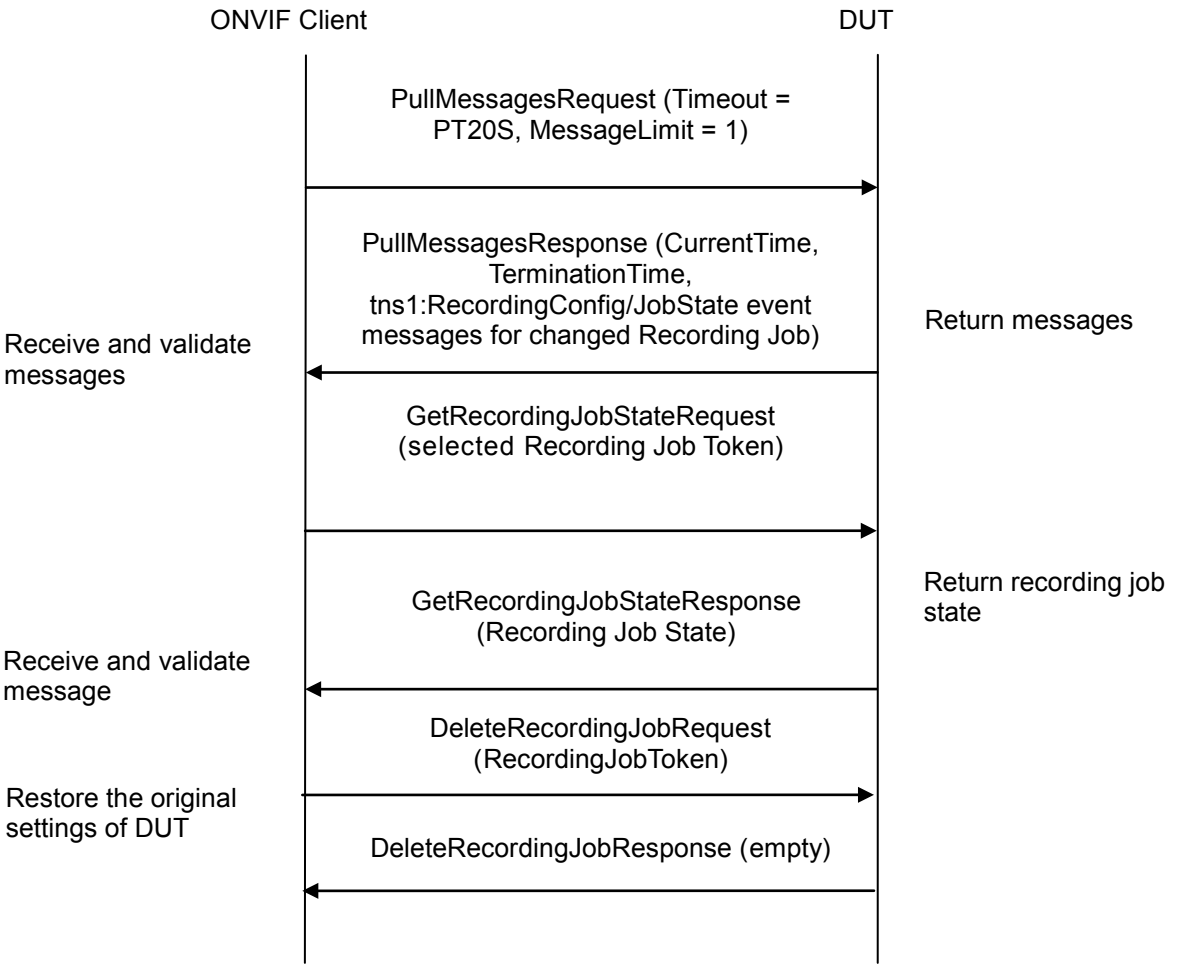
Test Purpose: To verify tns1:RecordingConfig/JobState event generation after property was changed and to verify tns1:RecordingConfig/JobState event format. Options are supported by the DUT.

Pre-Requisite: Event Service was received from the DUT. ONVIF Client gets the entry point for Recording Control Service by GetServices command. Media Service or Receiver Service was received from the DUT. At least one recording exists. All recording jobs were stopped. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT.

Test Sequence:


ONVIF Client
DUT
Start DUT
GetRecordingJobsRequest (empty)
GetRecordingJobsResponse
(All RecordingJobs list)
Send all DUT RecordingJobs
Receive and validate GetRecordingJobsResponse
Annex A.12 or Annex A.15
Create or select Recording
CreateRecordingJobRequest
(RecordingToken = RecordingToken1, Mode = Idle)
CreateRecordingJobResponse
(RecordingJob parameters)
Create Recording Job and send response
CreatePullPointSubscriptionRequest
(Filter.TopicExpression = “tns1:RecordingConfig/JobState”,
InitialTerminationTime = timeout1)
Create SubscriptionManager
CreatePullPointSubscriptionResponse
(SubscriptionReference, TerminationTime)
Receive and validate message
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
DUT generates events with initial state of Job State property
PullMessagesResponse (CurrentTime, TerminationTime,
tns1:RecordingConfig/JobState event messages for each Recording Job)
Return messages
Receive and validate messages
…
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime,
tns1:RecordingConfig/JobState event messages for each Recording Job)
Return messages
Receive and validate messages
SetRecordingJobModeRequest
(JobToken = [selected job token],
Mode = [other than current])
Receive and validate SetRecordingJobModeResponse
SetRecordingJobModeResponse
(empty)
Set mode of RecordingJob to other than current and send response



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. If there is at least one RecordingJob, then skip steps 5-10 and go to the step 11.
5. If Receiver service is supported, then ONVIF Client execute A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = “RecordingToken1”, JobConfiguration.Mode = “Idle”, JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, JobConfiguration.Source.AutoCreateReceiver = true) to create a recording job and auto create receiver.
7. Verify CreateRecordingJobResponse from the DUT and go to step 11.

8. If Receiver service is not supported ONVIF Client execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.

9. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Idle, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”, JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job with Idle mode.

10. Verify the CreateRecordingJobResponse message from the DUT.

11. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/JobState Topic as Filter and an InitialTerminationTime of timeout1.

12. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.

13. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.

14. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 14 until Notification for selected Recording Job is received.

15. ONVIF Client will invoke SetRecordingJobModeRequest message (JobToken = [selected job token], Mode = [other than current]) to change Recording Job state.

16. Verify SetRecordingJobModeResponse message from the DUT.

17. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 2.

18. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 17 until Notification for selected Recording Job is received.

19. Verify received Notification messages (correct value for UTC time, TopicExpression and wsnt:Message).

20. Verify that TopicExpression is equal to tns1:RecordingConfig/JobState for received Notification message.

21. Verify that notification contains Source.SimpleItem item with Name = “RecordingJobToken” and Value is equal to one of existing Recording Job Tokens (e.g. complete list of Recording Jobs contains Recording Job with the same token). Verify that there are Notification messages for selected Recording Job.

22. Verify that notification contains Data.SimpleItem item with Name = “State” and Value with type is equal to xs:string.

23. Verify that notification contains Data.ElementItem item with Name = “Information” and Value with type is equal to tt:RecordingJobStateInformation (validation with XML Schema complex type).

24. Verify that Notify PropertyOperation = “Changed”.

25. ONVIF Client will invoke GetRecordingJobStateRequest message for selected Recording Job with corresponding tokens.

26. Verify the GetRecordingJobStateResponse messages from the DUT. Verify that Data.ElementItem item with Name = “Information” from Notification message has the same value with State element from corresponding GetRecordingJobStateResponse messages for selected Recording Job. Verify that Data.ElementItem item with Name = “State” from Notification message has the same value with State.State element from corresponding GetRecordingJobStateResponse messages for selected Recording Job.
27. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send SetRecordingJobModeResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a valid GetRecordingJobStateResponse message

The DUT did not send a Notification message that contains a property event tns1:RecordingConfig/JobState for selected Recording Job.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, or Data.ElementItem wrong type of Value fields, invalid RecordingJobToken, State or Information values, PropertyOperation is not equal to “Changed”).

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at steps 15 and 18 will wait for Notification messages until notification for selected Recording Job is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Note: All Notification messages for Recording Job other than selected will be ignored during this test.

4.5.14 RECORDING CONTROL – RECORDING JOB CONFIGURATION EVENT

Test Label: Recording Control Service Events Check (Recording Configuration Change).

Test Case ID: RECORDING-5-1-20

ONVIF Core Specification Coverage: Configuration changes (ONVIF Recording Control Service Specification)

Command under test: GetRecordingJobConfiguration, SetGetRecordingJobConfiguration

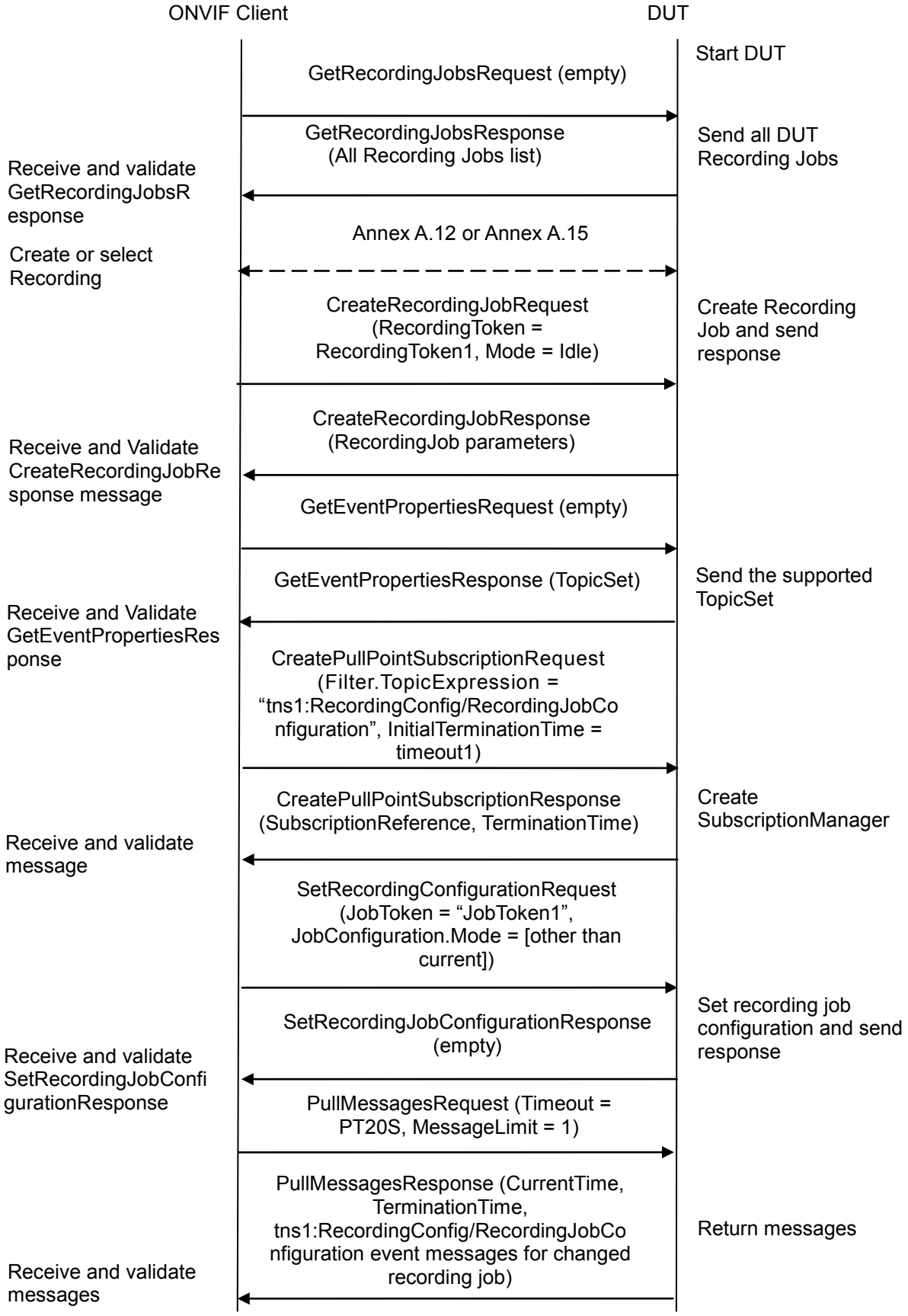
WSDL Reference: recording.wsdl, event.wsdl

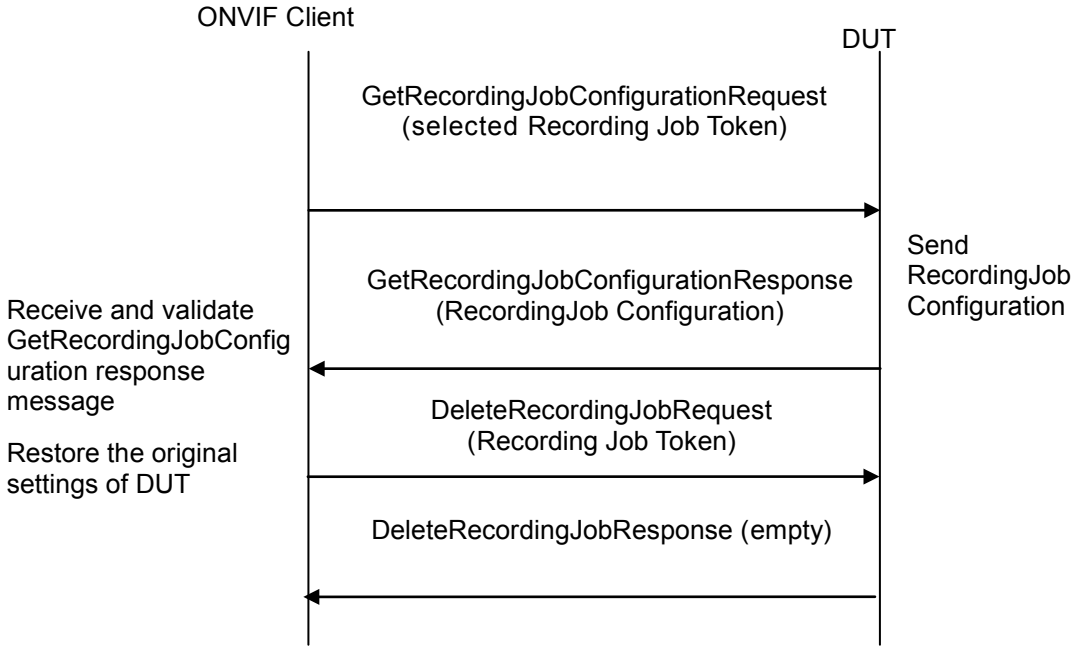
Test Purpose: To verify tns1:RecordingConfig/RecordingJobConfiguration event generation after recording job configuration change, to verify tns1:RecordingConfig/RecordingJobConfiguration event format.

Pre-Requisite: ONVIF Client gets the entry point for Recording Control Service by GetServices command. Media Service or Receiver Service was received from the DUT. At least one media profile compatible with at least one existing or created recording exists on the DUT. Options are supported by the DUT.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Start DUT
GetRecordingJobsRequest (empty)
GetRecordingJobsResponse (All Recording Jobs list)
Send all DUT Recording Jobs
Receive and validate GetRecordingJobsResponse
Annex A.12 or Annex A.15
Create or select Recording
CreateRecordingJobRequest (RecordingToken = RecordingToken1, Mode = Idle)
Create Recording Job and send response
CreateRecordingJobResponse (RecordingJob parameters)
Receive and Validate CreateRecordingJobResponse message
GetEventPropertiesRequest (empty)
GetEventPropertiesResponse (TopicSet)
Send the supported TopicSet
Receive and Validate GetEventPropertiesResponse
CreatePullPointSubscriptionRequest (Filter.TopicExpression = “tns1:RecordingConfig/RecordingJobConfiguration”, InitialTerminationTime = timeout1)
CreatePullPointSubscriptionResponse (SubscriptionReference, TerminationTime)
Create SubscriptionManager
Receive and validate message
SetRecordingConfigurationRequest (JobToken = “JobToken1”, JobConfiguration.Mode = [other than current])
SetRecordingJobConfigurationResponse (empty)
Set recording job configuration and send response
Receive and validate SetRecordingJobConfigurationResponse
PullMessagesRequest (Timeout = PT20S, MessageLimit = 1)
PullMessagesResponse (CurrentTime, TerminationTime, tns1:RecordingConfig/RecordingJobConfiguration event messages for changed recording job)
Return messages
Receive and validate messages



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client will invoke GetRecordingJobsRequest message to retrieve a complete recording jobs list.
4. If there is at least one RecordingJob, then skip steps 5-10 and go to the step 11.
5. If Receiver service is supported, then ONVIF Client execute A.12 with RequiredSpareJobs=0 to create or select Recording to make sure that 1 recording job can be created.
6. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = “RecordingToken1”, JobConfiguration.Mode = “Idle”, JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Receiver”, JobConfiguration.Source.AutoCreateReceiver = true) to create a recording job and auto create receiver.
7. Verify CreateRecordingJobResponse from the DUT and go to step 11.
8. If Receiver service is not supported ONVIF Client execute Annex A.15 with RequiredSpareJobs=0 to create or select Recording (RecordingToken = RecordingToken1) to make sure that 1 recording job can be created and to get the compatible media profile tokens list.
9. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = RecordingToken1, JobConfiguration.Mode = Idle, JobConfiguration.Priority = 1, JobConfiguration.Source.SourceToken.Token = “ProfileToken1”, where ProfileToken1 is token of MediaProfile from Compatible Sources list, JobConfiguration.Source.SourceToken.Type = “http://www.onvif.org/ver10/schema/Profile”,

JobConfiguration.Source.AutoCreateReceiver is not present) to create a recording job with Idle mode.

10. Verify the CreateRecordingJobResponse message from the DUT.
11. ONVIF Client will invoke GetEventPropertiesRequest message to retrieve all events supported by the DUT.
12. Verify the GetEventPropertiesResponse message from the DUT.
13. Check if there is an event with Topic tns1:RecordingConfig/RecordingJobConfiguration. If there is no event with such Topic skip other steps, fail the test and go to the next test.
14. Check that this event is not a Property event (MessageDescription.IsProperty = false).
15. Check that this event contains Source.SimpleItemDescription item with Name = “RecordingJobToken” and Type = “tt:RecordingJobReference”.
16. Check that this event contains Data.ElementItemDescription item with Name = “Configuration” and Type = “tt:RecordingJobConfiguration”.
17. ONVIF Client will invoke CreatePullPointSubscriptionRequest message with tns1:RecordingConfig/RecordingJobConfiguration Topic as Filter and an InitialTerminationTime of timeout1.
18. Verify that the DUT sends a CreatePullPointSubscriptionResponse message.
19. ONVIF Client will invoke SetRecordingJobConfigurationRequest message (JobToken = “JobToken1”, JobConfiguration.Mode = [other than current], other Recording Job Configuration parameters without change) to configure Recording Job.
20. Verify the SetRecordingJobConfigurationResponse message from the DUT.
21. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1.
22. Verify that the DUT sends a PullMessagesResponse that contains NotificationMessages. Repeat step 21 until Notification for selected RecordingJob is received.
23. Verify received Notify messages (correct value for UTC time, TopicExpression and wsnt:Message).
24. Verify that TopicExpression is equal to tns1:RecordingConfig/RecordingJobConfiguration for received Notify message.
25. Verify that notification contains Source.SimpleItem item with Name = “RecordingJobToken” and Value is equal to selected Recording Job Token.
26. Verify that each notification contains Data.ElementItem item with Name = “Configuration” and Value with type is equal to tt:RecordingJobConfiguration (validation with XML Schema complex type).
27. ONVIF Client will invoke GetRecordingJobConfigurationRequest message for selected Recording Job.
28. Verify the GetRecordingJobConfigurationResponse messages from the DUT. Verify that Data.ElementItem item with Name = “Configuration” from Notification message has the same value with JobConfiguration element from GetRecordingJobConfigurationResponse messages for selected Recording Job.

29. Restore DUT settings.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send a GetEventPropertiesResponse message.

The DUT did not send CreatePullPointSubscriptionResponse message.

The DUT did not send PullMessagesResponse message.

The DUT did not send a valid SubscriptionReference.

The DUT did not send a valid SetRecordingJobConfigurationResponse message.

The DUT did not send a valid GetRecordingJobConfigurationResponse message.

The DUT did not send a valid GetRecordingJobsResponse message.

The DUT did not send a valid CreateRecordingJobResponse message.

The DUT did not send a Notification message that contains an event tns1:RecordingConfig/RecordingJobConfiguration for selected Recording Job.

The DUT sent an invalid Notification message (no corresponding Source.SimpleItem, Data.SimpleItem, or Data.ElementItem wrong type of Value fields, invalid RecordingJobToken or Configuration values).

The DUT does not return a valid tns1:RecordingConfig/RecordingJobConfiguration Topic in GetEventPropertiesResponse.

Note: The Subscription Manager has to be deleted at the end of the test either by calling unsubscribe or through a timeout.

Note: ONVIF Client at step 21 will wait for Notification message until notification for selected Recording Job is received or Operation Delay after last notification expires.

Note: The Renew has to be used for renew subscription during test, if InitialTerminationTime expires. If DUT returns UnacceptableTerminationTimeFault, resend Renew request with acceptable InitialTerminationTime from UnacceptableTerminationTimeFault.

Note: If DUT cannot accept the set value to Timeout or MessageLimit, ONVIF Client retries to send the PullMessage message with Timeout and MessageLimit which is contained in PullMessagesFaultResponse.

Note: timeout1 will be taken from Subscription Timeout field of ONVIF Device Test Tool.

Annex A

This section describes the meaning of the following definitions. These definitions are used in the test case description.

A.1 Comparison of parameter values for the same recording in GetRecordingsResponse message and in GetRecordingConfigurationResponse message

Compare RecordingItem.Configuration item from GetRecordings response and RecordingConfiguration item from GetRecordingConfiguration response. Parameter values will be assumed as the same, if they have the same values for:

- Source.SourceId
- Source.Name
- Source.Location
- Source.Description
- Source.Address
- Content
- MaximumRetentionTime

A.2 Comparison of parameter values for the same recording job in GetRecordingJobsResponse message and in GetRecordingJobConfigurationResponse message

Compare JobConfiguration items from GetRecordingJobs response and from GetRecordingJobConfiguration response. Parameter values will be assumed as the same, if they have the same values for:

- JobConfiguration.RecordingToken
- JobConfiguration.Mode
- JobConfiguration.Priority
- JobConfiguration.Source.SourceToken.Token
- JobConfiguration.Source.SourceToken.Type
- JobConfiguration.Source.Tracks.SourceTag
- JobConfiguration.Source.Tracks.Destination

A.3 Comparison of parameter values for the same recording job in GetRecordingJobsResponse message and in GetRecordingJobStateResponse message

For comparing parameter values for the same recording job item from GetRecordingJobsResponse message and GetRecordingJobStateResponse message the following steps will be done:

1. Verify that for each RecordingJobSource from GetRecordingJobsResponse there is a corresponding item with the same SourceToken in RecordingJobStateInformation from GetRecordingJobStateResponse.

2. Verify that for each RecordingJobStateSource from GetRecordingJobStateResponse there is a corresponding item with the same SourceToken in RecordingJobConfiguration from GetRecordingJobsResponse.

3. For each pair of corresponding RecordingJobSource and RecordingJobStateSource check that for any RecordingJobTrack with some SourceTag and Destination there is a corresponding RecordingJobStateTrack with the same SourceTag and Destination in RecordingJobStateSource.

A.4 Comparison of parameter values for the same track in GetTrackConfigurationResponse message and in GetRecordingsResponse message

Compare RecordingItem.Tracks.Track.TrackToken.Configuration item from GetRecordings response and TrackConfiguration item from GetRecordingConfiguration response. Parameter values will be assumed as the same, if they have the same values for TrackType and Description.

A.7 PullMessages algorithm for check Recording Job State changing

If the state field of the RecordingJobStateInformation structure changes, the device sends the correspond event. Algorithm of PullMessages sending for receiving event with the expected state:

Pre-requisite: at the T1 moment the DUT received answer to request which should cause Recording Job State changing (i.e. at the T1 moment Recording Job State at the device has definitely been changed)

1. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1 to find NotificationMessage containing event with required JobState for used Recording.

2. Verify PullMessagesResponse message.

3. If no events are returned and CurrentTime of sending PullMessages is more than T1+delta, where delta is Operation delay time, skip other steps. If no events returned and CurrentTime of sending PullMessages is less or equal than T1+delta go to the step 1.

4. If event is returned, check UTC Time of the received event. If UTC Time is more than T1+delta, skip other steps.

5. If PropertyOperation is equal to “Changed” check event. Otherwise, go to the step 1.

6. Find event with Source.SimpleItem item with Name = “RecordingJobToken” and Value is equal to “JobToken1”, Data.SimpleItem item with Name = “State” and Value is equal to required state (“Active”, PartiallyActive” or “Idle”).

7. If event is not found, go to the step 1, otherwise, go to the next step.

8. In the found Message check Values of State.State and State.Sources.State of Data.ElementItemDescription item. Check that values are equal to the required state (“Active”, “PartiallyActive” or “Idle”).

Test will be assumed as failed in case:

The DUT did not send a valid PullMessagesResponse message.

The DUT did not send NotificationMessage with event PropertyOperation = “Changed”.

There was no event which has Source.SimpleItemDescription item with Name = “RecordingJobToken” and Value is equal to “JobToken1”, Data.SimpleItemDescription item with Name = “State” and Value is equal to required state.

State.State parameter value of Data.ElementItemDescription item in NotificationMessage is not equal to required state.

State.Sources.State parameter value of Data.ElementItemDescription item in NotificationMessage is not equal to required state.

A.8 PullMessages algorithm for check Receiver State changing

If the receiver changes state, the device sends a corresponding event. Algorithm of PullMessages sending for receiving event with expected state.

1. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1 to find NotificationMessage containing event with required ReceiverState for used Recording.

2. Verify PullMessagesResponse message.

3. If no events returned and CurrentTime of sending PullMessages is more than T1+delta, where delta is Operation delay time, skip other steps. If no events are returned and CurrentTime of sending PullMessages is less or equal to T1+delta, go to the step 1.

4. If event is returned, check UTC Time of the received event. If UTC Time is more than T1+delta, skip other steps.

5. Find event with Source.SimpleItemDescription Description item with Name = “ReceiverToken” and Value is equal to “ReceiverToken1”, Data.SimpleItemDescription Description item with Name = “NewState” and Value is equal to required receiver state.

6. If event is not found, go to the step 1, otherwise, go to the next step.

Test will be assumed as failed in case:

The DUT did not send a valid PullMessagesResponse message.

The DUT did not send NotificationMessage with event which has Source.SimpleItemDescription Description item with Name = “ReceiverToken” and Value

is equal to “ReceiverToken1”, Data.SimpleItemDescription Description item with Name = “NewState” and Value is equal to required receiver state.

A.10 Creation of Recording prerequisite

Sometimes it is impossible to create a new Recording for the reason that maximum number of recordings supported by the device has been reached. ONVIF Client follows the following procedure of recording deleting:

1. ONVIF Client will invoke GetServiceCapabilitiesRequest message to retrieve Capabilities for the recording service.
2. Verify GetServiceCapabilitiesResponse message.
3. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
4. Verify the GetRecordingsResponse message from the DUT.
5. If total number of recordings is less than MaxRecordings Capabilities element, skip other steps and run test. If MaxRecordings Capabilities is skipped, return to test procedure steps and try performing CreateRecording step. In error case perform 6-8 steps from this Annex.
6. ONVIF Client will invoke DeleteRecordingRequest message (RecordingToken = Token1, where Token1 is the first recording token from the GetRecordingsResponse) to delete recording.
7. Verify the DeleteRecordingResponse message or SOAP 1.2 fault message (Action/CannotDelete or others) from the DUT. If DeleteRecordingResponse message received skip other steps and run test.
8. Repeat steps 6-7 for the next recording token. If there is no next Recording Token then skip the test.

A.11 Recording Source Information Parameters Maximum Length

There are the following limitations on maximum length of recording source parameters that shall be used during tests by ONVIF Device Test Tool to prevent faults from the DUT:

1. SourceId shall be less than or equal to 128 characters.
2. Name shall be less than or equal to 20 characters.
3. Address shall be less than or equal to 128 characters.

Note: these limitations will not be used, if ONVIF Device Test Tool reuses values receiving from the DUT.

A.12 Selection or Creation of Recording for recording job creation

ONVIF Client retrieves DynamicRecording capabilities from the DUT and follows the following procedure of Recoding creation or selection for using recording for recording job creation:

If DynamicRecording is True, ONVIF Client follows the following procedure of Recording creation:

1. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “CameraName”, RecordingConfiguration.Source.Location = “LocationDescription”, RecordingConfiguration.Source.Description = “Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = “Recording from device”, RecordingConfiguration.MaximumRetentionTime = “PT0S” to create a new recording.
2. Verify the CreateRecordingResponse message from the DUT (RecordingToken = “RecordingToken1”). If SOAP 1.2 fault message was returned, than skip other steps and follow the procedure for DynamicRecording=false case.
3. Onvif Client will invoke GetRecordingOptionsRequest message (RecordinToken=“RecordingToken1”) to get number of spare jobs that can be created for the recording.
4. Verify GetRecordingOptionsResponse message from the DUT. If Options.Job.Spare> RequiredSpareJobs, then return to test and use created Recording.
5. ONVIF Client will try deleting the RecordingJob via DeleteRecordingJob command (JobToken as Token of the first job received from the GetRecordingJobsResponse message) and repeat steps 3-5.
6. Repeare step 5 with the next Recording Job.

If DynamicRecording is False or recording creation procedure has been failed, ONVIF Client follows the following procedure of Recording selection:

1. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
2. Verify the GetRecordingsResponse message from the DUT.
3. ONVIF Client will invoke GetRecordingOptionsRequest message (RecordingToken as Token of the first recording in the GetRecordingsResponse message which have track type compliant with Capabilities.Encoding value in GetServiceCapabilitiesResponse message) to get number of spare jobs that can be created for the recording.
4. If Options.Job.Spare>RequiredSpareJobs, then return to the test and use this Recording.
5. Repeat steps 3-4 for the next RecordingToken from the GetRecordingsResponse message.
6. If there is no other Recording, then ONVIF Client will try deleting the RecordingJob via DeleteRecordingJob command (JobToken as Token of the first job received from the GetRecordingJobsResponse message) and repeat steps3-5.
7. Repeat step 6 with the next Recording Job.

Note: Test will be assumed as failed in case:

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingOptionsResponse message.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

A.13 Auto Creation of Receiver

For recording data from receiver ONVIF Client follows the following procedure of Auto Receiver creation by Create Recording Job with Idle Mode and Auto Create Receiver parameter:

1. ONVIF Client will invoke CreateRecordingJobRequest message (JobConfiguration.RecordingToken = "**RecordingToken1**", JobConfiguration.Mode = "**Idle**", JobConfiguration.Priority = 1, no JobConfiguration.Source.SourceToken.Token, JobConfiguration.Source.SourceToken.Type = "**http://www.onvif.org/ver10/schema/Receiver**", JobConfiguration.Source.AutoCreateReceiver = **true**) to create a recording job and auto create receiver.

2. Verify the CreateRecordingJobResponse message (JobToken = "**JobToken1"**).

3. Verify that the JobConfiguration returned from CreateRecordingJob is identical to the JobConfiguration passed into CreateRecordingJob, except for the ReceiverToken and the AutoCreateReceiver.

4. Check that CreateRecordingJobResponse message contains JobConfiguration.Source.SourceToken.Token = **ReceiverToken1** with assigned receiver Token. Check that AutoCreateReceiver field is omitted.

5. ONVIF Client will invoke GetReceiversRequest message to retrieve full list of receivers.

6. Verify GetReceiversResponse message from the DUT. Check that list of all receivers contains receiver with token equal to ReceiverToken1.

Note: If Receiver was not created for the reason Maximum Number of receivers has been reached, then delete receiver manually and run Annex's steps again.

Note: Test will be assumed as failed in case:

- The DUT sent CreateRecordingJobResponse message with at least one of the following JobConfiguration parameters values of which differ from the ones sent in CreateRecordingJobRequest message: JobConfiguration.RecordingToken, JobConfiguration.Mode, and JobConfiguration.Priority.

- The DUT sent CreateRecordingJobResponse message which didn't contain JobConfiguration.Source.SourceToken.Token element with assigned receiver Token

- The DUT sent JobConfiguration.Source.SourceToken.Type in CreateRecordingJobRequest message differs from http://www.onvif.org/ver10/schema/Receiver.

- The DUT sent CreateRecordingJobResponse message which contained AutoCreateReceiver field.

- GetReceiversResponse message did not contain Recording with Token = JobConfiguration.Source.SourceToken.Token from CreateRecordingJobResponse message.

A.14 Selection of Recording for track creation

If during a test, creation of any track is required, ONVIF Client will follow the following procedure for selection of recording:

1. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.

2. Verify the GetRecordingsResponse message from the DUT.
3. ONVIF Client will invoke GetRecordingOptionsRequest message (RecordingToken as Token of the first recording in the GetRecordingsResponse message) to get total spare number of tracks that can be added to this recording.
4. If Options.Track.SpareTotal>0, then return to the test and use this Recording for creation of track. Type of creation track shall correspond to value of SpareVideo, SpareAudio or SpareMetadata greater than 0.
5. Repeat steps 3-4 for the next RecordingToken from the GetRecordingsResponse message.
6. If there are no the next Recording then try do delete Track from recording with track and repeat 4-5 steps.

Note: If list of recording items is empty, Onvif Client will retrieve DynamicRecording capability from the DUT. In case Dinamic capabilitiy is true Onvif Client will create recording via CreateRecording command. Otherwise Onvif Client fails the test.

Note: If DUT returns SOAP fault (Action/CannotDelete) message to DeleteTrack request, then ONVIF will try deleting other tracks.

A.15 Selection or Creation of Recording for recording job creation on a Media profile

ONVIF Client retrieves DynamicRecording capabilities from the DUT and follows the following procedure of Recoding creation or selection for using recording for recording job creation on a Media profile:

If DynamicRecording is True, ONVIF Client follows the following procedure of Recording creation:

1. ONVIF Client will invoke CreateRecordingRequest message with RecordingConfiguration.Source.SourceId as any URI, RecordingConfiguration.Source.Name = “CameraName”, RecordingConfiguration.Source.Location = “LocationDescription”, RecordingConfiguration.Source.Description = “Source Description”, RecordingConfiguration.Source.Address as address of the device, RecordingConfiguration.Content = “Recording from device”, RecordingConfiguration.MaximumRetentionTime = “PT0S” to create a new recording.
2. Verify the CreateRecordingResponse message from the DUT (RecordingToken = “RecordingToken1”). If SOAP 1.2 fault message was returned, then skip other steps and follow the procedure for DynamicRecording=false case.
3. Onvif Cliend will invoke GetRecordingOptionsRequest message (RecordinToken=“RecordingToken1”) to get Compatible Sources list and number of spare jobs that can be created for the recording.
4. Verify GetRecordingOptionsResponse message from the DUT.
5. If Options.Job.CompatibleSources list is empty, then ONVIF Client skips other steps and marks the test as failed.
6. If Options.Job.Spare> RequiredSpareJobs return to the test and use created Recording.
7. Client will try deleting the RecordingJob via DeleteRecordingJob command (JobToken as Token of the first job received from the GetRecordingJobsResponse message).
8. Repeat 3-7 steps.
9. Delete the next recording job via DeleteRecordingJob command and repeat step 8.

If DynamicRecording is False or recording creation procedure has been failed, ONVIF Client follows the following procedure of Recording selection:

1. ONVIF Client will invoke GetRecordingsRequest message to retrieve a complete recordings list.
2. Verify the GetRecordingsResponse message from the DUT.
3. ONVIF Client will invoke GetRecordingOptionsRequest message (RecordingToken as Token of the first recording in the GetRecordingsResponse message) to get Compatible Sources list.
4. Verify GetRecordingOptionsResponse message from the DUT.
5. If Options.Job.CompatibleSources list is empty, then repeat 3-4 steps for the next recording. If there is no other recording, then ONVIF Client skips other steps and marks the test as failed.
6. If Options.Job.Spare>RequiredSpareJobs returt to the test and use this Recording.
7. Repeat steps 3-6 for the next RecordingToken from the GetRecordingsResponse message.
8. If there is no other Recording then ONVIF Client will try to delete the RecordingJob via DeleteRecordingJob command (JobToken as Token of the first job received from the GetRecordingJobsResponse message).
9. Repeat 3-7 steps.
10. Delete the next recording job via DeleteRecordingJob command and repeat step 9.

Note: Test will be assumed as failed in case:

The DUT did not send a valid GetRecordingsResponse message.

The DUT did not send a valid GetRecordingOptionsResponse message.

Note: If new Recording was not created and there was no Recording with not empty Compatible Sources list then configure media profile or recording for test manually.

Note: See Annex A.11 for Recording Source Information Parameters Length limitations.

A.16 PullMessages algorithm for check Recording Job State initializing

If Recording Job is created on the device, the device sends the corresponding event with ‘Initialized’ PropertyOperation. Algorithm of PullMessages sending for receiving event with the expected state is the following:

1. ONVIF Client will invoke PullMessages command with a PullMessagesTimeout of 20s and a MessageLimit of 1 to find NotificationMessage containing event with required JobState for used Recording.
2. Verify PullMessagesResponse from the DUT.
3. Repeat steps 1-2 until Notification for JobToken = JobToken1 with Data.SimpleItem item with Name = “State” and Value is equal to “Active” or “PartiallyActive” is received or operation delay time has expired.

Note: All Notification messages except messages with the expected recording job state will be

ignored.