Driving IP-based physical security through global standardization

ONVIF™

PTZ Test Specification

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Driving IP-based physical security through global standardization

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Revision History

Ver.	Date	Description
1.02.4	29th/Jul, 2011	First issue of PTZ Test Specification
11.12	22nd/Dec, 2011	New version numbering scheme has been applied. Requirement level terms have been removed. Term "NVT" is removed in each test case.
12.06	18th/Jun, 2012	PTZ Service Capabilities test cases have been added.
12.12	20th/Dec, 2012	New test PTZ – HOME POSITION OPERATIONS (USAGE OF FIXEDHOMEPOSITION FLAG) was added.
13.06	June, 2013	The following test cases were updated: GENERIC PAN/TILT POSITION SPACE GENERIC ZOOM POSITION SPACE GENERIC PAN/TILT TRANSLATION SPACE GENERIC ZOOM TRANSLATION SPACE GENERIC PAN/TILT VELOCITY SPACE GENERIC ZOOM VELOCITY SPACE GENERIC PAN/TILT SPEED SPACE GENERIC ZOOM SPEED SPACE
13.12	Dec, 2013	Minor changes
14.06	Feb, 2014	New Note was added in the following test cases: PTZ ABSOLUTE MOVE SET AND GET PRESET GOTO PRESET HOME POSITION OPERATIONS (CONFIGURABLE) HOME POSITION OPERATIONS (FIXED) GENERIC PAN/TILT POSITION SPACE GENERIC ZOOM POSITION SPACE GENERIC PAN/TILT SPEED SPACE GENERIC ZOOM SPEED SPACE

15.06	Jul, 2015	The following test case was updated: SET AND GET PRESET

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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 PTZ 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 PTZ 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 to provide test cases to test individual requirements of ONVIF devices according to ONVIF PTZ service(s) which is defined in [ONVIF Network Interface Specs].

The principal intended purposes are:

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

This specification does not address the following

1. Product use cases and non-functional (performance and regression) testing.
2. SOAP Implementation Interoperability test i.e. Web Service Interoperability Basic Profile version 2.0 (WS-I BP 2.0).
3. Network protocol implementation Conformance test for HTTP, HTTPS, RTP and RTSP protocol.
4. 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 subset of it. The scope of this specification is to derive all the normative requirements of [ONVIF Network Interface Specs] which are related to ONVIF PTZ service and some of the optional requirements.

This ONVIF PTZ Test Specification covers ONVIF PTZ service which is a functional block of [ONVIF Network Interface Specs]. The following section describes the brief overview of and scope of each functional block.

1.1.1 PTZ Control

PTZ Control covers the test cases for the verification of the PTZ service as mentioned in [ONVIF Network Interface Specs].

Refer to Table 1 for PTZ Control Commands Under Test.

Table 1 PTZ Control Commands Under Test

Feature	Messages
PTZ Node	GetNodes GetNode
PTZ Configuration	GetConfigurations GetConfiguration GetConfigurationOptions SetConfiguration
Move Operations	AbsoluteMove RelativeMove ContinuousMove Stop GetStatus
Preset operations	SetPreset GetPresets GotoPreset RemovePreset
Home Position operations	GotoHomePosition SetHomePosition
Auxiliary operations	SendAuxiliaryCommand
Predefined PTZ spaces	AbsolutePositionSpaces RelativeTranslationSpaces ContinuousVelocitySpaces SpeedSpaces

2 Terms and Definitions

2.1 Definitions

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

Pan	Horizontal movement or rotation of a camera or device.
Tilt	Vertical movement or rotation of a camera or device.
Zoom	Adjustment of the focal length of a zoom lens, causing the subject, scene to be brought closer or made to recede.
PTZ	The capability of a camera to pan, tilt, and zoom.

2.2 Abbreviations

This section describes abbreviations used in this document.

PTZ	Pan/Tilt/Zoom

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 DUT

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.

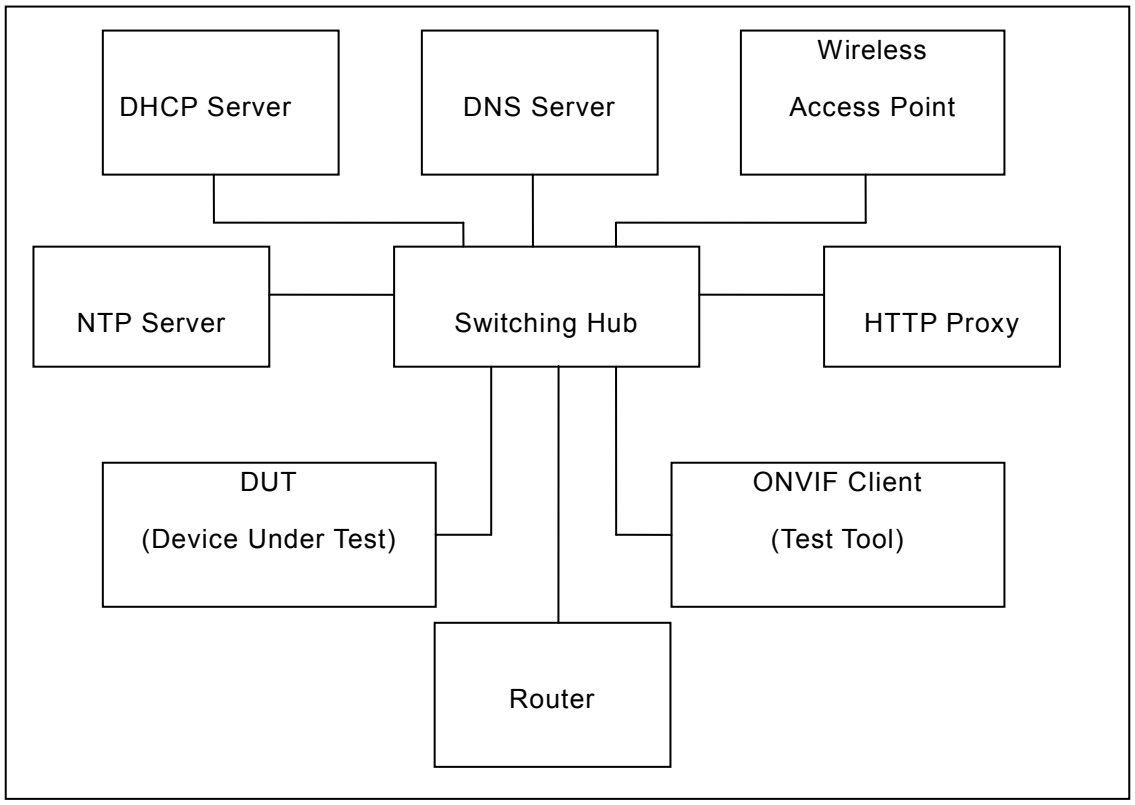


Figure 1: Test Configuration for DUT

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 connectivities 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 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 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 PTZ Control

- To start with ONVIF Client shall check device capabilities of PTZ. If the DUT doesn't have PTZ capability, this test case will skip.
- The device under test shall support at-least one media profile with PTZ configuration. Moreover, the DUT shall include video source configuration and video encoder configuration in the same media profile to see the video and to confirm movement. A PTZ configuration shall include a PTZ node.
- Poor PTZ performance test is outside the scope of the ONVIF Test Specification.
- In certain test cases, ONVIF Client may register new preset position into PTZ configuration. In such cases, the test procedure will delete those modified configuration at the end of the test procedure.
- If DUT does not support PTZ Configuration commands (ex. GetConfigurations, AbsoluteMove) then it SHALL respond to the request with SOAP 1.2 fault message (ActionNotSupported).

Please refer to Section 4 for PTZ Configuration Test Cases

4 PTZ Control Test Cases

4.1 PTZ Node

4.1.1 PTZ NODES

Test Label: PTZ Nodes Validation

Test Case ID: PTZ-1-1-1

ONVIF Core Specification Coverage: GetNodes

Command Under Test: GetNodes

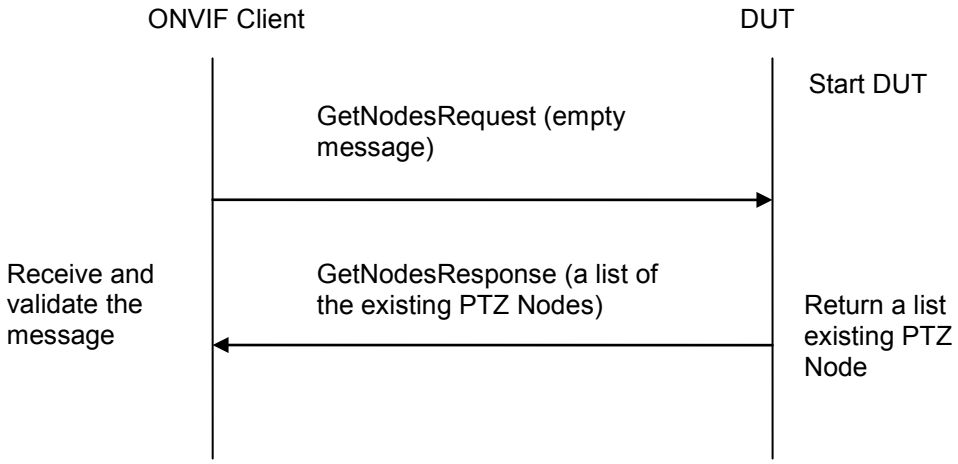
WSDL Reference: ptz.wsdl

Test Purpose: To verify GetNodes command and return all PTZ Nodes available on the device.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point using the 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 GetNodesRequest message to retrieve the list of PTZ nodes supported by DUT.
4. Verify that the DUT returns at least one PTZNode in the GetNodesResponse message.
5. Validate PTZNodes of GetNodesResponse message (check mandatory element of SupportedPTZSpaces, MaximumNumberOfPresets, and HomeSupported.)

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetNodesResponse message.

The DUT did not send s valid GetNodesResponse message.

The DUT did not send GetNodesResponse message with at-least one PTZNode.

4.1.2 PTZ NODE

Test Label: PTZ Node Validation

Test Case ID: PTZ-1-1-2

ONVIF Core Specification Coverage: GetNode

Command Under Test: GetNode

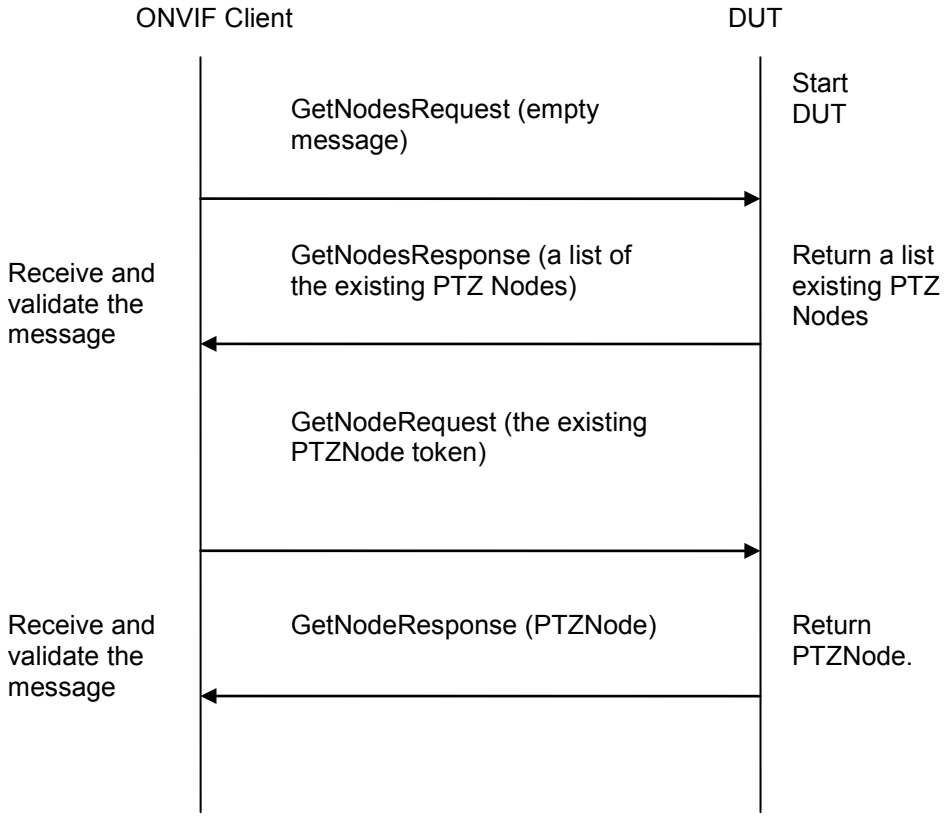
WSDL Reference: ptz.wsdl

Test Purpose: To verify GetNode command and return the properties of the requested PTZ Node, if it exists.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetNodesRequest message to retrieve a list of the existing PTZNodes.
4. Verify that DUT returns at-least one PTZNode in the GetNodesResponse message.
5. ONVIF Client will invoke GetNodeRequest message (NodeToken of existing PTZNode) to retrieve the specific PTZNode
6. Verify that DUT returns a PTZNode in GetNodeResponse message.
7. Validate PTZNode of GetNodeResponse message (check mandatory element of SupportedPTZSpaces, MaximumNumberOfPresets, and HomeSupported.)

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetNodesResponse message.

The DUT did not send a valid GetNodesResponse message.

The DUT did not send GetNodesResponse message with at-least one PTZNode.

The DUT did not send GetNodeResponse message.

The DUT did not send a valid GetNodeResponse message.

4.1.3 SOAP FAULT MESSAGE

Test Label: PTZ Soap Fault Message for Invalid GetNode Request Message

Test Case ID: PTZ-1-1-4

ONVIF Core Specification Coverage: GetNode

Command Under Test: GetNode

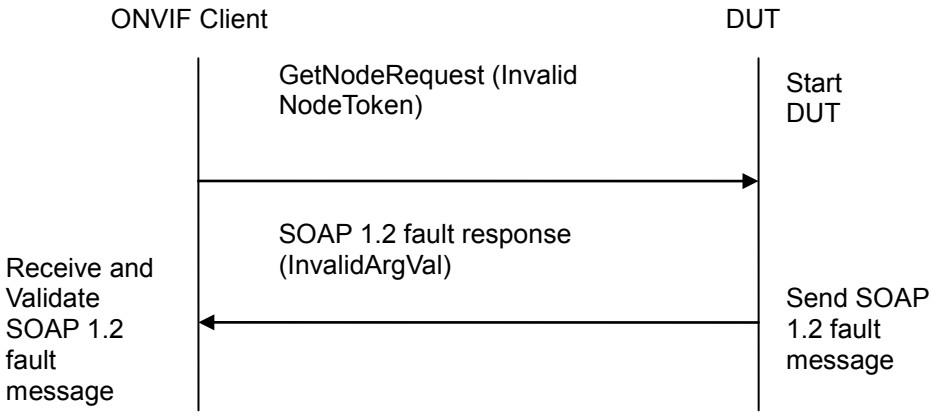
WSDL Reference: ptz.wsdl

Test Purpose: To verify that DUT generates a SOAP fault message to invalid GetNode message.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetNodeRequest message with invalid NodeToken (not NodeToken of existing PTZNode. For example, **NodeToken** ReferenceToken = **"xyz"**).
4. Verify the DUT generates a SOAP 1.2 fault message (**InvalidArgVal/NoEntity**).

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send SOAP 1.2 fault message.

The DUT did not send a correct SOAP 1.2 fault message (fault code, namespace, etc.).

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.2 PTZ Configuration

4.2.1 PTZ CONFIGURATIONS

Test Label: PTZ Configurations Validation

Test Case ID: PTZ-2-1-1

ONVIF Core Specification Coverage: GetConfigurations

Command Under Test: GetConfigurations

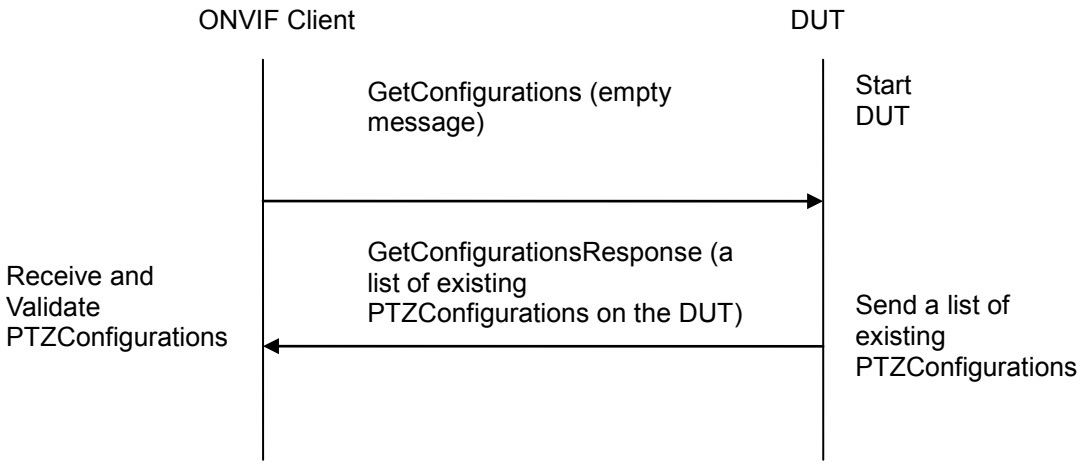
WSDL Reference: ptz.wsdl

Test Purpose: To retrieve DUT PTZ Configurations setting.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetConfigurationsRequest message to retrieve a list of existing PTZConfigurations on the DUT.
4. Verify that the DUT returns at-least one PTZConfiguration in the GetConfigurationsResponse message.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationsResponse message with at least one PTZConfiguration.

4.2.2 PTZ CONFIGURATION

Test Label: PTZ Configuration Validation

Test Case ID: PTZ-2-1-2

ONVIF Core Specification Coverage: GetConfiguration

Command Under Test: GetConfiguration

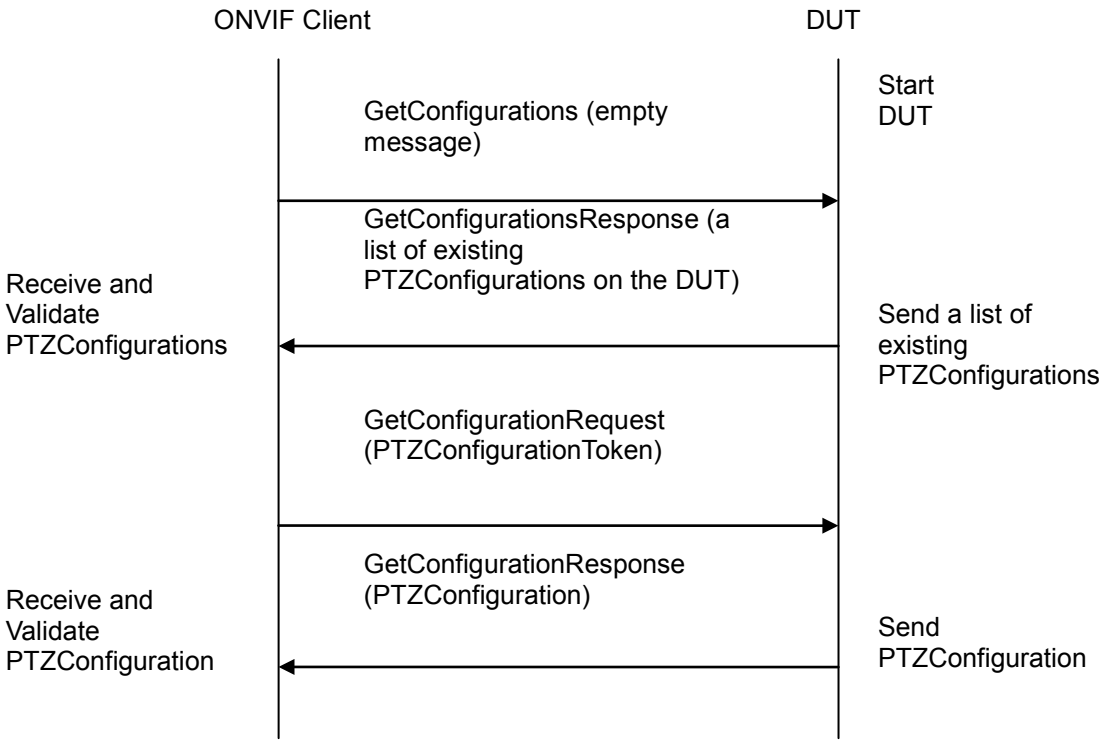
WSDL Reference: ptz.wsdl

Test Purpose: To retrieve DUT PTZ Configuration setting.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetConfigurationsRequest message to retrieve a list of existing PTZConfigurations.
4. Verify the GetConfigurationsResponse from DUT (a list of existing PTZConfigurations).
5. ONVIF Client will invoke GetConfigurationRequest message (PTZConfigurationToken of existing PTZConfiguration) to retrieve requested PTZConfiguration.
6. Verify the GetConfigurationResponse from DUT (PTZConfiguration includes a NodeToken, and at least one parameter (DefaultAbsolutePantTiltPositionSpace, DefaultAbsoluteZoomPositionSpace, DefaultRelativePanTiltTranslationSpace, DefaultRelativeZoomTranslationSpace, DefaultContinuousPanTiltVelocitySpace, DefaultContinuousZoomVelocitySpace, DefaultPTZSpeed, DefaultPTZTimeout, PanTiltLimits, and ZoomLimits)).

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationsResponse message with at least one PTZConfiguration.

The DUT did not send GetConfigurationResponse message.

The DUT did not send a valid GetConfigurationResponse message.

The DUT did not send GetConfigurationResponse message with NodeToken.

The DUT did not send GetConfigurationResponse message with at least one parameter (excluding NodeToken).

4.2.3 PTZ CONFIGURATION OPTIONS

Test Label: PTZ Configuration Options Validation

Test Case ID: PTZ-2-1-3

ONVIF Core Specification Coverage: GetConfigurationOptions

Command Under Test: GetConfigurationOptions

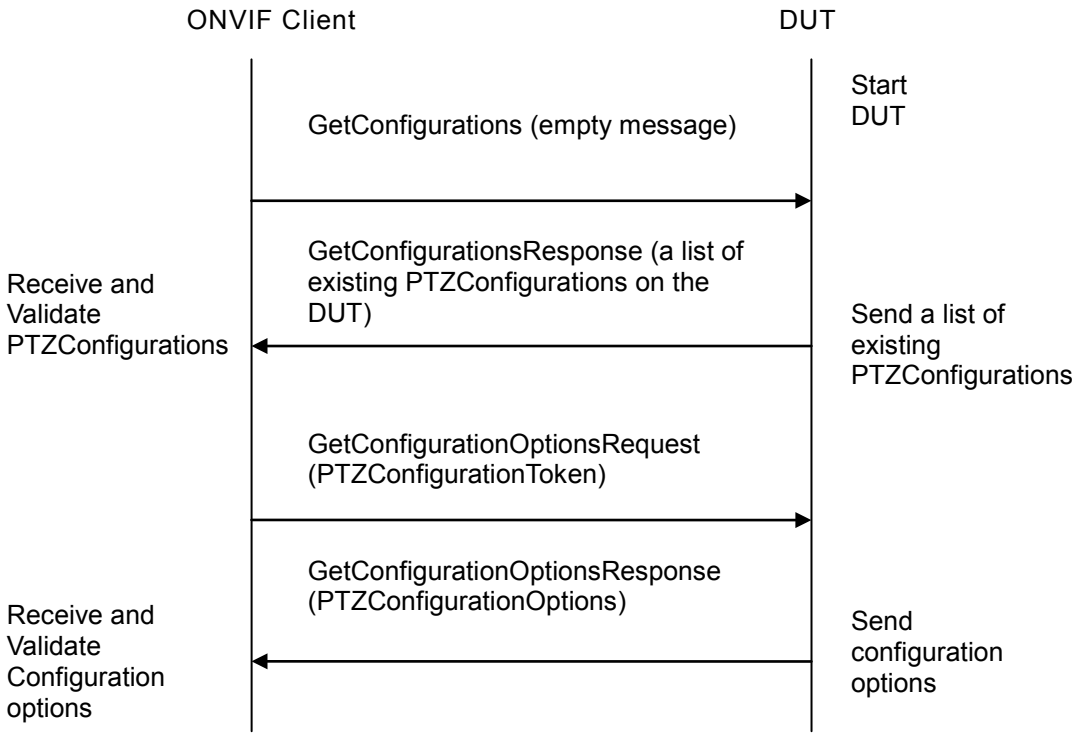
WSDL Reference: ptz.wsdl

Test Purpose: To retrieve returns the list of supported coordinate systems including their range limitations in the DUT PTZ Configuration Options setting.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetConfigurationsRequest message to retrieve a list of existing PTZConfigurations on the DUT.
4. Verify the GetConfigurationsResponse from DUT (a list of existing PTZConfiguration).
5. ONVIF Client will invoke GetConfigurationOptionsRequest message to retrieve PTZConfigurationOptions.
6. Verify the GetConfigurationOptionsResponse from DUT (valid Spaces and PTZTimeout).

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationsResponse message with at least one PTZConfiguration.

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send GetConfigurationOptionsResponse message with valid Spaces and PTZTimeout.

4.2.4 PTZ CONFIGURATIONS AND PTZ CONFIGURATION CONSISTENCY

Test Label: PTZ Service DUT GetConfigurations Command and GetConfiguration Command Consistency Validation

Test Case ID: PTZ-2-1-5

ONVIF Core Specification Coverage: GetConfigurations, GetConfiguration.

Command Under Test: GetConfigurations, GetConfiguration

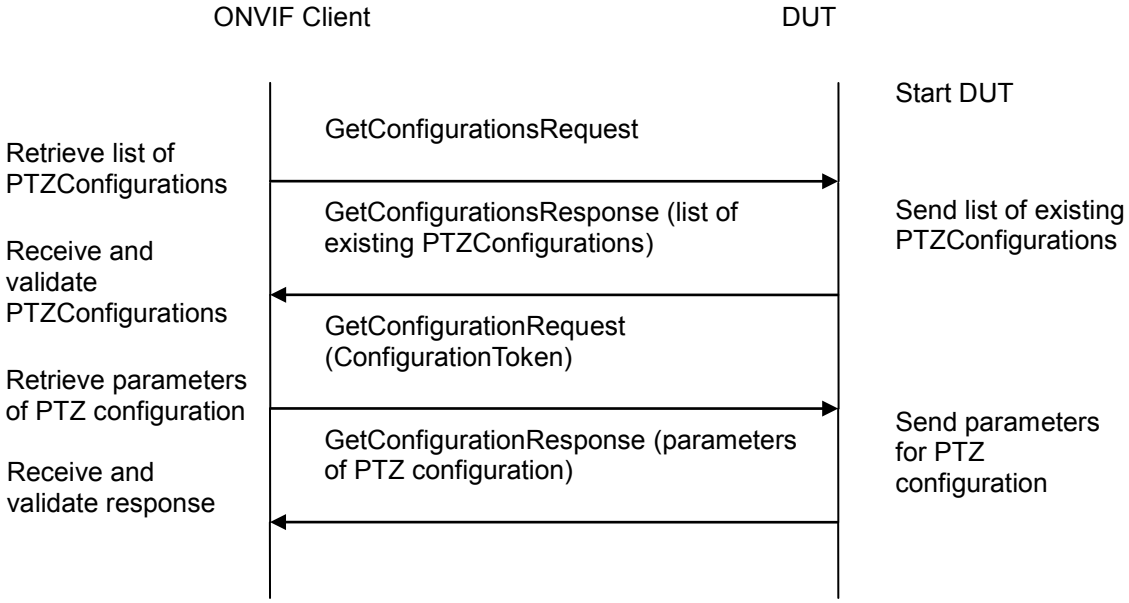
WSDL Reference: ptz.wsdl

Test Purpose: To verify the capability to set the DUT PTZ Configuration.

Pre-Requisite: None

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

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

3. ONVIF Client invokes GetConfigurations message to retrieve a list of PTZ Configurations from device.
4. The DUT sends GetConfigurationsResponse message.
5. ONVIF Client invokes GetConfiguration (**ConfigurationToken**) message to retrieve parameters of PTZ configuration from device.
6. The DUT sends GetConfigurationResponse message.
7. Check that all parameters values in GetConfigurationResponse are same as in the GetConfigurationsResponse message.

   Repeat steps 5-7 for all other configurations from the GetConfigurationsResponse message.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationsResponse message with at least one PTZConfiguration.

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send SetConfigurationResponse message.

The DUT did not send GetConfigurationResponse message.

The DUT did not send a valid GetConfigurationResponse message.

The DUT did not modify PTZConfiguration by requested SetConfigurationRequest message.

4.2.5 PTZ CONFIGURATIONS AND PTZ NODES CONSISTENCY

Test Label: PTZ Service DUT GetConfigurations Command and GetNodes Command Consistency Validation.

Test Case ID: PTZ-2-1-6

ONVIF Core Specification Coverage: GetNodes, GetConfigurations.

Command Under Test: GetConfigurations, GetNodes

WSDL Reference: ptz.wsdl.

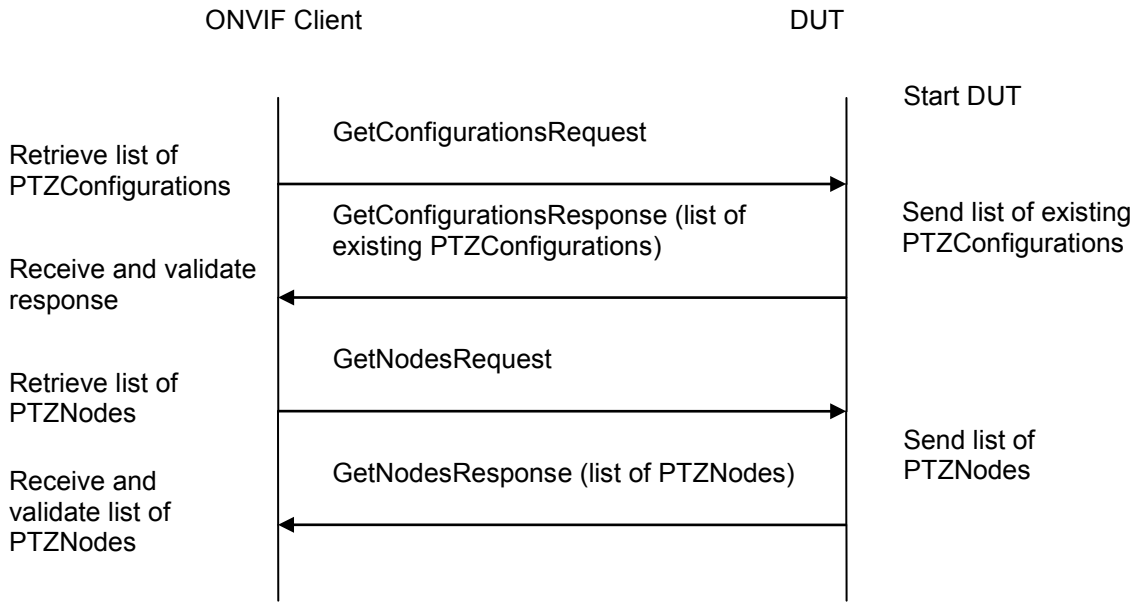
Test Propose: To check that GetConfigurations command and GetNodes command are consistent.

Pre-Requisite: PTZ is supported by DUT. ONVIF Client gets the PTZ Service entry point by

GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start a DUT.
3. ONVIF Client invokes GetConfigurations message to retrieve a list of PTZ Configurations from device.
4. The DUT sends GetConfigurationsResponse message.
5. ONVIF Client invokes GetNodesRequest message to retrieve list of available PTZ nodes from device.
6. The DUT sends GetNodesResponse message.
7. Check that parameters for every PTZConfiguration are correct according to GetNodesResponse.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetNodesResponse message.

The DUT did not send a valid GetNodesResponse message.

For at least one PTZConfiguration there is at least one of the following items:

- NodeToken from PTZConfiguration is not present in GetNodesResponse message (PTZNode.token) or is present more than one time.
- DefaultAbsolutePantTiltPositionSpace from PTZConfiguration is not included in one of SupportedPTZSpaces.AbsolutePanTiltPositionSpace from GetNodesResponse.
- DefaultAbsoluteZoomPositionSpace from PTZConfiguration is not included in one of SupportedPTZSpaces.AbsoluteZoomPositionSpace from GetNodesResponse.
- DefaultRelativePanTiltTranslationSpace from PTZConfiguration is not included in one of SupportedPTZSpaces.RelativePanTiltTranlationSpace from GetNodesResponse.
- DefaultRelativeZoomTranslationSpace from PTZConfiguration is not included in one of SupportedPTZSpaces.RelativeZoomTranlationSpace from GetNodesResponse.
- DefaultContinuousPanTiltVelocitySpace from PTZConfiguration is not included in one of SupportedPTZSpaces.ContinuousPanTiltVelocitySpacefrom GetNodesResponse.
- DefaultContinuousZoomVelocitySpace from PTZConfiguration is not included in one of SupportedPTZSpaces.ContinuousZoomVelocitySpace from GetNodesResponse.
- DefaultPTZSpeed.PanTilt.space from PTZConfiguration is not included in one of PanTiltSpeedSpace.URI section from GetNodesResponse
- DefaultPTZSpeed.PanTilt.x is not between SupportedPTZSpaces.PanTiltSpeedSpace.XRange.Min and SupportedPTZSpaces.PanTiltSpeedSpace.XRange.Max for appropriate PanTiltSpeedSpace.URI from GetNodesResponse.
- DefaultPTZSpeed.PanTilt.y is not between SupportedPTZSpaces.PanTiltSpeedSpace.XRange.Min and SupportedPTZSpaces.PanTiltSpeedSpace.XRange.Max for appropriate PanTiltSpeedSpace.URI from GetNodesResponse.
- DefaultPTZSpeed.Zoom.Space is not included in one of ZoomSpeedSpace.URI section of GetNodesResponse
- DefaultPTZSpeed.Zoom.x is not between SupportedPTZSpaces.ZoomSpeedSpace.XRange.Min and SupportedPTZSpaces.ZoomSpeedSpace.XRange.Max for appropriate ZoomSpeedSpace.URI from GetNodesResponse.

4.2.6 PTZ CONFIGURATIONS AND PTZ CONFIGURATION OPTIONS CONSISTENCY

Test Label PTZ Service DUT PTZ Configurations and PTZ Configuration Options Consistency Validation.

Test Case ID: PTZ-2-1-7

ONVIF Core Specification Coverage: GetConfigurations, GetConfigurationOptions.

Command Under Test: GetConfigurations, GetConfigurationOptions

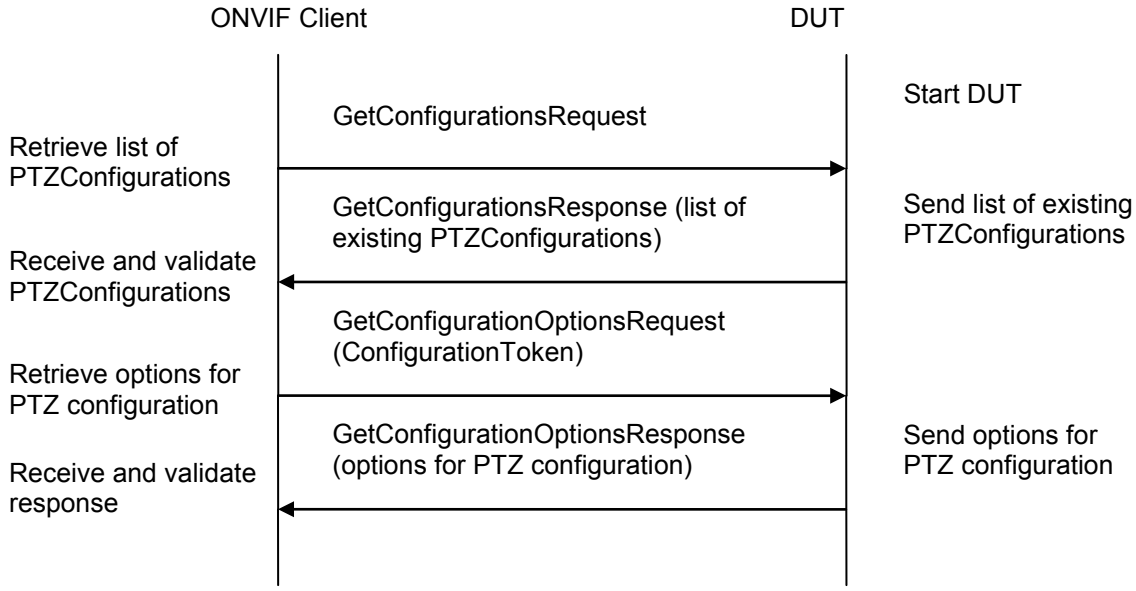
WSDL Reference: ptz.wsdl

Test Purpose: To check that PTZ Configurations and PTZ Configuration Options are consistent

Pre-Requisite: PTZ is supported by DUT. ONVIF Client gets the PTZ Service entry point by GetCapabilities command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start a DUT.
3. ONVIF Client invokes GetConfigurations message to retrieve a list of PTZ Configurations from device.
4. The DUT sends GetConfigurationsResponse message.
5. ONVIF Client invokes GetConfigurationOptionsRequest (**ConfigurationToken**) message to retrieve options for PTZConfiguration from device.
6. The DUT sends GetConfigurationOptionsResponse message.
7. Check that parameters for PTZ configuration are corresponded to PTZConfigurationOptions.
8. Repeat Steps 5-7 for other PTZConfigurations from the GetConfigurationsResponse message.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT sent not available values for parameters of PTZConfiguration in one or more profile in GetProfilesResponse message.

For at least one PTZConfiguration there is at least one of the following items:

- DefaultAbsolutePantTiltPositionSpace from PTZConfiguration is not included in one of Spaces.AbsolutePanTiltPositionSpace from GetConfigurationOptionsResponse.
- DefaultAbsoluteZoomPositionSpace from PTZConfiguration is not included in one of Spaces.AbsoluteZoomPositionSpace from GetConfigurationOptionsResponse.
- DefaultRelativePanTiltTranslationSpace from PTZConfiguration is not included in one of Spaces.RelativePanTiltTranlationSpace from GetConfigurationOptionsResponse.
- DefaultRelativeZoomTranslationSpace from PTZConfiguration is not included in one of Spaces.RelativeZoomTranlationSpace from GetConfigurationOptionsResponse.
- DefaultContinuousPanTiltVelocitySpace from PTZConfiguration is not included in one of Spaces.ContinuousPanTiltVelocitySpace from GetConfigurationOptionsResponse.
- DefaultContinuousZoomVelocitySpace from PTZConfiguration is not included in one of Spaces.ContinuousZoomVelocitySpace from GetConfigurationOptionsResponse.
- DefaultPTZSpeed.PanTilt.space from PTZConfiguration is not included in one of Spaces.PanTiltSpeedSpace.URI section from GetConfigurationOptionsResponse
- DefaultPTZSpeed.PanTilt.x is not between Spaces.PanTiltSpeedSpace.XRange.Min and Spaces.PanTiltSpeedSpace.XRange.Max for appropriate Spaces.PanTiltSpeedSpace.URI from GetConfigurationOptionsResponse.
- DefaultPTZSpeed.PanTilt.y is not between Spaces.PanTiltSpeedSpace.YRange.Min and Spaces.PanTiltSpeedSpace.YRange.Max for appropriate Spaces.PanTiltSpeedSpace.URI from GetConfigurationOptionsResponse.
- DefaultPTZSpeed.Zoom.Space is not included in one of Spaces.ZoomSpeedSpace.URI section of GetConfigurationOptionsResponse

- DefaultPTZSpeed.Zoom.x is not between Spaces.ZoomSpeedSpace.XRange.Min and PTZSpaces.ZoomSpeedSpace.XRange.Max for appropriate Spaces.ZoomSpeedSpace.URI from GetConfigurationOptionsResponse.
- DefaultPTZTimeout is not between PTZTimeout.Min and PTZTimeout.Max from GetConfigurationOptionsResponse

4.2.7 PTZ SET CONFIGURATION

Test Label: PTZ Configurations

Test Case ID: PTZ-2-1-9

ONVIF Core Specification Coverage: SetConfiguration

Command Under Test: SetConfiguration

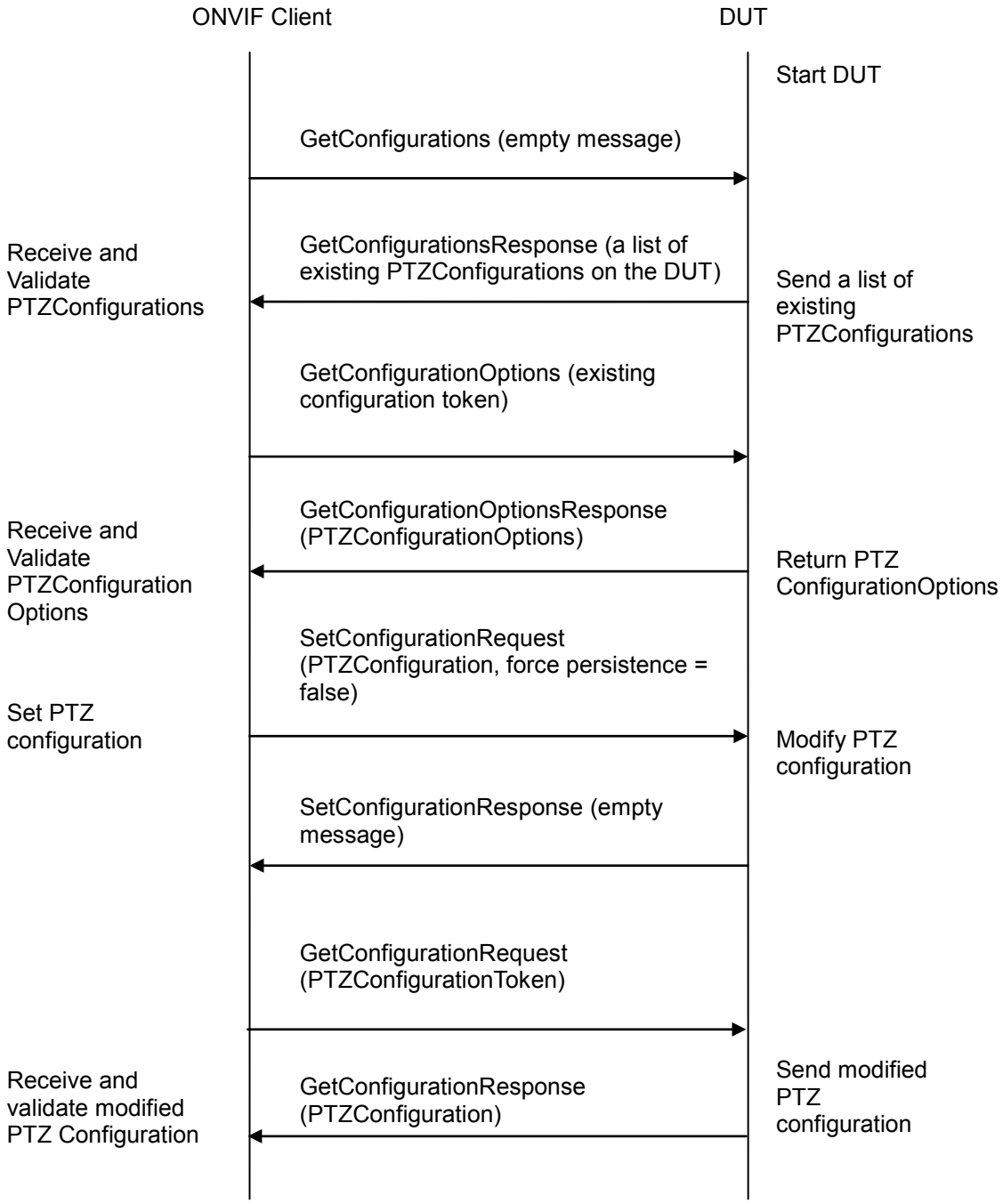
WSDL Reference: ptz.wsdl

Test Purpose: To verify the capability to set the DUT PTZ Configuration.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 GetConfigurationsRequest message to retrieve a list of existing PTZConfigurations.

4. Verify the GetConfigurationsResponse from DUT (a list of existing PTZConfigurations).
5. ONVIF Client will invoke GetConfigurationOptions message (ConfigurationToken of existing PTZConfiguration) to retrieve the range of PTZTimeout that can be changed.
6. Verify that DUT returns PTZConfigurationOptions in GetConfigurationOptionsResponse message.
7. ONVIF Client will invoke SetConfigurationRequest message (**DefaultPTZTimeout = [Max or Min of duration value]**, and force persistence = false). DefaultPTZTimeout will be set to Max of the duration value. If DefaultPTZTimeout of DUT is same value with Max of duration value, this value will be set to Min of the duration value.
8. DUT modifies PTZ Configuration and return with SetConfigurationResponse message indicating success.
9. ONVIF Client will verify the modified PTZ configuration by invoking GetConfigurationRequest message
10. Verify that DUT returns the modified PTZ Configuration in the GetConfigurationResponse message (**DefaultPTZTimeout = [Max or Min of the duration value]**).

Test Result:

PASS

DUT passes all assertions.

FAIL

The DUT did not send GetConfigurationsResponse message.

The DUT did not send a valid GetConfigurationsResponse message.

The DUT did not send GetConfigurationResponse message.

The DUT did not send a valid GetConfigurationResponse message.

The DUT did not send equal parameters for one or more PTZConfiguration in the GetConfigurationResponse message and in the GetConfigurationsResponse message.

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.2.8 SOAP FAULT MESSAGE

Test Label: PTZ Soap Fault Message for invalid SetConfiguration Request message

Test Case ID: PTZ-2-1-10

ONVIF Core Specification Coverage: SetConfiguration

Command Under Test: SetConfiguration

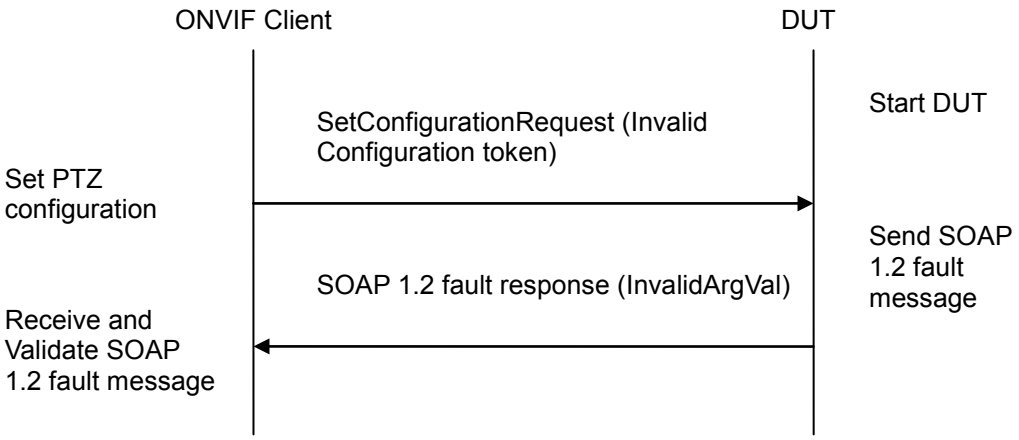
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the DUT generates a SOAP fault message if an invalid PTZ Configuration message is sent.

Pre-Requisite: PTZ is supported by DUT, and ONVIF Client gets the PTZ service entry point by 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 SetConfigurationRequest message with an invalid Configuration token.
4. DUT will generate a SOAP 1.2 fault message (**InvalidArgVal/NoConfig**)

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send SOAP 1.2 fault message.

The DUT did not send a correct SOAP 1.2 fault message (fault code, namespace etc).

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.3 Move Operation

4.3.1 PTZ ABSOLUTE MOVE

Test Label: PTZ Absolute Move Operation

Test Case ID: PTZ-3-1-1

ONVIF Core Specification Coverage: AbsoluteMove

Command Under Test: AbsoluteMove

WSDL Reference: ptz.wsdl

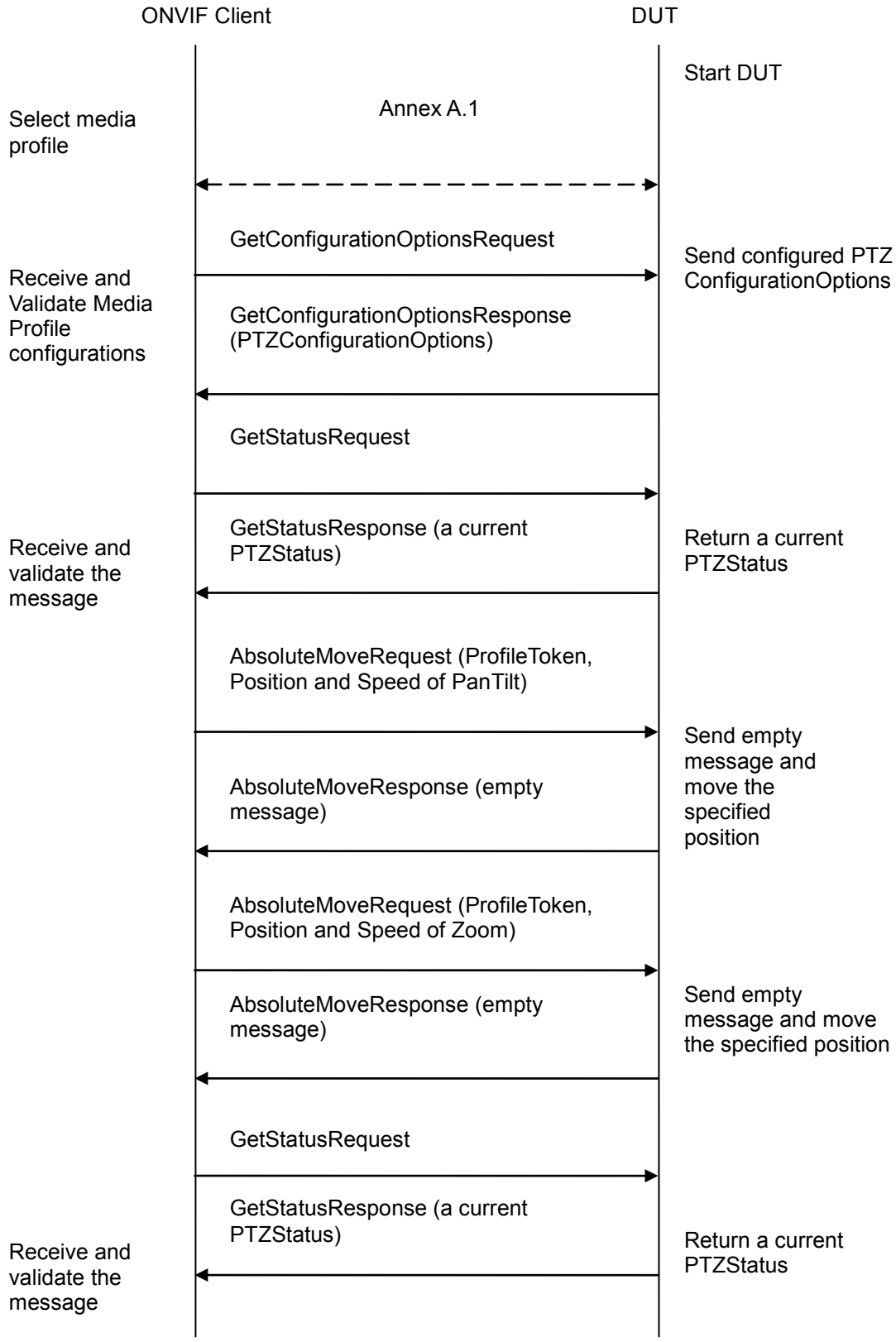
Test Purpose: To verify absolute Pan/Tilt or absolute Zoom movements using the DUT PTZ AbsoluteMove operation

Pre-Requisite: PTZ is supported by the DUT, and a function of Absolute movements is implemented. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities command.

A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client will invoke GetConfigurationOptionsRequest message to retrieve PTZConfigurationOptions.
5. Verify that DUT returns GetConfigurationOptionsResponse with valid Spaces and PTZTimeout, and has the function of Absolute movement.
6. ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
7. The DUT returns a current PTZStatus in the GetStatusResponse.
8. If Absolute move is supported for 'Pan Tilt', ONVIF Client will invoke AbsoluteMoveRequest message (**ProfileToken, Position:PanTilt = ["x", "y"], Speed:PanTilt = [“x”, “y”]**). The Speed:PanTilt parameter is added if supported Speed:PanTilt.
9. If ONVIF Client invoked AbsoluteMoveRequest message for PanTilt, verify that DUT returns AbsoluteMoveResponse message indicating success.
10. If Absolute move is supported for 'Zoom', ONVIF Client will invoke AbsoluteMoveRequest message (**ProfileToken, Position:Zoom = ["x"], Speed:Zoom = ["x"]**). The Speed:Zoom parameter is added if supported Speed:Zoom.
11. If ONVIF Client invoked AbsoluteMoveRequest message for Zoom, verify that DUT returns AbsoluteMoveResponse message indicating success.
12. ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
13. Verify that the DUT moves to the specified position by GetStatusResponse message.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send GetConfigurationOptionsResponse message with valid Spaces and PTZTimeout.

The DUT did not send GetStatusResponse message.

The DUT did not send a valid GetStatusResponse message.

The DUT did not send AbsoluteMoveResponse message.

The DUT did not send GetStatusResponse message with the specified position after moved by ONVIF Client.

Note: If DUT does not return a current position by GetStatusResponse, the specified position after being moved by ONVIF Client is not checked by ONVIF Client.

PTZ accuracy is out of scope for this Test Specification. Therefore, the position reported by the DUT in the GetStatusResponse does not have to be exactly the same as the position requested by the ONVIF Client in the AbsoluteMoveRequest.

If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt or Zoom in AbsoluteMoveRequest message.

4.3.2 SOAP FAULT MESSAGE

Test Label: PTZ Soap Fault Message for Invalid AbsoluteMove Request Message

Test Case ID: PTZ-3-1-2

ONVIF Core Specification Coverage: AbsoluteMove

Command Under Test: AbsoluteMove

WSDL Reference: ptz.wsdl

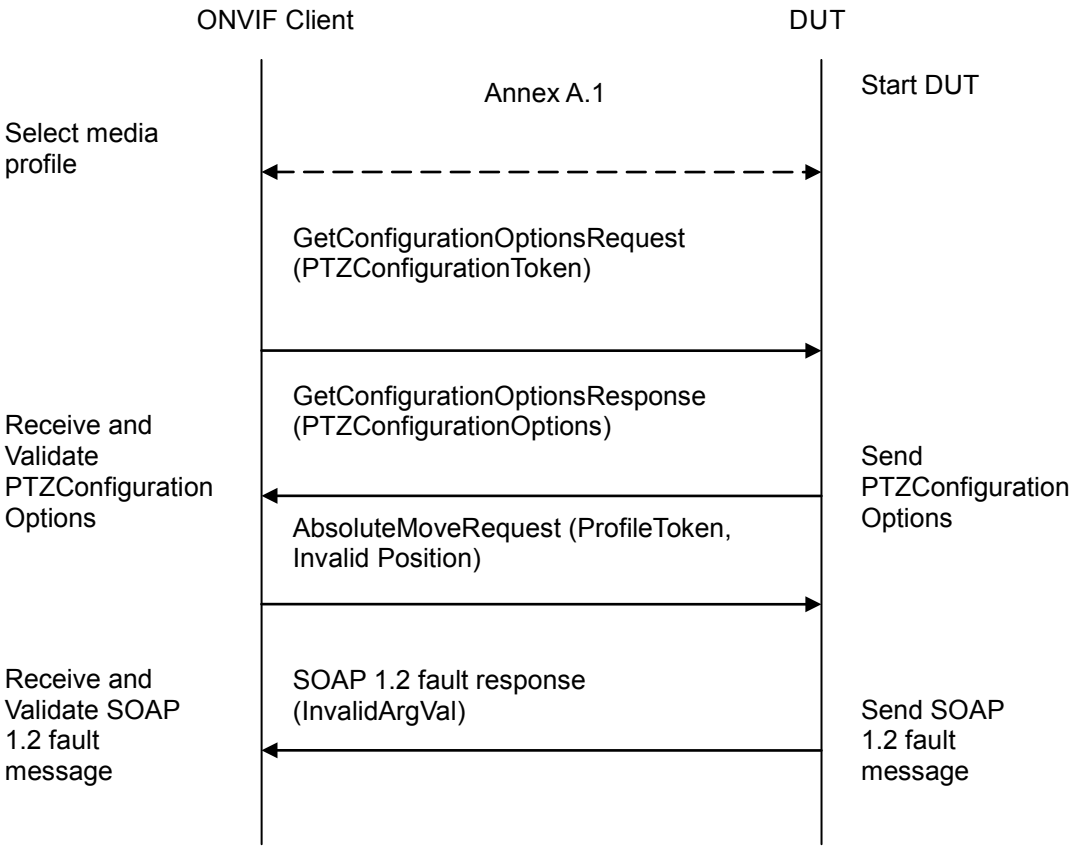
Test Purpose: To verify that DUT generates a SOAP fault message to AbsoluteMove operation with out of bounds values.

Pre-Requisite: PTZ is supported by DUT, and a function of Absolute movements is implemented. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities command.

A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client will invoke GetConfigurationOptionsRequest message (PTZConfigurationToken).
5. DUT returns existing PTZConfiguration in the GetConfigurationOptionsResponse message.
6. ONVIF Client will invoke AbsoluteMoveRequest message (ProfileToken, PanTilt = ["x (Out of range)", "y (Out of range)"]).
7. Verify the DUT generates a SOAP 1.2 fault message (**InvalidArgVal/InvalidPosition**)

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send SOAP 1.2 fault message against AbsoluteMoveRequest message.

The DUT did not send a correct SOAP 1.2 fault message (fault code, namespace etc) against AbsoluteMoveRequest message.

4.3.3 PTZ RELATIVE MOVE

Test Label: PTZ Relative Move Operation

Test Case ID: PTZ-3-1-3

ONVIF Core Specification Coverage: RelativeMove

Command Under Test: RelativeMove

WSDL Reference: ptz.wsdl

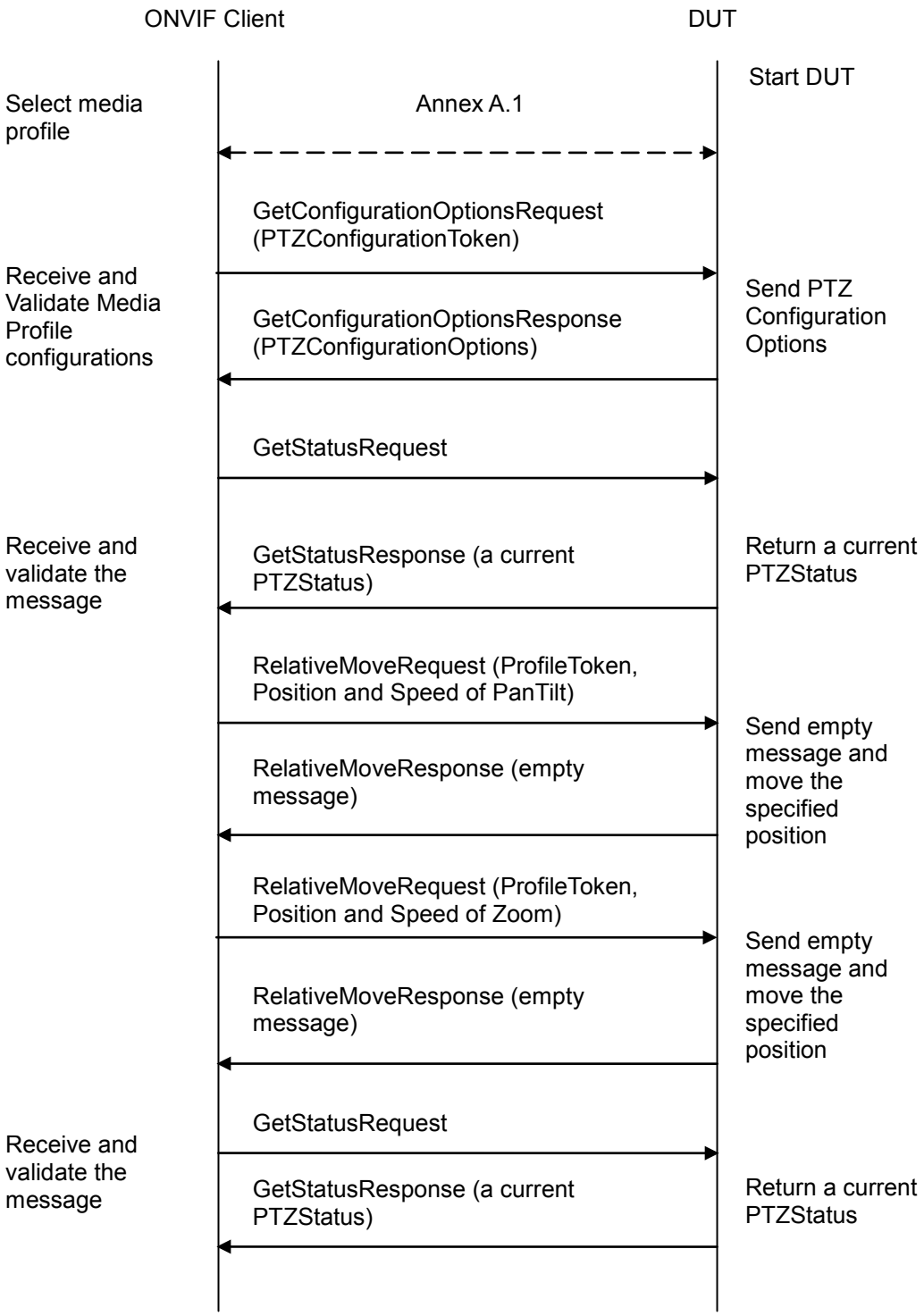
Test Purpose: To verify relative Pan/Tilt or relative Zoom movements using the DUT PTZ RelativeMove operation

Pre-Requisite: PTZ is supported by DUT, and a function of Relative movements is implemented. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities command.

A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.

2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client will invoke GetConfigurationOptionsRequest message to retrieve PTZConfigurationOptions.
5. Verify that DUT returns GetConfigurationOptionsResponse with valid Spaces and PTZTimeout, and has the function of Relative movement.
6. ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
7. DUT returns a current PTZStatus in the GetStatusResponse.
8. If PanTilt of Relative movement is supported (there is a parameter of RelativePanTiltTranslationSpace in PTZConfigurationOptions), ONVIF Client will invoke RelativeMoveRequest message (**ProfileToken, Position:PanTilt = ["x", "y"], Speed:PanTilt = [“x”, “y”]**). The Speed:PanTilt parameter is added if supported Speed:PanTilt.
9. If ONVIF Client invoked RelativeMoveRequest message for PanTilt, verify that DUT returns RelativeMoveResponse message indicating success.
10. If Zoom Relative movement is supported (there is a parameter of RelativeZoomTranslationSpace in PTZConfigurationOptions), ONVIF Client will invoke RelativeMoveRequest message (**ProfileToken, Position:Zoom = ["x"], Speed:Zoom = ["x"]**). The Speed:Zoom parameter is added if supported Speed:Zoom.
11. If ONVIF Client invoked RelativeMoveRequest message for Zoom, verify that DUT returns RelativeMoveResponse message indicating success.
12. ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
13. Verify that DUT moves to the specified position by GetStatusResponse message.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send GetConfigurationOptionsResponse message with valid Spaces and PTZTimeout.

The DUT did not send GetStatusResponse message.

The DUT did not send a valid GetStatusResponse message.

The DUT did not send RelativeMoveResponse message.

The DUT did not send GetStatusResponse message with the specified position after moved by ONVIF Client.

Note: If DUT does not return a current position by GetStatusResponse, the specified position after being moved by ONVIF Client is not checked by ONVIF Client.

PTZ accuracy is out of scope for this Test Specification. Therefore the position reported by the DUT in the GetStatusResponse does not have to be exactly the same as the position requested by the ONVIF Client in the RelativeMoveRequest.

4.3.4 PTZ CONTINUOUS MOVE

Test Label: PTZ Continuous Move Operation

Test Case ID: PTZ-3-1-4

ONVIF Core Specification Coverage: ContinuousMove

Command Under Test: ContinuousMove

WSDL Reference: ptz.wsdl

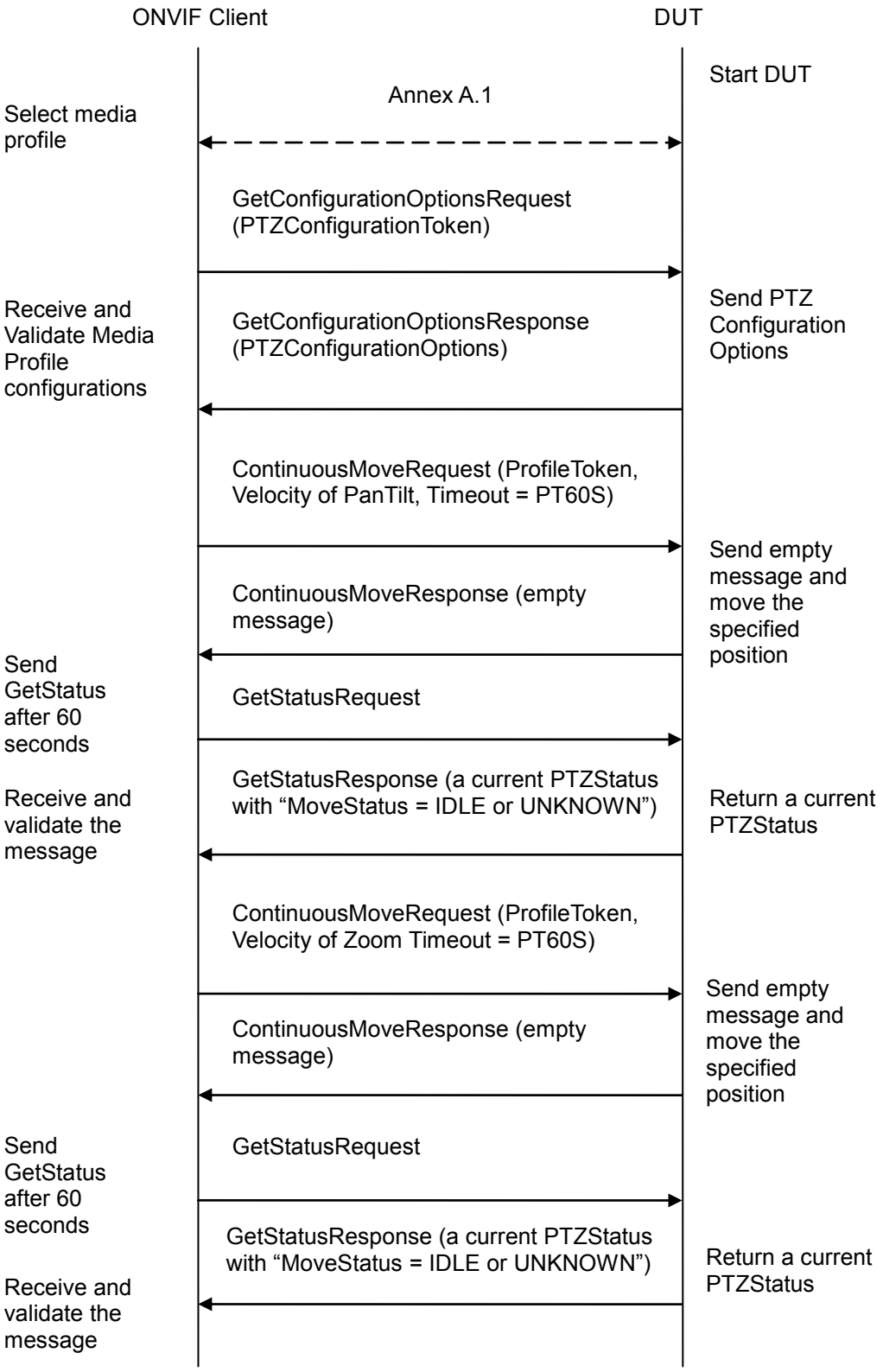
Test Purpose: To verify continuous Pan/Tilt or continuous Zoom movements using the DUT PTZ ContinuousMove operation with timeout parameter

Pre-Requisite: PTZ is supported by DUT, and a function of Continuous movements is implemented. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities command.

A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client will invoke GetConfigurationOptionsRequest message to retrieve PTZConfigurationOptions.
5. Verify that DUT returns GetConfigurationOptionsResponse with valid Spaces and PTZTimeout, and has the function of Relative movement.
6. If PanTilt of Continuous movement is supported (there is a parameter of ContinuousPanTiltVelocitySpace in PTZConfigurationOptions), ONVIF Client will invoke ContinuousMoveRequest message (ProfileToken, Velocity:PanTilt = ["x", "y"], Timeout = PT60S).
7. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that DUT returns ContinuousMoveResponse message indicating success.
8. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus after 60 second.
9. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that the DUT returns GetStatusResponse with “MoveStatus = IDLE or UNKNOWN”.
10. If Zoom of Continuous movement is supported (there is a parameter of ContinuousZoomVelocitySpace in PTZConfigurationOptions), ONVIF Client will invoke ContinuousMoveRequest message (ProfileToken, Velocity:Zoom = ["x"], Timeout = PT60S).
11. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, verify that DUT returns ContinuousMoveResponse message indicating success.
12. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus after 60 second.
13. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that the DUT returns GetStatusResponse with “MoveStatus = IDLE or UNKNOWN”.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send GetConfigurationOptionsResponse message with valid Spaces and PTZTimeout.

The DUT did not send GetStatusResponse message.

The DUT did not send a valid GetStatusResponse message.

The DUT did not send ContinuousMoveResponse message.

The DUT did not send GetStatusResponse message with “MoveStatus = MOVING or UNKNOWN” after executing Test Procedure 9 and 15.

The DUT did not send GetStatusResponse message with “MoveStatus = IDLE or UNKNOWN” after executing Test Procedure 11 and 17.

Note: If DUT does not return a current MoveStatus by GetStatusResponse, the MoveStatus is not checked by ONVIF Client.

4.3.5 PTZ CONTINUOUS MOVE & STOP

Test Label: PTZ Continuous Move and Stop Operation

Test Case ID: PTZ-3-1-5

ONVIF Core Specification Coverage: ContinuousMove, Stop

Command Under Test: ContinuousMove, Stop

WSDL Reference: ptz.wsdl

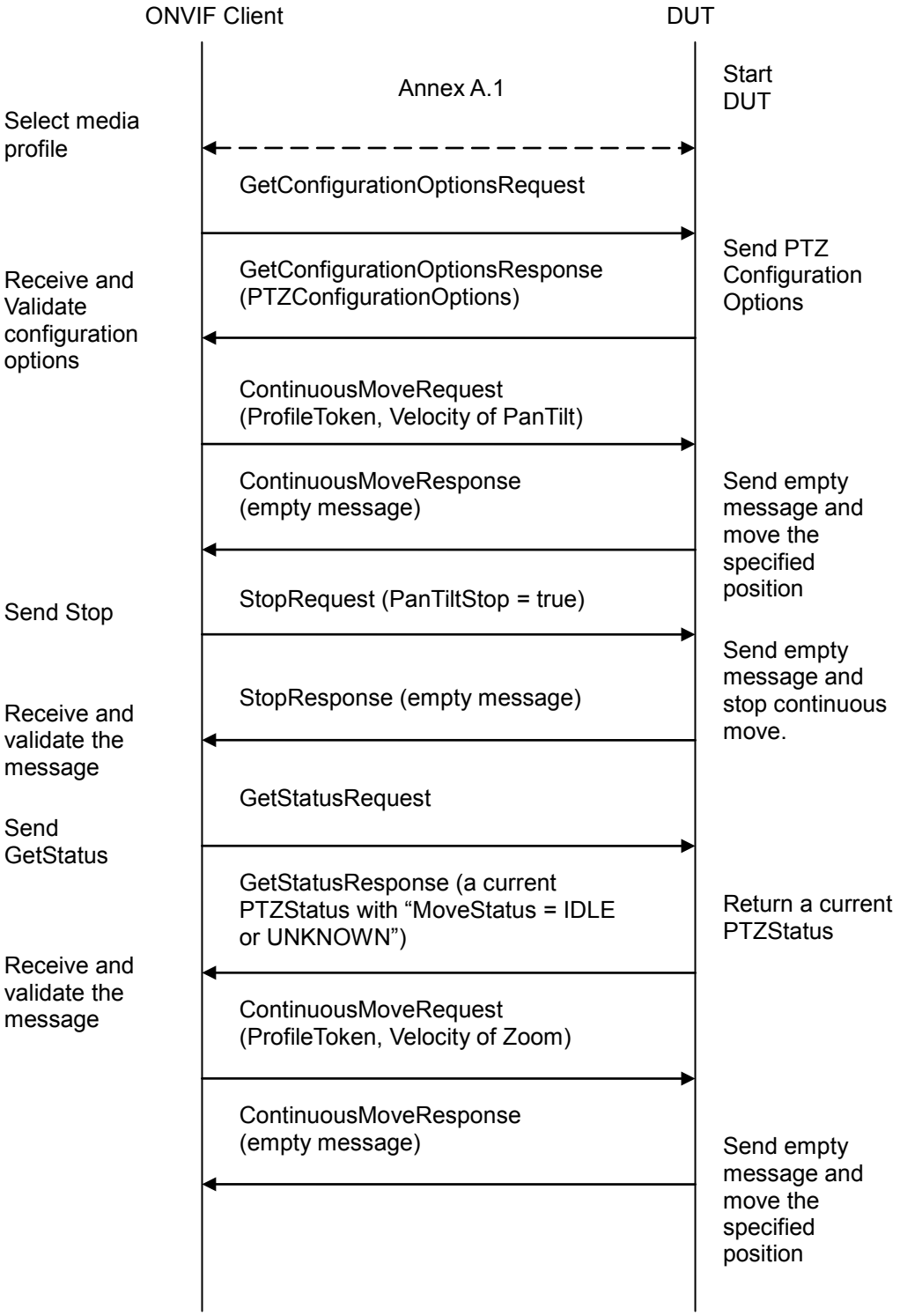
Test Purpose: To verify continuous Pan/Tilt or continuous Zoom movements using the DUT PTZ ContinuousMove operation without timeout parameter and to stop all ongoing pan, tilt and zoom movements.

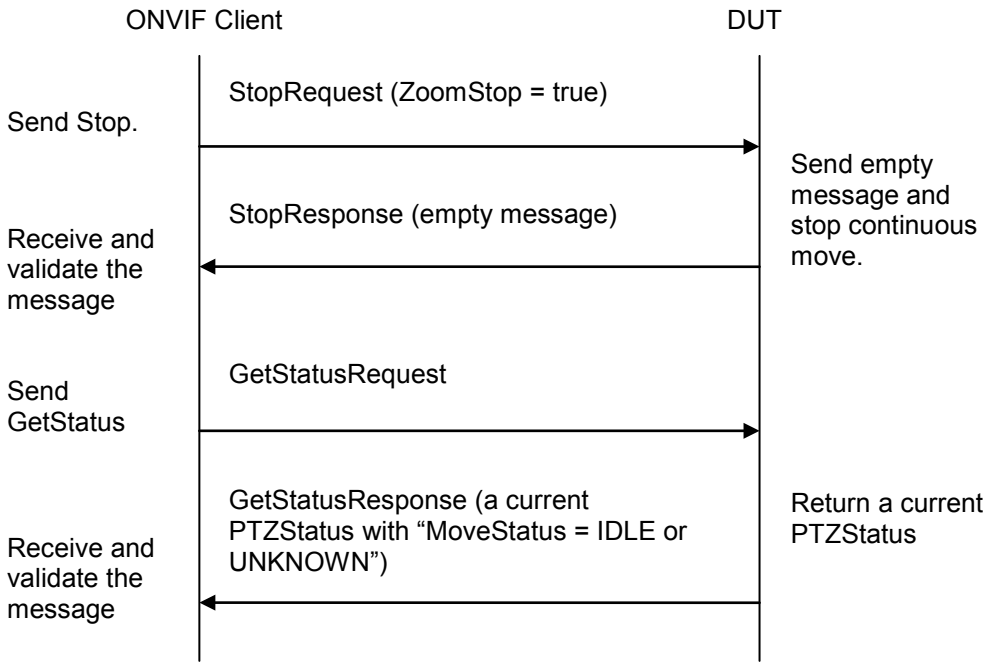
Pre-Requisite: PTZ is supported by DUT, and a function of Continuous movements is implemented. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities command.

A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:





Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client will invoke GetConfigurationOptionsRequest message to retrieve PTZConfigurationOptions.
5. Verify that DUT returns GetConfigurationOptionsResponse with valid Spaces and PTZTimeout, and has the function of Relative movement.
6. If PanTilt of Continuous movement is supported (there is a parameter of ContinuousPanTiltVelocitySpace in PTZConfigurationOptions), ONVIF Client will invoke ContinuousMoveRequest message (**ProfileToken, Velocity:PanTilt = ["x", "y"]**).
7. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that DUT returns ContinuousMoveResponse message indicating success.
8. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, ONVIF Client will invoke StopRequest message to stop continuous move.
9. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that the DUT returns StopResponse message indicating success.
10. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
11. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that the DUT returns GetStatusResponse with “MoveStatus = IDLE or UNKNOWN”.

12. If Zoom of Continuous movement is supported (there is a parameter of ContinuousZoomVelocitySpace in PTZConfigurationOptions), ONVIF Client will invoke ContinuousMoveRequest message (**ProfileToken, Velocity:Zoom = ["x"]**).
13. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, verify that DUT returns ContinuousMoveResponse message indicating success.
14. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, ONVIF Client will invoke StopRequest message to stop continuous move.
15. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, verify that the DUT returns StopResponse message indicating success.
16. If ONVIF Client invoked ContinuousMoveRequest message for Zoom, ONVIF Client will invoke GetStatusRequest message to get a current PTZStatus.
17. If ONVIF Client invoked ContinuousMoveRequest message for PanTilt, verify that the DUT returns GetStatusResponse with “MoveStatus = IDLE or UNKNOWN”.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send GetConfigurationOptionsResponse message.

The DUT did not send a valid GetConfigurationOptionsResponse message.

The DUT did not send GetConfigurationOptionsResponse message with valid Spaces and PTZTimeout.

The DUT did not send GetStatusResponse message.

The DUT did not send a valid GetStatusResponse message.

The DUT did not send ContinuousMoveResponse message.

The DUT did not send StopResponse message.

The DUT did not send GetStatusResponse message with “MoveStatus = MOVING or UNKNOWN” after executing Test Procedure 9 and 17.

The DUT did not send GetStatusResponse message with “MoveStatus = IDLE or UNKNOWN” after executing Test Procedure 13 and 21.

Note: If DUT does not return a current MoveStatus by GetStatusResponse, the MoveStatus is not checked by ONVIF Client.

4.4 Preset operations

4.4.1 SET AND GET PRESET

Test Label: PTZ Set and Get Preset

Test Case ID: PTZ-4-1-4

ONVIF Core Specification Coverage: SetPreset, GetPresets.

Command Under Test: SetPreset, GetPresets

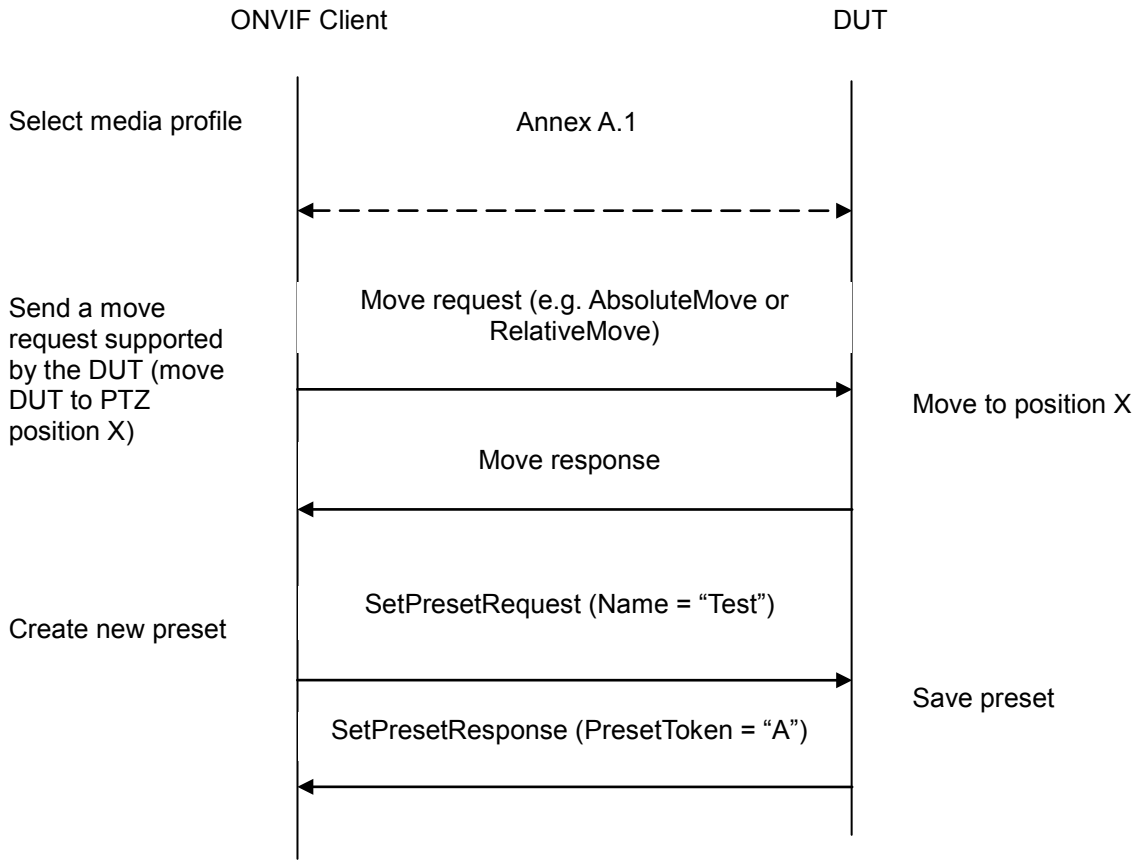
WSDL Reference: ptz.wsdl

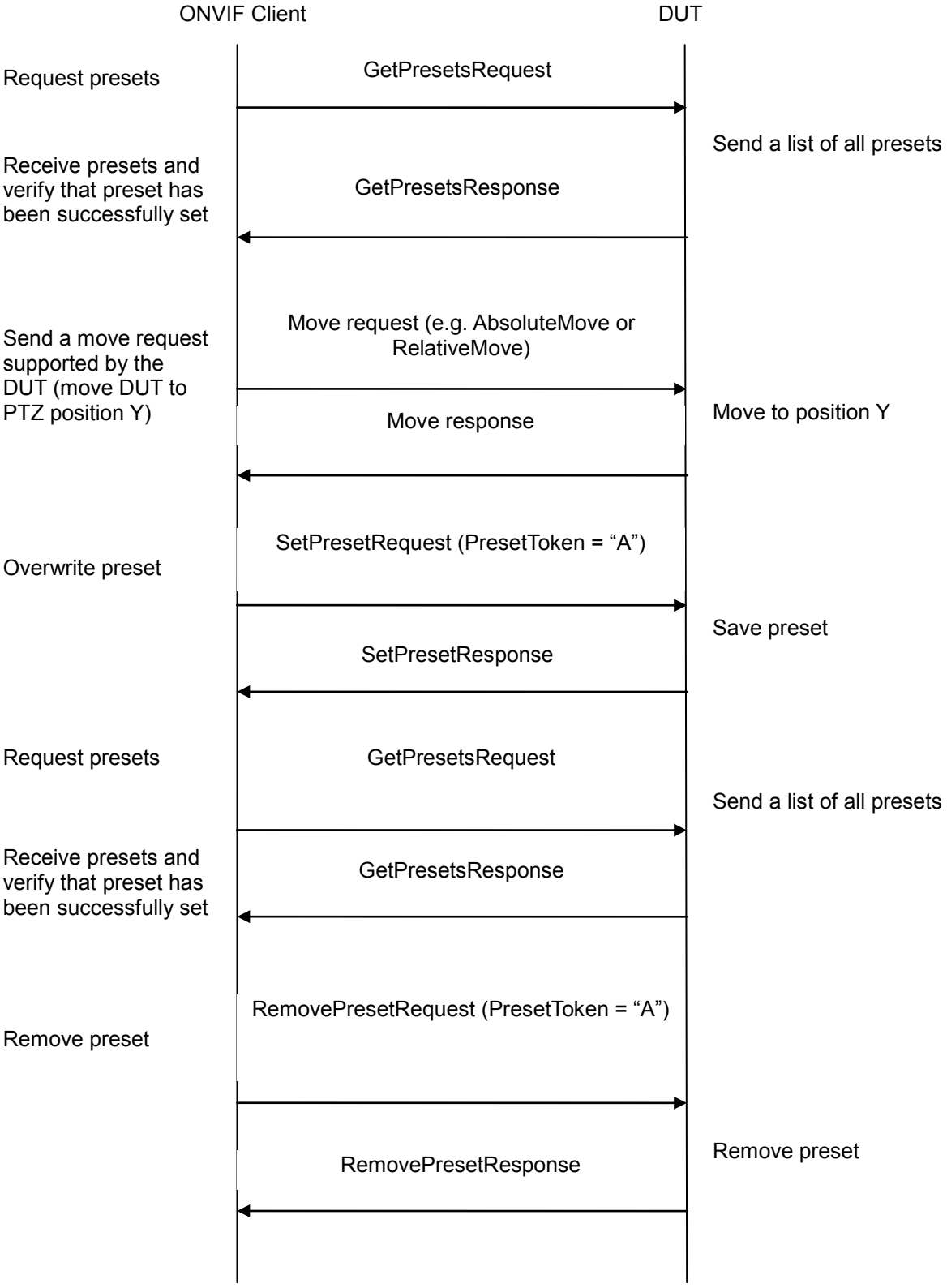
Test Purpose: To verify that the DUT supports the setting of presets using the SetPreset operation and the retrieval of presets using the GetPresets operation.

Pre-Requisite: A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:





Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. Position the DUT so that it is at PTZPosition X using a move request supported by the DUT (e.g. AbsoluteMove or RelativeMove).
3. Create a new preset using SetPresetRequest (Name = “Test”).
4. Verify that the DUT sends a SetPresetResponse and a PresetToken for the preset. The PresetToken will need to be used in the following test steps. The PresetToken can have any valid value but it will be referred to as “PresetToken = “A” in this test case.
5. ONVIF Client sends a GetPresetsRequest.
6. The DUT sends a list of presets in the GetPresetsResponse.
7. Verify that the GetPresetsResponse has a preset with PresetToken = “A” and with Name = “Test”.
8. If the DUT supports absolute Pan/Tilt movement, the ONVIF Client checks that GetPresetsResponse contains PTZPosition.PanTilt field with values that are equal to X.
9. If the DUT supports absolute Zoom movement, the ONVIF Client checks that GetPresetsResponse contains PTZPosition.Zoom field with values that are equal to X.
10. If the DUT does not support absolute Pan/Tilt movement and GetPresetsResponse contains PTZPosition.PanTilt field, the ONVIF Client checks that values of PanTilt that are equal to X.
11. If the DUT does not support absolute Zoom movement and GetPresetsResponse contains PTZPosition.Zoom field, the ONVIF Client checks that values of PanTilt that are equal to X.
12. Position the DUT so that is at PTZPosition Y using a move request supported by the DUT (e.g. AbsoluteMove or RelativeMove).
13. Overwrite the preset using SetPresetRequest (PresetToken = “A”).
14. ONVIF Client sends a GetPresetsRequest.
15. The DUT sends a list of presets in the GetPresetsResponse.
16. Verify that there is a preset with PresetToken = “A” and with Name = “Test.
17. If the DUT supports absolute Pan/Tilt movement, the ONVIF Client checks that GetPresetsResponse contains PTZPosition.PanTilt field with values that correspond to Y.
18. If the DUT supports absolute Zoom movement, the ONVIF Client checks that GetPresetsResponse contains PTZPosition.Zoom field with values that correspond to Y.
19. If the DUT does not support absolute Pan/Tilt movement and GetPresetsResponse contains PTZPosition.PanTilt field, the ONVIF Client checks that values of PanTilt that correspond to Y.
20. If the DUT does not support absolute Zoom movement and GetPresetsResponse contains PTZPosition.Zoom field, the ONVIF Client checks that values of PanTilt that correspond to X.
21. ONVIF Client sends a RemovePresetRequest (PresetToken = “A”) to the DUT and the DUT removes the preset.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT's move operation failed.

The DUT did not send SetPresetResponse message.

The DUT did not include a PresetToken in the SetPresetResponse message.

The DUT did not send GetPresetsResponse message.

The DUT did not include the correct PTZPosition in the GetPresetsResponse message.

The DUT did not include the correct name (Name = "Test") in the GetPresetsResponse message.

Note: There are no specific requirements on what the exact values for PTZPositions X and Y should be used in this test, other than they shall be different positions.

If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt in AbsoluteMoveRequest message.

PTZ accuracy is out of scope for this Test Specification. Therefore the position reported by the DUT in the GetPresetResponse does not have to be exactly the same as the position of the preset created with the SetPresetRequest.

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.4.2 GOTO PRESET

Test Label: PTZ GotoPreset

Test Case ID: PTZ-4-1-5

ONVIF Core Specification Coverage: GotoPreset, SetPreset

Command Under Test: GotoPreset

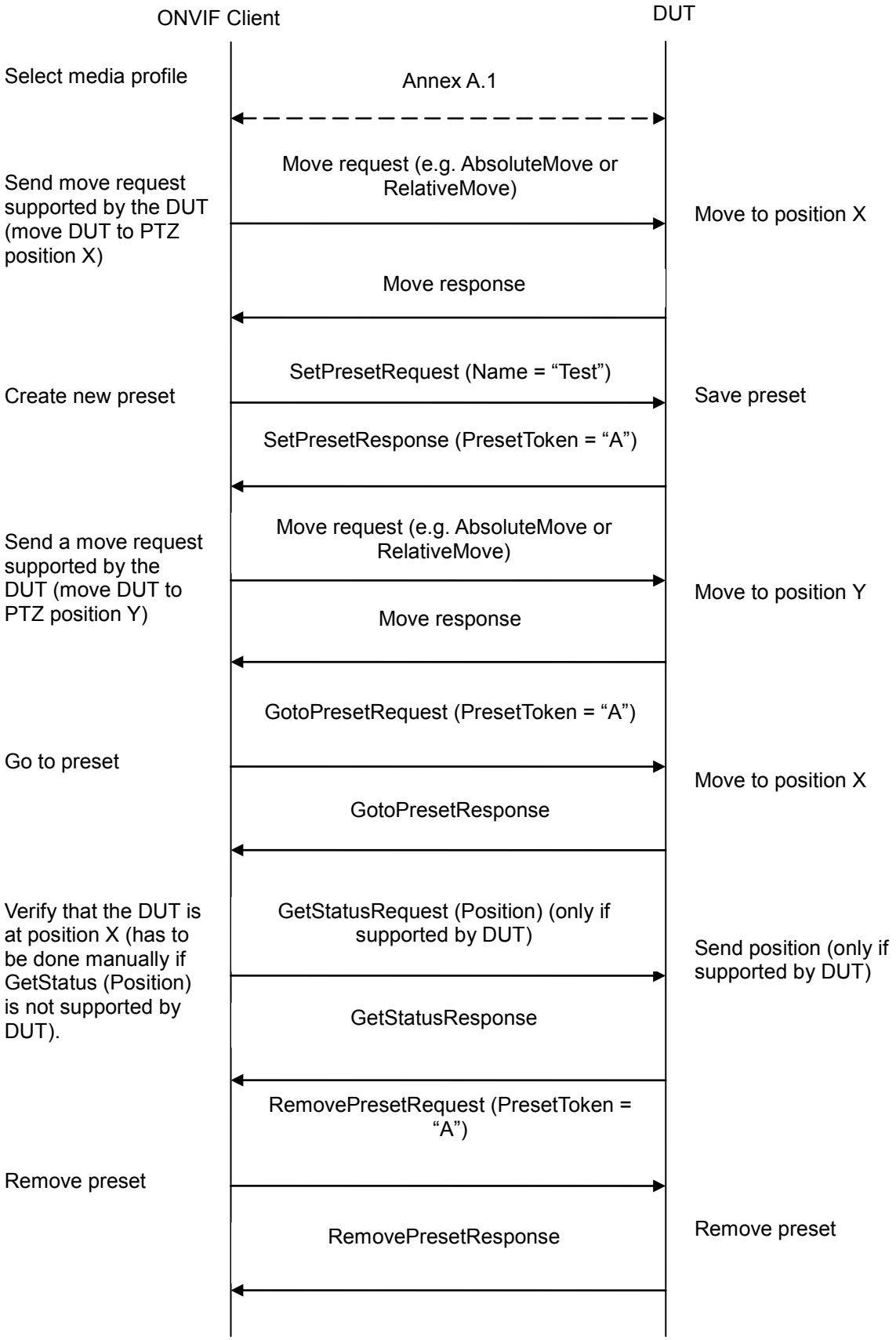
WSDL Reference: ptz.wsdl

Test Purpose: To verify that it is possible to go to presets using the GotoPreset operation.

Pre-Requisite: A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:


ONVIF Client
DUT
Select media profile
Annex A.1
Move request (e.g. AbsoluteMove or RelativeMove)
Send move request supported by the DUT (move DUT to PTZ position X)
Move to position X
Move response
SetPresetRequest (Name = “Test”)
Create new preset
Save preset
SetPresetResponse (PresetToken = “A”)
Move request (e.g. AbsoluteMove or RelativeMove)
Send a move request supported by the DUT (move DUT to PTZ position Y)
Move to position Y
Move response
GotoPresetRequest (PresetToken = “A”)
Go to preset
Move to position X
GotoPresetResponse
GetStatusRequest (Position) (only if supported by DUT)
Verify that the DUT is at position X (has to be done manually if GetStatus (Position) is not supported by DUT).
Send position (only if supported by DUT)
GetStatusResponse
RemovePresetRequest (PresetToken = “A”)
Remove preset
Remove preset
RemovePresetResponse

Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. Position the DUT so that it is at PTZPosition X using a move request supported by the DUT (e.g. AbsoluteMove or RelativeMove).
3. Create a new preset using SetPresetRequest (Name = 'Test").
4. Verify that the DUT sends a SetPresetResponse and a PresetToken for the preset. The PresetToken will need to be used in the following test steps. The PresetToken can have any valid value but it will be referred to as "PresetToken = "A" in this test case.
5. Move the DUT so that it is **not** at PTZPosition X (e.g. using AbsoluteMove Y).
6. ONVIF Client sends GotoPresetRequest (PresetToken = "A").
7. The DUT goes to the preset PTZ position and sends a GotoPresetResponse.
8. Verify that the DUT is at PTZPosition X. GetStatus (Position) can be used if it is supported; else this will have to be done manually.
9. ONVIF Client sends a RemovePresetRequest (PresetToken = "A") to the DUT and the DUT removes the preset.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT's move operation failed.

The DUT did not send SetPresetResponse message with a PresetToken.

The DUT did not go to the correct position after GotoPresetRequest was sent.

The DUT did not send GotoPresetResponse.

Note: There is no specific requirement on what the exact value for PTZPosition X should be used in this test case.

If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration, then these limitations will be taken into account for x, y values of PanTilt in AbsoluteMoveRequest message.

PTZ accuracy is out of scope for this Test Specification. Therefore the position reported by the DUT in the GetStatusResponse does not have to be exactly the same as the position of the preset created with the SetPresetRequest.

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.4.3 REMOVE PRESET

Test Label: PTZ RemovePreset

Test Case ID: PTZ-4-1-6

ONVIF Core Specification Coverage: RemovePreset, SetPreset, GetPresets

Command Under Test: RemovePreset

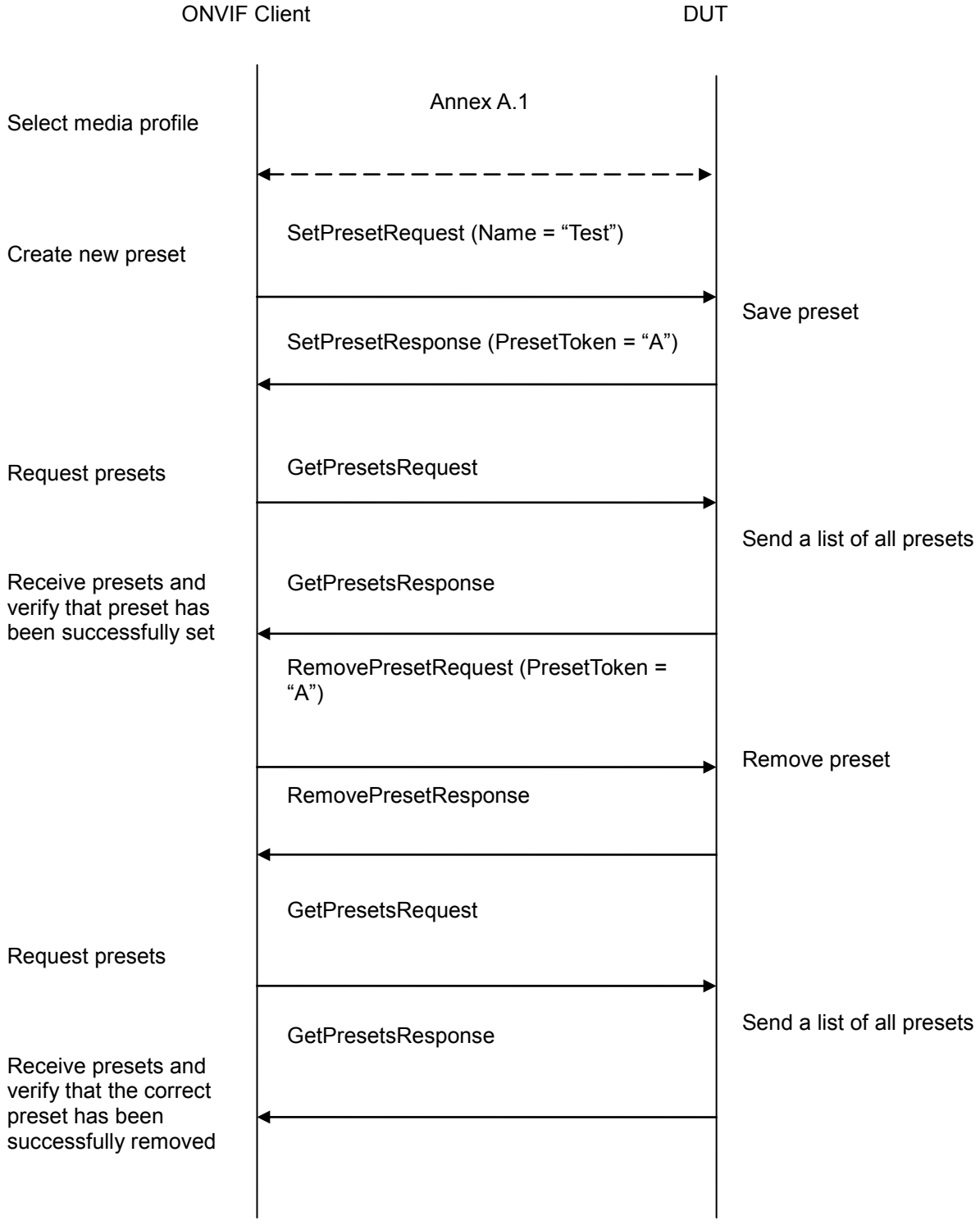
WSDL Reference: ptz.wsdl

Test Purpose: To verify that it is possible to remove presets using the RemovePreset operation.

Pre-Requisite: A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. ONVIF Client creates a new preset using SetPresetRequest (Name = ”Test”)

3. DUT saves the preset and sends a SetPresetResponse. Verify that the DUT sent a SetPresetResponse and a PresetToken for the preset. The PresetToken will need to be used in the following test steps. The PresetToken can have any valid value but it will be referred to as “PresetToken = “A” in this test case.
4. ONVIF Client sends a GetPresetsRequest.
5. DUT sends a list of presets in the GetPresetsResponse.
6. Verify that there is a preset with PresetToken = “A” and Name = “Test”.
7. ONVIF Client sends RemovePresetRequest (PresetToken = “A”)
8. DUT removes preset and sends a RemovePresetResponse
9. ONVIF Client sends a GetPresetsRequest.
10. DUT sends a list of presets in the GetPresetsResponse.
11. Verify that there is no preset with PresetToken = “A” and Name = “Test”.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

DUT did not send SetPresetResponse message with a PresetToken.

DUT did not send GetPresetsResponse message.

DUT did not remove a preset after RemovePresetRequest was sent.

DUT did not send RemovePresetResponse.

Note: See Annex A.2 for Name and Token Parameters Length limitations.

4.5 Home Position operations

4.5.1 HOME POSITION OPERATIONS (CONFIGURABLE)

Test Label: PTZ Configurable Home Position

Test Case ID: PTZ-5-1-1

ONVIF Core Specification Coverage: GotoHomePosition, SetHomePosition.

Command Under Test: SetHomePosition, GotoHomePosition

WSDL Reference: ptz.wsdl

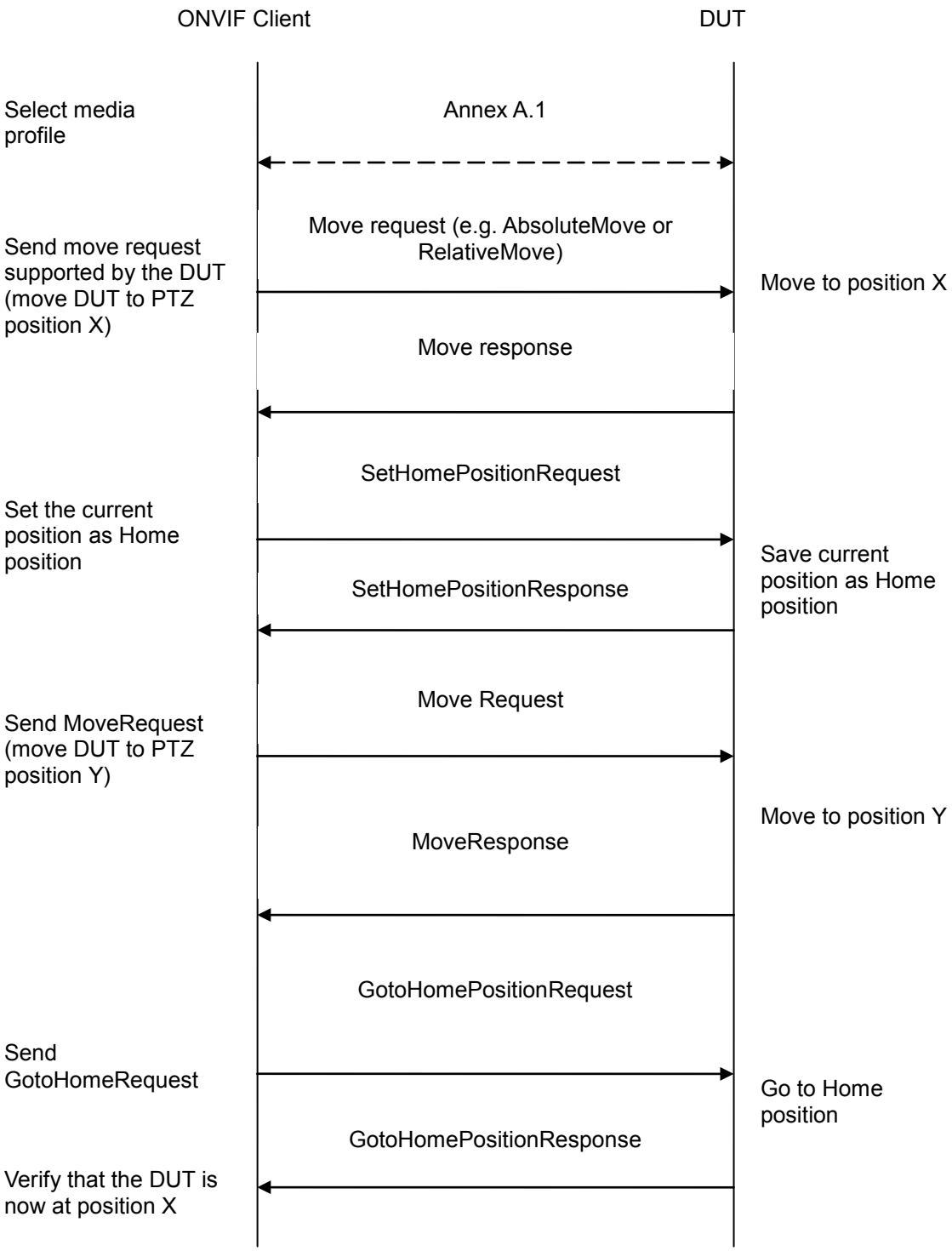
Test Purpose: To verify that the SetHomePosition and GotoHomePosition operations are correctly implemented.

Pre-Requisite:

- A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.
- This test case applies to PTZ nodes that support Configurable Home position

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. Position the DUT so that it is at PTZPosition X using a move request supported by the DUT (e.g. AbsoluteMove or RelativeMove).

3. ONVIF Client sends a SetHomePositionRequest.
4. DUT sets the Home position to the current position and sends a SetHomePositionResponse.
5. Move DUT so that it is not at PTZPosition X (e.g. using AbsoluteMove Y)
6. ONVIF Client sends a GotoHomePositionRequest.
7. DUT goes to the Home PTZ position and sends a GotoHomePositionResponse.
8. Verify that the DUT is at PTZPosition X (GetStatus/Position can be used if it is supported, else this will have to be done manually)

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT's move operation failed.

The DUT did not send SetHomePositionResponse message.

The DUT did not save the new position as Home position.

The DUT did not send GotoHomePositionResponse message.

The DUT did not go to Home position.

Note: PTZ accuracy is out of scope for this Test Specification. Therefore, the position reported by the DUT in the GetStatusResponse does not have to be exactly the same as the position of the Home position.

If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt in AbsoluteMoveRequest message.

4.5.2 HOME POSITION OPERATIONS (FIXED)

Test Label: PTZ Fixed Home Position

Test Case ID: PTZ-5-1-2

ONVIF Core Specification Coverage: GotoHomePosition, SetHomePosition.

Command Under Test: SetHomePosition, GotoHomePosition

WSDL Reference: ptz.wsdl

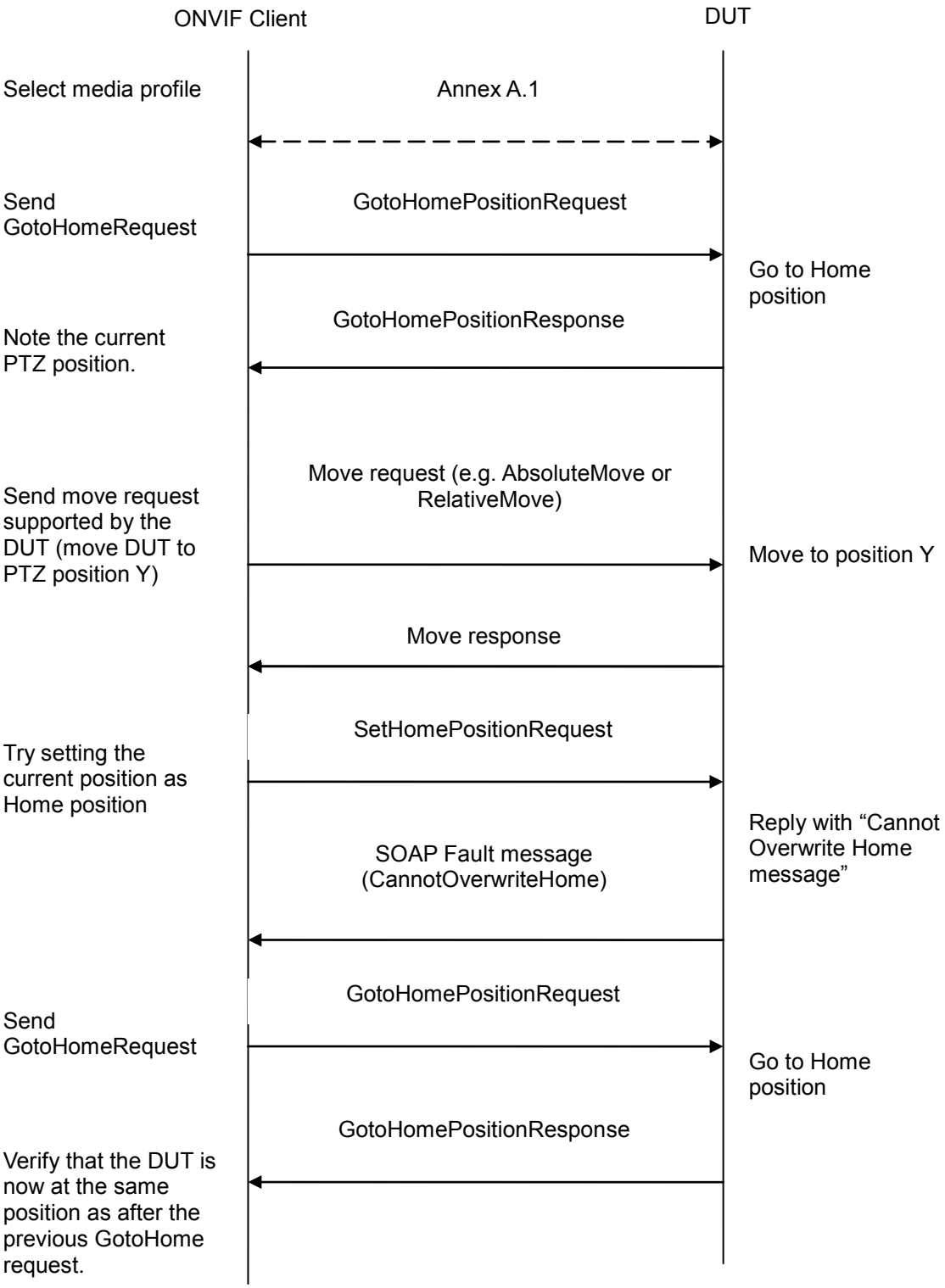
Test Purpose: To verify that the SetHomePosition and GotoHomePosition operations are correctly implemented.

Pre-Requisite:

- A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.
- This test case applies to PTZ nodes that support fixed Home position

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. ONVIF Client sends a GotoHomePositionRequest.

3. The DUT goes to the Home position and sends a GotoHomePositionResponse.
4. Note at which PTZPosition the DUT is (GetStatus/Position can be used if it is supported, else this will have to be done manually). This position will be referred to as “PTZPosition A” below.
5. Position the DUT so that is at PTZPosition Y using a move request supported by the DUT (e.g. AbsoluteMove or RelativeMove).
6. ONVIF Client sends a SetHomePositionRequest.
7. DUT responds with “Cannot Overwrite Home” message.
8. ONVIF Client sends a GotoHomePositionRequest.
9. DUT goes to the Home PTZ position and sends a GotoHomePositionResponse.
10. Verify that the DUT is back at PTZPosition A (GetStatus/Position can be used if it is supported, else this will have to be done manually)

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT did not send SOAP Fault message (CannotOverwriteHome).

The DUT’s move operation failed.

The DUT did not save the new position (“PTZPosition Y”) as Home position.

The DUT did not send GotoHomePositionResponse message.

The DUT did not go to original Home position (“PTZPosition A”).

Note: PTZ accuracy is out of scope for this Test Specification. Therefore the position reported by the DUT in the GetStatusResponse does not have to be exactly the same as the position of the Home position.

If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt in AbsoluteMoveRequest message.

4.5.3 PTZ – HOME POSITION OPERATIONS (USAGE OF FIXEDHOMEPOSITION FLAG)

Test Label: PTZ Configurable Home Position with FixedHomePosition flag in PTZ Nodes

Test Case ID: PTZ-5-1-3

ONVIF Core Specification Coverage: SetHomePosition.

Command Under Test: SetHomePosition

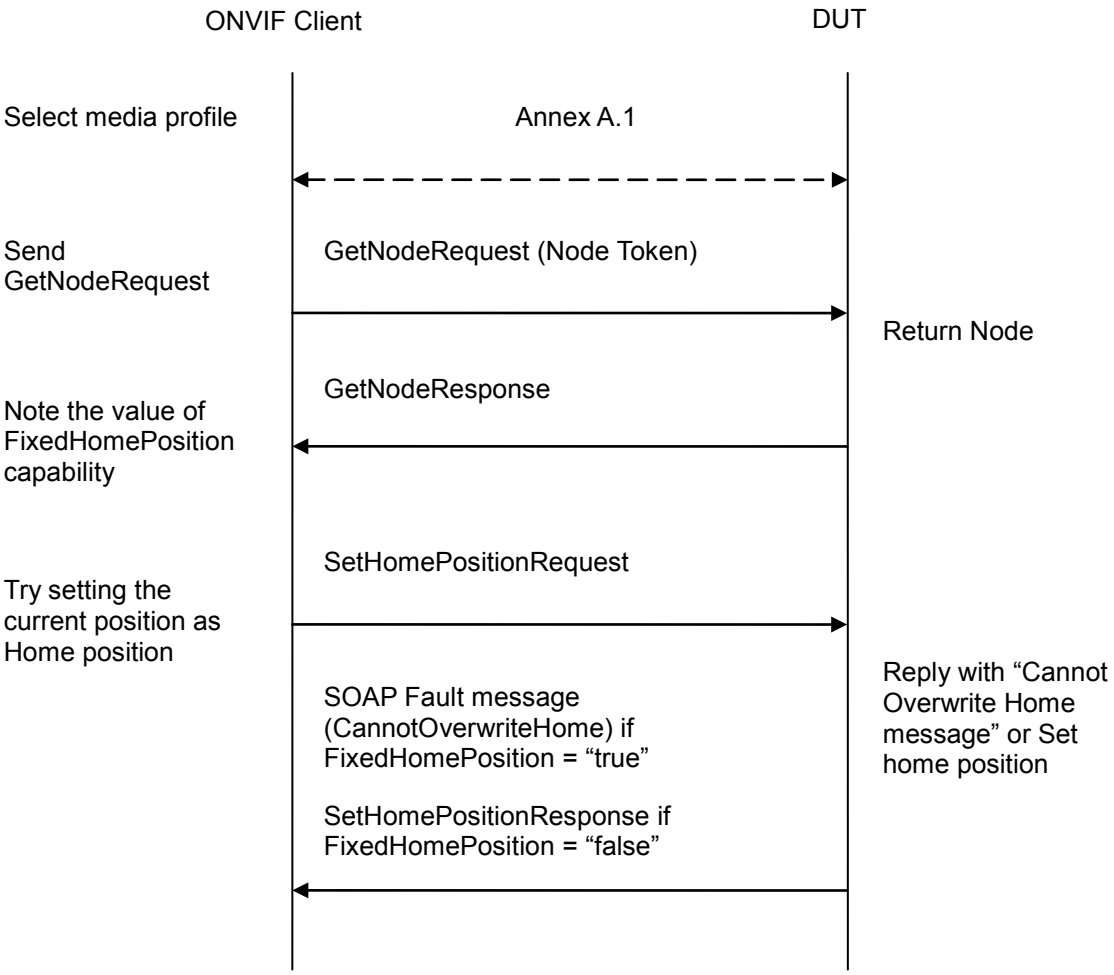
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the SetHomePosition and GotoHomePosition operations are correctly implemented.

Pre-Requisite: A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required. This test case applies to PTZ nodes that support Configurable Home position.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. ONVIF Client configures and selects a media profile as described in Annex A.1.
4. ONVIF Client invokes GetNodeRequest message (Node Token) to get PTZ node capabilities.
5. Verify the GetNodeResponse message from the DUT. If GetNodeResponse message does not contains FixedHomePosition attribute skip other steps and go to the next test.
6. ONVIF Client invokes SetHomePositionRequest message (Profile Token) to get PTZ node capabilities.

7. Verify the SetHomePositionResponse message or SOAP 1.2 fault message (Action/CannotOverwriteHome or ActionNotSupported) from the DUT. Verify that SetHomePositionResponse message was relieved if FixedHomePosition = “false”. Verify that SOAP 1.2 fault message (Action/CannotOverwriteHome or ActionNotSupported) was relieved if FixedHomePosition = “true”.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

DUT did not send SetHomePositionResponse message if FixedHomePosition = “false”.

DUT did not send a valid SOAP 1.2 fault message if FixedHomePosition = “true”.

4.6 Auxiliary operations

4.6.1 SEND AUXILIARY COMMAND

Test Label: PTZ SendAuxiliaryCommand

Test Case ID: PTZ-6-1-1

ONVIF Core Specification Coverage: SendAuxiliaryCommand.

Command Under Test: SendAuxiliaryCommand

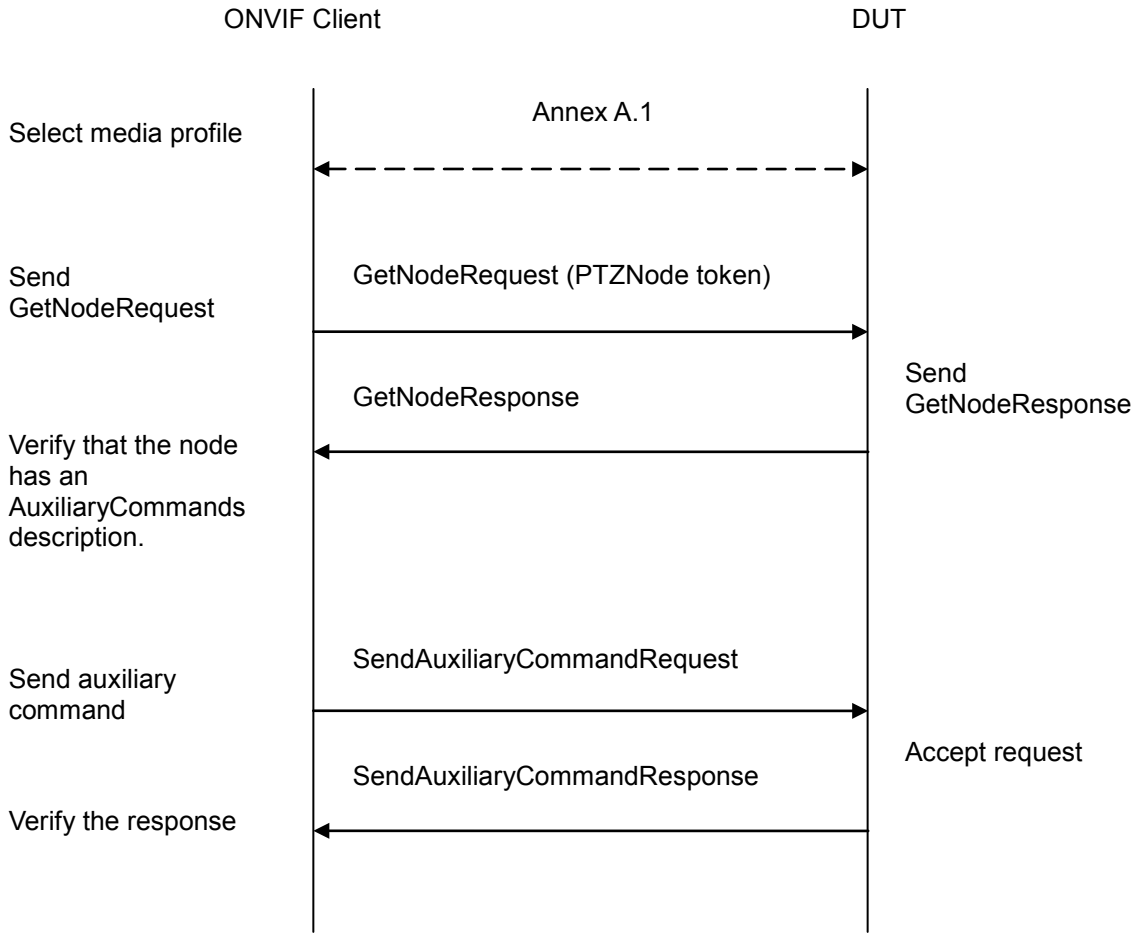
WSDL Reference: ptz.wsdl

Test Purpose: To verify that it is possible to send an auxiliary command using the SendAuxiliaryCommand operation.

Pre-Requisite: A ProfileToken that refers to a Media Profile that includes a PTZConfiguration for the PTZNode is required.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client configures and selects a media profile as described in Annex A.1.
2. ONVIF Client sends a GetNodeRequest.
3. DUT sends a GetNodeResponse that includes a list of the supported auxiliary commands.
4. Send an Auxiliary command that matches the supported command listed in the PTZ Node, using SendAuxiliaryCommandRequest.
5. Verify that the DUT sends a SendAuxiliaryCommandResponse

Test Result:

PASS –

DUT passes all assertions.

FAIL –

DUT did not list the available auxiliary commands in the PTZ Node properties.

DUT did not send SendAuxiliaryCommandResponse.

Note: It is outside the scope of this test case to verify that the functionality connected to an Auxiliary command works as intended. This should be independently verified by the person executing the test.

4.7 Predefined PTZ spaces

4.7.1 Absolute Position Spaces

4.7.1.1 GENERIC PAN/TILT POSITION SPACE

Test Label: PTZ Absolute Position Spaces Generic Pan/Tilt

Test Case ID: PTZ-7-1-3

ONVIF Core Specification Coverage: Generic Pan/Tilt Position Space

Command Under Test: None

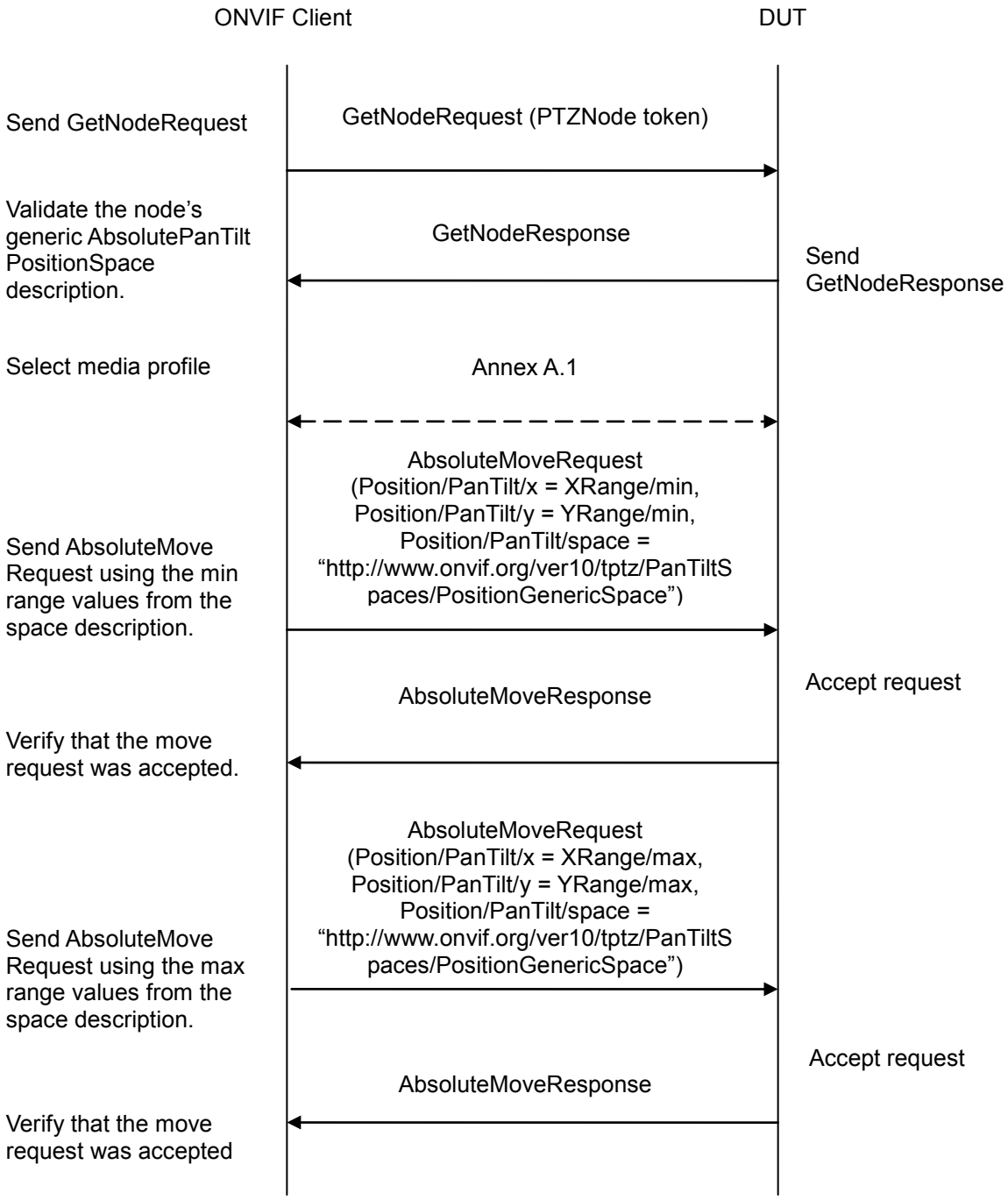
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Pan/Tilt Position Space for AbsolutePanTilt.

Pre-Requisite: PTZ is supported by the DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.

3. Select the first PTZNode that supports Absolute Pan/Tilt movement. If there is no such PTZNodes skip other steps and go to the next test.
4. Verify that the node's Absolute Position Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Pan/Tilt Position Space description for AbsolutePanTilt.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to the selected PTZNode.
6. ONVIF Client sends a valid AbsoluteMoveRequest using the min XRange/YRange values from the space description and with Generic Pan/Tilt Position Space.
7. Verify that the AbsoluteMoveRequest is accepted.
8. ONVIF Client sends a valid AbsoluteMoveRequest using the max XRange/YRange values from the space description and with Generic Pan/Tilt Position Space.
9. Verify that the AbsoluteMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Absolute Pan/Tilt movement in the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT does not have a Generic Pan/Tilt Position Space description for AbsolutePanTilt.

The allowed range is not specified

A valid AbsoluteMove operation does not succeed

Note: This test case shall be repeated for all PTZNodes with Absolute Pan/Tilt move support that are available in the DUT.

Note: Absolute Pan/Tilt Move is regarded as supported for PTZNode, if PTZNode contains at least one AbsolutePanTiltPositionSpace tag.

Note: If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt or Zoom in AbsoluteMoveRequest message.

4.7.1.2 GENERIC ZOOM POSITION SPACE

Test Label: PTZ – Absolute Position Spaces – Generic Zoom

Test Case ID: PTZ-7-1-4

ONVIF Core Specification Coverage: Generic Zoom Position Space

Command Under Test: None

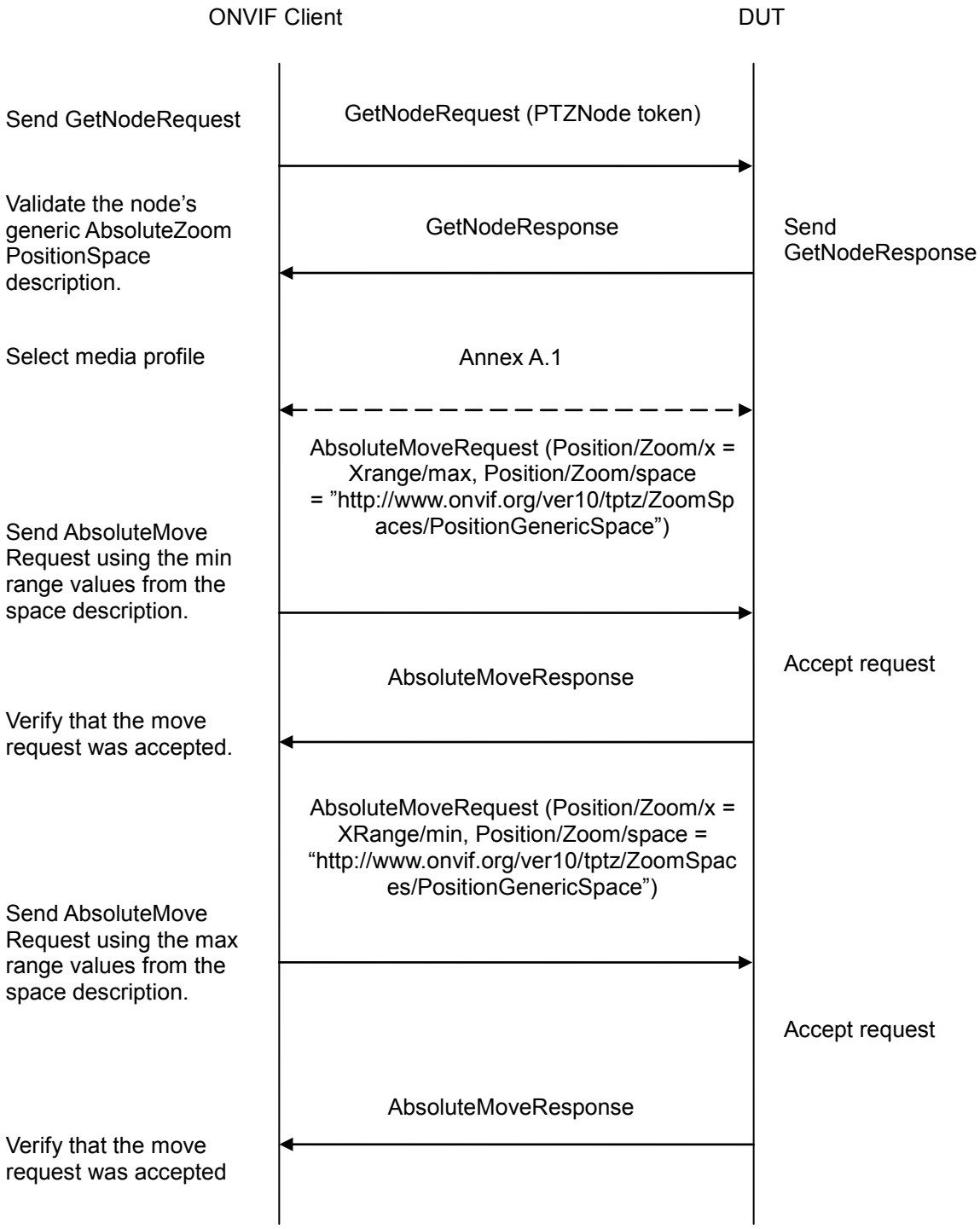
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Zoom Position Space for Absolute Zoom.

Pre-Requisite: PTZ is supported by DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.

2. Verify the GetNodesResponse message from the DUT.
3. Select the first PTZNode that supports Absolute Zoom movement. If there is no such PTZNodes, skip other steps and go to the next test.
4. Verify that the node's Absolute Position Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Zoom Position Space description for AbsoluteZoom.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid AbsoluteMoveRequest using the max XRange values from the space description and with Generic Zoom Position Space.
7. Verify that the AbsoluteMoveRequest is accepted.
8. ONVIF Client sends a valid AbsoluteMoveRequest using the min XRange values from the space description and with Generic Zoom Position Space.
9. Verify that the AbsoluteMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Absolute Zoom movement in the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT does not have a Generic Zoom Position Space description for AbsoluteZoom.

The allowed range is not specified

A valid AbsoluteMove operation does not succeed

Note: This test case shall be repeated for all PTZNodes with Absolute Zoom move support that are available in the DUT.

Note: Absolute Zoom Move is regarded as supported for PTZNode, if PTZNode contains at least one AbsoluteZoomPositionSpace tag.

Note: If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration then these limitations will be taken into account for x, y values of PanTilt or Zoom in AbsoluteMoveRequest message.

4.7.2 Relative Translation Spaces

4.7.2.1 GENERIC PAN/TILT TRANSLATION SPACE

Test Label: PTZ – Relative Translation Spaces – Generic Pan/Tilt

Test Case ID: PTZ-7-2-3

ONVIF Core Specification Coverage: Generic Pan/Tilt Translation Space

Command Under Test: None

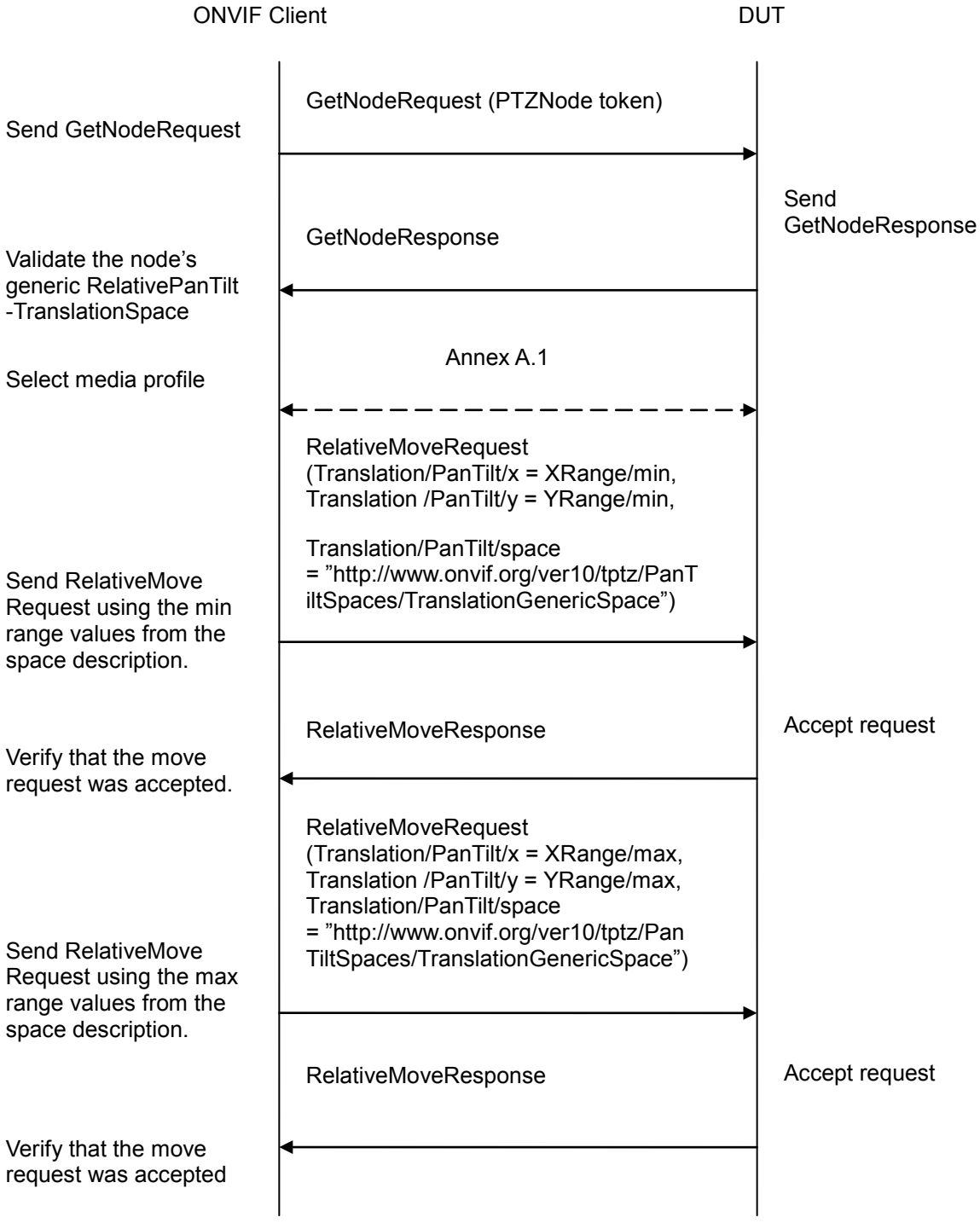
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Pan/Tilt Translation Space for Relative Pan/Tilt.

Pre-Requisite: PTZ is supported by DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.

3. Select the first PTZNode that supports Relative Pan/Tilt movement. If there is no such PTZNodes, skip other steps and go to the next test.
4. Verify that the node's Relative Translation Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Pan/Tilt Translation Space description for RelativePanTilt.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid RelativeMoveRequest using the min XRange/YRange values from the space description and with Generic Pan/Tilt Translation Space.
7. Verify that the RelativeMoveRequest is accepted.
8. ONVIF Client sends a valid RelativeMoveRequest using the max XRange/YRange values from the space description and with Generic Pan/Tilt Translation Space.
9. Verify that the RelativeMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Relative Pan/Tilt movement in the DUT.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT does not have a Generic Pan/Tilt Translation Space description for Relative Pan/Tilt.

The allowed range is not specified.

A valid RelativeMove operation does not succeed.

Note: This test case shall be repeated for all PTZNodes with Relative Pan/Tilt move support that are available in the DUT.

Note: Relative Pan/Tilt Move is regarded as supported for PTZNode, if PTZNode contains at least one RelativePanTiltTranslationSpace tag.

4.7.2.2 GENERIC ZOOM TRANSLATION SPACE

Test Label: PTZ – Relative Translation Spaces – Generic Zoom

Test Case ID: PTZ-7-2-4

ONVIF Core Specification Coverage: Generic Zoom Translation Space

Command Under Test: None

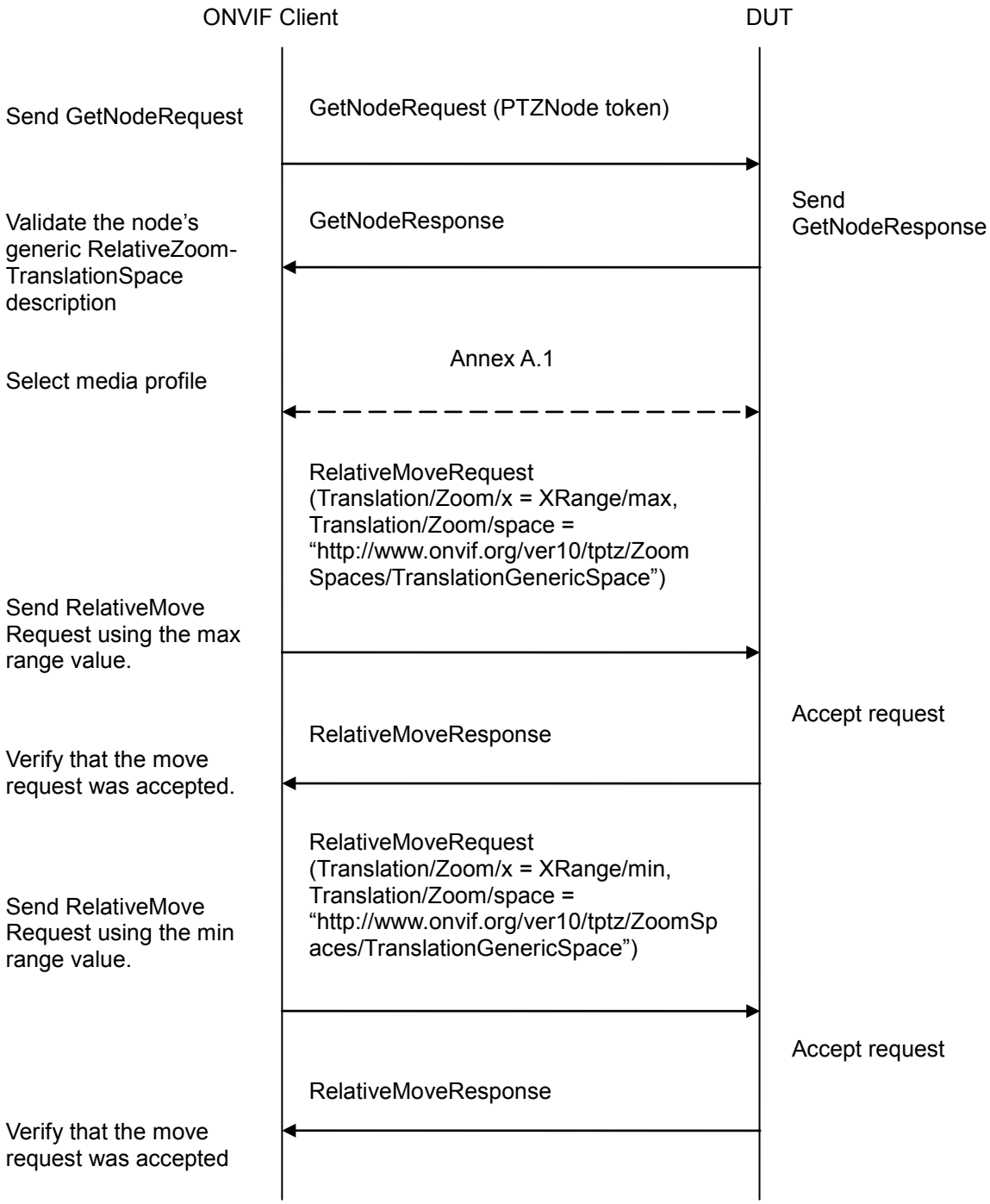
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Zoom Translation Space for Relative Zoom.

Pre-Requisite: PTZ is supported by DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.
3. Select the first PTZNode that supports Relative Zoom movement. If there is no such PTZNodes skip, other steps and go to the next test.
4. Verify that the node's Relative Translation Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Zoom Translation Space description for RelativeZoom.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid RelativeMoveRequest using the max XRange values from the space description and with Generic Zoom Translation Space.
7. Verify that the RelativeMoveRequest is accepted.
8. ONVIF Client sends a valid RelativeMoveRequest using the min XRange values from the space description and with Generic Zoom Translation Space.
9. Verify that the RelativeMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Relative Zoom movement in the DUT.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT does not have a Generic Zoom Translation Space description for RelativeZoom.

The allowed range is not specified

A valid RelativeMove operation does not succeed

Note: This test case shall be repeated for all PTZNodes with Relative Zoom move support that are available in the DUT.

Note: Relative Zoom Move is regarded as supported for PTZNode, if PTZNode contains at least one RelativeZoomTranslationSpace tag.

4.7.3 Continuous Velocity Spaces

4.7.3.1 GENERIC PAN/TILT VELOCITY SPACE

Test Label: PTZ – Continuous Velocity Spaces – Generic Pan/Tilt

Test Case ID: PTZ-7-3-3

ONVIF Core Specification Coverage: Generic Pan/Tilt Velocity Space

Command Under Test: None

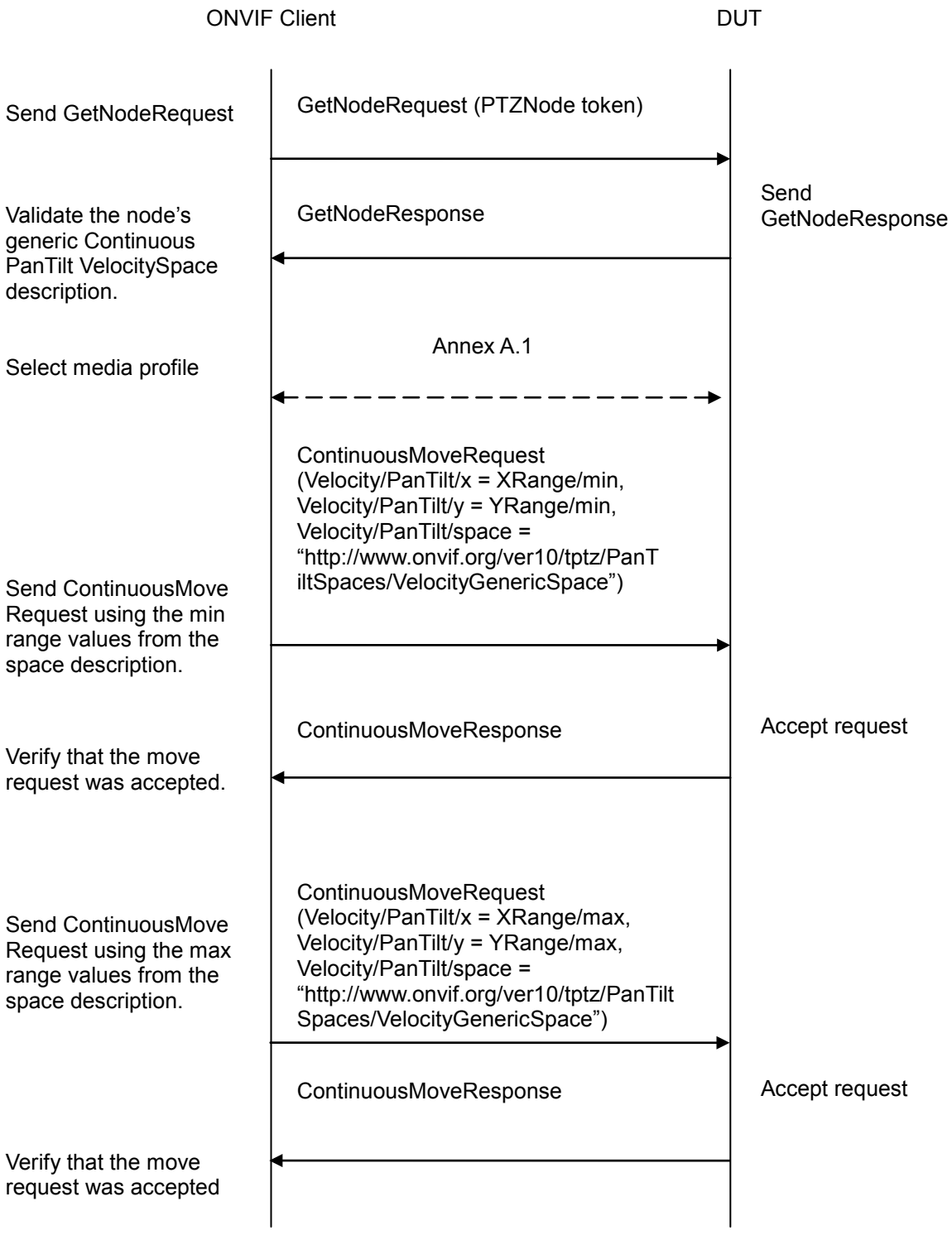
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Pan/Tilt Velocity Space for Continuous Pan/Tilt.

Pre-Requisite: PTZ is supported by DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.

3. Select the first PTZNode that supports Continuous Pan/Tilt movement. If there is no such PTZNodes, skip other steps and go to the next test.
4. Verify that the node's Continuous Velocity Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Pan/Tilt Velocity Space description for ContinuousPanTilt.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid ContinuousMoveRequest using the min XRange/YRange values from the space description and with Generic Pan/Tilt Velocity Space.
7. Verify that the ContinuousMoveRequest is accepted.
8. ONVIF Client sends a valid ContinuousMoveRequest using the max XRange/YRange values from the space description and with Generic Pan/Tilt Velocity Space.
9. Verify that the ContinuousMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Continuous Pan/Tilt movement in the DUT.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT does not have a Generic Pan/Tilt Velocity Space description for Continuous Pan/Tilt.

The allowed range is not specified

A valid ContinuousMove operation does not succeed

Note: This test case shall be repeated for all PTZNodes with Continuous Pan/Tilt move support that are available in the DUT.

Note: Continuous Pan/Tilt Move is regarded as supported for PTZNode, if PTZNode contains at least one ContinuousPanTiltVelocitySpace tag.

4.7.3.2 GENERIC ZOOM VELOCITY SPACE

Test Label: PTZ – Continuous Velocity Spaces – Generic Zoom

Test Case ID: PTZ-7-3-4

ONVIF Core Specification Coverage: Generic Zoom Velocity Space

Command Under Test: None

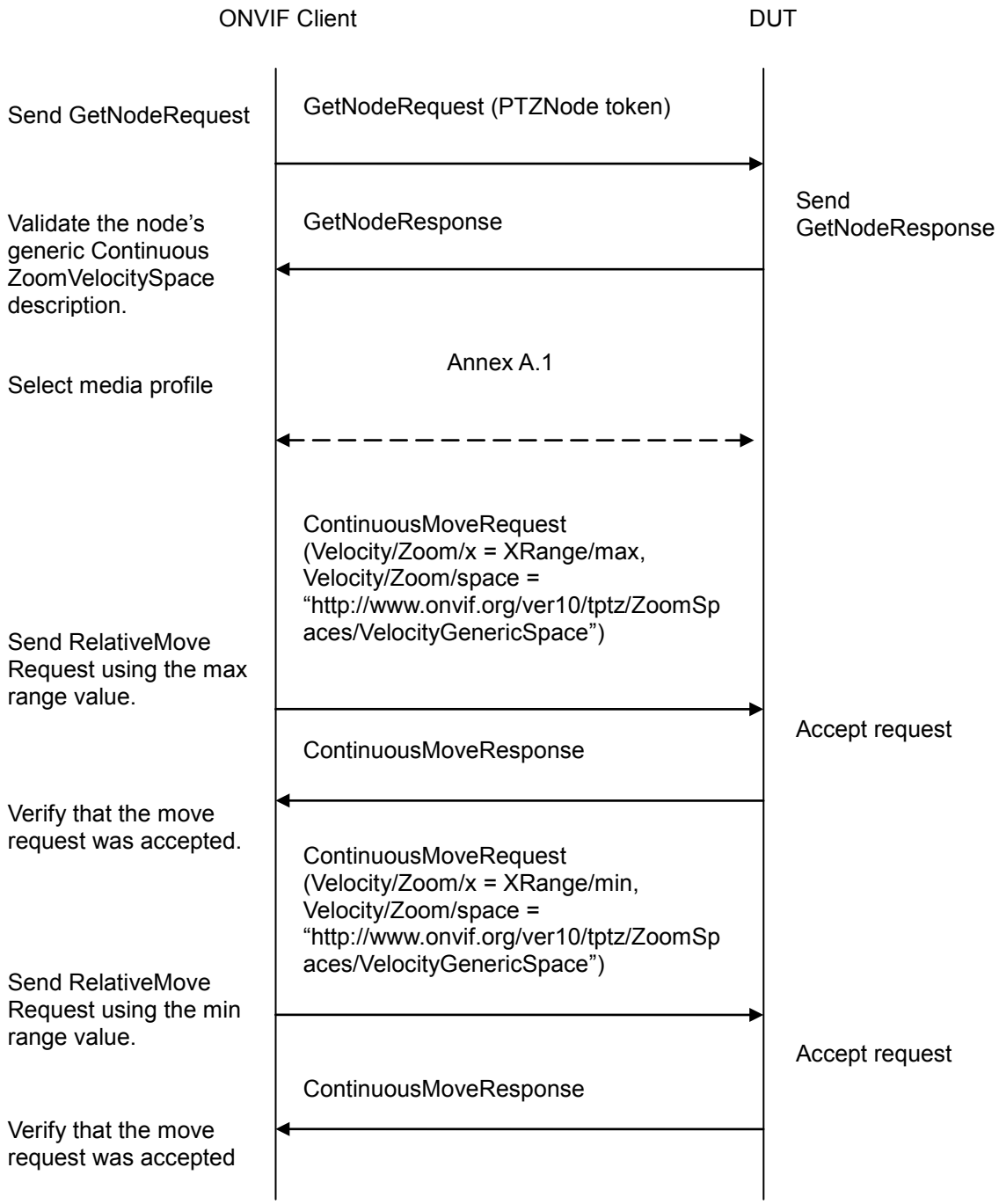
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Zoom Velocity Space for Continuous Zoom.

Pre-Requisite: PTZ is supported by DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.

2. Verify the GetNodesResponse message from the DUT.
3. Select the first PTZNode that supports Continuous Zoom movement. If there is no such PTZNodes, skip other steps and go to the next test.
4. Verify that the node's Continuous Velocity Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Zoom Velocity Space description for ContinuousZoom.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid ContinuousMoveRequest using the max XRange values from the space description and with Generic Zoom Velocity Space.
7. Verify that the ContinuousMoveRequest is accepted.
8. ONVIF Client sends a valid ContinuousMoveRequest using the min XRange values from the space description and with Generic Zoom Velocity Space.
9. Verify that the ContinuousMoveRequest is accepted.
10. Repeat test procedure for all PTZNodes available that supports Continuous Zoom movement in the DUT.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT does not have a Generic Zoom Velocity Space description for ContinuousZoom.

The allowed range is not specified

A valid ContinuousMove operation does not succeed

Note: This test case shall be repeated for all PTZNodes with Continuous Zoom move support that are available in the DUT.

Note: Continuous Zoom Move is regarded as supported for PTZNode, if PTZNode contains at least one ContinuousZoomVelocitySpace tag.

4.7.4 Speed Spaces

4.7.4.1 GENERIC PAN/TILT SPEED SPACE

Test Label: PTZ – Speed Spaces – Generic Pan/Tilt

Test Case ID: PTZ-7-4-3

ONVIF Core Specification Coverage: Generic Pan/Tilt Speed Space

Command Under Test: None

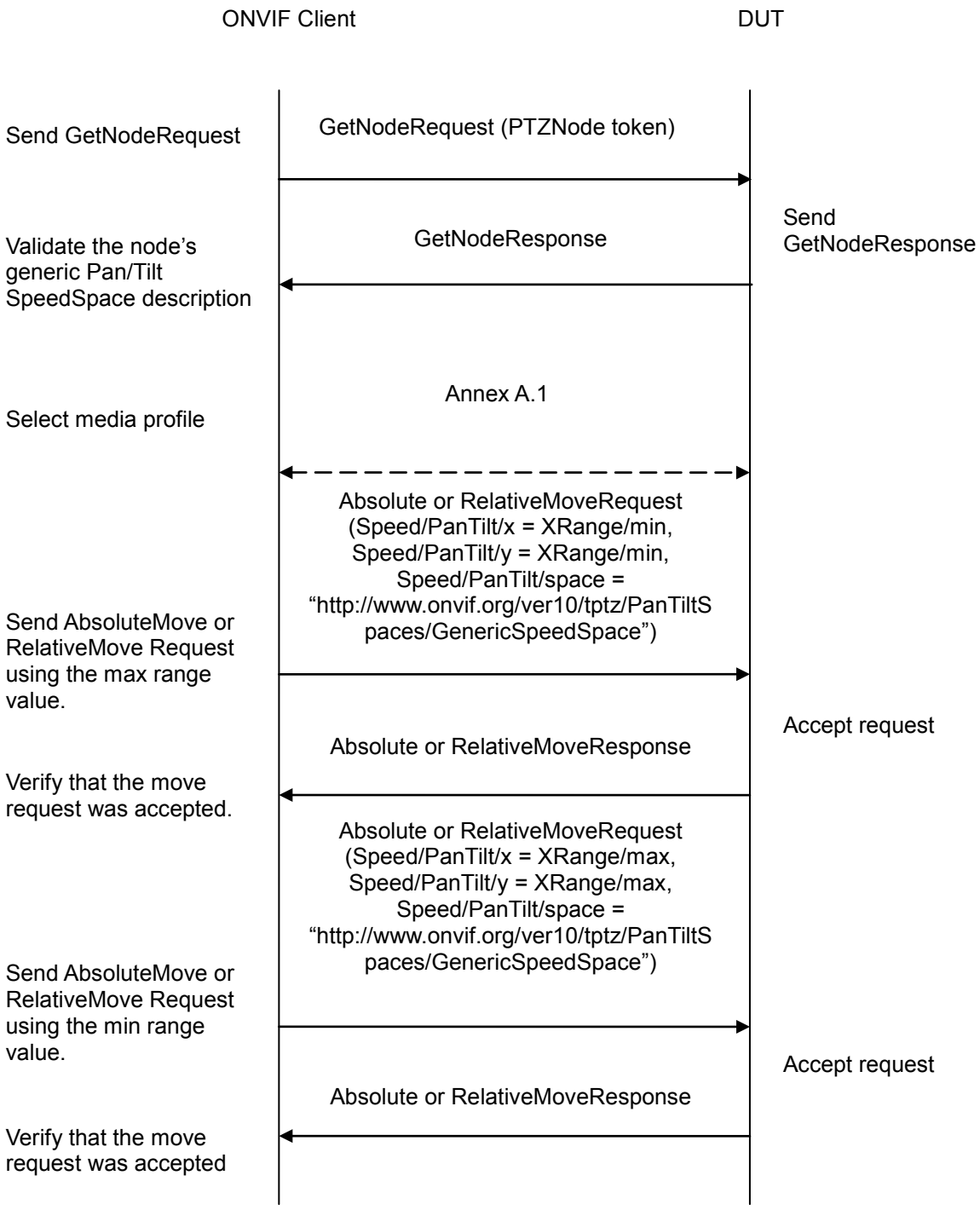
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Pan/Tilt Speed Space for pan/tilt.

Pre-Requisite: PTZ is supported by the DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.
3. Select the first PTZNode that supports Speed for Pan/Tilt movement. If there is no such PTZNodes, skip other steps and go to the next test.
4. Verify that the node's Speed Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Pan/Tilt Speed Space description for PanTiltSpeedSpace.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid AbsoluteMove or RelativeMove Request (depending on which is supported by the PTZNode) using the min XRange/YRange values from the space description for Pan/Tilt position, min XRange/YRange values from the space description for Pan/Tilt speed and with Generic Pan/Tilt Speed Space.
7. Verify that the AbsoluteMove (or RelativeMove) Request is accepted.
8. ONVIF Client sends a valid AbsoluteMove or RelativeMove Request (depending on which is supported by the PTZNode) using the max XRange/YRange values from the space description for Pan/Tilt position, max XRange/YRange values from the space description for Pan/Tilt speed and with Generic Pan/Tilt Speed Space.
9. Verify that the AbsoluteMove (or RelativeMove) Request is accepted.
10. Repeat test procedure for all PTZNodes available that supports Speed for Pan/Tilt movement in the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT does not have a Generic Pan/Tilt Position Space description for Speed Pan/Tilt.

The allowed range is not specified

A valid AbsoluteMove or RelativeMove Request (depending on which is supported by the PTZNode) does not succeed.

Note: This test case shall be repeated for all PTZNodes with supported Speed for Pan/Tilt move that are available in the DUT.

Note: Speed for Pan/Tilt is regarded as supported for PTZNode, if PTZNode contains at least one PanTiltSpeedSpace tag.

Note: If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration, then these limitations will be taken into account for x, y values of PanTilt or Zoom in AbsoluteMoveRequest message.

4.7.4.2 GENERIC ZOOM SPEED SPACE

Test Label: PTZ – Speed Spaces – Generic Zoom

Test Case ID: PTZ-7-4-4

ONVIF Core Specification Coverage: Generic Zoom Speed Space

Command Under Test: None

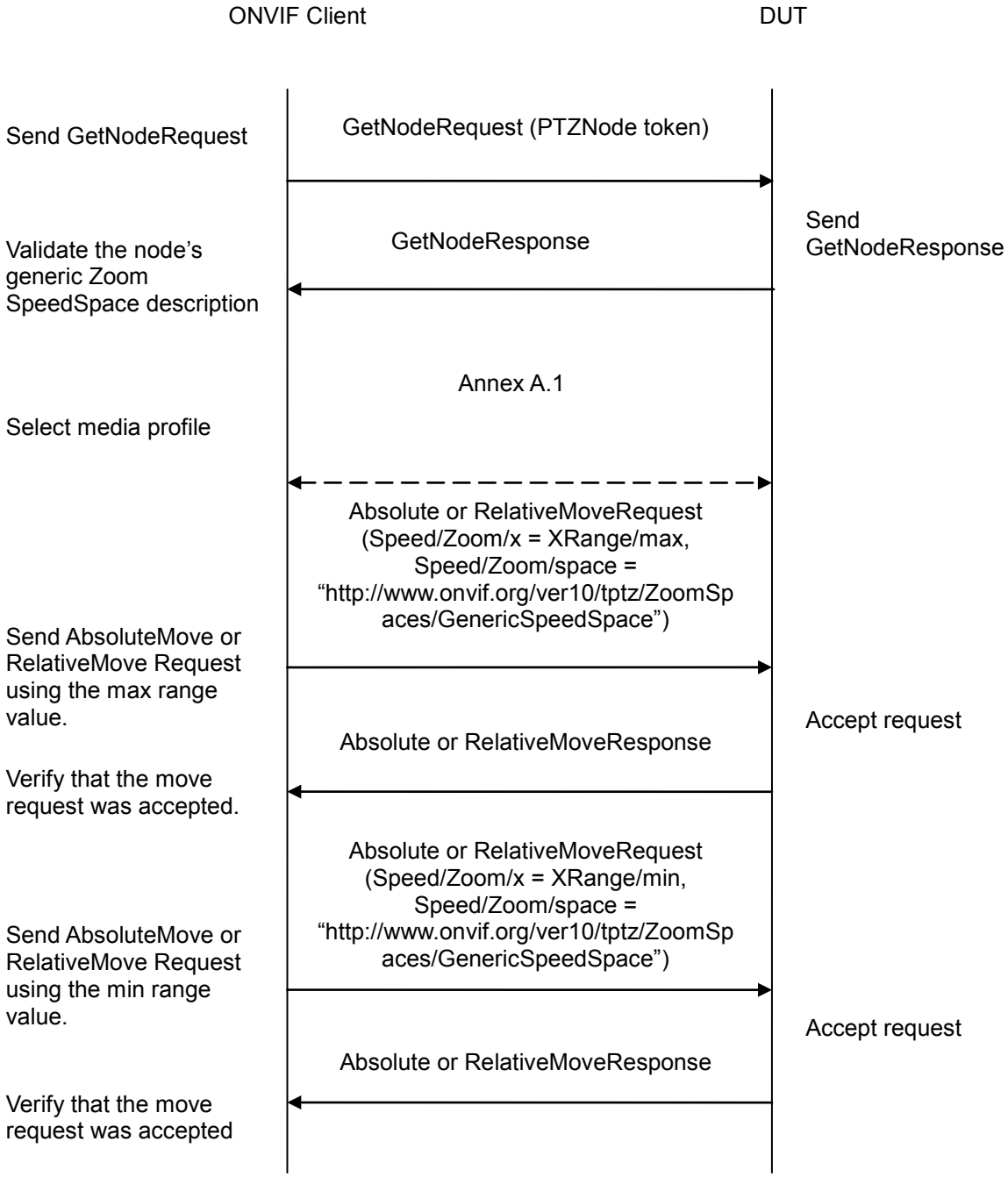
WSDL Reference: ptz.wsdl

Test Purpose: To verify that the node supports the Generic Zoom Speed Space for zoom.

Pre-Requisite: PTZ is supported by the DUT. In addition, ONVIF Client gets the PTZ service entry point by GetCapabilities or GetServices command.

Test Configuration: ONVIF Client and DUT

Test Sequence:



Test Procedure:

1. ONVIF Client will invoke GetNodesRequest message to retrieve a complete list of PTZNodes.
2. Verify the GetNodesResponse message from the DUT.
3. Select the first PTZNode that supports Speed for Zoom movement. If there is no such PTZNodes, skip other steps and go to the next test.

4. Verify that the node's Speed Space description is correctly formed and that the allowed range is specified. Verify that there is Generic Zoom Speed Space description for ZoomSpeedSpace.
5. ONVIF Client configures and selects a media profile as described in Annex A.1 for PTZ Configuration that refers to selected PTZNode.
6. ONVIF Client sends a valid AbsoluteMove or RelativeMove Request (depending on which is supported by the PTZNode) using the max XRange values from the space description for Zoom position, max XRange values from the space description for Zoom speed and with Generic Zoom Speed Space.
7. Verify that the AbsoluteMove (or RelativeMove) Request is accepted.
8. ONVIF Client sends a valid AbsoluteMove or RelativeMove Request (depending on which is supported by the PTZNode) using the min XRange values from the space description for Zoom position, min XRange values from the space description for Zoom speed and with Generic Zoom Speed Space.
9. Verify that the AbsoluteMove (or RelativeMove) Request is accepted.
10. Repeat test procedure for all PTZNodes available that supports Speed for Zoom movement in the DUT.

Test Result:

PASS –

The DUT passed all assertions.

FAIL –

The DUT does not have a Generic Zoom Speed Space description for SpeedZoom.

The allowed range is not specified

Note: This test case shall be repeated for all PTZNodes with supported Speed for Zoom move that are available in the DUT.

Note: Speed for Zoom is regarded as supported for PTZNode, if PTZNode contains at least one ZoomSpeedSpace tag.

Note: If profile selected for test contains PanTiltLimits or ZoomLimits in the PTZConfiguration, then these limitations will be taken into account for x, y values of PanTilt or Zoom in AbsoluteMoveRequest message.

4.8 Capabilities

4.8.1 PTZ SERVICE CAPABILITIES

Test Label: PTZ Service Capabilities Verification.

Test Case ID: PTZ-8-1-1

ONVIF Core Specification Coverage: Capability exchange

Command under test: GetServiceCapabilities (for PTZ Service)

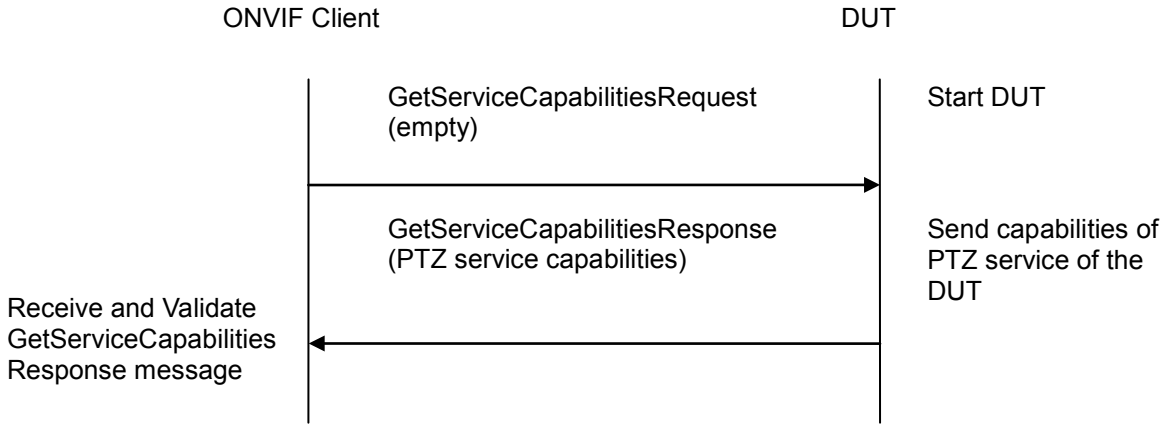
WSDL Reference: ptz.wsdl

Test Purpose: To verify PTZ Service Capabilities of the DUT.

Pre-Requisite: PTZ Service was received from 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 GetServiceCapabilitiesRequest message to retrieve PTZ service capabilities of the DUT.
4. Verify the GetServiceCapabilitiesResponse message from the DUT.

Test Result:

PASS –

DUT passes all assertions.

FAIL –

The DUT did not send a valid GetServiceCapabilitiesResponse.

4.8.2 GET SERVICES AND GET PTZ SERVICE CAPABILITIES CONSISTENCY

Test Label: Get Services and PTZ Service Capabilities Consistency Verification.

Test Case ID: PTZ-8-1-2

ONVIF Core Specification Coverage: Capability exchange

Command under test: GetServices, GetServiceCapabilities (for PTZ Service)

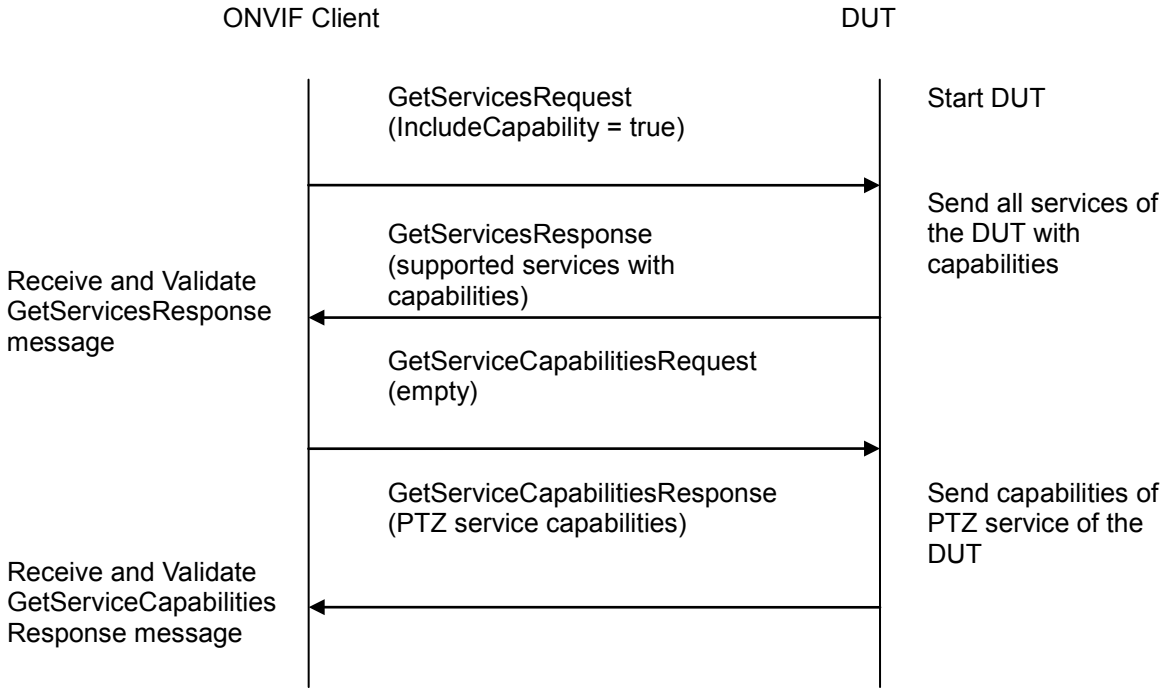
WSDL Reference: devicemgmt.wsdl, ptz.wsdl

Test Purpose: To verify Get Services and PTZ 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 PTZ service capabilities of the DUT.
6. Verify the GetServiceCapabilitiesResponse message from the DUT.

Test Result:

PASS –

DUT passes 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 PTZ service if it will have Namespace element that is equal to “http://www.onvif.org/ver20/ptz/wsdl”.

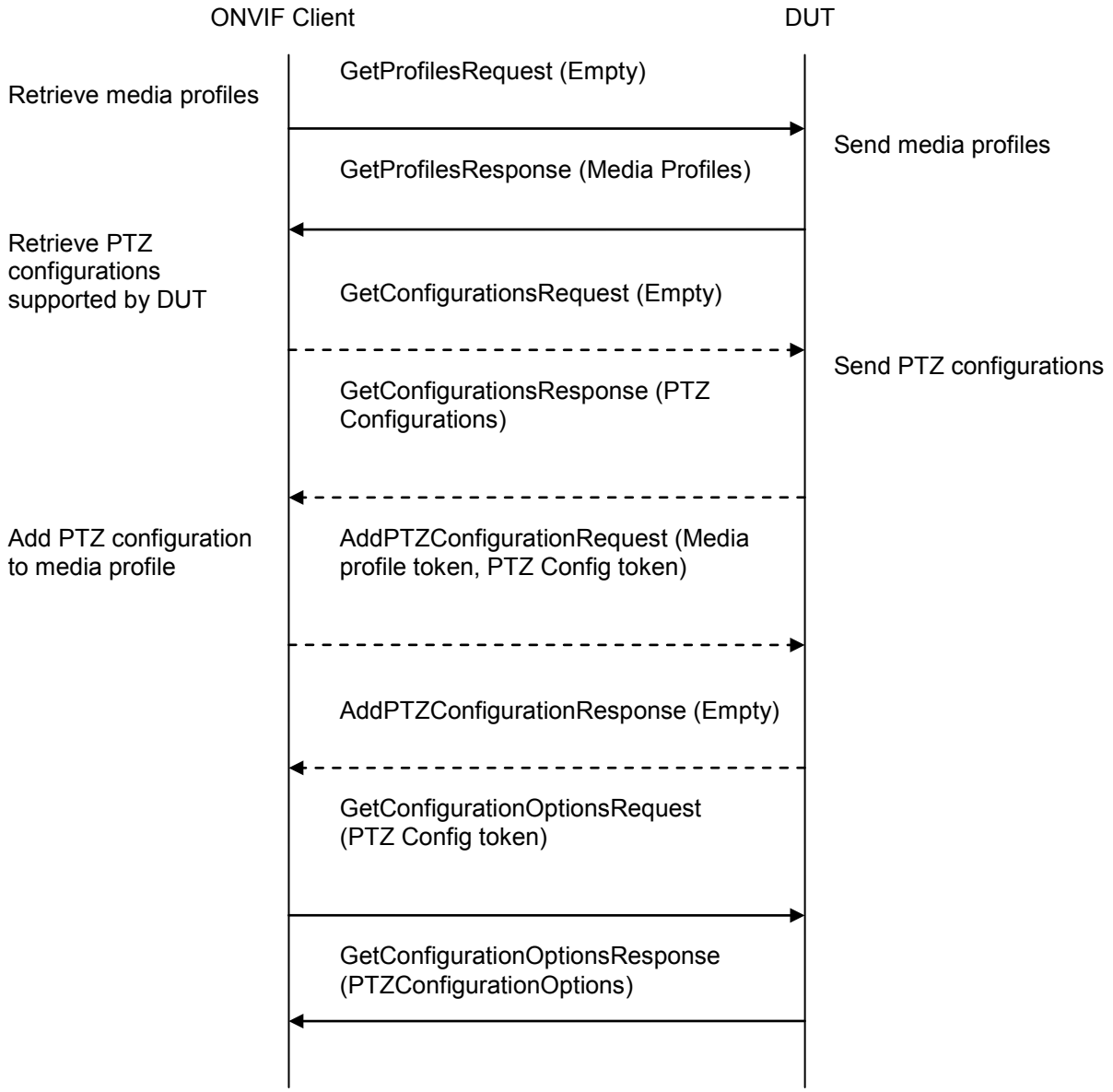
Annex A

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

A.1 Media Profile Configuration for PTZ Control

For the execution of PTZ control test cases, ONVIF Client has to select and configure the media profile as follows.

1. Retrieve media profiles by invoking GetProfiles command. Check whether a media profile contains PTZ configuration or not.
2. If no media profile contains PTZ configuration, retrieve PTZ configurations by invoking GetConfigurations command.
3. Add PTZ configuration to media profile by invoking AddPTZConfiguration command.
4. Get PTZ configuration options for the added PTZ Configuration by invoking GetConfigurationOptions



A.2 Name and Token Parameters

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

1. Name shall be less than or equal to 64 characters (only readable characters are accepted).
2. Token shall be less than or equal to 64 characters (only readable characters are accepted).
3. UTF-8 character set shall be used for Name and Token.

Note: these limitations will not be used, if ONVIF Device Test Tool reuses values that were received

from the DUT.