

ONVIF[®]

Access Policy Device

Test Specification

Version DRAFT

June 2021

This test specification is in a draft state.

© 2021 ONVIF, Inc. All rights reserved.

Recipients of this document may copy, distribute, publish, or display this document so long as this copyright notice, license and disclaimer are retained with all copies of the document. No license is granted to modify this document.

THIS DOCUMENT IS PROVIDED "AS IS," AND THE CORPORATION AND ITS MEMBERS AND THEIR AFFILIATES, MAKE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR TITLE; THAT THE CONTENTS OF THIS DOCUMENT ARE SUITABLE FOR ANY PURPOSE; OR THAT THE IMPLEMENTATION OF SUCH CONTENTS WILL NOT INFRINGE ANY PATENTS, COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS.

IN NO EVENT WILL THE CORPORATION OR ITS MEMBERS OR THEIR AFFILIATES BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, ARISING OUT OF OR RELATING TO ANY USE OR DISTRIBUTION OF THIS DOCUMENT, WHETHER OR NOT (1) THE CORPORATION, MEMBERS OR THEIR AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR (2) SUCH DAMAGES WERE REASONABLY FORESEEABLE, AND ARISING OUT OF OR RELATING TO ANY USE OR DISTRIBUTION OF THIS DOCUMENT. THE FOREGOING DISCLAIMER AND LIMITATION ON LIABILITY DO NOT APPLY TO, INVALIDATE, OR LIMIT REPRESENTATIONS AND WARRANTIES MADE BY THE MEMBERS AND THEIR RESPECTIVE AFFILIATES TO THE CORPORATION AND OTHER MEMBERS IN CERTAIN WRITTEN POLICIES OF THE CORPORATION.

REVISION HISTORY

Vers.	Date	Description
21.06	Jun 09, 2021	First Issue.

Table of Contents

1	Introduction	5
1.1	Scope	5
1.2	Access Policy	6
2	Normative references	7
3	Terms and Definitions	8
3.1	Conventions	8
3.2	Definitions	8
3.3	Abbreviations	8
4	Test Overview	9
4.1	Test Setup	9
4.1.1	Network Configuration for DUT	9
4.2	Prerequisites	10
4.3	Test Policy	10
4.3.1	Access Policy	10
5	Access Policy Test Cases	11
5.1	ACCESS POLICY (ACCESS NOT ALLOWED)	11
A	Helper Procedures and Additional Notes	14
A.1	User List File	14
A.2	Access Policy File	14

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. In addition, 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 Access Policy Device Test Specification acts as a supplementary document to the [ONVIF Network Interface Specs], illustrating test cases need to be executed and passed. And 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 Access Policy Device 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 Access Policy Specification which is defined in [ONVIF Network Interface Specs].

The principal intended purposes are:

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

This specification **does not** address the following:

- Product use cases and non-functional (performance and regression) testing.
- SOAP Implementation Interoperability test i.e. Web Service Interoperability Basic Profile version 2.0 (WS-I BP 2.0).
- Network protocol implementation Conformance test for HTTP, HTTPS, RTP and RTSP protocol.
- Poor streaming performance test (audio/video distortions, missing audio/video frames, incorrect lib synchronization etc.).

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 will cover its subset.

This ONVIF Access Policy Device Test Specification covers requirements for export file format, which is a functional block of [ONVIF Network Interface Specs]. The following section gives a brief overview of each functional block and its scope.

1.2 Access Policy

Access Policy cases cover verification of exported file format defined in [ONVIF Access Policy Specification].

2 Normative references

- [ONVIF Core Specs] ONVIF Core Specification:

<https://www.onvif.org/profiles/specifications/>

3 Terms and Definitions

3.1 Conventions

The key words "shall", "shall not", "should", "should not", "may", "need not", "can", "cannot" in this specification are to be interpreted as described in [ISO/IEC Directives Part 2].

3.2 Definitions

This section describes terms and definitions used in this document.

ONVIF Device	Computer appliance or software program that exposes one or multiple ONVIF Web Services.
ONVIF Client	Computer appliance or software program that uses ONVIF Web Services.
Device Test Tool	ONVIF Device Test Tool that tests ONVIF Device implementation towards the ONVIF Test Specification set.

3.3 Abbreviations

This section describes abbreviations used in this document.

UI User Interface.

4 Test Overview

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

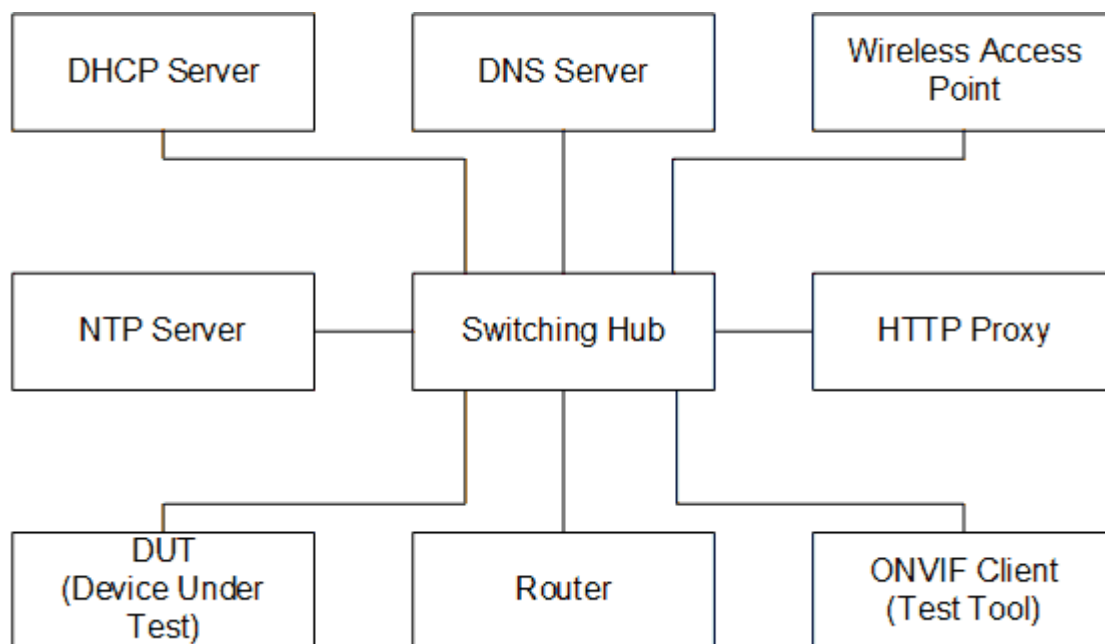
4.1 Test Setup

4.1.1 Network Configuration for DUT

The generic test configuration for the execution of test cases defined in this document is as shown below (Figure 4.1).

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 4.1. 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 behavior of the DUT. It handles both expected and unexpected behavior.

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

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

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

DHCP Server: provides IPv4 Address to the connected devices.

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

Switching Hub: provides network connectivity among all the test equipments in the test environment. All devices should be connected to the Switching Hub. When running multiple test instances in parallel on the same network, the Switching Hub should be configured to use filtering in order to avoid multicast traffic being flooded to all ports, because this may affect test stability.

Router: provides router advertisements for IPv6 configuration.

4.2 Prerequisites

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

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

4.3 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.

4.3.1 Access Policy

The test policies specific to the test case execution of Access Policy functional block:

- TODO

Please, refer to [Chapter 5, Access Policy Test Cases](#) for Access Policy Test Cases.

5 Access Policy Test Cases

5.1 ACCESS POLICY (ACCESS NOT ALLOWED)

Test Case ID: ACCESS_POLICY-1-1-1

Specification Coverage: User-based access control (ONVIF Core Specification)

Feature Under Test: Access Policy

WSDL Reference: None.

Test Purpose: To verify that a DUT does not allow for authentication of service requests for users with prohibited security level.

Pre-Requirement:

- Digest is supported by a DUT.
- User List file is provided by Test Operator using the Device Test Tool UI (please, see Annex [Annex A.1](#)).
- If a DUT has custom Access Policy, then Access Policy File is provided by Test Operator using the Device Test Tool UI (please, see Annex [Annex A.2](#)).

Test Configuration: ONVIF Client and DUT

Test Procedure:

1. Start an ONVIF Client.
2. Start the DUT.
3. Set *userList* := User List file from UI (see Annex [Annex A.1](#)).
4. ONVIF Client validates *userList*
 - 4.1. If *userList* does not contain User with UserLevel = "User", [TODO]: need to choose option
 - Option A: fail the test and skip other steps
 - Option B: not perform step 8
 - 4.2. Set *user* := User with UserLevel = "User" from *userList*.

- 4.3. If *userList* does not contain User with UserLevel = "Operator", [TODO]: need to choose option
 - Option A: fail the test and skip other steps
 - Option B: not perform step 9
- 4.4. Set *operator* := User with UserLevel = "Operator" from *userList*.
5. If Access Policy File is provided in the Device Test Tool UI set *accessPolicyFile* := Custom Access Policy File from UI (see Annex [Annex A.2](#)).
6. If Access Policy File is not provided in the Device Test Tool UI, set *accessPolicyFile* := Default Access Policy File (see Annex [Annex A.2](#)).
7. For each Request (*request*) from AccessGroup with UserLevel="Anonymous" from *accessPolicyFile* (NOTE: only for services supported by ONVIF Client)
 - 7.1. If DUT supports service that corresponds to Service.Name value of *request* in *accessPolicyFile*
 - 7.1.1. ONVIF Client generates valid request structure with random values of parameters for command corresponds to *request*.
 - 7.1.2. ONVIF Client invokes generated *request* without any credentials.
 - 7.1.3. DUT responds with **HTTP error code 401** or with **env:Receiver/ter:ActionNotSupported** SOAP fault message.
8. For each Request (*request*) from AccessGroup with UserLevel="Operator" from *accessPolicyFile* (NOTE: only for services supported by ONVIF Client)
 - 8.1. If DUT supports service that corresponds to Service.Name of *request* in *accessPolicyFile*
 - 8.1.1. ONVIF Client generates valid request structure with random values of parameters for command corresponds to *request*.
 - 8.1.2. ONVIF Client invokes generated *request* with credentials of user.
 - 8.1.3. DUT responds with **HTTP error code 401** or with **env:Receiver/ter:ActionNotSupported** SOAP fault message.
9. For each Request (*request*) from AccessGroup with UserLevel="Administrator" from *accessPolicyFile* (NOTE: only for services supported by ONVIF Client)

9.1. If DUT supports service that corresponds to Service.Name of *request* in *accessPolicyFile*

9.1.1. ONVIF Client generates valid request structure with random values of parameters for command corresponds to *request*.

9.1.2. ONVIF Client invokes generated *request* with credentials of operator.

9.1.3. DUT responds with **HTTP error code 401** or with **env:Receiver/ter:ActionNotSupported** SOAP fault message.

Test Result:

PASS –

- DUT passes all assertions.

FAIL –

- The DUT did not send either HTTP error code 401 or env:Receiver/ter:ActionNotSupported SOAP fault message.

Annex A Helper Procedures and Additional Notes

A.1 User List File

The Device Test Tool uses User List File in ACCESS_POLICY-1-1-1 ACCESS POLICY (ACCESS NOT ALLOWED) test case.

This is a file that contains the username and password for two users that have user levels Operator and User respectively.

The Test Operator shall fill credentials using this template and provide User List File in the Device Test Tool UI.

TODO

A.2 Access Policy File

The Device Test Tool uses Access Policy File in ACCESS_POLICY-1-1-1 ACCESS POLICY (ACCESS NOT ALLOWED) test case.

There two options of Access Policy File: **Default Access Policy File** and **Custom Access Policy File**.

1. Default Access Policy File:

- It is an internal file provided with the Device Test Tool. It corresponds to default Access Policy (defined in the Table 6 Default Access Policy Definition in ONVIF Core Specification).
- By default (if Access Policy File is not provided in the Device Test Tool UI), the ONVIF Client uses this Default Access Policy File.
- If a DUT Access Policy is the same as defined in the Table 6 Default Access Policy Definition of ONVIF Core Specification, test operator does not have to do anything with Access Policy File.

2. Custom Access Policy File:

- If a DUT Access Policy differs from defined in the Table 6 Default Access Policy Definition of ONVIF Core Specification, test operator shall provide Custom Access Policy File in the Device Test Tool UI.
- How to create Custom Access Policy File:
 - Get Default Access Policy File here: (TODO: path where it can be found).
 - Modify Default Access Policy File with required access policy.
 - Provide modified file in the Device Test Tool UI.

Description of Access Policy File structure:

- AccessGroup with UserLevel="Anonymous" contains set of requests that allow access for the following users levels: anonymous access and all user levels ("User", "Operator", "Administrator").
- AccessGroup with UserLevel="User" contains set of requests that allow access for the following users levels: "User", "Operator", "Administrator". Anonymous access is not allowed.
- AccessGroup with UserLevel="Operator" contains set of requests that allow access for the following users levels: "Operator", "Administrator". Anonymous access and access for "User" user level are not allowed.
- AccessGroup with UserLevel="Administrator" contains set of requests that allow access for "Administrator" user level only. Anonymous access and access for "User" and "Operator" user levels are not allowed.
- Service.@Name attribute has value TODO.

Here is template of Access Policy File.

```
<?xml version="1.0"?>
<AccessPolicyDefinition xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                        xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <AccessGroups>
    <AccessGroup UserLevel="Anonymous">
      <Services>
        <Service Name="PACSPort">
          <Requests>
            <Request Name="GetServiceCapabilities"/>
          </Requests>
        </Service>
      </Services>
    </AccessGroup>
  </AccessGroups>
</AccessPolicyDefinition>
```

```
</Service>
<Service Name="AccessRulesPort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="ActionEnginePort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="AnalyticsEnginePort">
  <Requests>
    <Request Name="Capabilities"/>
  </Requests>
</Service>
<Service Name="AppManagement">
  <Requests>
    <Request Name="GetCapabilities"/>
  </Requests>
</Service>
<Service Name="AuthenticationBehaviorPort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="Device">
  <Requests>
    <Request Name="GetWsdlUrl"/>
    <Request Name="GetServices"/>
    <Request Name="GetServiceCapabilities"/>
    <Request Name="GetCapabilities"/>
    <Request Name="GetHostname"/>
    <Request Name="GetSystemDateAndTime"/>
    <Request Name="GetEndpointReference"/>
  </Requests>
</Service>
<Service Name="CredentialPort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
```



```
</Requests>
</Service>
<Service Name="DeviceIOPort">
  <Requests>
    <Request Name="GetRelayOutputOptions"/>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="DisplayPort">
  <Requests>
    <Request Name="Capabilities"/>
  </Requests>
</Service>
<Service Name="DoorControlPort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="ImagingPort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="Media">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="Media2">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="ProvisioningService">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="PTZ">
  <Requests>
```

```
<Request Name="GetServiceCapabilities"/>
</Requests>
</Service>
<Service Name="SchedulePort">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="AdvancedSecurityService">
  <Requests>
    <Request Name="GetServiceCapabilities"/>
  </Requests>
</Service>
<Service Name="ThermalPort">
  <Requests>
    <Request Name="Capabilities"/>
  </Requests>
</Service>
</Services>
</AccessGroup>
<AccessGroup UserLevel="User">
  <Services>
    <Service Name="PACSPort">
      <Requests>
        <Request Name="GetAccessPointInfo"/>
        <Request Name="GetAccessPointInfoList"/>
        <Request Name="GetAccessPoints"/>
        <Request Name="GetAccessPointList"/>
        <Request Name="GetAreaInfo"/>
        <Request Name="GetAreaInfoList"/>
        <Request Name="GetAreas"/>
        <Request Name="GetAreaList"/>
      </Requests>
    </Service>
    <Service Name="AccessRulesPort">
      <Requests>
        <Request Name="GetAccessProfileInfo"/>
        <Request Name="GetAccessProfileInfoList"/>
        <Request Name="GetAccessProfiles"/>
        <Request Name="GetAccessProfileList"/>
      </Requests>
    </Service>
  </Services>
</AccessGroup>
```

```
</Requests>
</Service>
<Service Name="ActionEnginePort">
  <Requests>
    <Request Name="GetSupportedActions" />
    <Request Name="GetActions" />
    <Request Name="GetActionTriggers" />
  </Requests>
</Service>
<Service Name="AnalyticsEnginePort">
  <Requests>
    <Request Name="GetSupportedRules" />
    <Request Name="GetRules" />
    <Request Name="GetRuleOptions" />
    <Request Name="GetSupportedAnalyticsModules" />
    <Request Name="GetAnalyticsModules" />
    <Request Name="GetAnalyticsModuleOptions" />
    <Request Name="GetSupportedMetadata" />
  </Requests>
</Service>
<Service Name="AuthenticationBehaviorPort">
  <Requests>
    <Request Name="GetAuthenticationProfileInfo" />
    <Request Name="GetAuthenticationProfileInfoList" />
    <Request Name="GetAuthenticationProfiles" />
    <Request Name="GetAuthenticationProfileList" />
    <Request Name="GetSecurityLevelInfo" />
    <Request Name="GetSecurityLevelInfoList" />
    <Request Name="GetSecurityLevels" />
    <Request Name="GetSecurityLevelList" />
  </Requests>
</Service>
<Service Name="Device">
  <Requests>
    <Request Name="GetDNS" />
    <Request Name="GetNTP" />
    <Request Name="GetDynamicDNS" />
    <Request Name="GetNetworkInterfaces" />
    <Request Name="GetNetworkProtocols" />
    <Request Name="GetNetworkDefaultGateway" />
```

```
<Request Name="GetZeroConfiguration"/>
<Request Name="GetIPAddressFilter"/>
<Request Name="GetDot11Capabilities"/>
<Request Name="GetDot11Status"/>
<Request Name="ScanAvailableDot11Networks"/>
<Request Name="GetDeviceInformation"/>
<Request Name="GetSystemUri"/>
<Request Name="GetScopes"/>
<Request Name="GetDiscoveryMode"/>
<Request Name="GetGeoLocation"/>
<Request Name="GetRemoteUser"/>
<Request Name="GetRelayOutputs"/>
<Request Name="GetStorageConfigurations"/>
<Request Name="GetStorageConfiguration"/>
<Request Name="CreatePullPointSubscription"/>
<Request Name="PullMessages"/>
<Request Name="Renew"/>
<Request Name="Unsubscribe"/>
<Request Name="Seek"/>
<Request Name="SetSynchronizationPoint"/>
<Request Name="GetEventProperties"/>
<Request Name="GetEventBrokers"/>
</Requests>
</Service>
<Service Name="CredentialPort">
  <Requests>
    <Request Name="GetCredentialInfo"/>
    <Request Name="GetSupportedFormatTypes"/>
    <Request Name="GetCredentialAccessProfiles"/>
  </Requests>
</Service>
<Service Name="DeviceIOPort">
  <Requests>
    <Request Name="GetVideoOutputs"/>
    <Request Name="GetVideoOutputConfiguration"/>
    <Request Name="GetVideoSources"/>
    <Request Name="GetAudioOutputs"/>
    <Request Name="GetAudioSources"/>
    <Request Name="GetRelayOutputs"/>
    <Request Name="GetDigitalInputs"/>
  </Requests>
</Service>
```

```
<Request Name="GetDigitalInputConfigurationOptions"/>
<Request Name="GetSerialPorts"/>
<Request Name="GetSerialPortConfiguration"/>
<Request Name="GetSerialPortConfigurationOptions"/>
</Requests>
</Service>
<Service Name="DisplayPort">
  <Requests>
    <Request Name="GetPaneConfigurations"/>
    <Request Name="GetPaneConfiguration"/>
    <Request Name="GetLayout"/>
    <Request Name="GetDisplayOptions"/>
  </Requests>
</Service>
<Service Name="DoorControlPort">
  <Requests>
    <Request Name="GetDoorInfo"/>
    <Request Name="GetDoorInfoList"/>
    <Request Name="GetDoors"/>
    <Request Name="GetDoorList"/>
    <Request Name="GetDoorState"/>
  </Requests>
</Service>
<Service Name="ImagingPort">
  <Requests>
    <Request Name="GetPresets"/>
    <Request Name="GetCurrentPreset"/>
    <Request Name="GetMoveOptions"/>
    <Request Name="GetStatus"/>
  </Requests>
</Service>
<Service Name="Media">
  <Requests>
    <Request Name="GetProfiles"/>
    <Request Name="GetProfile"/>
    <Request Name="GetVideoSources"/>
    <Request Name="GetVideoSourceConfigurations"/>
    <Request Name="GetVideoSourceConfiguration"/>
    <Request Name="GetCompatibleVideoSourceConfigurations"/>
    <Request Name="GetVideoSourceConfigurationOptions"/>
  </Requests>
</Service>
```

```
<Request Name="GetVideoEncoderConfigurations" />
<Request Name="GetVideoEncoderConfiguration" />
<Request Name="GetCompatibleVideoEncoderConfigurations" />
<Request Name="GetVideoEncoderConfigurationOptions" />
<Request Name="GetGuaranteedNumberOfVideoEncoderInstances" />
<Request Name="GetAudioSources" />
<Request Name="GetAudioSourceConfigurations" />
<Request Name="GetAudioSourceConfiguration" />
<Request Name="GetCompatibleAudioSourceConfigurations" />
<Request Name="GetAudioSourceConfigurationOptions" />
<Request Name="GetAudioEncoderConfigurations" />
<Request Name="GetAudioEncoderConfiguration" />
<Request Name="GetCompatibleAudioEncoderConfigurations" />
<Request Name="GetAudioEncoderConfigurationOptions" />
<Request Name="GetVideoAnalyticsConfigurations" />
<Request Name="GetVideoAnalyticsConfiguration" />
<Request Name="GetCompatibleVideoAnalyticsConfigurations" />
<Request Name="GetMetadataConfigurations" />
<Request Name="GetMetadataConfiguration" />
<Request Name="GetCompatibleMetadataConfigurations" />
<Request Name="GetMetadataConfigurationOptions" />
<Request Name="GetAudioOutputs" />
<Request Name="GetAudioOutputConfigurations" />
<Request Name="GetAudioOutputConfiguration" />
<Request Name="GetCompatibleAudioOutputConfigurations" />
<Request Name="GetAudioOutputConfigurationOptions" />
<Request Name="GetAudioDecoderConfigurations" />
<Request Name="GetAudioDecoderConfiguration" />
<Request Name="GetCompatibleAudioDecoderConfigurations" />
<Request Name="GetAudioDecoderConfigurationOptions" />
<Request Name="GetStreamUri" />
<Request Name="GetSnapshotUri" />
<Request Name="GetVideoSourceModes" />
<Request Name="GetOSDs" />
<Request Name="GetOSD" />
<Request Name="GetOSDOptions" />
</Requests>
</Service>
<Service Name="Media2">
  <Requests>
```

```
<Request Name="GetProfiles" />
<Request Name="GetVideoSourceConfigurations" />
<Request Name="GetAudioSourceConfigurations" />
<Request Name="GetVideoEncoderConfigurations" />
<Request Name="GetAudioEncoderConfigurations" />
<Request Name="GetMetadataConfigurations" />
<Request Name="GetAudioOutputConfigurations" />
<Request Name="GetAudioDecoderConfigurations" />
<Request Name="GetVideoSourceConfigurationOptions" />
<Request Name="GetAudioSourceConfigurationOptions" />
<Request Name="GetVideoEncoderConfigurationOptions" />
<Request Name="GetAudioEncoderConfigurationOptions" />
<Request Name="GetMetadataConfigurationOptions" />
<Request Name="GetAudioOutputConfigurationOptions" />
<Request Name="GetAudioDecoderConfigurationOptions" />
<Request Name="GetVideoEncoderInstances" />
<Request Name="GetStreamUri" />
<Request Name="GetSnapshotUri" />
<Request Name="GetVideoSourceModes" />
<Request Name="GetOSDs" />
<Request Name="GetOSDOptions" />
<Request Name="GetMasks" />
<Request Name="GetMaskOptions" />
</Requests>
</Service>
<Service Name="ProvisioningService">
  <Requests>
    <Request Name="GetUsage" />
  </Requests>
</Service>
<Service Name="PTZ">
  <Requests>
    <Request Name="GetNodes" />
    <Request Name="GetNode" />
    <Request Name="GetConfigurations" />
    <Request Name="GetConfiguration" />
    <Request Name="GetConfigurationOptions" />
    <Request Name="GetCompatibleConfigurations" />
    <Request Name="GetStatus" />
    <Request Name="GetPresets" />
```

```
<Request Name="GetPresetTours" />
<Request Name="GetPresetTour" />
<Request Name="GetPresetTourOptions" />
</Requests>
</Service>
<Service Name="SearchPort">
  <Requests>
    <Request Name="FindMetadata" />
  </Requests>
</Service>
<Service Name="SchedulePort">
  <Requests>
    <Request Name="GetScheduleInfo" />
    <Request Name="GetScheduleInfoList" />
    <Request Name="GetSchedules" />
    <Request Name="GetScheduleList" />
    <Request Name="GetSpecialDayGroupInfo" />
    <Request Name="GetSpecialDayGroupInfoList" />
    <Request Name="GetSpecialDayGroups" />
    <Request Name="GetSpecialDayGroupList" />
  </Requests>
</Service>
<Service Name="AdvancedSecurityService">
  <Requests>
    <Request Name="CreatePKCS10CSR" />
    <Request Name="GetClientAuthenticationRequired" />
    <Request Name="GetCnMapsToUser" />
    <Request Name="GetEnabledTLSVersions" />
  </Requests>
</Service>
<Service Name="ThermalPort">
  <Requests>
    <Request Name="GetConfiguration" />
    <Request Name="GetConfigurationOptions" />
    <Request Name="GetConfigurations" />
    <Request Name="GetRadiometryConfigurationOptions" />
  </Requests>
</Service>
</Services>
</AccessGroup>
```



```
<AccessGroup UserLevel="Administrator">
  <Services>
    <Service Name="PACSPort">
      <Requests>
        <Request Name="CreateAccessPoint"/>
        <Request Name="SetAccessPoint"/>
        <Request Name="ModifyAccessPoint"/>
        <Request Name="DeleteAccessPoint"/>
        <Request Name="CreateArea"/>
        <Request Name="SetArea"/>
        <Request Name="ModifyArea"/>
        <Request Name="DeleteArea"/>
      </Requests>
    </Service>
    <Service Name="AccessRulesPort">
      <Requests>
        <Request Name="CreateAccessProfile"/>
        <Request Name="SetAccessProfile"/>
        <Request Name="ModifyAccessProfile"/>
        <Request Name="DeleteAccessProfile"/>
      </Requests>
    </Service>
    <Service Name="ActionEnginePort">
      <Requests>
        <Request Name="CreateActions"/>
        <Request Name="ModifyActions"/>
        <Request Name="DeleteActions"/>
        <Request Name="CreateActionTriggers"/>
        <Request Name="ModifyActionTriggers"/>
        <Request Name="DeleteActionTriggers"/>
      </Requests>
    </Service>
    <Service Name="AnalyticsEnginePort">
      <Requests>
        <Request Name="DeleteAnalyticsModules"/>
        <Request Name="Message"/>
        <Request Name="LineDetector"/>
        <Request Name="Field"/>
        <Request Name="Loitering"/>
        <Request Name="Line"/>
      </Requests>
    </Service>
  </Services>
</AccessGroup>
```

```
<Request Name="Occupancy" />
<Request Name="Object" />
</Requests>
</Service>
<Service Name="AppManagement">
  <Requests>
    <Request Name="Uninstall" />
    <Request Name="Activate" />
    <Request Name="Deactivate" />
    <Request Name="GetInstalledApps" />
    <Request Name="GetAppsInfo" />
    <Request Name="InstallLicense" />
  </Requests>
</Service>
<Service Name="AuthenticationBehaviorPort">
  <Requests>
    <Request Name="CreateAuthenticationProfile" />
    <Request Name="SetAuthenticationProfile" />
    <Request Name="ModifyAuthenticationProfile" />
    <Request Name="DeleteAuthenticationProfile" />
    <Request Name="CreateSecurityLevel" />
    <Request Name="SetSecurityLevel" />
    <Request Name="ModifySecurityLevel" />
    <Request Name="DeleteSecurityLevel" />
  </Requests>
</Service>
<Service Name="Device">
  <Requests>
    <Request Name="SetHostname" />
    <Request Name="SetHostnameFromDHCP" />
    <Request Name="SetDNS" />
    <Request Name="SetNTP" />
    <Request Name="SetDynamicDNS" />
    <Request Name="SetNetworkInterfaces" />
    <Request Name="SetNetworkProtocols" />
    <Request Name="SetNetworkDefaultGateway" />
    <Request Name="SetZeroConfiguration" />
    <Request Name="SetIPAddressFilter" />
    <Request Name="AddIPAddressFilter" />
    <Request Name="RemoveIPAddressFilter" />
```

```
<Request Name="GetSystemBackup" />
<Request Name="RestoreSystem" />
<Request Name="StartSystemRestore" />
<Request Name="SetSystemDateAndTime" />
<Request Name="SetSystemFactoryDefault" />
<Request Name="UpgradeSystemFirmware" />
<Request Name="StartFirmwareUpgrade" />
<Request Name="GetSystemLog" />
<Request Name="GetSystemSupportInformation" />
<Request Name="SystemReboot" />
<Request Name="SetScopes" />
<Request Name="AddScopes" />
<Request Name="RemoveScopes" />
<Request Name="SetDiscoveryMode" />
<Request Name="SetGeoLocation" />
<Request Name="DeleteGeoLocation" />
<Request Name="GetAccessPolicy" />
<Request Name="SetAccessPolicy" />
<Request Name="GetUsers" />
<Request Name="CreateUsers" />
<Request Name="DeleteUsers" />
<Request Name="SetUser" />
<Request Name="SetRemoteUser" />
<Request Name="AddEventBroker" />
<Request Name="DeleteEventBroker" />
</Requests>
</Service>
<Service Name="CredentialPort">
  <Requests>
    <Request Name="GetCredentialInfoList" />
    <Request Name="GetCredentials" />
    <Request Name="GetCredentialList" />
    <Request Name="CreateCredential" />
    <Request Name="SetCredential" />
    <Request Name="ModifyCredential" />
    <Request Name="DeleteCredential" />
    <Request Name="GetCredentialIdentifiers" />
    <Request Name="SetCredentialIdentifier" />
    <Request Name="DeleteCredentialIdentifier" />
    <Request Name="GetWhitelist" />
  </Requests>
</Service>
```

```
<Request Name="AddToWhitelist"/>
<Request Name="RemoveFromWhitelist"/>
<Request Name="DeleteWhitelist"/>
<Request Name="GetBlacklist"/>
<Request Name="AddToBlacklist"/>
<Request Name="RemoveFromBlacklist"/>
<Request Name="DeleteBlacklist"/>
</Requests>
</Service>
<Service Name="DeviceIOPort">
  <Requests>
    <Request Name="GetVideoOutputConfigurationOptions"/>
  </Requests>
</Service>
<Service Name="DoorControlPort">
  <Requests>
    <Request Name="CreateDoor"/>
    <Request Name="SetDoor"/>
    <Request Name="ModifyDoor"/>
    <Request Name="DeleteDoor"/>
  </Requests>
</Service>
<Service Name="ImagingPort">
  <Requests>
    <Request Name="GetImagingSettings"/>
    <Request Name="GetOptions"/>
  </Requests>
</Service>
<Service Name="Media">
  <Requests>
    <Request Name="SetVideoSourceMode"/>
  </Requests>
</Service>
<Service Name="Media2">
  <Requests>
    <Request Name="SetVideoSourceMode"/>
  </Requests>
</Service>
<Service Name="ProvisioningService">
  <Requests>
```

```
<Request Name="PanMove" />
<Request Name="TiltMove" />
<Request Name="ZoomMove" />
<Request Name="RollMove" />
<Request Name="FocusMove" />
<Request Name="Stop" />
</Requests>
</Service>
<Service Name="ReceiverPort">
  <Requests>
    <Request Name="GetReceivers" />
    <Request Name="GetReceiver" />
    <Request Name="CreateReceiver" />
    <Request Name="DeleteReceiver" />
    <Request Name="ConfigureReceiver" />
    <Request Name="SetReceiverMode" />
    <Request Name="GetReceiverState" />
    <Request Name="GetServiceCapabilitites" />
  </Requests>
</Service>
<Service Name="RecordingPort">
  <Requests>
    <Request Name="CreateRecording" />
    <Request Name="DeleteRecording" />
    <Request Name="GetRecordings" />
    <Request Name="SetRecordingConfiguration" />
    <Request Name="GetRecordingConfiguration" />
    <Request Name="CreateTrack" />
    <Request Name="DeleteTrack" />
    <Request Name="GetTrackConfiguration" />
    <Request Name="SetTrackConfiguration" />
    <Request Name="CreateRecordingJob" />
    <Request Name="DeleteRecordingJob" />
    <Request Name="GetRecordingJobs" />
    <Request Name="SetRecordingJobConfiguration" />
    <Request Name="GetRecordingJobConfiguration" />
    <Request Name="SetRecordingJobMode" />
    <Request Name="GetRecordingJobState" />
    <Request Name="GetRecordingOptions" />
    <Request Name="ExportRecordedData" />
```

```
<Request Name="StopExportRecordedData" />
<Request Name="GetExportRecordedDataState" />
<Request Name="GetServiceCapabilities" />
</Requests>
</Service>
<Service Name="SearchPort">
  <Requests>
    <Request Name="GetRecordingSummary" />
    <Request Name="GetRecordingInformation" />
    <Request Name="GetMediaAttributes" />
    <Request Name="FindRecordings" />
    <Request Name="GetRecordingSearchResults" />
    <Request Name="FindEvents" />
    <Request Name="GetEventSearchResults" />
    <Request Name="FindPTZPosition" />
    <Request Name="GetPTZPositionSearchResults" />
    <Request Name="GetMetadataSearchResults" />
    <Request Name="EndSearch" />
    <Request Name="GetServiceCapabilities" />
  </Requests>
</Service>
<Service Name="ReplayPort">
  <Requests>
    <Request Name="Request" />
    <Request Name="SetReplayConfiguration" />
    <Request Name="GetReplayConfiguration" />
    <Request Name="GetServiceCapabilities" />
  </Requests>
</Service>
<Service Name="SchedulePort">
  <Requests>
    <Request Name="CreateSchedule" />
    <Request Name="SetSchedule" />
    <Request Name="ModifySchedule" />
    <Request Name="DeleteSchedule" />
    <Request Name="CreateSpecialDayGroup" />
    <Request Name="SetSpecialDayGroup" />
    <Request Name="ModifySpecialDayGroup" />
    <Request Name="DeleteSpecialDayGroup" />
  </Requests>
```

```
</Service>
<Service Name="AdvancedSecurityService">
  <Requests>
    <Request Name="UploadPassphrase"/>
    <Request Name="GetAllPassphrases"/>
    <Request Name="DeletePassphrase"/>
    <Request Name="CreateRSAKeyPair"/>
    <Request Name="UploadKeyPairInPKCS8"/>
    <Request Name="GetKeyStatus"/>
    <Request Name="GetPrivateKeyStatus"/>
    <Request Name="GetAllKeys"/>
    <Request Name="DeleteKey"/>
    <Request Name="CreateSelfSignedCertificate"/>
    <Request Name="UploadCertificate"/>
    <Request Name="UploadCertificateWithPrivateKeyInPKCS12"/>
    <Request Name="GetCertificate"/>
    <Request Name="GetAllCertificates"/>
    <Request Name="DeleteCertificate"/>
    <Request Name="CreateCertificationPath"/>
    <Request Name="GetCertificationPath"/>
    <Request Name="GetAllCertificationPaths"/>
    <Request Name="DeleteCertificationPath"/>
    <Request Name="UploadCRL"/>
    <Request Name="GetCRL"/>
    <Request Name="GetAllCRLs"/>
    <Request Name="DeleteCRL"/>
    <Request Name="CreateCertPathValidationPolicy"/>
    <Request Name="GetCertPathValidationPolicy"/>
    <Request Name="GetAllCertPathValidationPolicies"/>
    <Request Name="DeleteCertPathValidationPolicy"/>
    <Request Name="AddServerCertificateAssignment"/>
    <Request Name="RemoveServerCertificateAssignment"/>
    <Request Name="ReplaceServerCertificateAssignment"/>
    <Request Name="GetAssignedServerCertificates"/>
    <Request Name="SetClientAuthenticationRequired"/>
    <Request Name="SetCnMapsToUser"/>
    <Request Name="AddCertPathValidationPolicyAssignment"/>
    <Request Name="RemoveCertPathValidationPolicyAssignment"/>
    <Request Name="ReplaceCertPathValidationPolicyAssignment"/>
    <Request Name="GetAssignedCertPathValidationPolicies"/>
  </Requests>
</Service>
```

```
<Request Name="SetEnabledTLSVersions" />
<Request Name="AddDot1XConfiguration" />
<Request Name="GetAllDot1XConfigurations" />
<Request Name="GetDot1XConfiguration" />
<Request Name="DeleteDot1XConfiguration" />
<Request Name="SetNetworkInterfaceDot1XConfiguration" />
<Request Name="GetNetworkInterfaceDot1XConfiguration" />
<Request Name="DeleteNetworkInterfaceDot1XConfiguration" />
</Requests>
</Service>
</Services>
</AccessGroup>
<AccessGroup UserLevel="Operator">
  <Services>
    <Service Name="PACSPort">
      <Requests>
        <Request Name="SetAccessPointAuthenticationProfile" />
        <Request Name="DeleteAccessPointAuthenticationProfile" />
        <Request Name="GetAccessPointState" />
        <Request Name="EnableAccessPoint" />
        <Request Name="DisableAccessPoint" />
        <Request Name="ExternalAuthorization" />
        <Request Name="Feedback" />
      </Requests>
    </Service>
    <Service Name="AnalyticsEnginePort">
      <Requests>
        <Request Name="CreateRules" />
        <Request Name="ModifyRules" />
        <Request Name="DeleteRules" />
        <Request Name="CreateAnalyticsModules" />
        <Request Name="ModifyAnalyticsModules" />
      </Requests>
    </Service>
    <Service Name="Device">
      <Requests>
        <Request Name="SetRelayOutputSettings" />
        <Request Name="SetRelayOutputState" />
        <Request Name="SendAuxiliaryCommand" />
        <Request Name="CreateStorageConfiguration" />
      </Requests>
    </Service>
  </Services>
</AccessGroup>
```



```
<Request Name="SetStorageConfiguration"/>
<Request Name="DeleteStorageConfiguration"/>
</Requests>
</Service>
<Service Name="CredentialPort">
<Requests>
<Request Name="GetCredentialState"/>
<Request Name="EnableCredential"/>
<Request Name="DisableCredential"/>
<Request Name="ResetAntipassbackViolation"/>
<Request Name="SetCredentialAccessProfiles"/>
<Request Name="DeleteCredentialAccessProfiles"/>
</Requests>
</Service>
<Service Name="DeviceIOPort">
<Requests>
<Request Name="SetVideoOutputConfiguration"/>
<Request Name="SetRelayOutputSettings"/>
<Request Name="SetRelayOutputState"/>
<Request Name="SetDigitalInputConfigurations"/>
<Request Name="SetSerialPortConfiguration"/>
<Request Name="Send"/>
</Requests>
</Service>
<Service Name="DisplayPort">
<Requests>
<Request Name="SetPaneConfigurations"/>
<Request Name="SetPaneConfiguration"/>
<Request Name="CreatePaneConfiguration"/>
<Request Name="DeletePaneConfiguration"/>
<Request Name="SetLayout"/>
</Requests>
</Service>
<Service Name="DoorControlPort">
<Requests>
<Request Name="AccessDoor"/>
<Request Name="LockDoor"/>
<Request Name="UnlockDoor"/>
<Request Name="BlockDoor"/>
<Request Name="LockDownDoor"/>
```

```
<Request Name="LockDownReleaseDoor" />
<Request Name="LockOpenDoor" />
<Request Name="LockOpenReleaseDoor" />
<Request Name="DoubleLockDoor" />
</Requests>
</Service>
<Service Name="ImagingPort">
  <Requests>
    <Request Name="SetImagingSettings" />
    <Request Name="SetCurrentPreset" />
    <Request Name="Move" />
    <Request Name="Stop" />
  </Requests>
</Service>
<Service Name="Media">
  <Requests>
    <Request Name="CreateProfile" />
    <Request Name="AddVideoSourceConfiguration" />
    <Request Name="AddVideoEncoderConfiguration" />
    <Request Name="AddAudioSourceConfiguration" />
    <Request Name="AddAudioEncoderConfiguration" />
    <Request Name="AddPTZConfiguration" />
    <Request Name="AddVideoAnalyticsConfiguration" />
    <Request Name="AddMetadataConfiguration" />
    <Request Name="AddAudioOutputConfiguration" />
    <Request Name="AddAudioDecoderConfiguration" />
    <Request Name="RemoveVideoSourceConfiguration" />
    <Request Name="RemoveVideoEncoderConfiguration" />
    <Request Name="RemoveAudioSourceConfiguration" />
    <Request Name="RemoveAudioEncoderConfiguration" />
    <Request Name="RemovePTZConfiguration" />
    <Request Name="RemoveVideoAnalyticsConfiguration" />
    <Request Name="RemoveMetadataConfiguration" />
    <Request Name="RemoveAudioOutputConfiguration" />
    <Request Name="RemoveAudioDecoderConfiguration" />
    <Request Name="DeleteProfile" />
    <Request Name="SetVideoSourceConfiguration" />
    <Request Name="SetVideoEncoderConfiguration" />
    <Request Name="SetAudioSourceConfiguration" />
    <Request Name="SetAudioEncoderConfigurations" />
```

```
<Request Name="SetVideoAnalyticsConfiguration"/>
<Request Name="SetMetadataConfiguration"/>
<Request Name="SetAudioOutputConfiguration"/>
<Request Name="SetAudioDecoderConfiguration"/>
<Request Name="StartMulticastStreaming"/>
<Request Name="StopMulticastStreaming"/>
<Request Name="SetSynchronizationPoint"/>
<Request Name="CreateOSD"/>
<Request Name="DeleteOSD"/>
<Request Name="SetOSD"/>
</Requests>
</Service>
<Service Name="Media2">
  <Requests>
    <Request Name="CreateProfile"/>
    <Request Name="GetAnalyticsConfigurations"/>
    <Request Name="AddConfiguration"/>
    <Request Name="RemoveConfiguration"/>
    <Request Name="DeleteProfile"/>
    <Request Name="CreateMultitrackConfiguration"/>
    <Request Name="SetVideoSourceConfiguration"/>
    <Request Name="SetAudioSourceConfiguration"/>
    <Request Name="SetVideoEncoderConfiguration"/>
    <Request Name="SetAudioEncoderConfiguration"/>
    <Request Name="SetMetadataConfiguration"/>
    <Request Name="SetAudioOutputConfiguration"/>
    <Request Name="SetAudioDecoderConfiguration"/>
    <Request Name="StartMulticastStreaming"/>
    <Request Name="StopMulticastStreaming"/>
    <Request Name="SetSynchronizationPoint"/>
    <Request Name="CreateOSD"/>
    <Request Name="DeleteOSD"/>
    <Request Name="SetOSD"/>
    <Request Name="CreateMask"/>
    <Request Name="DeleteMask"/>
    <Request Name="SetMask"/>
  </Requests>
</Service>
<Service Name="PTZ">
  <Requests>
```

```
<Request Name="SetConfiguration" />
<Request Name="AbsoluteMove" />
<Request Name="RelativeMove" />
<Request Name="ContinuousMove" />
<Request Name="GeoMove" />
<Request Name="Stop" />
<Request Name="MoveAndStartTracking" />
<Request Name="SetPreset" />
<Request Name="GotoPreset" />
<Request Name="RemovePreset" />
<Request Name="GotoHomePosition" />
<Request Name="SetHomePosition" />
<Request Name="SendAuxiliaryCommand" />
<Request Name="CreatePresetTour" />
<Request Name="ModifyPresetTour" />
<Request Name="OperatePresetTour" />
<Request Name="RemovePresetTour" />
</Requests>
</Service>
<Service Name="SchedulePort">
  <Requests>
    <Request Name="GetScheduleState" />
  </Requests>
</Service>
<Service Name="ThermalPort">
  <Requests>
    <Request Name="SetConfiguration" />
    <Request Name="GetRadiometryConfiguration" />
    <Request Name="SetRadiometryConfiguration" />
  </Requests>
</Service>
</Services>
</AccessGroup>
</AccessGroups>
</AccessPolicyDefinition>
```