

# **ONVIF®**

## **Add-ons Conformance Device Test Specification**

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## REVISION HISTORY

Vers.	Date	Description
23.06	Nov, 16	First issue
24.12	Nov, 15	The following test and annexes were updated according #209: Steps 3.7 and 3.8 were added at ONVIF TLS Configuration Add-on Support Check section

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# 1 Introduction

The goal of the ONVIF Add-ons Conformance Test Specification document is to provide some details about logic of add-on's supporting check.

TLS Add-on Conformance item focuses on ONVIF TLS Configuration Add-on Specification ([ONVIF TLS Add-on]) as a referenced Add-on by an ONVIF device implementation under test.

## 1.1 Scope

This ONVIF Add-ons Conformance Test Specification document defines and regulates the conformance testing procedure for the ONVIF conformant devices. The objective of this specification is to provide the logic of ONVIF Add-ons detection according to [ONVIF TLS Add-on].

## 1.2 Normative references

- [ONVIF Network Interface Specs] ONVIF Network Interface Specification documents:

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

- [ONVIF Conformance] ONVIF Conformance Process Specification:

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

- [ONVIF TLS Add-on] ONVIF TLS Configuration Add-on Specification:

<https://www.onvif.org/profiles/add-on/>

## 1.3 Informative References

- [ONVIF Feature Discovery] ONVIF Feature Discovery Specification:

<http://www.onvif.org/Documents/Specifications.aspx>

## 1.4 Requirement by the Add-on

The following define denotations to indicate the required level by the Add-on towards ONVIF device implementation (DUT).

M = mandatory function that shall be SUPPORTED by DUT

C = conditional mandatory function that shall be SUPPORTED by DUT if they support that functionality. On the list of test cases such functionalities are described after C - the content of parenthesis.

## 2 Terms and Definitions

### 2.1 Definitions

**Add-on** See ONVIF Profile Policy.

### 2.2 Abbreviations

This section describes abbreviations used in this document.

**DUT** Device Under Test

## 3 ONVIF TLS Configuration Add-on Conformance

### 3.1 Feature category classification for ONVIF TLS Configuration Add-on Conformance

In order for ONVIF Device Test Tool to conduct conformance testing toward [ONVIF TLS Add-on], it would need to identify whether DUT implements the expected feature set.

This section classifies supported features as multiple categories that are related to [ONVIF TLS Add-on] conformance. Those category classifications will be used to do some preliminary checking prior to the test case execution and also they will be used to determine whether DUT can be considered to be [ONVIF TLS Add-on] conformant device.

The following discovery scope is defined as the scope that signals that DUT is [ONVIF TLS Add-on] product.

**Table 3.1. TLS Configuration Addons Capability**

TLSServerConfiguration
------------------------

The following table shows the classified feature categories based on commands and/or functional blocks that are referenced by DUT.

**Table 3.2. ONVIF TLS Configuration Add-on Conformance Features Categories**

Add-on Mandatory Features	
Discovery	GetServiceCapabilities (Device Management)
TLS Server Configuration	AddServerCertificateAssignment (Security Configuration)
	CreateCertificationPath (Security Configuration)
	CreatePKCS10CSR (Security Configuration)
	CreateRSAKeyPair (Security Configuration)
	CreateSelfSignedCertificate (Security Configuration)
	DeleteCertificate (Security Configuration)
	DeleteCertificationPath (Security Configuration)
	DeleteKey (Security Configuration)
	GetAllCertificates (Security Configuration)

GetAllCertificationPaths (Security Configuration)
GetAllKeys (Security Configuration)
GetAssignedServerCertificates (Security Configuration)
GetCertificate (Security Configuration)
GetCertificationPath (Security Configuration)
GetKeyStatus (Security Configuration)
tns1:Advancedsecurity/Keystore/KeyStatus (Event)
RemoveServerCertificateAssignment (Security Configuration)
ReplaceServerCertificateAssignment (Security Configuration)
SetNetworkProtocols (Device Management)
ReplaceServerCertificateAssignment (Security Configuration)

## 3.2 ONVIF TLS Configuration Add-on Support Check

Preliminary checking for feature discovery will be performed prior to the test execution. For the details of the preliminary feature discovery, refer to [ONVIF Feature Discovery].

According to the result of test case execution, final determination of [ONVIF TLS Add-on] support toward DUT is performed based on the following procedure.

### Procedure:

1. Check that Addons list contains the text given in [Table 3.1](#). If there is no such text at Addons list of the DUT, then it is determined that [ONVIF TLS Add-on] is not supported and other steps will be skipped.
2. Check Device Management Service related features:
  - 2.1. Check that GetServices command is supported by the DUT. If **Device Service/Capabilities/GetServices** is not supported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by DUT and certification will be failed. Otherwise, then it is determined that the following features are supported by the DUT:
    - i. Discovery feature category:
      - GetServiceCapabilities (Device Management)



2.2. The following features are supported by the DUT, because these are mandatory features for any ONVIF device implementation:

- i. TLS Server Configuration feature category:
  - SetNetworkProtocols (Device Management)

3. Check that Security Configuration Service is supported by the DUT. If **Security Configuration Service** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by the DUT and certification will be failed. Otherwise:

3.1. Check that RSA Key Pair Generation is supported by the DUT. If **Security Configuration Service\Keystore features support\RSA Key Pair Generation** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by the DUT and certification will be failed. Otherwise, then it is determined that the following features are supported by the DUT:

- i. TLS Server Configuration feature category:
  - CreateRSAKeyPair (Security Configuration)
  - GetKeyStatus (Security Configuration)
  - GetAllKeys (Security Configuration)
  - DeleteKey (Security Configuration)
  - tns1:Advancedsecurity/Keystore/KeyStatus (Event)

3.2. If DUT does not returns MaximumNumberOfKeys or returns MaximumNumberOfKeys less than 16, then it is determined that [ONVIF TLS Add-on] is not supported by DUT and certification will be failed.

3.3. Check that Self-Signed Certificate Creation with RSA is supported by the DUT. If **Security Configuration Service\Keystore features support\Self-Signed Certificate Creation with RSA** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by the DUT and certification will be failed. Otherwise, then it is determined that the following features are supported by the DUT:

- i. TLS Server Configuration feature category:
  - CreateSelfSignedCertificate (Security Configuration)
  - GetCertificate (Security Configuration)

- GetAllCertificates (Security Configuration)
  - DeleteCertificate (Security Configuration)
- 3.4. Check that PKCS10 External Certification with RSA is supported by the DUT. If **Security Configuration Service\Keystore features support\PKCS10 External Certification with RSA** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by the DUT and certification will be failed. Otherwise, then it is determined that the following features are supported by the DUT:
- i. TLS Server Configuration feature category:
- CreatePKCS10CSR (Security Configuration)
  - GetCertificate (Security Configuration)
  - GetAllCertificates (Security Configuration)
  - DeleteCertificate (Security Configuration)
  - UploadCertificate (Security Configuration)
- 3.5. If DUT does not return MaximumNumberOfCertificates or returns MaximumNumberOfCertificates less than 16, then it is determined that [ONVIF TLS Add-on] is not supported by DUT and certification will be failed.
- 3.6. Check that TLS Server Support is supported by the DUT. If **Security Configuration Service\TLS features support\TLS Server Support** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by the DUT and certification will be failed. Otherwise, then it is determined that the following features are supported by the DUT:
- i. TLS Server Configuration feature category:
- CreateCertificationPath (Security Configuration)
  - GetCertificationPath (Security Configuration)
  - GetAllCertificationPaths (Security Configuration)
  - DeleteCertificationPath (Security Configuration)
  - AddServerCertificateAssignment (Security Configuration)
  - RemoveServerCertificateAssignment (Security Configuration)

- ReplaceServerCertificateAssignment (Security Configuration)
  - GetAssignedServerCertificates (Security Configuration)
- 3.7. If **Security Configuration Service\Keystore features support\Signature Algorithm \1.2.840.113549.1.1.5** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by DUT and certification will be failed.
- 3.8. If **Security Configuration Service\Keystore features support\Signature Algorithm \1.2.840.113549.1.1.11** is regarded as unsupported by the DUT, then it is determined that [ONVIF TLS Add-on] is not supported by DUT and certification will be failed.