ONVIF®

Profile Policy

Version 3.2

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REVISION HISTORY

Vers.	Date	Description	Contributors
1.0	December 2011	Initial Profile Policy, release as edition 1.0	• Matt Powers , Anixter • Baldvin Gislason Bern, Axis Communications • Bekim Berisha, Axis Communications • Daniel Elvin, Axis Communications • Johan Adolfsson, Axis Communications • Jonas Danielsson, Axis Communications • Robert Haraldsson, Axis Communications • Stefan Andersson, Axis Communications • Willy Sagefalk, Axis Communications • Hans Busch, Bosch Security Systems • Markus Wierny, Bosch Security Systems • Susanne Kinza, Bosch Security Systems • Dharma Ramaiah, Canon • Takahiro Iwasaki, Canon • Seung Bum Lee, CNB Technology • Daniel Fiala, Dallmeier • Hugo Brisson (ed.), Genetec • Jonathan Doyon, Genetec • Hirotaka Moribe, Hitachi • Denis Ross, Honeywell • Tomas Brodsky, Honeywell • Yuri Timenkov, iTV • Hasan Ozdemir, Panasonic • Hirokazu Kitaoka, Panasonic • Manabu Nakamura, Panasonic • Seihyun Baik, Samsung Techwin • Sunghoon Choi, Samsung Techwin • YoungJoon Park, Samsung Techwin • Scott Hudson, Schneider-Electric • Stuart Rawling, Schneider-Electric • Vishal Aggarwal, Schneider-Electric • Gero Baese, Siemens • Klaus Baumgartner, Siemens

			• Andreas Schneider, Sony • Masashi Tonomura, Sony • Michio Hirai, Sony
2.0	September 2014	Improvements and amendments to clarify Profile development process and to ensure unbiased consideration of VSS and PACS domains of ONVIF	• Bob Dolan, Anixter • Matt Powers , Anixter • Anders Johansson, Axis Communications • Ulf Svensson, Axis Communications • Johan Svensk, Axis Communications • Gregor Wegrzynek, Bosch Security Systems • Markus Wierny, Bosch Security Systems • Hugo Brisson, Genetec • Neelendra Bhandari, Honeywell • Ramesh Subbaiah, Honeywell • Scott Hudson, Pelco by Schneider Electric • Joseph Moeller, Pelco by Schneider Electric • Andreas Schneider (ed.), Sony Corporation • Marc Suzuki, Sony Corporation • Masashi Tonomura, Sony Corporation • Steven Dillingham, Vidsys
3.0	July 2021	Editorial changes to include Client Test Tool. Addition of Add-on Editorial clarifications	2020/2021 version of TSC
3.1	November 2022	Changes on C.5.1 Initiating Creation of a New Add-on & C5.4. Add-on Creation Process: Prototype commitment is required to initiate a new Add-on.	• Johan Svensk, Axis Communications • André Eichhorn, Bosch Security Systems • Todd Johnson, Pelco • Martin Klang, Pelco • Dan Berg, Salient
3.2	July 2023	Modification of requirement levels for add-ons	2023 TSC

TABLE OF CONTENTS

1 Scope

This document describes the concept and principles of conformance Profiles and Add-on as applied in ONVIF and provides the set of policies governing the creation, modification, deprecation and conformance for these.

1.1 IMPORTANT

This ONVIF Profile Policy v3.2 replaces the previously released version 3.1. As of July 12, 2023 ONVIF Members and Committees shall follow the processes described in this document and shall fulfil all the conditions listed in this document.

1.2 Process Overview

Fig. 1 provides an overview process flow for the creation, modification, and deprecation of an ONVIF Profile. Add-on follow a similar process.

2 Normative References

[ONVIF Conformance]	ONVIF Conformance Process Specification
[ISO/IEC Directives Part 2]	ISO/IEC Directives, Part 2: Rules for the structure and drafting of International Standards, Annex H: Verbal forms for the expression of provisions
[ONVIF Test Specification]	All ONVIF Test Specification documents URL: http://www.onvif.org/
[ONVIF Network Interface Specification]	All ONVIF Network Interface Specification Set documents and corresponding WSDL and Schema specifications URL: http://www.onvif.org/

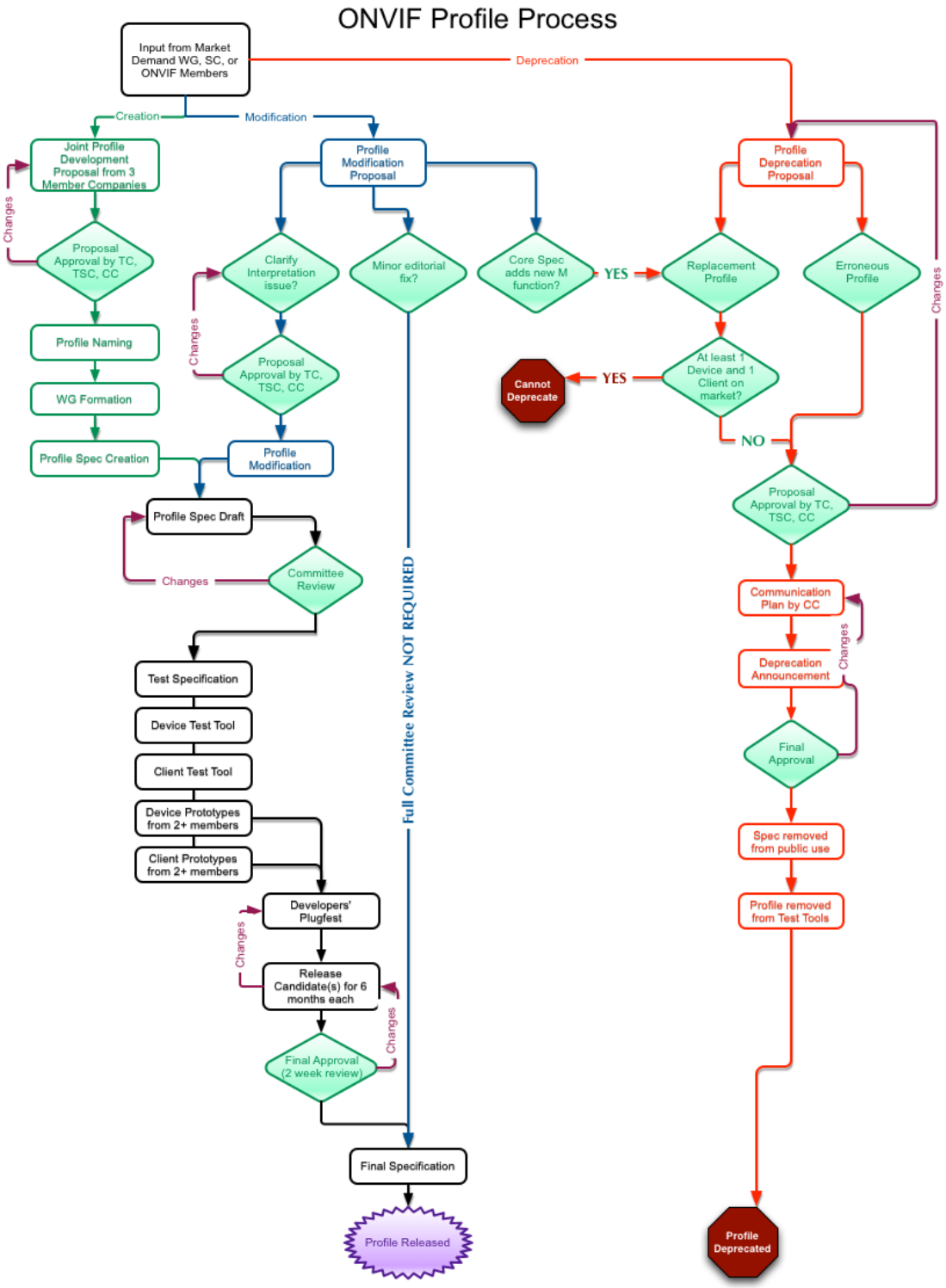

Fig. 1: Process overview for the creation, modification and deprecation of an ONVIF Profile.

3 Terms and Definitions

This section provides details about the conventions, definitions and abbreviations that are being used in the ONVIF Profile Policy document.

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

function	Web Service call implemented to trigger some specific task or process on a product
feature	specified distinguishing characteristic or functionality of a product
functional freeze period	period starting with the publication of the Release Candidate version of an ONVIF Profile specification
ONVIF Client	networked appliance or software program that uses ONVIF Web Services
ONVIF Device	networked appliance or software program that exposes one or multiple ONVIF Web Services
ONVIF Product	ONVIF Device and / or ONVIF Client
ONVIF Test Tool	ONVIF Device or ONVIF Client specific Tool to verify compliance to the [ONVIF Test Specification]]

3.3 Abbreviations

C	conditional (if supported)
CC	ONVIF Communication Committee
M	mandatory
O	optional
RC	Release Candidate
SC	ONVIF Steering Committee
TC	ONVIF Technical Committee
TSC	ONVIF Technical Services Committee

4 Profile Concept

This section provides details about what defines a Profile, how it is used and what it contains. Profiles should not be confused with Add-on, which are covered in Annex C.4.1.

4.1 Objectives

The primary objective of a Profile is to communicate the required aspects of the ONVIF technical specifications to ensure interoperability of supported features between ONVIF Devices and Clients.

The ONVIF Profile abstracts the underlying functionality and Web Services to make it easier for users and installers to understand which functions ONVIF conformant products will interoperate.

An ONVIF Profile is an invariant subset of technical and test specifications, such that the requirements and functionalities of a Profile will never change over time. A new release of an ONVIF Network Interface Specification Set will not impact the existing Profiles; hence the latest ONVIF Network Interface Specification Set release shall always be used for new implementations. This means that an ONVIF Device with a specific Profile can interoperate with an ONVIF Client that supports the same Profile. Both systems will successfully communicate together regardless of the specification version used to implement these products.

4.2 Description

A Profile defines a specific and unambiguous set of features that:

- an ONVIF Device shall implement and support, and
- an ONVIF Client shall use to support that particular functional interoperability with an ONVIF Device that claims conformance to that Profile.

A Profile shall specify the set of required features. The technical details of a Profile are described in a Profile Specification document targeted at developers of ONVIF Clients and Devices. Once defined and publicly released, the Profile shall never change regardless of the ONVIF Network Interface Specification Set version. However, the definition of these features may be further clarified to solve interpretation issues. New features shall not be added to an existing Profile.

For ONVIF Devices and ONVIF Clients conformance to at least one Profile shall be declared.

4.3 Requirement Levels

For each feature a Profile specification shall define the requirement level for an ONVIF Device and

for an ONVIF Client that claim conformance to the respective Profile. The Profile specification shall also contain a function list that states the functions requirement level for Device and Client that implement that feature.

The requirement levels for features are:

Mandatory = Feature that shall be implemented by an ONVIF Device or ONVIF Client.
Conditional = Feature that shall be implemented by an ONVIF Device or ONVIF Client if it supports that functionality in any way, including any proprietary way. Features that are conditional are marked with “if supported” in a Profile specification.

The requirement levels for functions are:

Mandatory = Function that shall be implemented by an ONVIF Device or ONVIF Client.
Conditional = Function that shall be implemented by an ONVIF Device or ONVIF Client if it supports that functionality.
Optional = Function that may be implemented by an ONVIF Device or ONVIF Client

Function Lists use the following abbreviations:

M = Mandatory
C = Conditional
O = Optional

All functions shall be implemented as described in corresponding ONVIF Network Interface Specification Set.

4.4 Backward Compatibility

New functions or features cannot be added to existing Profiles. ONVIF products conforming to the same Profile shall interoperate independent of the date when their conformance to the respective Profile was declared. If a new feature is needed, it will require a new Profile or Add-on to be created.

4.5 Profile Specification Content

A Profile definition shall include the following elements:

Overview - explains the concept of the new Profile.

Technical Specification Version Requirement
defines the minimum version of the ONVIF specification(s) that shall be used to implement the Profile.

Client Requirements	defines the required functionality that shall be implemented by an ONVIF Client to interact with an ONVIF Device that is conformant to the same Profile.
Device Requirements	defines the required features that shall be implemented by an ONVIF Device to interact with an ONVIF Client that is conformant to the same Profile.
Discovery Scope	defines the method that an ONVIF Device shall communicate its support of the Profile to an ONVIF Client.

5 Creation of a New Profile

This section provides details about the requirements for the proposal and creation of a new Profile, the development steps, the approver of the new Profile, and the impact of the new Profile on existing Profiles and specifications.

5.1 Initiating Creation of a New Profile

The following condition shall be the driver for the creation of a new Profile:

- Market demand: New features or requirements clearly identified demonstrating a clear need for ONVIF interoperability in the market. If there is no clear market demand for a specific functionality, ONVIF may not create a Profile to address it.
- Triggering Profile development by identified marked demand: CC shall advertise their findings and motivate members to develop Profile proposals, but no change to basic requirement that a Profile proposal needs 3 proposing member companies.
- Summary for each Profile proposal with key features and relation to other Profiles in non-technical language.

If ONVIF identifies a technology segment and agrees that needs to be addressed, a Profile may be developed that is based upon component applications, but will allow ONVIF to move into a solution based Profile in the future which would fully encapsulate the originating Profile (e.g., Profile C encapsulated by Profile A).

5.2 Profile Development Proposal

Once the market demand has been identified, any group of ONVIF members may submit a Profile development proposal to all of the ONVIF committees for review. The proposal shall identify a set of features that is comprehensive enough such that a functional product can be developed solely on this Profile specification (‘stand-alone’). The newly proposed Profile shall sufficiently differ from existing ONVIF Profiles, alternatively a deprecation schedule of a similar Profile shall be proposed. See Annex A: Example Profile Proposal.

ONVIF members supporting a Profile proposal are expected to take initiative in prototyping features of the new Profile during the course of Profile specification development until final release of this Profile.

Summary for each Profile proposal with key features and relation to other Profiles in non-technical language must be presented.

Proposing companies are required to introduce Profile proposals at a next face-to-face meeting during the plenary sessions and / or at a Joint Meeting of Committees.

5.3 Approval of New Profile Development

Once a new Profile development proposal has been submitted, each of the ONVIF committees shall review and approve (or reject) the proposal based upon the following responsibilities:

Technical Committee	Creation, review and approval of all technical specifications essential for the Profile. The TC should analyze all existing Profiles that may be impacted by the introduction of the new Profile. Any identified impacts and proposed actions shall be clearly communicated to each of the ONVIF committees.
Technical Services Committee	Creation, review and approval of all test specifications that verify and enforce Profile conformance. The TSC should provide a list of potential impacts a new Profile would have on Test Specification and Test Tool development to the appropriate working groups. TSC to establish a Profile proposal homepage on wush for all circulated Profile proposals as document location and starting point for a potential later WG homepage.
Communication Committee	Contribute with information on market demand for a certain Profile development. Initiate, review and approve marketing and other communications related to the new Profile. This includes the specific naming/branding of the ONVIF Profiles. Proposers and the WG may submit suggestions.

Committees are asked to respond to proposers and shall provide their statement of approval or disapproval (including comments) within 4 weeks after the submission of the Profile proposal. Supporting statements, reference to committee minutes and comments by the committees shall be compiled as part of the terms of reference.

Proposing members are encouraged to utilize a face-to-face meeting to present a (draft) Profile proposal to all committees and to discuss market demand. At least an open web-meeting for all committee members shall be arranged to discuss any open questions on the Profile Proposal, The meeting shall be arranged and convened by the proposing members.

During the Profile development process, all committees shall get the right to issue change requests to be discussed & agreed with all other committees (and the WG), in full consideration of consequences on release schedule, test tool development etc.

Once a new Profile development proposal has been approved by all committees, a corresponding work item(s) shall be created and assigned

- by TSC to the workgroup responsible for creating the respective Release Candidate of the Profile,
- by TC to the workgroup responsible for creating the respective network interface specifications.

TSC and TC shall issue a call for membership for these working groups to all full and contributing members as soon as possible after the approval of the Profile proposal. The approved Profile proposal should be shared as part of the supporting materials.

5.4 Profile Creation Process

Following is a step-by-step description of Profile creation process:

Draft	Once work on a proposed Profile has been approved, a draft Profile Specification shall be developed by the working group responsible for Profile creation.
Committee Review	The new Profile definition is reviewed and approved by each of the ONVIF committees.
Test specification	Tests shall be written specifying the requirements for validating conformance to the Profile Specification and in accordance to the ONVIF Network Interface Specification Set and [ONVIF Test specification].]
ONVIF Test Tools	ONVIF test tools shall be created to verify the conformance of a Device and Client to the Profile Specification. The ONVIF test tools and test specification shall cover all mandatory and conditionally mandatory functionality. The test tool shall introduce a Profile specific test set in diagnostic mode for at least one test tool release, if applicable for the tool.
Device prototypes	Each mandatory and conditional feature shall be prototyped independently by at least 2 members. A Device prototype shall pass all mandatory and the applicable conditional Profile specific conformance tests in conformance mode of a pre-release version of the Device Test Tool.

Client prototypes	Each mandatory and conditional feature shall be prototyped independently by at least 2 members. Client prototypes shall be tested successfully in a developers' plugfest with respective Device prototypes.
Feature matrix	The Profile WG shall compile and maintain on the WG homepage a feature table listing member interest in and commitment to prototyping features. This table shall be amended with the test status at least on feature level in order to facilitate progress towards RC.
Release Candidate	Once the Profile WG deems the draft Profile Specification ready, the Profile Specification shall enter a functional freeze period, enabling the following processes (in order): 1. The WG chairman/TSC chairman to call for review of the Draft Release Candidate Profile Specification by all 4 committees and requesting feedback within 2 weeks. 2. Upon uniform approval, RC Profile specification to be made publicly available by ONVIF for at least 6 months. 3. CC to make public announcement about the new RC.
Release candidate period	Profile WG to monitor and resolve implementation issues resulting from the Profile Specification or the test tool.
Developers' Plugfest	Drafts or Release Candidate versions of a Profile specification shall be tested with prototypes at least once during a developers' plugfest.
Final	A Profile Specification qualifies for Final release status once the above listed criteria have been completed successfully.

Final approval for release of the Profile is the responsibility of the ONVIF TC and TSC.

a) The respective TSC WG shall notify TSC upon verification that the Release Candidate is ready for final approval.
b) TSC chairman shall call for the final approval of the Profile Specification by the TC and TSC at least 1 month prior to the scheduled release. Committees shall give a qualified response within 2 weeks.
c) TSC chairman shall notify all committees of the final approval status of a Release Candidate Profile Specification.

5.5 Profile Naming Guidelines

Profile naming and a related style guide are part of the overall ONVIF visual identity to be developed and maintained by the Communication Committee. The Communication Committee sets the Profile name. The Profile name shall be set as early as possible in the Profile development process, preferably with the set-up of the responsible WG.

The Profile proposers and/or the concerned working group may submit one or more name proposals for each new Profile with an explanation of the new Profile concept to the Communication Committee. The Communication Committee can either choose one of the proposed names or submit a new proposed name.

6 Profile Modification

This section provides details for making any change to a released Profile Specification. Generally, any modification of a Profile should follow the established ONVIF Errata Process in [ONVIF Conformance].

6.1 Initiating Modification of an Existing Profile

Allowed changes include spelling and editorial fixes. Minor editorial changes will not require full Committee reviews. No modification to technical content shall be allowed. If required, a working Profile should be thoroughly tested prior to release using implementation prototypes and feedback from member companies during the Release Candidate period.

The following conditions may be required to modify a Profile Specification:

a) Error in the Profile Specification Document:
   An error in the Profile Specification that does not require a backward incompatible change may be fixed in order to prevent confusion.
b) Modification to the ONVIF Network Interface Specification Set:
   A change to the ONVIF Network Interface Specification Set that does not require a backward incompatible change, may be clarified in the existing Profile Specification in order to prevent confusion. A new Profile should be created in the case where an added function needs to be mandatory.
c) Clarification for an Interpretation Issue:
   A clarification in the Test Specification that does not require a backward incompatible change may be clarified in the existing Profile Specification in order to prevent confusion. There should be an iterative process between the TSC and the work group to ensure such interpretation issues will be included before the release version of a Profile.

6.2 Profile Modification Proposal

Once the modification issue has been identified, any group of ONVIF members may submit a Profile modification proposal using the established ONVIF Errata Process in [ONVIF Conformance]. The responsible working group shall coordinate the review of the proposal with each of the ONVIF Committees for any substantive changes to the existing Profile. Minor editorial changes will not require full Committee reviews.

6.3 Approval of Modified Profile Development

If required, once a Profile modification proposal has been submitted, each of the ONVIF committees shall review and approve (or reject) the proposal based upon the following responsibilities:

Technical Committee	Review and approve of all technical content impacted by the modified Profile. The TC should analyze all existing Profiles that may be impacted by the introduction of the modified Profile. Any identified impacts and proposed actions shall be clearly communicated to each of the ONVIF committees.
Technical Services Committee	Creation and review and approval of all tests that verify and enforce conformance to the modified Profile. The TSC should not decide how tests for Profile conformance should be defined, but it should provide a list of potential impacts a modified Profile would have on Test Specification and Test Tool development to the appropriate working groups.
Communication Committee	Initiate, review and approve marketing and other communications related to the modified Profile.

Once a Profile modification proposal has been approved, a corresponding work item shall be created and assigned to the working group responsible for Profile modification, which will create the respective Release Candidate of the Profile update.

6.4 Profile Modification Process

Following is a step-by-step description of Profile modification process:

Draft:	Once work on a proposed modification to a Profile has been approved, the appropriate working group shall revise a draft of the modified Profile Specification.
Committee Review	If required, the modified Profile definition is reviewed and approved by each of the ONVIF committees. Minor editorial changes will not require full Committee reviews.
Release Candidate	If required, once the draft Profile Specification is deemed ready by the TC and TSC, the Profile Specification shall enter a functional freeze period. This is not required for minor editorial changes. The functional freeze period for a Release Candidate will enable the following processes (in order):

Test specification	Tests shall be written specifying the requirements for validating conformance to the modified Profile Specification and in accordance to the [ONVIF Network Interface Specification] and [ONVIF Test specification].]
Prototyping	At least 2 prototypes each of a Client or Device implementing all respective mandatory features shall be created by member companies independently of each other. Device and Client prototypes shall pass the conformance tests according to the ONVIF Test Tools. PrototypesPmay be tested in a developers' plugfest.
ONVIF Test Tools	ONVIF test tools shall be created to verify the conformance of a Device and Client to the Profile Specification. TheONVIF test tools/ test specification shall cover all mandatory and conditionally mandatory functionality.
Developers' Plugfest	A Profile specification shall be tested at least once during a developers' plugfest.
Final	A Profile Specification qualifies for Final release status once the above listed criteria have been completed successfully.

Final approval for release of the Profile is the responsibility of the ONVIF TC and TSC.

7 Profile Deprecation

This section provides details for deprecating a Profile.

7.1 Initiating Deprecation of an Existing Profile

The following conditions may be required to deprecate a Profile Specification:

a) Replacement Profile
A Profile may be deprecated when a new replacement Profile is introduced due to additional mandatory features that cannot be made backward compatible in the original Profile Specification. The existing Profile shall not be deprecated if there is at least one Device and one Client available in the market that claims conformance against the Profile.

b) Erroneous Profile
A Profile may be deprecated due to an erroneous specification that cannot be made backward compatible in the original Profile Specification.

7.2 Profile Deprecation Proposal

Once the deprecation issue has been identified, any group of ONVIF members may submit a Profile deprecation proposal to all of the ONVIF committees for review.

7.3 Approval of Profile Deprecation

Once a Profile deprecation proposal has been submitted, each of the ONVIF committees shall review and approve (or reject) the proposal based upon the following responsibilities:

Technical Committee	The TC should analyze all existing Profiles that may be impacted by the deprecation of the Profile. Any identified impacts and proposed actions shall be clearly communicated to each of the ONVIF committees.
Technical Services Committee	The TSC should provide a list of potential impacts a deprecated Profile would have on Test Specification and Test Tool development to the appropriate working groups for further review and appropriate action. TSC shall propose a grace period and its rational for the deprecation of the existing Profile under question, to be agreed by all committees.

Communication Committee	Initiate, review and approve marketing and other communications related to the deprecated Profile.
Steering Committee	Following the approval of the other committees, it is the responsibility of the Steering Committee to give the final approval for deprecation of the particular Profile.

Once a Profile deprecation proposal has been approved, a corresponding work item shall be created and assigned to an appropriate working group, which will take the proper actions to deprecate the Profile.

7.4 Profile Deprecation Process

Following is a step-by-step description of Profile deprecation process:

Work Item	Once work on a proposed deprecation of a Profile has been approved, the various committees shall review the Profile Specification to be deprecated and a related communication plan created by the Communication Committee.
Announcement	An active survey is initiated to all member companies regarding their support to deprecate the existing Profile. Following supportive feedback from members, the intention to deprecate the particular Profile is publicly announced by ONVIF (websites, press release etc.) specifying the reasoning and schedule for the deprecation, and no new conformance application for this profile is-accepted.
Final	The particular Profile Specification shall be formally deprecated once all committee reviews and approvals have been completed. The communication plan is then enacted to remove the Profile Specification from public use after a specified grace period.
Update Test Tool	Conformance testing for the Profile shall be removed from the ONVIF Test Tools after the end of the specified grace period.

8 Profile Conformance

The process for declaring conformance of a Client or Device to an ONVIF Profile Specification is described in the [ONVIF Conformance] Specification.

8.1 Conformance to one Profile or multiple Profiles

To be conformant with a Profile specification, all mandatory and applicable conditional requirements of the respective Profile shall be implemented and supported by the Device or Client. If the parallel implementation of multiple Profiles results in more strict requirements due to combinatory effects, those shall be followed to be able to claim conformance.

8.2 Network Interface Specification Requirements

As stated in the [ONVIF Conformance] Specification, all mandatory features for the Profile shall be implemented by the Device or Client in order to claim ONVIF conformance, despite whether the ONVIF Test Tools can fully test the functionality of the Profile specification or not.

8.3 Test Tool

Test cases for all mandatory and conditional mandatory features as listed in a Profile specification shall be defined as [ONVIF Test Specifications].Specifications ONVIF Test Tools shall implement these test cases and verify conformance of a device or client to the respective Profile(s).

Failed tests on mandatory, conditional and optional functions shall violate the ONVIF conformance process, as specified in the [ONVIF Conformance] Specification.

Annex A

Profile/Add-on Proposal Structure

(informative)

The following example is provided for informative purposes only. To review actual proposals, please see the ONVIF Members area of http://www.onvif.org.

--- start of quote ---

A.1 Profile/Add-on Proposal

A.1.1 Overview

This section explains the concept of the new Profile or Add-on.

A.1.2 Market Demand

This section defines the market demand to provide justification for the creation of a Profile or Add-on.

A.1.3 Use Cases

This section defines the anticipated typical usage of the Profile or Add-on.

A.1.3.1 References

This section can be used to list additional resources to support the use cases.

A.1.4 Mandatory Features

This section defines the functionality that must be implemented by an ONVIF Device to interact with an ONVIF Client that is conformant to the same Profile or Add-on.

A.1.5 Conditional Features

This section defines the conditionally required functionality that must be implemented properly, if

supported, by an ONVIF Device to interact with an ONVIF Client that is conformant to the same Profile or Add-on.

--- end of quote ---

Annex B

Use of Mandatory, Conditional, and Optional

B.1 Description of Requirement Levels

This annex addresses the recommended description of a feature and its functions with related requirement levels by the terms Mandatory, Conditional, and Optional as they refer to either a Client or a Device in a Profile or Add-on specification.

- A feature is briefly introduced, and reference to the respective clause in the ONVIF Network Interface Specification Set is given.
- Device and Client specific requirements for the conformance to the specified Profile or Add-on are described.
- Individual tables focusing either on the requirement level for a Client or a Device list the requirement level of this Profile or Add-on for the feature in general and for the related functions individually.

B.2 Example

The technical content in the following example is provided for informative purposes only to illustrate the description of Profile requirements. To review actual (draft) Profile specifications, please refer to the ONVIF homepage or see the ONVIF Members area of http://www.onvif.org.

--- start of quote ---

7.2 Get services

This section describes the operations related to obtaining the services of a device.

7.2.1 Device requirements

- **Device shall support** GetServices **and** GetServiceCapabilities **as detailed in the** Core Specification**.**
- **Device shall support** GetServiceCapabilities **as detailed in the** Media2 **and** Analytics Service Specifications**.**
- If supported, device shall indicate support for at least two pull point subscriptions by returning MaxPullPoints set to no less than two in the response to **GetServiceCapabilities** in the event service.

7.2.2 Client requirements

- Client shall determine the available Services using the **GetServices** operation.

7.2.3 Function list for devices

Capabilities		**Device MANDATORY**
Function	**Service**	**Requirement**
GetServices	Device Management	M
GetServiceCapabilities	Device Management	M
GetServiceCapabilities	Analytics	M
GetServiceCapabilities	Media 2	M
GetServiceCapabilities	Event	C

7.2.4 Function list for clients

Capabilities		**Client MANDATORY**
Function	**Service**	**Requirement**
GetServices	Device Management	M
GetServiceCapabilities	Device Management	O
GetServiceCapabilities	Analytics	O
GetServiceCapabilities	Media 2	O
GetServiceCapabilities	Event	O

--- end of quote ---

Annex C

ONVIF Add-on

This annex outlines the differences in policy between a Profile and an Add-on. The structure of the annex matches the profile policy sections, i.e. section “5.5 Profile Naming Guidelines” has a corresponding section in this annex: “5.5 Add-on Naming Guidelines”.

The text in this annex indicates where there is a difference between Profiles and Add-ons:

- **No difference from Profile, with the following exception**
- **This section differs from Profiles and the following text applies**

If there is no difference in the process/policy for Profile and Add-on this will be indicated.

C.4 Add-on Concept

C.4.1 Objectives

This section differs from Profiles and the following text applies:

An ONVIF Add-on comprises of at least one or more features that solves one use case but is, in itself, not comprehensive enough to qualify as a Profile. As currently envisioned, the aim of Add-ons is to enhance the marketability of Profiles rather than to replace them. Profiles should still have more value than Add-ons.

The main purpose of Add-ons is to promote and market greater interoperability of ONVIF features by enabling conformance claims to capabilities outside of Profiles in ONVIF devices and clients. Add-ons would respond to the market need for flexibility and speed in introducing feature interoperability. Unlike Profiles, Add-ons are adaptable to changing technology/specification requirements due to the introduction of version handling. And because Add-on features would be limited in scope compared with Profile feature sets, the development and release of Add-on specifications and test tools can potentially be easier and quicker than with a Profile. The main purpose of Add-ons is to clarify capabilities outside of Profiles in ONVIF devices.

An ONVIF Add-on has one or more fixed set of features that must be supported by a conformant device and client. It indicates that a client that conforms to an Add-on will support a device that also conforms to the same Add-on. Like conformance to Profiles, devices and clients must pass Add-on

conformance tests in order to claim conformance to Add-ons.

Because add-ons are small in scope compared to profiles, the functionality that is presented to the market should be unambiguous. Therefore, the features for devices and clients should only contain Mandatory requirements. Optional requirements may only be considered for clients to reference related functionality that is not required for the marketed feature set.

C.4.2 Description

This section differs from Profiles and the following text applies:

The technical details of an Add-on are described in an Add-on Specification document targeted at developers of ONVIF Clients and Devices. The first version of the Add-on Specification shall be versioned v1.0. Once defined and publicly released, the Add-on may change as outlined in C.6 Add-on Modification.
For ONVIF Devices and ONVIF Clients, conformance to an Add-on requires that conformance to at least one Profile shall be declared.

C.4.3 Requirement Levels

No difference from Profile, with the following exception:

- Only Mandatory requirements are allowed for Devices.
- Conditional Requirements are not allowed for Clients.
- Optional requirements for Clients are only allowed pending TSC approval.

C.4.4 Backward Compatibility

This section differs from Profiles and the following text applies:

Backward compatibility should be preserved when possible, but new features can be added, and existing ones removed from an Add-on if there is sufficient market motivation. This will trigger an Add-on modification as described in section C.6 Add-on Modification.

C.4.5 Add-on Specification Content

No difference from Profile.

C.5 Creation of a New Add-on

C.5.1 Initiating Creation of a New Add-on

No difference from Profile, with the following exception:

At least two companies that provide a device implementation and two companies providing a client implementation need to commit to prototyping, to ensure a strong market demand.

C.5.2 Add-on Development Proposal

This section differs from Profiles and the following text applies:

Once the market demand has been identified, any group of ONVIF members may submit an Add-on development proposal to Technical Services Committee for review. The proposal shall identify an Add-on comprehensive enough to cover at least one-use case.

The newly proposed Add-on shall NOT include any features already covered by an existing non-deprecated Profile or Add-on.

ONVIF members supporting an Add-on proposal are expected to take initiative in testing the test cases relating to the Add-on using the Test Tools, and support and participate in the Test Tool Working Groups until final release of the Add-on.

Summary for each Add-on proposal with key features and use cases in non-technical language must be presented.

C.5.3 Approval of New Add-on Development

No difference from Profile, with the following exception:

Technical Committee	No difference from Profile.
Technical Services Committee	Approve the Add-on Proposal if the following conditions are met: **1. 1. Clear market demand: The features are deployed in the market according to C.5.1,** **2. The included features are not already included in an existing Profile.**
Communication Committee	No difference from Profile**.**

Once a new Add-on development proposal has been approved by the Technical Services Committee, a working group shall be created, and a Working Group chair assigned.

C.5.4 Add-on Creation Process

No difference from Profile, with the following exception:

Draft	No difference from Profile.
Committee Review	No difference from Profile.
Test specification	No difference from Profile.
ONVIF Test Tools	No difference from Profile.
Device implementations	Each mandatory feature included in the Add-on proposal shall be available in prototypes as defined in C.5.1. At least two devices from different member companies shall pass: a) All tests relevant for the Add-on according to the Device Test Tool b) Conformance testing for at least one profile.
Client implementations	Each mandatory and conditional feature included in the Add-on proposal shall be available in prototypes as defined in C.5.1. At least two clients from different member companies shall pass: a) All mandatory and applicable conditional conformance tests according to the Client Test Tool b) Conformance testing for at least one profile.
Feature matrix	No difference from Profile.
Release Candidate	No difference from Profile.
Release candidate period	No difference from Profile.
Developers' Plugfest	No difference from Profile.
Final	No difference from Profile.

Final approval process for Add-on release is the same as for Profiles.

C.5.5 Add-on Naming Guidelines

This section differs from Profiles and the following text applies:

It is the responsibility of the Add-on WG to suggest appropriate names, but the Communication Committee shall approve the final naming.

The name of the Add-on shall have a use case-based name that is both short and descriptive. In addition, “ONVIF” shall be added before the name, while ”Add-on” shall be added after the name to signify conformance, e.g. “ONVIF TLS Configuration Add-on”. “ONVIF” can be omitted from the name once it is established or understood that the specification referred to is an ONVIF feature. The Add-on Specification shall have a major and a minor version: v[major version].[minor version].

C.6 Add-on Modification

C.6.1 Initiating Modification of an Existing Add-on

This section differs from Profiles and the following text applies:

Modification of technical content may be allowed.

The following conditions may be required to modify an Add-on Specification:

a) Error in the Add-on Specification Document: No difference from Profile.
b) Modification to the ONVIF Network Interface Specification Set: No difference from Profile.
c) Clarification for an Interpretation Issue: No difference from Profile.
d) Changes in the Use Case due to market demands:
   An Add-on may be changed if deemed necessary to keep the Add-on relevant on the market.
   See C.5.5 regarding versioning naming.

C.6.2 Add-on Modification Proposal

No difference from Profile.

C.6.3 Approval of Modified Add-on Development

No difference from Profile.

C.6.4 Add-on Modification Process

No difference from Profile, with the following exception:

A version numbering increase shall be included in the Add-on Specification according to the following principles (See C.5.5 regarding versioning naming):

- **Major version increase when making breaking changes.**
- **Minor version increase for all other changes.**

C.7 Add-on Deprecation

C.7.1 Initiating Deprecation of an Existing Add-on

This section differs from Profiles and the following text applies:

a) Replacement Add-on:
   An Add-on may be deprecated when a new replacement Add-on or Add-on version is introduced.
b) Erroneous Add-on: No difference from Profile.
c) New Profile release:
   An Add-on version shall be deprecated when a new Profile is released if the new Profile contains at least one feature that is part of the Add-on. If all Add-on versions are affected, the entire Add-on shall be deprecated.
d) New Add-on release:
   An existing Add-on version shall be deprecated when a new Add-on is released if the new Add-on or Add-on version contains at least one feature that is part of the existing Add-on. If all Add-on versions are affected, the entire Add-on shall be deprecated.

Note: An Add-on or Add-on version can be deprecated regardless if there is Device and Client implementations available on the market that claims conformance to the Add-on.

C.7.2 Add-on Deprecation Proposal

No difference from Profile.

C.7.3 Approval of Add-on Deprecation

This section differs from Profiles and the following text applies:

Once an Add-on deprecation proposal has been submitted, each of the ONVIF committees shall review and approve (or reject) the proposal based upon the following responsibilities:

Technical Committee

The TC should analyze all existing Profiles and Add-ons that may be impacted by the deprecation of the Add-on. Any identified impacts and proposed actions shall be clearly communicated to each of the ONVIF committees.

Technical Services Committee

The TSC should provide a list of potential impacts a deprecated Add-on would have on Profiles, other Add-ons, Test Specification and Test Tool development to the appropriate working groups for further review and appropriate action. TSC shall propose a grace period and its rational for the deprecation of the existing Add-on under question, to be agreed by all committees.

Communication Committee

No difference from Profile.

Steering Committee

No difference from Profile.

C.7.4 Add-on Deprecation Process

No difference from Profile.

C.8 Add-on Conformance

C.8.1 Conformance to one Add-on or multiple Add-ons

No difference from Profile.

C.8.2 Network Interface Specification Requirements

No difference from Profile.

C.8.3 Test Tool

No difference from Profile.