

# Conformance Process

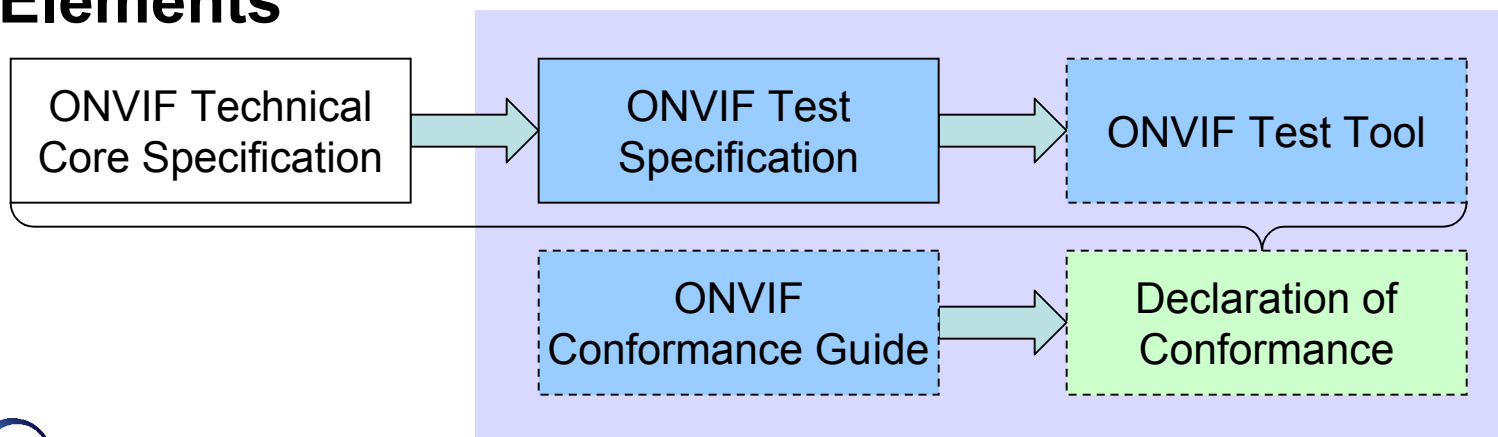
Andreas Schneider (Sony)  
Chairman Technical Services Committee

# ONVIF Conformance Process?

## Objective

- Ensure interoperability of devices marketed with ONVIF interface
- Create credibility for the ONVIF forum and its standards, showing commitment of ONVIF members
- Set common procedures & requirements for all forum members towards self-declaration of conformance of a relevant product with ONVIF standards and for the resulting possibility to communicate this with the ONVIF label on that product (balanced effort)

## Elements



# Test Specification

- Procedure to probe for interoperable network video implementations from different network video vendors
  - Describe test framework, test infrastructure, test sequences, pre-requisites and test policies
  - Build upon and references ONVIF Core Specification v1.0
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- Provides guidance on the implementation and testing of the ONVIF Core Specification v1.0
  - Establishes the requirements for the development of the ONVIF Test Tool (Network Video Client)
  - One of the 3 building stones of ONVIF conformance testing

# Test Specification – Outline (v0.9)

- Overview - Basic functionality tests

- Device discovery
- Device management
- Media configuration
- Real time viewing

- Test infrastructure

- Test procedure

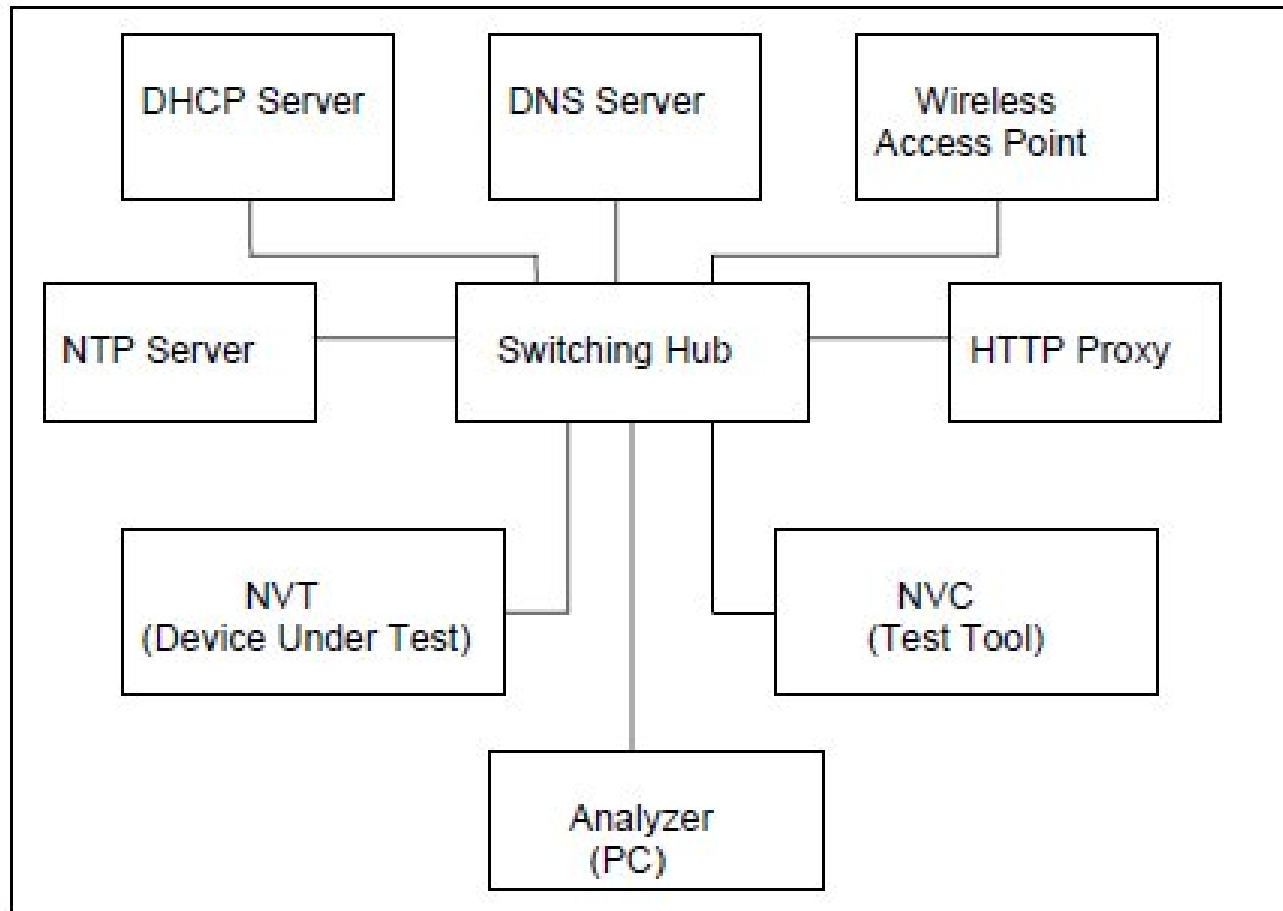
- Test policy

- NVT basic functionality test cases

## Test feature description

- Test label
- ONVIF Core Specification coverage
- Device Type
- Compliance Category
- Test Purpose
- Test Configuration
- Test Sequence
- Test Procedure
- Test Result (PASS / FAIL)

# Test Configuration for NVT Device



- Test Specification and resulting Test Tool will focus in their versions 1.0 on NVT testing
- Other test configurations may be addressed in the future

# Test Specification – Example

Device Discovery

## NVT HELLO MESSAGE

**Test Label:** Device Discovery NVT Multicast HELLO Message Transmission.

**ONVIF Core Specification Coverage:**  
7.3.3 Hello

**Device Type:** NVT

**Compliance Category:** Mandatory

**Test Purpose:** To verify that the NVT transmits HELLO message with the correct multicast parameters (address, port number and TTL) when it is connected to the network.

**Test Configuration:** NVC and NVT

## Test Sequence:



## Test Procedure:

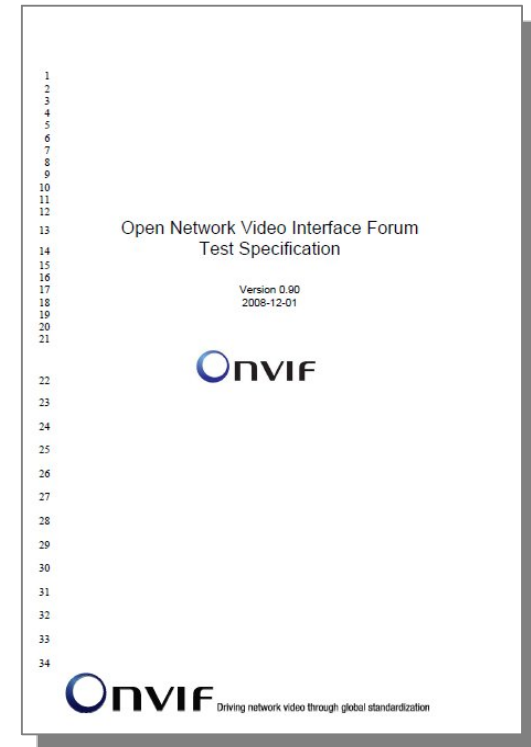
1. Start an NVC.
2. Start an NVT or Connect NVT to the network.
3. Verify that the NVT transmits the HELLO message with multicast address **239.255.255.250**, port number **3702** and TTL of **1**.

## Test Result:

**PASS** – DUT passes all assertions.  
**FAIL** – The DUT did not send the multicast HELLO message.

# Test Specification – Status

- V1.0 starts out with reduced scope of mandatory functions of the ONVIF Core Specification V1.0
- To be expanded step by step to fully cover Technical Core Specification of both mandatory and optional functions
- Final Draft V0.9 is currently under review and approval until December 8<sup>th</sup>, 2008
- ONVIF Test Specification V1.0 scheduled for release by December 12<sup>th</sup> to the ONVIF homepage



# Test Specification – Expansion Plan

- Further section of the ONVIF core spec. will be added section by section into the Test Specification.
- Second version of the Test Specification should cover all mandatory function of the ONVIF Core Specification V1.0.
- Target date for Test Specification V2.0 is end of March 2009
- Priority of functions for Test Specification V2.0 (if applicable):
  - Maintenance work for version 1.0 (0)
  - IP configuration (1)
  - Device discovery (1 – complete to cover all mandatory function)
  - Device management (1 – complete to cover all mandatory function)
  - *Imaging* (2)
  - Media configuration (1 – complete to cover all mandatory function)
  - Real time streaming (1 – complete to cover all mandatory function)
  - *Event handling* (2)
  - *PTZ* (2)
  - *Analytics* (2)
  - Security (1)
  - *Optional function within the clauses* (3)



# Test Tool

## Purpose

- Software Test Tool for conformance testing of IP network video surveillance products with the ONVIF Test Specification v1.0

## Motivation

- For use by ONVIF members for conformance tests of their IP network video surveillance products (NVT)
- Automatically produced test report by the tool of a successful test will be a core reference for a manufacturer to self-declare conformance of the tested model with the requirements of the ONVIF

## General

- Current focus on NVC emulator for NVT testing, but further configurations to be considered in the future upon need
- Development cost will be a major ONVIF budget item

# Test Tool - Outline

## Technical

- The **structure and coding practice** must adhere that of **MSDN**: Design Guidelines for Class Library Developers
- The software code must be documented in English in **standard .NET code comments** scheme.
- Documentation must at least clearly cover classes, methods, parameters, return values, and exceptions. The level of details of the documentation must be such that ONVIF or a knowledgeable third party requested by ONVIF can further develop and/or amend the software.
- **Implementation of the Test Tool must be done in C#** [C-Sharp] and may utilize the .NET [dotnet] framework.
- **supports real time streaming of JPEG QVGA** media format as specified in ONVIF Core Specification v1.0.

- **2 operation modes** to be selected at the beginning of the test run
  - a. live video mode showing video signal decoded
  - b. test operation window showing the current status of test process
- **graphical user interface (GUI)**

## Documentary Functions

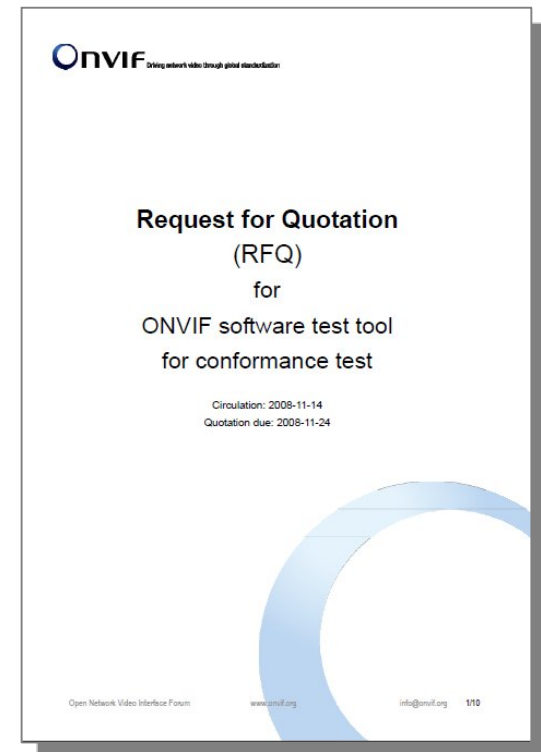
- Log test set-up
- Display test procedure and results of each step
- Create **test report**

## General

- **ONVIF will hold all rights** to the software test tool (development results), its source code and related inventions, achieved by employees and sub-contractors of the contractor.
- ONVIF will obtain exclusive and discretionary rights of use without any territorial restrictions or time limits.

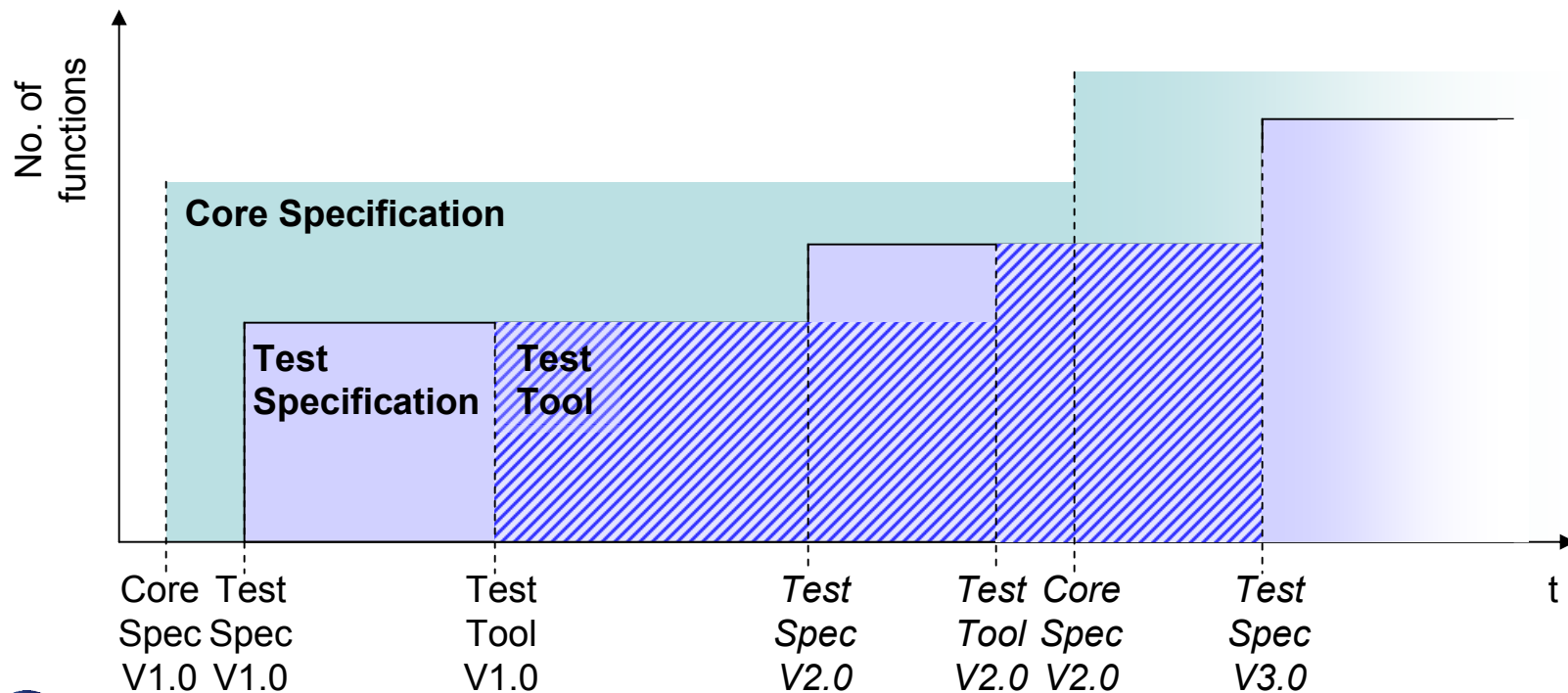
# Test Tool – Development Status

- RFQ circulated 2008-11-14 to 4 relevant & potentially interested developers around the world, 3 offers received
- Candidate selected, contract negotiations
- Schedule
  - 2008-12-19 Software requirements specification
  - 2009-01-12 Prototype NVT / reference design by ONVIF
  - 2009-02-27 Start Beta test
  - 2009-03-16 Availability of test tool



# Test Specification & Test Tool Evolution

- Test Specification and Test Tool will start with a limited scope
- Extensions/updates on a regular bases (up to 3 times a year)
- Function covered: Core Specification  $\supseteq$  Test Specification  $\supseteq$  Test Tool



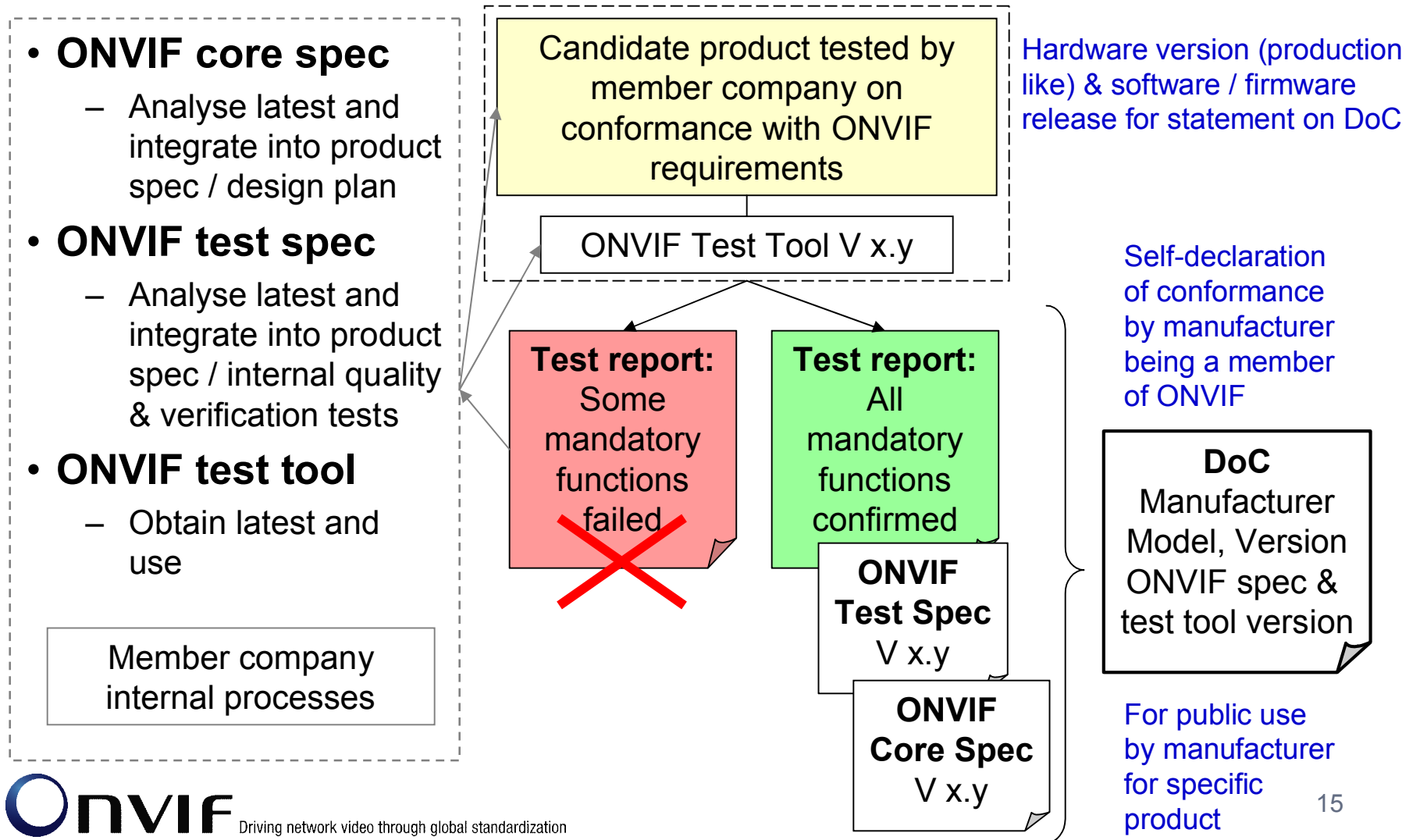
# ONVIF Conformance Basics

- Self-declaration process
- Focus on interoperability; performance & quality not considered
- Conformance declared against current versions of all
  - ONVIF Technical Core Specification,
  - ONVIF Test Specification &
  - ONVIF Test Tool
  - ✓ Full coverage of all ONVIF requirements
  - ✓ Classical understanding of conformance against core specification / 'standard'
  - ✓ Most up-to-date requirement set to ensure interoperability
- On individual basis of each version of the Test Specification and the Test Tool transition periods until mandatory use for the self-declaration may be granted.
- No dedicated enforcement besides 'market forces'

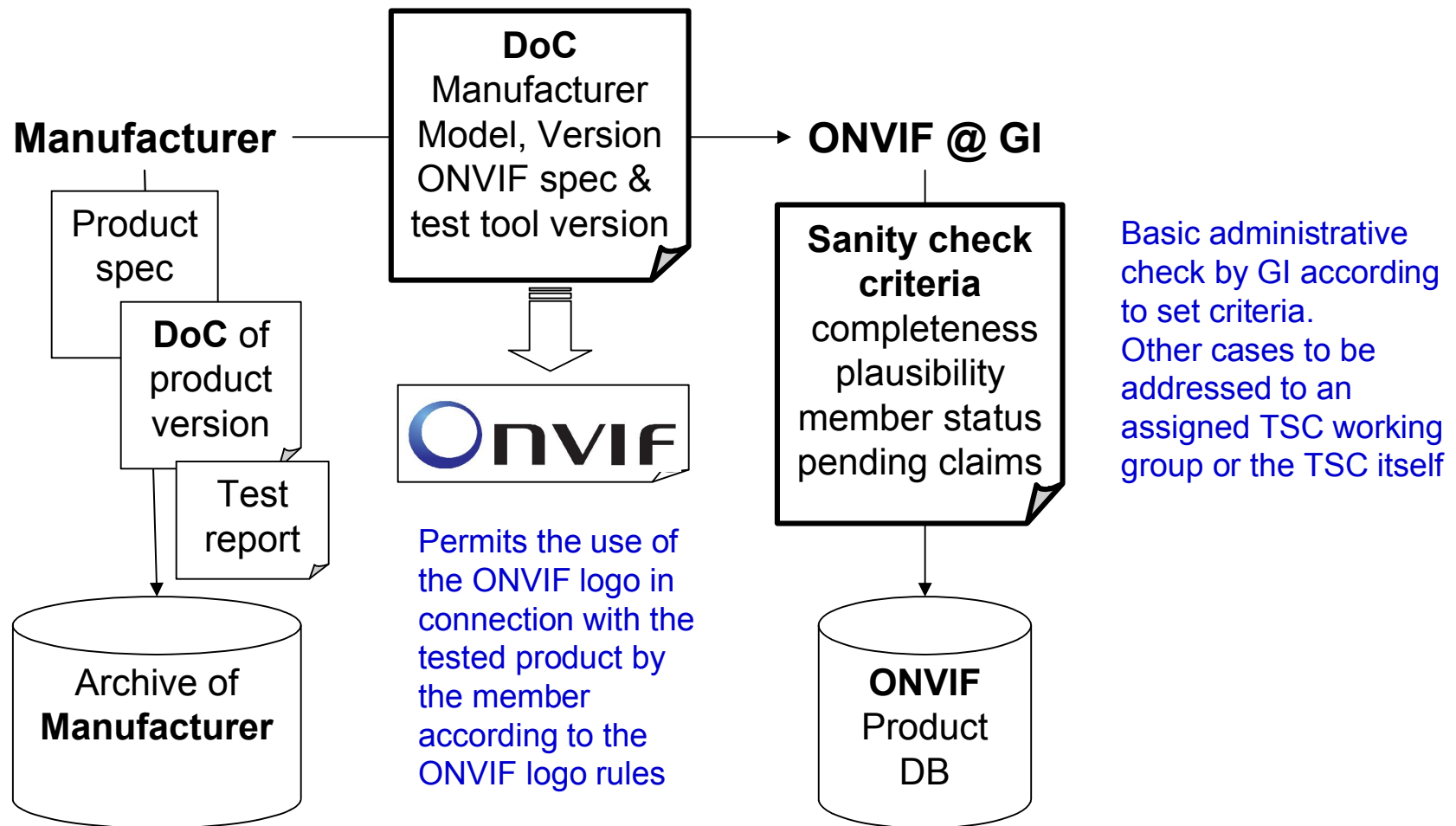
# ONVIF Liability restricted

- No liability for manufacturers self-declarations
- No liability for performance and quality of products stating ONVIF conformance
- No liability for the actual implementation of the ONVIF requirements in the products (interoperability)
- ONVIF provides and maintains on best effort basis a test tool for basic (non-comprehensive) interoperability tests as conformance prerequisite
- ONVIF relays product claims from customers to the concerned member
- ONVIF maintains its rights to request test protocols and related product documentation for conformance verification
- ONVIF maintains its right to withdraw product listings from its database
- ONVIF maintains its right to pause membership/exclude members failing to follow its statutes

# Conformance Process – Outline (I)



# Conformance Process – Outline (II)





# Declaration of Conformance (DoC)

## Basic conditions

- Self-declaration, no stipulation of 3<sup>rd</sup> party testing
- Conformance declaration is type based (hardware & software)
- Full responsibility by declaring manufacturer, no legal obligations for ONVIF
- Standard DoC content & legal conditions known from other areas

## DoC against

- ONVIF Core Specification
- ONVIF Test Specification
- Positive ONVIF Test Tool result



<Company Name> <Company Address>	<i>[e.g. header of official letter paper of the declaring organisation]</i>
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**DRAFT**

## DECLARATION OF CONFORMITY

We,

- <declaring legal entity>, the authorized representative of
- <global organisation / holding name and address>

declare under our sole responsibility that the product

Category Name:	<e.g. network camera>
Model Name:	<xyz-12345>
Hardware version	<e.g. v.123, production year yyyy>
Software version	<e.g. v.123, production year yyyy>

to which this declaration relates is in conformity with the following Open Network Video Interface Forum (ONVIF) standard(s):

- ONVIF Technical Core Specification <Version/release number>.
- ONVIF Test Specification <Version/release number>

and has successfully passed the test with the

- ONVIF Test Tool <Version/release number>.

following the provisions of the ONVIF membership agreement,

<country / city>, <date>	<signature by authorized representative> <name of authorized representative> <title/function, department>
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*[e.g. footer of official letter paper of the declaring organisation]*  
*[e.g. document reference number of the organisation]*

### Example layout

# Summary

- ONVIF provides some guidance & tools to test interoperability
- Devices claiming ONVIF conformance have to meet
  - Meet ONVIF Core Specification
  - Meet ONVIF Test Specification
  - Pass ONVIF Test Tool
- Self-declaration by manufacturer
  - Precondition to use ONVIF logo with the device
  - Reference information for an ONVIF compliant product database

# Thank you very much!

## Questions?

Contact:

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Chairman ONVIF Technical Services Committee