

# UPnP Certification Overview

*December 2014*

Wouter van der Beek  
Clarke Stevens

[www.upnp.org](http://www.upnp.org)

Wouter van der Beek

Clarke Stevens

- Logo
  - Reasoning why
  - Logo usage
- Certification Process document
  - Certification meaning, incl. certification mark
  - Organizational responsibilities
- Certification process
  - Steps
  - Re-certification
  - Auditing
  - Test process
- Self certification
- Tooling

The Certification Logo is intended to represent to end customers that the associated product delivers a minimum level of performance and interoperability with other networked products. Customers should expect a positive user experience and good customer satisfaction with products that have earned the right to “wear” the UPnP® Certification Logo.

- Certification is needed to use logo.



Products that incorporate UPnP® certified technology can make a real difference to the customers that buy these products and to the vendors that offer these products. Making use of a consistent set of terminology to identify and a consistent graphical mark to represent the benefits of UPnP® certified technology will help accelerate customer awareness and understanding of UPnP® certified technology. This is the key purpose of this logo usage guideline document.

- Logo usage guidelines:

[http://upnp.org/download/logo/UPnP\\_Logo\\_Usage\\_Guideline.pdf](http://upnp.org/download/logo/UPnP_Logo_Usage_Guideline.pdf)

- Certification process described in:
  - UPnP Device Certification Process Document
- Outlines:
  - Which part of the organization is responsible for the certification process (including maintenance of the document)
  - What certification means
  - Process of getting certified

**Certification** described in the UPnP Device Certification Process Document is the process used to determine if a device complies with the applicable UPnP standard – that is, whether the device or control point exhibits the behavior specified in the corresponding device standard, in accordance with the UDA.

**Compliance** indicates that different devices from different vendors that support the same device standard are interchangeable with respect to that standard. For example, a vendor can manufacture a control point for a UPnP certified printer independent of the specific vendors who are manufacturing the printers (that is, if a control point works with one brand of a UPnP certified device, it will also work with another brand of the same UPnP certified device).

Meaning:

The UPnP certification mark on a device indicates that the device has been tested and certified according to the UPnP Forum Membership Agreement and Implementer Addendum, including the process outlined in certification process document.



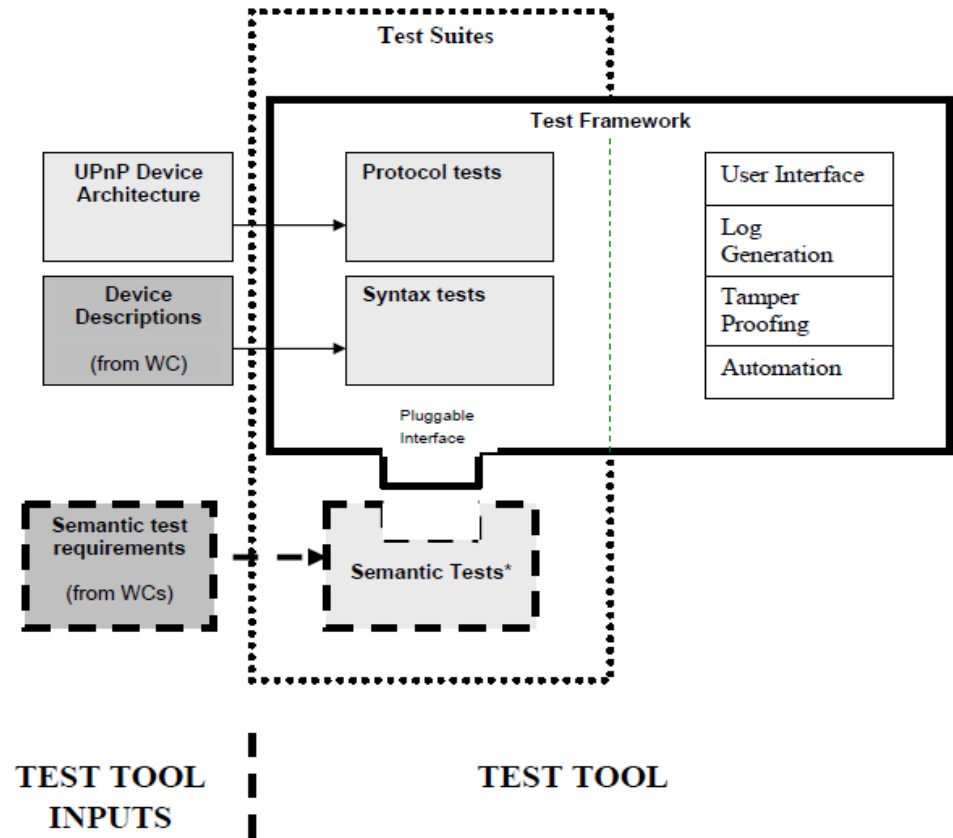
- Defines what can be certified
- Different kind of devices & control points
- Exclusion of things that are considered out of scope
- Details which steps need to be taken to get certified



- [Become a UPnP Forum Implementer Member](#). Membership requires execution of the Implementer Membership Addendum and payment of US\$5000 annual membership dues.
- Access the certification test tool via the Members Only website.
- Run the test tool at your own facility or at a 3rd party test house.
- Submit the test logs, along with Web-based device registration form, to the Test Reviewer.
- Once you have submitted the test log(s) and device registration form(s), the Test Reviewer reviews the test logs and contacts you with testing results.
- If the device passes, your company receives a certificate of conformity for that particular device. The certificate authorizes your company to use the certification mark on the certified device and in associated marketing material
  - If the device fails, your company is notified of the failure and reason, no certificate is issued, and your company may not market the device as UPnP-certified. Your company is welcome to alter the device and retest.

Scope of testing describes:

- The tooling
  - Syntax testing
    - Schema validation
  - Semantic testing
    - Flow checking
- Setup
- Origin of test cases
  - Incl. review process
- Test tool approval process



Device independent



Device dependent

## Re-certification

- Outlines which changes to device implementation requires re-certification
  - For example: Change of features, OS dependencies
- Outlines when this is not needed:
  - For example: Change of packaging

## Auditing:

- Needed to check if the certification mark is used appropriately
- Contains right to retest certified devices by the organization
- Contains process when this fails
  - Includes grace period to fix issues
  - Includes dispute/escalation mechanism
  - Revoke grant of using certification mark

## Test process details describes

- Testing rules
- Test facilities
- Test tool problems
  - What to do
- What to do when a new tool is announced
- Escalation of test issues
  - Process of steps to follow
  - Includes responsibility of vendor AND organization

## Test process details describes

- What is the responsibility of the vendor:
  - E.g. none disclaimer of the organization

*From organization perspective* What to do when:

- New versions of the specification
- Responsibility of test cases
  - Who creates them
  - Incl. review process
- Test tool approval process
- Enforcement of the certification
  - Rules that the organization can step in when certification mark is being misused.

## Test tool requirements:

- Tamper free
- Signed output, so that tampering can be detected
- Closed source
  - Only available by test tool vendor and UPnP staff
  - Even certification chair does NOT have access to code



- Test labs that can run the certification process independently of vendor.
- Should have access to:
  - Tooling
  - DUT
- Is not responsible for:
  - Submission of test results

- Test cases defined in “test language”
  - Special scripting language
  - Readable by vendors
  - Scripts can be created by experts in the domain
    - E.g. the working committee members defining the test cases
- Test cases are defined in steps
  - Each step has
    - Pass, fail, warning indication
    - Warning: not following “may”, does not result in failing test log.
  - Steps can be reused

Tooling includes:

- UPnP SensorManagement
- UPnP MultiScreen
- UPnP DeviceProtection
- XMPP
  - Client side (UPnP Device/UPnP Control point)
  - Server (UCA)
- IPV4/IPV6



[www.upnp.org](http://www.upnp.org)

*For the interconnected lifestyle*